PATTERNS OF DISEASE AND DEMOGRAPHIC TRENDS ~~AMONG~~ IN THE NOMADIC POPULATION OF SOUTHERN IRAN

(QASHQAI TRIBE)

1973

by

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SUMMARY

The planning and development of the health services depend on the needs of the population; their appreciation of the services, and bringing these needs to the attention of the health authorities by presenting demographic data and epidemiological investigations of morbidity and mortality of predominant diseases.

On this basis a cross-sectional demography and morbidity survey of the Qashqai Tribe of Southern Iran was conducted in 1973, with the following aims:-

a) To describe the demographic features of population.

b) To study the health problems, morbidity and the incidence of diseases, especially those that can be prevented.

c) To determine the level of utilization of existing health services and medical facilities.

All these data are needed for justifying the plans for further development of health services for tribal populations.

A sample of 3214 households was chosen by random sampling and by using the list prepared by interviewing the heads of clans and subclans plus the statistics from Malaria Eradication Department, Iran.

The study was carried out in two parts; namely, household survey for demography study and medical survey for morbidity study.

While the household survey covered a de facto population of 16,939 persons in 2,929 households, the medical survey covered a population of 3,153 or 18.6 per cent of the total original sample population in the household survey. In addition, blood samples were collected randomly (about 40 per cent of persons medically examined), and this amounted to a total of 1,236 persons.

This report presents the results obtained by the surveys from the standpoint of demographic findings, tribal population structure is considered quite young, about 46.2 per cent of the population belong to the age group under 15 years, and 50 per cent to the group 15 to 64 years.

The birth rate was 48.2 per 1,000 people, and the crude death rate 12.2 per 1,000. The infant mortality ratio was 143 per 1,000 live births.

Other demographic findings were described in detail in the text of the thesis.

Questions regarding attitudes towards family planning and ideal family size were asked, as one would expect, a large majority of respondents desired large families, and only 2.3 per cent of all married women under survey practised birth control.

From the standpoint of health and morbidity survey, a number of definitions used for the state of health and disease were described in the text of the report. According to the survey, three categories, namely healthy, moderately healthy and apparently ill, were used.

At the time of the survey it was found in primary diagnosis that 46.6 per cent of the population examined were ill, of which 37.1 per cent or 1,143 persons were moderately healthy, and 9.5 per cent or 293 persons had apparent illness.

The number of sick persons found by two different methods of diagnosis (primary and final diagnosis) differ because in laboratory findings some of the healthy persons were found to be ill, moreover, primary diagnosis was not carried out on 73 persons, some of whom were found to be ill when final diagnosis was done.

The sickness rate was highest (83.5 per cent) among those aged 45 years and over, and lowest among infants (25.7 per cent). The sickness rate among males and females aged 15-44 years in final diagnosis was 62.3 per cent and 63.5 per cent respectively.

Our survey showed the rate of utilization of existing health services by nomads to be very low.

The population studies was found to be in need of health care. In some cases, urgent attention was needed.

Demand for public health services is essentially simple and concentrated in a few categories of medical conditions and diseases. Most of the diseases and medical conditions are theoretically preventable, but under ideal conditions. Most of the defined medical conditions have a good prognosis, especially with treatment.

The proposed plan for the development of health services for the tribal population is given in the text of the report. It is based on the auxiliary teams. The members will be selected from the same

clans and will be trained and supervised by a static health centre.

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CHAPTER I

Introduction

Among various types of population movement, nomadism has a special place in Iran and most of the countries in the Middle East and Africa. Nomads are dispersed throughout almost all parts of the country, especially in the west and south of Iran. In spite of increasing urbanization, the nomadic way of life is far from coming to an end. The great annual migrations from winter quarters to summer quarters and vice-versa, covering long distances and passing through many villages and towns, leave marks on social and health conditions in the areas involved. In addition, migration is not the only aspect of nomadic life which is a problem; nomadic dwellings, either tents or other temporary shelters, present their own particular health problem.

The magnitude and complexity of health problems of nomadism have often been discussed. They can be divided into those which affect them and those which are of general health interest to their neighbours and settled populations. Some of the programmes of eradication of diseases such as malaria, smallpox, tuberculosis, etc., have suffered setbacks due to the presence of nomads in those areas. Several malariologists (Prothero, 1961, 1965; Visser, 1965; Bruce-Chwatt, 1968 and Faghih, 1973) have emphasised the problems created by migratory populations.

Nomadism is largely an Afro-Asian problem. It is estimated that one to two per cent of the world's population are living in nomadic or semi-nomadic conditions, of which about 80 to 90 per cent are living in countries in Africa and the Middle East. In some of these countries

their number is not very large, while in others, they represent an important segment of the population. The fact that nomads often occupy vast land areas is in itself a strong motive for giving initiative to a plan for socio-economic development.

The important reason for the migrating life of nomads is the need to search for water and grazing grounds for animals in the unfertile land. This reveals the magnitude of problems that will be encountered by the governments in their future projects for development of these areas.

The social structure and mode of life which entails living at high altitudes and mountainous areas or deserts and arid zones, together with seasonal migrations, keep them away from the cities and amenities provided by modern civilization and thus keep them in isolated and close communities, whereby their contact with town and village dwellers becomes extremely difficult.

During the last few decades, with the development of agriculture, industry, communication and urban settlement, there has been a gradual decline in the number of nomads and this process is likely to continue.

The ultimate change to sedentarization which is likely to come everywhere, in the long run, has to consider the underlying causes of nomadism. Nomadism as mentioned earlier, is an ecological consequence, and areas occupied by nomads in many cases could not be utilized for any other purpose or means of livelihood. These conditions originally caused the development of nomadism and forced the inhabitants to a migratory life. Therefore sedentarization is rather a complex and difficult process, in which considerations of human and institutional factors must also be apparent. Until such time as the sedentarization happens, a study and understanding of the nomadic way of life, their

health problems and health needs are vital factors for improvement in the lives of these wandering people.

After these experiences of the sedentarization of nomads in winter quarters in the last few decades, which resulted in their contracting malaria and other endemic diseases, infant mortality, heavy losses of animals, and great damage to their economy, and the failure we faced in some other socio-economic development projects that were launched for nomads, it is apparent that those concerned with nomadic affairs must take into account all aspects of their life. They must have more knowledge of the data on the socio-economy, demography, health, utilization of exiting health services. They must also study their traditions, culture and beliefs. It is only after this that attempts can be made to introduce modern facilities, education, health care and other socio-economic projects which would contribute to creating a better way of life for nomads and protect the communities with which they come into contact.

So far, planning for health services for nomads has frequently been faced with the paucity of information concerning health and diseases of the nomads.

No reliable data are, however, available for tribes in Iran. The data available on morbidity are mainly related to malaria and a few other parasitic diseases, but even these are not complete. Previous surveys were based on monopurpose or single disease studies and were limited to a small group, which is not valid for the whole population of tribes. Hence, the present survey is based on a cross-sectional study of the demography trends, state of health and pattern of diseases of the tribes of southern Iran.

For those readers who are not familiar with the subject of nomadism, Chapters II and III of this thesis give the general information on the nomadism in the world and in Iran. Chapter IV deals with the methodology which was accepted for the execution of the survey. Chapter V contains the results of the survey on the demography and pattern of diseases found among the tribe. Chapter VI gives a general discussion on the findings of demography, health and disease, demand and health needs of tribes, and finally the proposed plan for developing health services for the tribal population.

Objects of the survey:

The main purpose of the present survey was:

(i) To describe the demographic features and problems (such as composition of the population, individual characteristics and vital events).

(ii) To study the health problems and the morbidity pattern, and the incidence of diseases, especially those which have a high incidence or cause serious mortality among all or a special age group; those diseases which require medical and health care, and are easy to diagnose and preventable.

(iii) To study the utilization of existing health services by tribal populations.

This survey is intended to assist with developing health services for the tribal populations.

CHAPTER II

1. Nomadism and Tribalism

Nomadism is an ancient way of life which can be traced back thousands of years, when there were nomads throughout the world. In many countries it is as old as the history of their nation.

The meaning of the term "nomad". This term is derived from the Greek word "nomas, - ados", and is defined as "roaming about for pasture" (Encyclopaedia Britannica).

Nomadism as defined by the American College Dictionary is "one of the race or tribe without fixed abode, but moving from place to place according to the state of water, pasturage, or food supply".

Although the Greek nomas referred to pastoral nomads, the term is used to describe all wandering people such as hunters, collectors or those roaming over pastures, grazing cattle and domesticated animals in different territories.

Practically, it is difficult to define the term. It evokes a picture of different types of life with various patterns of socio-economic behaviour, customs, beliefs and tradition over the world. There are several such groups:

The Afro-Middle East pastoral people with tribal organization, migrate hundreds of miles with the aid of camels, horses and donkeys to carry tents and other belongings. They live in tents or other temporary shelters in the steppes and mountains of the arid zone. Their movement is dictated exclusively by the need to find water and pasture and the economy is based on raising domesticated animals, sheep, goats, camels, and in some cases cattle.

Other African nomads wander from place to place over wide areas of forests and bush lands and have huts roughly thatched with palm fronds, caves and hiding places in trees. These possess no domesticated animals except dogs, and a few practise primitive agriculture. Their weapons are bows and arrows, and sometimes spears. They apply poison to these weapons. Some of them live on roots, grubs, hunt small mammals and maintain their livelihood by fishing.

The Bedawin (Bedouins) or Arabs of the desert are the most popular of all pastoral nomads. The beginning of their nomadism is unknown. They wander over the desert irregularly, following haphazard rains, showers or other favourable circumstances. They are well adapted to the harsh conditions of the desert and migrate extensively with the aid of camels.

The Australian aborigines are sufficiently skilled in wood craft and in trapping animals by simply stealing up on them and using the most primitive weapons.

The pampas Indians, who are horsemen nomads, wander over large tracts of territory.

In central Asia, there are many nomads and tribes. One of them is the Mongol tribe. Kirghis and Altai tribes are also the prominent nomads of central Asia.

Eskimoes in the Arctic still subsist on traditional fishing and hunting. Some of them still have sledges and dog teams and they still follow their old way of life. They sell their catches, and have a mixed self-sufficient monetary economy.

Finally, some like the gypsies, have an international distribution and spread over large areas of Asia, Europe and other Continents.

There are, however, many variations in the patterns and they fill an important ecological niche throughout the world. Despite variations in geographical location and patterns of life, they show great similarities.

The terms "nomad" and "tribe" are often used synonymously in Iran, Afghanistan and some other countries. The term "tribe" means "a group of people whose cohesiveness is derived from positive attitudes of its members to a common ancestor, a common leader and a common territory" (Dupree et al., 1970), or racially related people, traditionally occupying a certain geographic district or tribal land.

Generally speaking, there are several types of nomadism:

1. Pure nomads or true nomads are:

   (i) tent dwelling with no specific fixed residence, exclusively pastoral, satisfying all their needs from their animals, and regarding with disdain and as inferior, those who cultivate. There is no individual ownership or cultivation of land (but collective ownership might exist), and complete independance. Their common tendency is to resist what is new and to cling to what is their tradition. They are aware of the fact in a wide sense, independent in relation to society, to governments and to frontiers; and

   (ii) people who live on hunting, collecting, and on that which nature provides. Usually their stay in one place depends on the natural resources (game, water, etc.) that are available in that area, and survive on what they can find to eat. The territory in which they roam is the location of a water hole, where plants grow, and which is a suitable habitat of game.

2. Semi-nomads. They are cattle nomads with one or more permanent dwellings with a primary interest in pastoralism, and are often engaged in small-scale agriculture, or they spend the winter as herdsmen on the plain and the summer on the high pastures, but often with one fixed dwelling and another occupation for their subsistence (cultivation of small plots, or trading, etc.).

3. Transhumance. This involves the movements of population in a vertical direction. It is controlled by seasonal changes and is unlikely to be subject to annual fluctuations. The routes are more clearly defined. It is a life style where pastoralists share the year between two fixed camps in order to utilise seasonal variations in rainfall and grazing (plain, mountain).

Reliable statistics on the total nomadic population of the world are not existent. This is due to the difficulty in locating them, as they are scattered in the vast remote areas. The estimates of the nomadic population of the world vary widely, and the type of nomads need to be specified. It is estimated that about 50 million nomads exist in the world, and with other migratory groups such as semi-nomads and those who practise transhumance this estimate increases to 100 million (Haraldson, 1973).

There are small nomadic populations in Europe and in the Americas, but the majority of them (between 80 to 90%) are in Asia and Africa, of which the major groups are in the Middle East and North and North-East Africa. (The Eastern Mediterranean region of the World Health Organisation.)

Nomadism in this region is in many forms, from horizontal desert movements to long- range seasonal nomadism. The nomads are clearly

adapted to local conditions of aridity and ecological zonation with altitude. Two important nomadic groups of this region are Turkish and Arab nomads. Turkish nomads are adapted to mountainous conditions and cold steppes, while the Arab ones are attached to deserts and hot steppes. This fact had a very important influence on the distribution of these two groups in this region.

Nomads now constitute a small minority of the population of most countries in this region. Most of them have lost their political power and are undergoing a process of sedentarization (Awad, 1959, 1962; Barth, 1962; Clarke et al., 1974). This is due to a variety of causes, including increases in communication, improvement of transport, exploitation of oil, decline of caravan traffic, political division of pastures, prohibition of raiding, attraction of work opportunities in industries and towns, and the success of central government in its age-old struggle with nomadic tribes.

Some of the former nomadic populations have now settled down and a new village has been formed. The tents were first replaced by huts and then by houses.

2. Nomadism and its Causes

There are several reasons for the performance of nomadism and for the nomads' way of life:-

1. Ecology of the Area: the basic cause is the climate, with low rainfall which does not permit agriculture even in primitive form in some places. The lands are arid or semi-arid, with poor pastoral conditions. The average precipitation is below 25 centimetres, and irregular. Therefore for nomads, water means life, economy, a standard of living

and health. In such areas, people are forced to migrate and utilise land for grazing. In other words, on this occasion man is following beast in search of pastures and water.

Finally, then, nomadism as an ecological consequence may be the only means of utilisation of certain parts of the world.

2. Economic aspect: the second reason is of economic importance, as the income from primitive agricultural practices in such harsh conditions of the arid zone is not comparable with that of benefits from animal husbandry. This type of living is a phenomenon to balance meagre agricultural land and inadequate water resources.

3. Health aspect: the environment in nomadic areas at certain times of the year is not suitable for living, and creates health hazards, diseases such as malaria, epizootic and pest problems. Therefore migration results in order to avoid endemic diseases (Dar mangar, 1973; Evans Pritchard, 1947).

4. Traditions and customs: tribes live with their history and are inclined to adhere to their customs and old traditions, and so are reluctant to accept new ideas (Barth, 1961; Dupree, 1970; and Schooten, 1956).

5. Other reasons: seasonal movement may be the result of an unfavourable climate in some areas. They are forced to move away from the harsh conditions, or during summer they migrate in order to trade with their products in exchange for other things (Dupree et al., 1970). Inter-tribal war is another reason for migration.

6. Finally, the pasture may be deficient in trace elements, such is the case of the Baggara Tribal Area in the Sudan, when these are available in other parts of migratory land (Haraldson, 1972).

3. Sedentarisation

The transition from a nomadic to a settled life is not a new concept, and was started centuries ago. In ancient times, nomadic way of life was dominant in the world. This has been succeeded by the periods during which the sedentary population expanded. There has been a tendency for nomads to settle gradually on their own accord during several generations. This was the fate or fortune of the most settled population of today, but the minority still lead a wandering life.

Iran like other countries with nomadic problems, has for long been determined to bring in sedentarisation. This policy has a long-standing background in this country. As the Minister of Health, in his address at the opening of the Regional Seminar on the Health Problem of Nomads in Shiraz, Iran, 1973 (WHO, 1973) declared, certain efforts have been made earlier for sedentarisation, and he quoted an inscription on a tablet in Naghsh-Rostam, about 60 kilometres from Shiraz, capital of the Province of Fars, written by Shah Pour the First, about 1800 years ago, who declared:

> "I have commanded that a number of towns and villages be built in suitable places in the country to motivate the nomads to adopt a stable habitation and make them free from a wandering life. I left them free to choose their own type of life and as they could not afford to buy them, these houses to be given them free so that those who wish to live in towns may do so."

There can be no doubt that the existence of a nomadic community within a country is the existance of a state within a state. Nomadism and tribalism have been regarded with some justification as aspects of a single political problem. The settled population regard the tribes as a potential threat to their security, and the government feel nomadism to be an anachronism in its policy of modernisation. Thus the policy

of sedentarization is largely political. Meanwhile, some believe that sedentarization is not always the best solution for the nomads' problems, and other alternatives such as improving the living conditions of the nomads must be considered (Borhanian, 1973).

For the government, it is easier to give services such as an administrative and judicial centre, police post, schools, health centres, etc. to sedentary rather than mobile populations.

There is no doubt that the number of tribes now practising seasonal migration is declining, either voluntarily or by government enforcement.

One of the reasons for increasing sedentarization is the important role of modern technology (Clark, 1970), such as work opportunities in the development of new agricultural systems, and industries, provision of schools, health centres and communal facilities in remote areas. Gradually, the nomads are losing their age-old struggle with central governments.

Whether priority is given to settling the nomads or extending aid to improve their present living conditions, the government should invest in a good deal of social, economic and demographic research. Much information is needed on the ecological potential of various nomadic areas, on the different local animal breeds, on optimal conditions for producing the different requirements of the livestock sector, on the nomads' own view of the present and expectations of the future; and on regional variations in the nomads' pastoral practices and social organization and their role in local and national contexts.

Settlement can be enforced, encouraged or voluntary. In all these cases it must be preceded by research and planning, and must be co-ordinated with the development of employment and services in the

same area.

At present the nomads continue to fill an important ecological element by using pastures not otherwise accessible for exploitation, poor, arid, non-arable lands of high mountainous areas or remote parts of arid steppe in the desert far from settlements. Their animals are adapted to such severe conditions. They have to balance such pastoral conditions by migrations.

Many countries started a policy of sedentarization a long time ago. The experience gained from previous sedentarization revealed that there were many health hazards to new settlements. Although precautions were taken in the Sudan in the resettlement of the Nuba of Wadi Halfa in the Kheshm Elgirba area, it resulted in the occurrence of malaria, schistosomiasis, leishmaniasis and other endemic diseases with which these people had not been familiar until the time of the resettlement. (Motabar, 1972). The same problem occurred with the Qashqai tribe, when the government enforced settlement in winter quarters. This resulted in the increase of malaria and of infant mortality (Borhanian, 1973). Consequently, sedentarization by force, over-encouragement or otherwise, is frequently accompanied by poverty and discontent, and the unhappiness of migratory people. In this case, when they obtained the first opportunity they broke the shackles of their confinement by returning to nomadic life. (Qashqai Tribe in the South of Iran.) We may well ask whether this transformation of the nomadic life is not in fact a backward step. In the case of some nomads, the standard of life and the dietary habits are certainly superior to those of the settled cultivators, and furthermore the migratory movements represent the best possible means of utilising the sources of certain types of

environment (Garnier, 1966).

Perhaps it would be better to conserve and improve the conditions of the migratory population. Generally speaking, cultivation is not an alternative to livestock breeding in the conditions of the arid zone of the nomads. The development of industries and communications, static health services, schools, etc. may encourage nomads to proceed to settle voluntarily.

There is finally the important question of whether the nomads want to remain nomadic or would welcome sedentarisation. Our survey was directed to the heads of 2,929 nomadic households. In answer to the question "Do you prefer to settle down sometime, in the near future, or to continue migration?" 68.3 per cent were in favour of settlement, while only 26.2 per cent would agree on migratory nomadic life. The following table presents the result of this survey:

Type of living	No.	%
Settle down	2,002	68.3
Migratory living	769	26.2
Unstated	158	5.4
Total	2,929	100.0

4. Health Problems of Nomads and Previous Health Studies

Migratory populations living in most cases in primitive conditions, or plying isolated routes away from the major settled population often present health problems for themselves as well as for the settled population. In most cases their diseases differ in patterns of epidemiology, distribution and other aspects from those among settled populations.

These groups are small in number, but their importance to medicine and health may be disproportionately large. For a number of reasons these people are in close association with the flora and fauna, ectoparasites and toxins of their geographical territory. Often in a lifetime their high degree of inbreeding and their type of living and migratory patterns of dwelling according to season and locality, their customs and diets and social patterns, may result in a particular outbreak of a disease or a strange epidemiologic pattern. The size of this problem is understood by the fact that large areas of the world today are still occupied by nomads, and the results of interrelation between different areas that these wandering populations move in all year round may permit them to carry unusual agents of disease and maybe introduce a disease into an area where it did not previously occur. They bypass the settled population and roam over wide areas in the vicinity of villages and cities, sometimes they erect tents near the villages on the migratory route, and this results in more communication between nomads and villagers, further facilitating the transmission of diseases. During seasonal movement they pass through natural barriers, mountains, lakes, and deserts, and they may be infected on their migration by the time the disease is clinically manifested. Many may carry parasites and vectors or reservoirs of diseases in baggage or on their means of transport (Bradley, 1968). Another aspect of the health problem created by nomads during previous years is the difficulty in achieving eradication of some diseases such as malaria, cholera and smallpox, because of the existence of nomadism. A good example of this is the discouraging experience observed in the eradication of malaria in southern Iran due to the presence of nomads. (Mofidi, 1957; Moradpoor, 1959; Motabar,

1971, 1973, 1974) Or in the case of smallpox, lack of immunity, difficulty in total coverage of vaccination due to the inaccessibility of nomads, they may serve as scattered foci and reservoirs of infection (Mamoutsiaki, 1966). The nomadic culture also affects the epidemiologic pattern of disease and may influence the local system of treatment and prevention (Gajdusek et al., 1970). It is difficult to illustrate the general patterns of the diseases of nomads, because of their distribution in different geographical zones and different types of socio economic conditions, customs, diets, etc. They frequently present those diseases prevalent in their areas. Diseases common among nomads in tropical and subtropical countries are not similar to those in arctic nomads. In the Arctic nomads suffer from a new flora of diseases which are called socio-mental diseases, such as alcoholism, suicide, neurosis, venereal diseases etc. (Haraldson, 1974), which tend gradually to replace the traditional diseases such as tuberculosis, poliomyelitis and diphtheria, while the diseases in the case of nomads in Africa and Asia have a different pattern from those mentioned for Arctic nomads. Their diseases are due to unhygienic conditions of camp sites, lack or scarcity of water resources, proximity to animals, insufficient protection against climatic changes, and vector borne diseases.

Few epidemiological surveys and medical studies have been conducted among nomads. The existing data on the health of nomads are mostly concerned with the parasitic diseases and nutritional status of these communities, of which the majority of information is on the surveys conducted on nomads in Africa. Truswell and Hansen, (1968, 1969)conducted a morbidity survey among Kalahari bushmen, who are one of the largest tribes of hunter-gatherers remaining on the earth.

On the medical examination of 83 adult bushmen they did not find any obesity, clinical coronary heart diseases, cirrhosis, inguinal hernia, varicose veins or rheumatoid arthritis. The highest blood pressure was 170/90. All diastolic pressures were below 100 mmHg. The mean blood pressure did not rise with age.

In the 72 children (aged one month to 19 years) one case of marasmus was seen, apparently secondary to malaria.

An unusual case of infantile gastro-enteritis was seen only in one child. Only one man gave a history of haematuria, which might have been due to bilharzia. Dental caries was very rare, but periodontal was prevalent. Otitis media was rare. Splanomegaly was found in 28%, occasional cases of T.B., gonorrhoea and syphilis were seen. Most of the causes of morbidity were pneumonia and trauma. Biochemical analysis proved the cholesterol values were very low (mean 109/100 ml) and gamma globulin concentrations were high. Little or no evidence of mineral or vitamin deficiency by clinical and laboratory tests was found. Lack of salt in their diet may be the cause of absence of hypertension.

An overall survey showed that bush-men are moderately under-nourished.

Bennett et al., (1970) conducted helminthic and protozoal parasite surveys among the Hadza tribe in 1966-67. Hadza were hunting and gathering nomads in N. Tanzania until 1964-65, when most of them were persuaded to settle. 72.2 per cent of serological tests for toxoplasma were found positive, and there was no significant difference between nomads and settled groups. Trypanosomes were not detected in any blood. Very rarely E. histolytica cysts were found in stool examination.

Hookworm, ascaris, strongyloides, enterobius, taenia and Schistosoma mansoni were found only rarely. Trichuris was relatively frequent in the males of one group of nomads. Ova of S. haematobium were found in only 2/295 urine specimens. Few of the subjects had haemoglobin levels below 10g/100 ml. The levels of IgA, IgG and especially IgM were higher in the Hadza than in British subjects.

In a cross-sectional survey of serological study of syphilis in the Masai tribe, Tanzania, in 1962-63, of 406 specimens 35 or 8.5 per cent were found positive, indicating that the prevalence of syphilis was low among those under 25 years of age, but it increased precipitously in women at about 30 years of age, and in men after 35 years of age. It was found that this disease is not a serious problem of health in the Masai population (Mann et al., 1966).

Mann et al., (1965) found that the pastoral Masai tribe of Tanzania are almost free from any sign of coronary heart disease, despite a diet rich in animal products and dairy fat. A clinical survey of 400 Masai men showed almost no evidence of chronic cardio-vascular disease. There was only a slight tendency towards an increase of blood pressure among the older age groups. The electrocardiographic abnormalities were found less prevalent in them than in American men of comparable age, the level of serum cholesterol averaged 120mg per 100 ml., without an age trend, only 2 men showed levels over 221 mg per 100 ml. The Masai warriors live on milk and meat, and so they take more animal fat than do most Americans.

In 1964, Morris proposed a more promising hypothesis on the basis of finding "physical activity of work is a protection against coronary heart disease during middle age, what disease they have is less severe,

and they develop it later than men in physically inactive jobs."

There is no precise information on the nutritional status of nomads. In general the bushmen obtain their protein resources by hunting. Pastoral nomads can consume milk most of the year, they have a high intake of milk, animal fat and meat, sometimes above the body needs. Some tribes drink camel milk, others drink blood taken from cattle (Masai, Tanzania). Their diet contains very little carbohydrates, flour and sugar.

A food survey of Kung bushmen of Botswana was conducted by Wahmey et al. in 1969. He found that these bushmen have a choice of 85 different species of edible plants. Nature has prepared for them ample supplies of a wide variety of food. These plants are classified as: one as a primary food, eight as major foods, 14 as minor foods, 32 as supplementary foods, 13 as rare, and 17 as problematic.

Nomads have an excellent knowledge of the local seasonable conditions favourable for certain vegetable foods.

Generally speaking, little was known about the diseases prevalent among nomads, due to their mode of living. The pattern of prevalent diseases is summarised as follows:-

1. Zoonoses: zoonosis is more prevalent in nomads because of their close contact with wild and domesticated animals. Such diseases are brucellosis, rabies, anthrax, hydatid cysts.

2. Vector borne diseases: malaria is still a serious problem for nomads, as well as settled populations, although in some cases the rate of prevalence is lower in nomads than in the settled population (Darmangar, 1973; Jalali et al., 1973).

Among other vector-borne diseases, tick-borne, relapsing fever, leishmaniasis, louse-borne diseases such as typhus fever are more or less common among nomads. Trypanosomiasis in tropical Africa is a serious problem for their cattle, and in some cases for the nomads themselves.

3. Soil transmitted helminthic diseases are not prevalent in nomads as in settled populations, because nomads are wanderers with temporary camp sites. Hookworm and bilharziasis do not thrive in nomadic areas.

4. Infectious diseases, water borne diseases such as typhoid, cholera, etc. are prevalent in some nomads. Tuberculosis is also reported. Other diseases such as smallpox, and yellow fever can be found among nomads.

5. Non-communicable diseases: because of their mode of life nomads are prone to burns, injuries, fractures, and animal and snake and insect bites. They are also exposed to extreme heat and cold climatic conditions.

6. Nomads live in natural environments, and this may reflect the risk of exposure to animals whose bites are either direct or indirect causes of severe disease or injury. In addition, such estimates will furnish information on the risk of exposure to certain other animals which are known vectors or reservoir hosts for the causative agents of various infectious diseases usually not transmitted by bites.

7. Although inbreeding is practised by nomads, hereditary diseases and congenital malformation are not common among them. It is known that in some tribes in East Africa new-born babies with any abnormality are killed in order to maintain the health of the race (Haraldson, 1975).

8. Finally, although the nutritional status of some nomads is good, especially from the point of view of protein intake, generally the

majority of nomads, during the dry season or harsh winter, have a problem in obtaining food, and suffer from starvation. Malnutrition is not unknown among them, especially during the years of drought. This is reported in several countries (WHO, 1973). Vitamin (especially A, B and C) and protein deficiencies in the case of pastoral nomads have been reported.

CHAPTER III

1. Nomadism and Iran

Iran has a number of tribal groups of different ethnic origins, that are distributed like a shifting mosaic over the major parts of the map of Iran, mainly in the west and southern parts (Map No. 3.1).

The most important of these are the Kurds, Bakhtiari, Qashqai, Khamseh, Shahsavan, Baluchis and Turkamans. The first five of these tribes are found in the Zagros region. Each of these tribes has its own culture, social system, and language or dialect, in addition to Farsi. All are Moslem, mainly belonging to the sect of Shiia.

1.1 Size of the Population of Tribes

The nomadic tribes of Iran are the most difficult to enumerate, not only because of the life style, but also because many of them live in the remoter areas of the country. The pattern of seasonal movement makes a census insufficient, and in some cases impossible. The population was estimated by Curzon in 1892 to be about two million. In 1932 again it was found that the number of migratory tribes had declined to around one million (Clarke et al., 1974), and the number continued to decline until 1940. Although the figures may not be correct, there can be no doubt that a reduction did occur as a result of Reza Shah's policy to settle the tribes and destroy tribal organization, to prevent seasonal movement and convert them to an agricultural way of life.

As a result of this attempt many were settled and this resulted in heavy losses of livestock (Lambton, 1953).

In the 1940s, during the second World War, when the central government was busy with foreign political affairs, many members of

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the tribes took the opportunity of reverting to a nomadic or semi-nomadic existance (Garrod, 1945).

By the early 1950s, the government decided to use greater control over tribal activities, and a Higher Tribal Council under the direction of the Ministry of Court was established in 1953. Its aim once more was to force sedentarisation and to raise the economic contribution of the tribes to the level of national economy.

Although the census of 1956 gives a figure of 241,189 migratory tribesmen, the census authorities and many others believed and have proved that this figure was underestimated. Likewise the 1966 census figure of 641,937 tribesmen is believed to be too low. Anyway, the number of nomads in the population fluctuates from time to time. During the times of strong chieftains of nomads, the settled nomads revert to migratory conditions. Therefore the number of mobile tribesmen will increase. (Payman, 1967). There can be no doubt that in recent years the number of tribesmen practising annual migration is declining, either voluntarily or by encouragement from the government. At present, it is estimated that about two million migratory tribes and semi-tribes are in Iran (Banani, 1961; Payman, 1967). Fisher estimated in 1968 that 18 per cent of the population of Iran is still composed of tribal groups, of which about one million are nomadic pastoralists inhabiting the Zagros.

2. Qashqai Tribe

The Qashqai tribe consists of tent dwellers, pastoral, sheep-raising nomads who with regular and periodical seasonal movements migrate to the arid zones and mountainous areas of the province of Fars, south of Iran (Map No. 3.2).

Map No. 3.2

Location of the Qashqai Tribe in the Southern Provinces of Iran

Location of the summer quarter

Location of the winter quarter

The size of the area in which they customarily roam is about one-half of the size of the province.

Qashqai is a Turkish ethnic tribe, and is one of the largest and best organised tribal groups of southern Iran. It is best defined by political and geographical criteria, and is the representative of nomadic society of Iran.

General information on the origin, ecology, social system and organisation of this tribe is necessary for those who want to follow the link between social systems, customs and pattern of diseases among migratory tribes.

2.1 Origin of the Qashqai Tribes

The origin of Qashqai tribe is not unique. It may be classified as a federation of tribes. One must depend on legend for its origin. Certain sections of the Qashqai are descended from the Turkish tribe of Khalaj, one of the twenty-two branches of the Ghuz Turks who invaded Iran from central Asia from the eleventh century onwards.

Kalaj are believed to have come to Fars via Khalajistan (a district near Savah, in the central part of Iran), Bayat tribe believes that Timur Lang brought them from Turkistan, during his invasion of Iran. There is still a part of Qashqai named Khalaj and Bayat. Those claiming a Khalaj origin are the clans of Shishbulouki and Farsimadan. The Shishbulouki derived their name from the shish bulouk or sub-districts of old Khalajistan. Those opposed to Khalaj origin believe that it was Hulaku Khan, descendant of Genghis Khan who brought them from Kashmar. Jani Agha was appointed as a first Il-Khan by Karim Khan Zand (1750-79) and from that time on Qashqai became Il (tribe). The third Il Khan was appointed Chief of Kash Kuli clan. However, the word Qashqai also

means "who fled", (presumably from the northern province to Fars). A more acceptable derivation, however, is from the Turkish word "qashqa", signifying a horse with a white spot on its breast.

The Qashqai was evidently the tribe to which the Shahilu clan belonged, and as such came to give its name to the whole confederation into which the Khalaj sections were later to be absorbed.

2.2 Organization

The formal framework of tribal organization of Qashqai in descending order is:

tribe (il), clan (ta yefeh), sub-clan (tireh), section (obeh - bollouq, bonkou, ahaham) and household (tent or siah-chador).

The Qashqai tribe is divided into seven clans of varying size, each clan living under the rule of its own head. Each clan is named as follows:

1.	Tayefeh	Amaleh	with a rough estimate of	3740	tents
2.	"	Kashkuli Bozork	"	"	" 1187	"
3.	"	Kashkuli Kuchak	"	"	" 479	"
4.	"	Dareh shouri	"	"	" 6384	"
5.	"	Farsimadan	"	"	" 1228	"
6.	"	Shish-bullouqi	"	"	" 4360	"
7.	"	Qarchei	"	"	" 540	"

A rough estimate of the total of 18,000 migratory tents or households which exist in the Qashqai tribe.

Each clan is subdivided into subclans (Tireh). Therefore the number of tents in each subclan, and also the size, varies. Each subclan has a name, usually named after the founder ancestor of the group. The numbers of subclans per clan are as follows:

Name of clan	No. of subclans
Amaleh	33
Khashkuli Bozorg	43
Khashkuli Kuchak	12
Dareh-Shouri	26
Farsimadan	22
Shish-bullouqi	19
Qarchei	11
Total	166

2.3 General Information on Tribal Areas of Qashqai

The area occupied by the Qashqai tribe in the province of Fars with its historical capital of Shiraz, with regard to neighbouring tribes, is bounded as follows:

a) Their yeilag or Sarhad (summer quarters) are in the high land west of the middle third of the Shiraz-Isfahan road, as far as Kuhe Dena (range of mountains of Dena). The great bastion of the Zagros chain rises in an almost unbroken whaleback from the easternmost Bakhtiari tribe area to near Ardakan, north-west of Shiraz, preserving a height of from 3000 m. to nearly 5000 m., it forms a perfect natural barrier between the Qashqai and Kuhgilui Lur tribe of Buir-Ahamadi Sarhadi to the west. At the same time it forms a geographical boundary. Eastwards it runs along the bare, broad, elevated valleys and plains with their short ranges, from the margin of the central plateau of Iran, whilst to the west it rises to a succession of formidable escarpments pierced by deep and jagged ravines and covered on their lower slopes with a jungle of oak and wild fruit trees.

The neighbouring tribe in the north-west summer quarters is Bakhtiari. Some of the land belongs to Bakhtiari. Grazing on this land is interposed by agreement between the two great tribes. Their neighbours on the eastern side are Dehbids, settled Tajik or villagers, mainly of Turkish Khalaj origin, and in summer the area is inhabited by the Khamseh tribes. To the south are the Ardakan and Baisa and Guyum plains, parallel to the valleys, north-west of Shiraz.

b) Their gashlag-garmsir (winter quarters) fall into two compact and well-defined zones. The smaller one to the north west of the Shiraz - Bushir road, and the larger one to the south-east. The former belongs to two clans, namely, Kashkuli Bozork and Dareh-shouri. The latter, or south-eastern zone, is overrun by the rest of the tribes and lies between the winter quarters of the Khamseh tribes in the north and Tangistan and Dashtistan in the south. Their winter quarters are bounded from the west through the contorted hills of Mahur Milati as far as Behbahan, on the south through Jarah, Farashband and Firuzabad into the loop of the River Mond near the borders of Laristan. They descend to a low level between 600 to 700 m. high along a line running roughly 30 to 40 miles inland from the Persian Gulf.

The areas inhabited by tribes have a considerable ecological and climatic variation from north to south. High Zagros mountain ranges in the north are under snow in the winter, even some parts during summer, while the hot, hilly and low mountainous region of the oriental zone in the south has uniformly low rainfall during winter and early spring. Therefore the lack of adequate and regular water supplies for crops and livestock in the area is the main cause of the nomadic way of life of the population.

In winter quarters the pastures are poor, therefore the space available is three to four times as much as that available in summer quarters. Consequently, the tribes are dispersed. Even in the case of Obeh, the tents are not close together. Groups of 2 to 3 tents are separated perhaps 3 to 5 kilometres from one another. When tribes enter winter quarter areas, they usually stay in open tents, and because there is no danger of their animals ruining cultivated lands, they camp near the villages and graze their animals on harvested lands. As a result they do not use the grass of the original winter quarters in the hilly areas. Two to three weeks after the rain the deserts are temporarily covered with grass, so the tribes enter the mountainous areas to graze their flocks, meanwhile it is time to start cultivating the lands.

During this time of the year, they are widely scattered and are not easily accessible. When the winter ends they shift to the foothills and other places where there are good pastures, so they can gather once again. During this period they go far away from the villages.

In spring the pastures are good and plentiful in the areas of the lowland and middle altitude. In early spring the nomads move down onto the plains, mainly in uncultivated valleys, and progressively congregate there for the commencement of the main migration in spring. The migration starts approximately at the end of March. The route passes northward over a series of ridges and passes separating a succession of large, flat valleys. En route camps are larger, and tents are close together. In the summer quarters, which nomads call Yelaq, the pastures are rich, and cool weather makes the environmental conditions pleasant for humans and livestock.

When they reach the summer quarters in early June, they move slowly towards the region that belongs to each group, and spend the summer there. In the late summer the grass is dry, and the weather gets cold. Therefore the tribes commence migration from the end of August or early September, and gradually leave the summer quarters. On the route they graze their flocks usually on the stubble, thistles and withered straw in already harvested fields. Before the rain, pastures in the winter quarters are very poor, and autumn is not a suitable season for grazing animals.

During the rainy season tents are pitched on the mountain flanks or on the ridges themselves to avoid excessive mud, cold and occasional floods.

2.4 Seasonal Movement and its Route

The area through which a tribe moves by customary right from winter to summer quarters, and vice versa, is known as Il-Rah or Raval of tribe (Barth, 1974). Customarily the tribes follow a certain well-defined migration route. Each subclan has by tradition the right to pass through certain areas; along that route each group has special camping sites and pastures, to which it has a right by tradition. They have a traditional schedule which shows the location of various clans and sub-clans at different times of the year, so that the same pasture can be utilized at different times by different groups.

The long migration route usually passes through nontribal lands, when considerable losses may be inflicted on the crops of the sedentary population. In most of the villages through which the tribe migrates in summer and winter quarters, and in the towns including Shiraz,

Kazaroun and Abadeh in the province of Fars, a lot of sedentary population has Qashqai tribe origin.

The average period of movement is about four months, 40 to 60 days from winter to summer quarters, and vice versa. In the spring, due to the fact that most lands on their route are under cultivation, they are usually obliged to travel some distance from the villages. On this basis, the migration is slower than the return. In addition, at this time, the summer quarters are cold, grazing grounds are sparse, and some parts are covered by snow. Accessibility to tribal camp sites is easier during their stay at summer quarters.

During migration from the summer quarters, they travel on the road and camp near the villages, using the harvested farms for grazing their flocks. However, the time and duration of migration depends on several factors such as the distance between summer and winter quarters, the condition of the pastures, and also political conditions. The tribes have a daily decampment, but in some suitable camp sites, they spend longer than a day. They do not select the same camp sites that were used by other groups a few days before their arrival, because they are usually dirty and there is not enough grass for the flocks. Usually, they start packing before sunrise. All the members of the family take part in the decampment, gathering, packing and loading their furniture. Then they start to move. Most members of the family ride on top of the loaded donkeys during the journey. Men on horses usually ride at the head of the caravan, one or two members of the family following on foot to guide the beasts en route. Usually, they travel for almost half the day, at noon they stop in a suitable place. Traditionally they are familiar with the

annual camping sites. Camping conditions are related to animal feeding factors and proximity of villages. As soon as they arrive at camping sites, they pitch the tent and the flocks are milked at about noon, and before sunset. The following morning the same routine as on the previous day is followed.

These frequent movements take a lot of time and energy. During recent years, some tribes have been carrying animals from the winter to summer quarters and vice versa by truck.

Seasonal migration often involves moving several hundreds of miles between summer and winter quarters. During their stay in summer and winter quarters they move only short distances within the quarters. Tents are dismantled infrequently.

2.5 Social System of the Qashqai Tribe

Life in a community means organization of interests of individuals, regulation of their behaviour towards one another, and their grouping together for common action. The relationship thus created between them can be seen to have some kind of plan or system, which may be called the social structure.

The social system of the Qashqai tribe is built from the basic units of tents with their internal organization as the primary communities of nomadic society. The second level is formed of groups of tents, and is called "obeh". Above this level is "Tireh" (sub-clan) and the next level is Tayefeh (clan) and finally the level of Il (tribe).

More careful analysis of the social system, and isolation of definitive characteristics of the various levels of grouping is the most important aspect. For better understanding of readers, these may be

summarized as follows:

2.5.1 Tents.

The Qashqai tribe usually counts its household in terms of tents (siah-chador). Each tent is occupied by an independent household, consisting typically of an elementary family. These households are the basic units of social structure. They are units of production, and consumption, usually represented by their male head, they hold rights over all movable property, including flocks.

The tent is made of a square structure of black cloth woven from goat-hair, supported along the sides and in the corners by poles. In the case of the larger tents they are also supported along the central line by a row of T-shaped poles. The size of the tent varies according to the means of the family which resides in it, but it is typically about 6 metres by 4 metres, and 2 metres high, supported by 4 or 5 poles along the length and 3 poles along the width. These cloths are fastened together by wooden pins when the tent is pitched. The tent is composed of 5 separate pieces of cloth; four for walls and one for the roof; the lower part of the walls is made of reed mats, which are loosely leant against the tent cloth and poles. These reed mats are used when the weather is hot. During movement they frequently pitch a smaller tent with fewer poles, using the roof cloth plus one or two walls, thereby producing a rough cubicle structure. When the weather is mild, a lengthwise or widthwise wall of the tent is left open, frequently by laying the wall cloth on the top of standing tent ropes, when the weather is cold the living space is closed by four walls and the tent is entered through a corner flap.

The living space within the tent is commonly organized in a standard pattern, water and milk skin bags are placed along one side on a bed of stones; the belongings of the family are piled along the far end of the tent. A shallow pit for the fire is placed close to the entrance.

This structure is the home of a small family group which consists of a man, his wife and their children, with the occasional addition of unmarried or widowed close relatives, who would otherwise be alone in their tents, or the wife and children of a married son, who is the only son, or the son who married most recently. The different types of households can be seen in the camp site.

In addition to the tent, some tribes, during winter and cold seasons, use mud or stone houses to accommodate their families, the arrangement in these being almost similar to that in the tent, except for their coverings. The conditions of houses and the area around them are not hygienic, therefore they are suitable places for flies, ticks and other insects. By contrast, the hygienic conditions of the camp sites are rather better.

Another tribal habitation is the hut. It is used in summer, and is similar to the open or summer tent, except that it has straw walls and roof.

The use of dwellings other than tents is prevalent in groups which do not have a lot of animals.

In addition to the tent or other type of dwelling, households in order to exist, need to dispose of all the equipment necessary to maintain the nomadic style of life; rugs and blankets for sleeping, pails and skin bags for milk, pots for cooking, and packages containing all theequipment during migration, etc. There is very little lending and borrowing of such equipment, even among close relatives.

The household depends for its subsistence on the animals owned by its members. The minimum it should have are sheep and goats as producers, donkeys and camels to carry their belongings during migration, and dogs to guard the tents and flocks. Some of the families have horses to ride on, very few families keep cows (one or two).

Every family has its particular mark to brand its sheep. Adults have a remarkable ability to recognize individual animals. Each household keeps its flock to itself. However, rich households may give a part of their flock to propertyless shepherds on a variety of contract bases (Lambton, 1953).

Domestic organization.

Within each tent there is a distribution of authority and considerable division of labour among the members of the household. Each tent has a recognized head, and he is usually male (the husband in that family). Where the tent is occupied by an incomplete family, the senior male is the head. If a family has no adult male, the woman is regarded as the head of the household. Labour is divided among the members according to sex and age, but a few tasks are rigidly allotted to only one sex, or one age group. The various tasks may be grouped in three categories: (a) Domestic work; (b) the daily cycle of migration; (c) tending and herding of animals.

(a) Domestic duties are mainly performed by women and girls. They prepare food, wash and mend clothes, spin and weave, frequently fetch water, while men and boys provide wood (in some cases), repair equipment and tents, etc.

(b) The shepherd usually is a man or a boy, or sometimes may

also be a girl. Packing and loading during daily migration are done by all the members of the family, and pitching tents, moving heavy equipment is men's duty.

(c) The work of tending the animals consists mainly of herding and milking. Boys as young as 7 years are frequently used as shepherds, while married men seldom do such work. Milking is done by both sexes, but mostly by women. The animals are fairly easy to control and may be milked individually by a single person.

2.5.2 Obah (section)

In the social system of the Qashqai tribe, "obah" is the second step after the tent. It is composed of several households or families camping together and grouped in a common herding unit with two to five tents to a unit. Obah is compounded in terms of kinship. This follows from the way it is built up, through the exercise of influence by senior men over bilateral kinsmen and perhaps particularly over affinities. The tents of such herding units are always pitched together in the shape of a circle or a line, with the herd spending the night beside them. When the herd is driven in for milking, most of the members of the unit assist. At any time, a member of a herding unit may separate from that group and work alone or join another unit.

The camps are in the real sense primary communities of nomadic society. They are similar to villages of sedentary people. The members of an obah make up a very clear social group, their relations to each other as continuing neighbours are relatively constant.

The senior man or Kadkhoda (head) is ruled by the obah.

At the time of the seasonal movement, this group migrates

as a unit. The size of the obeh unit changes at different times of the year. In late summer, when the animals graze on harvested lands, the tents are very compact and may be composed of 40 to 60 tents. During some winter months, these also constitute separate camps. When they are in the mountainous areas, there is maximum dispersion of the tents of obeh.

2.5.3 Tireh (subclan)

The word "Tireh" refers strictly to the level of social system of Qashqai which is represented by groups of obeh. In general, this term is political and traditional unit rather than a definite social unit. It corresponds to a group of villages of sedentary people.

Obeh is a tangible social unit, the individuals in it have contact with others, but the head has no political power. Tireh in this sense is not a tangible unit, its head has political power.

As mentioned earlier, an obeh is ruled by a Kad khoda but a tireh by a Khan. The chieftain in tireh succeeds by inheritance. The group of obeh in each subclan has a definite region and pastures in summer and winter quarters.

Subclans have the traditional right to pass through certain parts of the tribal area. They have very strict control over movements by tribal leaders themselves. Preparation of timetables for migration should be very exact, or else several groups simultaneously require to use a single small area for pasturage during transit.

2.5.4 Tayefeh (clan)

Qashqai is a confederation of seven tayefeh (usually nine tayefeh, but two small tayefeh joined elsewhere). Each tayefeh consists of several

tireh, and they are distinguished from each other by a formal leader (Khan) and Kalantar (may be 2 to 3 kalanter in each tayefeh).

The Khan ruled over the clan, and traditionally organized and directed the migrations. But nowadays the migration routes do not simply depend on customary procedures, because government agencies are also involved. A colonel is appointed by the government for each clan, whereby the two administrators (colonel on the one hand, Khan and Kalantars on the other) control the administrative affairs of the clan. Going back a decade, the traditional form of clan organization was largely based on the Khan and Kalantar, who had authority within the clan.

2.6 Husbandry and Agricultural Practices

2.6.1 Husbandry

Every household keeps a variety of domestic animals. The animals of the greatest economic importance are sheep and goats, which provide the main means of subsistence. Other domestic animals are the donkeys used for transport and riding (mainly by women and children), horses for riding mostly by men, and the camels for the transport of heavy goods and for the wool, and the dogs are used as watchdogs. Some families also keep poultry. Cattle are scarce, because they need better pastures.

The migratory cycle is necessary to maintain the health of the animals and reduce the cost of raising them, as there is no need to keep them in stables and sheds, and feed them with grain and dried grass. Sheep and goats are generally herded together, with each flock comprising 300 to 400 animals (one Bord to be equal to about 400 head) with one shephard accompanied by dogs. About one ram is required for every

five ewes to ensure maximum fertility in the flock. The natural rutting seasons are June to August, and the lambs and kids are born from November to February. Lambs and kids are usually herded separately from adults.

The main migrations are not in themselves the cause of particular losses of livestock, by accident or otherwise.

The products derived from sheep and goats, other than milk and meat, are wool and hides. Wool is an important product from animals. lambs' wool, sheep wool, camel hair, are sold or spun and used in weaving. goats' hair is spun and woven for tents. All locally used wool and hair is spun by hand on a spindle, whorls made by themselves.

All saddle bags, packbags and sacks used in packing the belongings of nomads are woven from this thread by the women. They also make rugs and carpets. Qashqai carpet (Turkish carpet) has a good market.

Goats' hair is used for weaving cloth for black tents. During wet weather, this cloth has remarkable weather-proofing and heat-retaining properties. When it is dry (in summertime), it insulates against heat and permits free circulation of air.

Hunting and collecting are not of much economic importance.

Going back to the land reform and nationalisation of forests and pastures, these belonged to the heads (khan) of different clans and sub-clans in whose names they had been registered, and they collected certain levies from their followers. Traditionally the head allotted these pastures to his followers, and the same person was usually given the same pasture every year. But in recent years, the power of the tribal leaders has been greatly reduced.

2.6.2 Agricultural Practice of the Qashqai Tribe

Although traditionally the economy of nomads was based on livestock

rearing, agriculture also played an important part. In recent years nomads have been taking to agriculture and gardening. In some cases they have mechanized agriculture, but mostly they still use primitive methods. The agricultural products are consumed by themselves.

Generally families who have sufficient livestock but do not own land are less inclined to cultivation.

Usually tribes practise dry farming of grain, but in suitable areas they also have rice fields. Trees and vegetables are rare in nomadic areas, but gardening is increasing.

The tribes start to cultivate at the end of summer in summer quarters, and in winter quarters they cultivate crops soon after they arrive there. At the time of harvest in summer quarters, there is no difficulty, because they remain in the area of cultivation. But in winter quarters they either have to delay their departure or the head of the family, accompanied by some male associates, remains behind to harvest, and then join the family later.

2.4 Food and Eating Habits

The normal diet of the Qashqai includes a great bulk of agricultural produce, some of which is produced by themselves. The staple food is unleavened bread, which is consumed with every meal. Sugar and tea with bread is the main breakfast, consumption of dates, fruit and vegetables depends on the accessibility and marketing.

Milk and its products are important, sheeps and goats are mixed during milking. Milk is never drunk fresh. Cheese is made from junket. It is frequently aged. Sour milk (mast or yoghurt) is a staple animal product food for nomads, particularly in the period of maximum production

(spring and summer). Sour milk may also be churned, or actually rocked, in a goat skin (called mashk) suspended from a tripod to produce butter and whey (called dough). The latter is drunk directly, it has a sour taste. Butter is eaten fresh, or heated to produce fat (called roghan). This is either eaten by the people or sold in the market. By simple extraction in a gauze-like bag, curd may be separated from sour whey. This curd is then rolled into small balls and dried in the sun (called kashk). They use this in winter. Whey is sometimes boiled and evaporated. The solid residue is dark brown in colour and very sour (called ghara —ghourout). It is used as chashni for cooking food.

The meat of slaughtered animals is eaten fresh and never smoked, salted or dried. They only eat the meat of sheep, goats and chickens, and very rarely camels and cows. Poultry is sometimes kept as a source of meat. Eggs are one source of protein for them. They eat eggs frequently, but meat only two or three times a week.

2.8 Educational Facilities for Tribes

The main tribal educational activities are concentrated in tribal education organization. Its headquarters is in Shiraz, and it is run by educated and experienced nomads. Educational activities for tribal populations are summarised as follows:

1. About 2,000 tented and mobile primary schools exist in tribal areas. The teachers are nomads, and are selected from both sexes. The schools follow the tribal migration from winter quarters to summer quarters, and vice versa. During migration the school is closed. This type of school is at present run mostly by tribes in the south.

2. Secondary tribal schools in Shiraz are attended by the children of the tribes.

3. Tribal Teacher Training College of Shiraz. Started in 1956, it is a boarding school with a 12 month course for tribal men and women who have finished primary or secondary schooling, and are between 17 and 30 years old. In 1974, there were about 400 students there. The aim of this school is to train young tribal people, give them cultural self-confidence, and send them back to work as teachers in their own tribes. The training is given in Farsi language, and has the following curriculum: review of all primary school subjects, and some supplementary subjects, methods of teaching, and psychology, tribal customs and values, handi-craft, music and songs.

4. In addition to the tribal education organisation, other sources used by the tribes are as follows:

(a) Literacy Corps schools which are in the tribal areas.

(b) Schools in villages near camp sites, and schools in towns. One of the main reasons for migration of tribes to the towns is to attend higher level schools.

The majority of educated people prefer to stay and work in the towns rather than to return home.

2.9 Present Medical Facilities for Tribal Populations

The pattern of health services in the tribal areas is mostly based on static health service networks, usually serving villagers. These are run by the Ministry of Health and Imperial Organisation for Social Services. Its utilisation by tribes in winter quarters is low because of the scarcity of facilities in remote areas, lack of communication, and the long distance

between camp sites and health centres. In addition, maldistribution of such a system keeps the rate of attendance low.

The second type of health service which serves rural areas, is the Health Corps. It is based on mobile units, and is run by young people drafted for two years into the military service. Each Health Corps unit consists of a physician and 3 to 4 auxiliaries, who have had six months' training, after which they have two years' service in rural areas. Each corps has one fixed station with 3 to 4 mobile sub-stations, and is provided with a vehicle and adequate supplies, servicing an average of about 15,000 of the rural population and nomads. At the time of the survey, two units were assigned for nomads and they have seasonal movement.

Most tribes have their own local experienced midwives. At the time of the survey 21 women trained as midwives were working in the Qashqai tribe (1973).

In recent years the government has drawn attention to the establishment of an auxiliary system for rural and nomadic areas. A school with a two year training curriculum was started in Shiraz in 1974. This system permits the development of health services for nomads.

In addition, mobile units for the eradication of malaria, vaccination and family planning, serve rural areas as well as nomadic areas.

2.10 Background Information on the Demography and State of Health of the Qashqai Tribe

Previous demographic and health studies in Qashqai are reviewed as follows:

(a) A demography and morbidity survey was conducted in four selected villages and one subelan of Qashqai, near Shiraz, by Petrosian

et al. in 1964. The subclan consisted of 72 tents (households) with a population of 499 people. 52.9% were male and 47.1% female; the average size of family was 6.7 persons per household. 55.9% of the population were under 15 years of age. 55.6 and 11.1 per 1000 were the crude birth and death rates respectively. Pregnancy history showed that 48.1, 126.0, 45.1 and 112.9 per 1000 live births were still-births, abortions, neo-natal mortality and infant mortality respectively.

Of the 147 persons who volunteered for blood examination, in which haemoglobin levels were determined, 62 per cent were over 12 grams %; 32 per cent between 10 and 12 grams %; and 5.4 per cent were below 10 grams %. 99 persons were tested for plasmaprotein levels, 18 per cent had levels below 6 grams per 100 ml. Of 346 persons tested with PPD tuberculin skin test, 79 (23.1 per cent) were positive.

76 children under the age of 13 were physically examined. 16 were diagnosed as having conjunctivitis; 3 otitis media; 2 diarrhoea. Respiratory infections were common.

Meanwhile, 4 children in one family were found to have an inability to sweat with temperature regulation disorder, their parents being first cousins. On biopsy the complete absence of sweat glands in the skin was noted. Diagnosis was hereditary ectodermal dysplasia. There was also a six months old infant with maraemus.

(b) During the survey on the socio-economic and cultural structure of Qashqai, some demographic data were collected by Payman in 1967.

He filled in 1033 individual questionnaires for members of some families. He found that 51.1% (528 persons) were males and 48.9% (505 persons) females. Age composition showed 51.6% in the age group 0-14 years, 43.9% in the age group 15-59 years and 4.5% in the age group 60 and over. Out of 164 married men 71.9% were married between 19 and 30 years, and 20.7% between 31 and 49 years.

Of 187 married women, 11.3% were married before the age of 13 years, and 46.5% between the ages of 14 and 20. The average age at first marriage was 25 for males and 19 for females.

(c) Bowman et al., 1964, published a paper on Haptoglobin and transferrin differences in some Iranian populations, and he pointed out the study carried out in Qashqai tribes; the following tables (Tables 3.1 and 3.2) show the distribution of Haptoglobins and Transferrins in selected persons of the Qashqai.

11% of males examined for G_6PD level had G_6PD deficiency (Bowman et al., 1961).

He showed that G_6PD deficiency and haptoglobin, transferrin patterns in the Qashqai are similar to those of other Moslem groups of Iran (Bowman et al., 1967).

(d) The most detailed study on epidemiology of malaria and its control among nomads has been conducted during the last two decades (Mofidi, 1957; Motabar, 1971, 1974).

These studies showed that malaria is conserved at village level and the nomads, by camping around villages, offer shelter and victims for the vector.

Table 3.1

Distribution of Haptoglobins in Qashqai Tribe, 1964

		Hp^{1-1}	Hp^{2-1}	Hp^{2-2}	Hp gene frequency
No. 117	Obs.	15	46	56	0.33
	Exp.	12	51	53	

Table 3.2

Distribution of Transferrins in Qashqai Tribe, 1964

	Phenotype frequencies		
No.	BC	CC	CD
117	0.000	0.949	0.051

The tribes usually leave winter quarters before the transmission season begins (March-April) and most of the migratory route is not covered during the transmission season; thus they escape infection. In July, apart from summer quarters, the conditions for transmission are suitable. But at present, most parts of summer quarters are free from malaria. As a result, the tribes contract malaria either on their way back to winter quarters, or in winter quarters on their arrival, when the transmission of malaria is at its peak.

The disease is usually transmitted from the sedentary inhabitants of villages to tribal people who have camped close by, or from the infected tribal people to other villagers. Rarely, a sort of inter-tribal malaria transmission is established, when the environmental conditions in camp sites are favourable for the building up of a critical density of vectors.

(e) An intestinal helminthiasis survey was conducted in some villages of winter quarters by Ghadiri et al. in 1971. Meanwhile he visited five such clans of the Qashqai, collected 329 specimens. The result was overall 39.8 per cent positive, and 2.1, 25.2, 0.13, 0.13 and 13 per cent were positive for Ascaris, Trichostrongyloides, Trichuris, Hookworm and H. nana, respectively. Hookworm was found among those settled tribes who worked on the rice pad. Species of trichostrongylus found in nomads were T. calurifermis, T. vitrinus and T. axei.

3.1 Summer quarter of one of the Qashqai chiefs.

3.2 Packing up for the seasonal movement

3.3 Khan and his family—during [illegible] movement

3.4 [illegible]han's wife - during seasonal movement

3.5 Khan of one of the subclans - during seasonal movement

3.6 Qashqai tent

3.7 Qashqai tent

3.8 Types of shelters used in winter quarter

3.9 Interior of [illegible] tent of a poor family. Malaria surveillance agent collecting blood samples.

3.10 Interior of [illegible]shqai tent of Khan's family. Malaria surveillance agent collecting blood samples.

3.11 Interior of Qashqai tent, showing belongings of a family.

3.12 Carpet weaving by a Qashqai woman

3.13 Women baking bread

3.14 Qashqai man making tea

3.15 Kitchen equipment

3.16 A group of women cleaning cereals

3.17 Mobile tribal school and school tent in the background

3.18 Young tribal women's costumes

3.19 Qashqai bride being escorted on the horse

3.20 Tribal men's and women's costumes

3.21 Qashqai child with blond hair

3.22 Collecting drinking water in skin bag

CHAPTER IV

MATERIALS AND METHODS

The demographic findings and the morbidity data given in the next chapters of this report were obtained by a research team consisting of two groups, viz: interviewers and medical staffs who conducted household and medical surveys simultaneously among the selected subclans and oboh by utilising camping, vehicle and field research facilities that permitted work under the harsh conditions of nomadic areas.

The present chapter describes in detail the various methods of interviewing, measurement and observations used by individual investigators of the team.

1. Sampling

1.1 Population samples for household survey

(a) General A total count of population is, of course, only the beginning for demographic study; the 1956 and 1966 censuses gave only a rough figure of the migratory population size. Information on the characteristics of the population and vital events should be collected by sampling the population.

At the beginning of the present survey, due to limited time during which the nomads were accessible in summer quarters, we tried to select a sample of about 15 per cent of the total migratory households of the Qashqai. From a sample of this size we could obtain a clear picture of the demographic pattern of the whole Qashqai tribe. This objective was achieved by two stages, randomised cluster sampling.

The selection of households was thus guided by two considerations:

(i) As to the best of our knowledge the demographic and socio-economic patterns of the seven clans of the Qashqai tribes are similar to each other, we selected four out of seven clans for the purpose of the survey.

(ii) Other important factors for this selection were our limited resources for the survey (especially time), and the dispersal of nomads in the vast mountainous area, which did not permit us to select all seven clans.

(b) Sampling unit and frame

The sample design of the survey was prepared to give each household in the tribe an equal chance of being included within the sample. It was in the following stages:

(i) The first stage of the sampling unit was a clan. Four out of seven clans were selected with probability proportionate to the estimated number of households in each clan. The names and estimated figures for the number of households in each clan and subclan were obtained by contacting the head of the clans and subclans, plus the information available from the Malaria Eradication unit of the province and other government organizations.

The following table shows the estimated number of migratory households in each clan.

The frame used in this stage was a list of seven clans, in the geographical position of their winter quarters from the south east to the south-west part of the province of Fars. The annual rainfall is thought to be usually lower in the eastern part of the province. As a result, the pastoral conditions in the west are somewhat better than in the south eastern province. The figures in Table 4.1 represent only those subclans and households that are still migratory.

Table 4.1

Estimated Number of Migratory Subclans and Migratory Households of the Qashqai Tribe

Serial No.	Name of clans	No. of subclans	No. of households	Units of 10 households	Cumulative sum
1	Amaleh	33	3,740	374	1-374
2	Shish-bollouqi	19	4,360	436	375-810
3	Kashkuli-Kuchak	12	479	48	811-858
4	Qarcheii	11	540	54	859-912
5	Farsimadan	22	1,228	123	913-1035
6	Kashkuli-Bozork	43	1,187	119	1036-1154
7	Darreh-Shouri	26	6,384	638	1155-1792
	Total	166	17,918	1,792	

The four clans are: Amaleh, Shish-bollouqi, Kashkuli-Kuchak and Kashkuli Bozork. They were selected at random.

Although our choice of the four above-mentioned clans was made at random, one can easily see that the winter quarters of the first three selected clans in the south-east of the province have rather poor pasture conditions.

(2) The second stage of the sampling unit was a subclan. The frame used in this stage was a list of selected clans that also included the number of subclans and the number of households in each subclan.

As mentioned before, the subclan is the smallest stable unit with definite summer and winter quarters, and a migratory route. It is further divided into a number of obuhs, each composed of a group of tents or households with linked quarters and joint migration. As mentioned earlier, obeh corresponds to a village among sedentary people, and subclan to a group of villages. Therefore the second stage of sampling was based on randomized clustering sample units as follows:

A list of the total number of subclans and households in the four selected clans, in alphabetical order, was used. The 107 subclans included 9766 households and 21 subclans or 3214 households were selected for the household survey. The summary of the list and the number of selected subclans and households is shown in the following table (Table 4.2).

1.2 Population sample for the Medical Survey

With regard to the question of sampling for a morbidity survey, the sample was drawn from the original population sample (household survey). In the present sample, the household was again the basic unit, although every individual should get an equal chance to be included in the

Table 4.2

Number of Selected Subclans and Households from each Clan

Name of clan	Selected clans at first stage		Selected clans in second stage	
	No. of subclans	No. of households	No. of subclans	No. of households
Amaleh	33	3740	6	635
Shish bullouqi	19	4360	6	2039
Kashkuli Kuchak	12	479	2	70
Kashkuli Bozork	43	1187	7	470
Total	107	9766	21	3214

sample for the morbidity survey and medical examination. Due to difficulties in selecting individuals as a unit, we preferred the household unit for our survey rather than individuals selected at random.

(a) Size of the sample for physical examination

The survey was based on the availability of existing manpower and limitation of time due to the mobility of the population. It was possible to examine about 600 families consisting of about 3,000 persons.

(b) Procedure of the selection of population sample for medical survey:

The procedure used was based on the two-stage random sampling, viz: obeh and household. As mentioned before, each subclan was formed of a number of obehs. The name of the obeh and the number of households were determined during the household survey. The list was prepared on the basis of information obtained on the number of obeh in each subclan and the number of households in each obeh. The list was arranged in alphabetical order by the names of subclans and obehs. When a number of households belonging to an obeh appeared in the sample, all households in that obeh were included in the sample.

Overall, 17 obehs consisting of 620 households or 3,584 persons were selected for medical examination.

(c) Samples for the laboratory tests (blood and stool examination)

One of the difficulties faced during the survey was in the collection of random blood samples from individuals who were physically examined, as some of them refused to let us draw 10 ml of blood by vein puncture. In the case of babies and small children it was difficult to obtain blood specimens in the conditions of the camp sites; even some adult members

of some families refused to co-operate. In these cases we passed on to the next member of the family. Therefore in the serological survey we lost a considerable amount of information about infants and small children. Blood samples were collected from about 40 per cent of the people clinically examined.

In this connection, the collection of stool samples was difficult due to their movement and inaccessibility. Some people refused to give stool specimens. Therefore the stool specimen collection was based on the persuasive ability of the two technicians appointed for this purpose.

2. The Pilot Survey

A pilot survey of about 150 households was conducted for a week. It was designed to see how the members of the households reacted to interviewers, and secondly to see whether the arrangement of the questionnaire was suitable. In addition, the ability of trained interviewers to make contact with the tribal people for the first time was to be assessed. So besides the pilot survey, these interviewers were put through a kind of examination. Sixteen interviewers, eight men and eight women, were selected. The men were selected from the same nomad tribes, as strangers found it difficult to interview them. The women chosen were students at the school of social science.

Moreover, we realized how important it was that the interviewers themselves should thoroughly understand the object of the survey, and the substance of the various questionnaires. As to the questionnaires themselves, some corrections as well as some purely formal verbal amendments to the questions were made, therefore in the survey the questionnaires worked well, and the results of the ability of the

interviewers to approach the nomads were successful.

3. Method of Execution of the Survey

3.1 The Interview or Household Survey

The interview process:

Male and female interviewers were employed in this survey, pairs consisting of members of opposite sexes worked together. The Farsi language was used in the schedule. Although tribes spoke Turkish, there were no language difficulties, because the majority of the respondents were bilingual and also one of the two interviewers in each team was a tribesman. As mentioned earlier, the interviewers were informed of the purpose of the survey, and were acquainted with the meaning of each item on the schedule. They were given brief instructions with the schedules, periodic reviews were held with all the interviewers to ensure continued and clear understanding of useful probe questions, and of methods of obtaining complete co-operation from various kinds of interviewees. Our aim was to conduct an interview in privacy, but this was in most cases impossible, due to the presence of the members of other tents. Most interviewees did not place much value on privacy, and were quite willing to give information about themselves to interviewers in the presence of members from other tents. Reliability or consistency of response was measured by two procedures. First, questionnaires contained a number of duplicate or cross-check questions, e.g. the question "When did the last birth or death occur in the household?" appeared in questionnaires no. 2 and 3. The second method was conducted by the field team leaders who checked about 5% of the questionnaires with the same interviewee or his/her spouse on the same day of interview or

shortly after.

Our interviewers were provided with the selected list of names of subclans, and the estimated number of households. They were also asked in their interviews to cover all the tents belonging to that subclan. They were also asked to interview the head of each household and his spouse.

The number and percentage of households surveyed and interviewed compared with estimated households were 2929 (91.1%) and 3214 respectively.

During the household survey no members of the households refused to co operate (according to the interviewers' statement). Hence the difference observed between estimated households and the number of households interviewed, may be due to the fact that some households did not proceed to summer quarters, and stayed behind in winter quarters or camped in or near villages on the route of migration. Another explanation is that the interviewers also may have missed the camp site or the estimation was not correct.

3.2 Method of Medical Survey

The medical survey method consisted of medical interview, physical examination, skin test and laboratory findings.

(i) Medical interviews and physical examination.

When the medical teams arrived at camp sites, all the members of the households that were present gathered in the open tent in the centre of the camp site. Two field technicians interviewed the head of each household and his spouse and their children. The standardized individual questionnaire (questionnaire and examination sheet No. 4, Appendix I)

consisting of pre-coded questions printed in the Farsi language, were used for each member of the household, in addition the body measurements, weight, height and temperature were taken by the technicians. Physical examinations were carried out by a doctor in the team. Systematic observations and measurements of physiological and pathological signs and symptoms were made. Results were recorded on the pre coded form, (Examination sheet No. 4, Appendix I). Routine measurements of blood pressure among people aged 35 years and over were taken, and all observed abnormalities were recorded. Observation of the condition of hair and skin, presence of infection, degree of hepato splenomegaly, presence of pock-marks, scars resulting from small-pox vaccination was checked. A routine examination of the external part of the ear by using an auriscope, and inquiry about the condition of hearing were made by asking the examinees. Eyes and conjunctiva were examined externally, by using a hand torch. Vision was determined by asking the subjects whether they could see far and near, in the case of cataracts by showing fingers and asking them how many there were.

Routine physical examinations of the chest (heart and lungs) were made and pathological sounds (systolic and diastolic murmurs and rate, etc.) were recorded by using a stethoscope. In addition, primary diagnosis and condition of health were also made by the doctor at the time of the survey. About twenty persons a day were interviewed and examined by each team. The final diagnoses were made when the results of laboratory tests were at hand.

(ii) Skin Test

PPD a tuberculin obtained from the Pasteur Institute of Iran was

used in the skin test at a rate of one tenth of a millilitre. It was injected intracutaneously on the forearm. A reading was made 48 or 72 hours after the injection of antigen, and the reaction was measured by the size of induration. The induration size of 0 9 millimetres was selected as negative and from 10 and over as positive.

(iii) Laboratory

The methods employed in the field laboratory were selected or designed for use within specified weight and space limitations. Among laboratory equipment was a deep freeze refrigerator which permitted immediate freezing and storage of sera.

Laboratory methods used in the survey are summarized as follows:

1. Haemoglobin determinations were made routinely, using the spectrophotometric method of Drabkin et al., 1932, Van Kampen et al., 1961.

2. Haematocrit, using micro method (the strumia capillary tube method; Strumia et al., 1954). Two capillary tubes were filled with blood obtained at the time of venipuncture and centrifugation was performed with the Maukley centrifuge.

3. G_6PD determination was performed by using the method of Motulsky et al. (1959).

4. Total protein serum determination was performed by spectrophotometric method using "Determination of serum protein by means of the biuret reaction", Gornall et al., 1949.

5. For the serological diagnosis of syphilis the RPR or Rapid Plasma Reagent test method was used in the survey. This test is of particular value in the field, and it can be employed with unheated plasma or serum

in a simple rapid slide flocculation test. RPR antigen is prepared by Difco Laboratories, Detroit, Michigan, U.S.A.

6. The method used for the serological diagnosis of brucellosis was Rapid Detection of Febrile Antibodies with Bacto Brucella Abortus Antigen (Difco Laboratories, Detroit, Michigan). It is a dyed suspension of smooth B. abortus and it is prepared similarly to the method of Huddleson and Abell, 1920, for use in the rapid slide agglutination technique. Due to the antigenic similarity of Brucella species, cross reaction may occur with the Brucella Antigen with B. melitensis or B. suis antibodies. The The febrile antigen is liquid and ready to use and the significant titre is 1:80 and over (1:160 is indicative). The control serum is desiccated and stable at 2 to 8°C. Both positive and negative control sera in parallel with the test sera were used.

7. Typhoid and paratyphoid. The serological test adopted for the diagnosis of salmonellasis was Rapid Detection of Febrile Antibodies with the Bacto Salmonella O and H Antigens in the form of suspensions of representative organisms containing species specific salmonella antigens. They are recommended for use in the Widal Rapid Slide Test for detecting Salmonella antibodies in sera as described by Huddleson and Abell, 1920, with positive and negative control antigens used in the serological identification of the salmonella (Difco Laboratories). The following table (Table 4.3) presents the level of dilution used as positive reaction to Febrile Antigens in the serological survey.

It is worth noting here that the genus Salmonella bears mainly two kinds of antigens. The "O" or heat stable, somatic antigen and its reaction is characterised by coarse, compact agglutination, and the "H"

Table 4.3

The Level of Dilution of Sera Selected as Positive Reactive to Febrile Antigens

Bacto-antigens	Disease	Significant titre
Salmonella H antigen Group d (Typhoid H)	Typhoid fever	1:180
Salmonella O antigen Group D (Typhoid O)	Typhoid fever	1:180 over 1:160 indicative
Salmonella H antigen Group a (Para A)	Paratyphoid fever (A)	1:80
Salmonella H antigen Group b (Para B)	Paratyphoid fever (B)	1:80

or heat labile flagellar antigen that has a characteristic loose, flocculant agglutination. The "Vi" antigen is the third antigen of the genus Salmonella.

8. Blood grouping and Rh Test.

For the determination of blood grouping and Rh in sample populations, the slide test method was used, and the antigen was prepared by Dade Division, American Hospital Supply Corporation, Miami.

9. Blood Smears

A thick and a thin blood smear were prepared from each person on a clean slide. The Giemsa stained blood smears were examined for blood parasites (Plasmodium and Borrelia) under the appropriate power of a compound microscope.

10. Stool Specimens

Stool samples for parasitological examination were collected in disposable cups from individuals in the medical examination, and were examined using direct smears, Willis flotation, and the Formol Ether Concentration methods (Ridley et al., 1956).

4. Questionnaires and Schedules

The questionnaires were drawn up on the following subjects:

Questionnaire No. 1 or Household Questionnaire contained information about family members such as sex, age, educational status, marital status, occupation etc. In addition, it also contained information about any illness that may have occurred during the preceding fortnight, and the use of the health and medical care services.

Questionnaire No. 2 or Vital Events of the Household: this contained information on demographic features (births, deaths, marriages and migration, infant mortality, etc.) which were obtained by interviewing

the head of the household.

Questionnaire No. 3 or Fertility and Family Planning: this questionnaire was filled in by married women aged 15 to 44 years in selected households. There was also a series of questions about fertility, number of children born, number of deceased children, information on the knowledge, attitude and practice of tribal married women (KAP study).

Questionnaire No. 4 or Individual Questionnaire and Examination Sheet contained a series of questions about the state of health, background of diseases, vaccinations, information on physical examination and primary or provisional diagnosis.

Questionnaire No. 5 This contained laboratory findings.

Questionnaire No. 6 or final diagnosis. This contained the method of diagnosis, gradation of the state of health, preventability of disease, prognosis, etc.

(For the questionnaires see Appendix 1).

4.1 Group of Interviewers (Household survey)

4.2 A team of interviewers at work

4.3 Road conditions in summer quarter

4.4 Camp site of the study team

4.5 Study team arriving at Qashqai camp site. Tribe's people showing curiousity towards the arrival of the strangers!

4.6 Measuring height of a Kashqai woman

4.7 Clinical examination at the camp site

CHAPTER V

RESULTS

1. Demographic Studies

Previous chapters of this report dealt with general information on nomads, the purpose of the survey and the methodology used. In this chapter we shall describe two important aspects of the population: the demography and the pattern of morbidity in the Qashqai Tribe.

The demographic features, size of the household, the composition of the population, and characteristics of the individuals - sex, age, marital status, occupation and vital events, births, deaths, migration and other such elements, will be explained.

1.1 Population Characteristics (Household Questionnaire)

1.1.1 Size and Composition of Household

The size of the household (for the definiti n see Appendix II) in the survey varied from one member to eleven or more (Table 5.1 and Fig. No. 5.1).

According to the survey the total population of the 2929 households was 16,939 and the average size of household being 5.78 persons, considerably lower than in the rural areas of Iran (an average of 7.6 persons per household in the 1966 census). But it is close to that in the urban areas of Iran (an average of 5.8 persons per household in the 1966 census).

As can be seen in Table 5.1, the most common figure is (the mode) seven persons per household, and in about 48 per cent of the total households, the number of members is less than average.

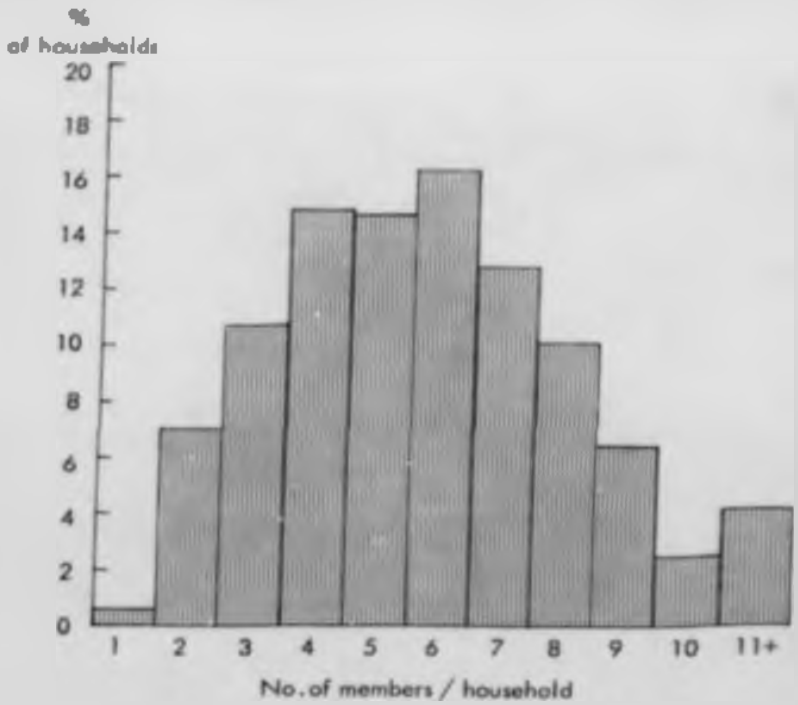
Table 5.1

Distribution of Households by Number of Members, Qashqai Tribe, 1973

No. of member(s) per household	Households		
	No.	%	Cumulative %
Single member household	19	0.6	0.6
2 members "	205	7.0	7.6
3 " "	314	10.7	18.3
4 " "	437	14.9	33.2
5 " "	430	14.7	47.9
6 " "	473	16.1	64.0
7 " "	376	12.8	76.8
8 " "	295	10.1	86.9
9 " "	187	6.4	93.3
10 " "	74	2.5	95.8
11+ " "	119	4.1	99.9
Total	2929	100.0	

Fig. 5.1

PERCENTAGES OF HOUSEHOLDS ACCORDING TO THE NUMBER OF THE MEMBERS IN EACH HOUSEHOLD QASHQAI TRIBE, 1973



The distribution of the household in the four following categories of size reveals the following facts on the household size:

Table 5.2

Four Categories of the Household Size According to the number of Members, Qashqai Tribe, 1973

Type of household	No. of members	Households		Population	
		No.	%	No.	%
Small	1 to 3	538	18.4	1,371	8.1
Medium	4 to 6	1340	45.7	6,736	39.8
Large	7 to 9	858	29.3	6,675	39.4
Very large	10 & over	193	6.6	2,157	12.7
Total		2929	100.0	16,939	100.0

Medium-sized households are the most common of all the four types (45.7 per cent of the households or 39.8 per cent of the population), which is what one would expect.

The large households with ten or more members are 1 in 15 (6.6 per cent of the households or 12.7 per cent of the population). The existence of such a big proportion of large and extra large households in the sample (35.9 per cent of the total households) indicates that the tribe still follows the traditional custom, and the habit of not breaking away from the family.

As such data for previous years and decades are not available, we cannot say whether the percentage of the small households has been increasing or not.

Another characteristic of the household is the pattern of composition, which is affected by demographic factors like fertility, mortality and migration, or the economic factors like availability of housing facilities (in the case of urban areas). The composition of the household is defined by the relationship of members with the head of the household.

Table 5.3

Data on the Composition of Households in the Household Survey

Relation to the head of household	Members	
	No.	%
Head of households	2,929	17.3
Spouses	2,608	15.4
Children (sons and daughters)	9,196	54.3
Parents	602	3.5
Grandchildren	198	1.2
Blood relatives to the head	1,029	6.1
Non-blood relatives to the head	249	1.5
Unrelated persons	72	0.4
Unknown	56	0.3
Total	16,939	100.0

Out of a total of 2,929 heads of households, 2858 or 97.6% were reported to be males, only 71 or 2.4% were females, and in most cases after the death of her husband, where there was no adult son, the widow became the head of the household. Hence the headship rate for females in the tribal community is on the whole low. 14,733 persons, or 87% of the total surveyed population, were heads, their spouses and children, or the nuclear family of the head. About 7.6% were other relatives, and 0.4% had no relation to the head of the household.

1.1.2 Age-Sex Composition

In this section we are concerned with the distribution of age in the original population sample. Age structure in such tribal populations varies according to such factors as high fertility, mortality and emigration.

It is important to know the number of people in each age group, as the varying numbers produce changes in demands on educational facilities and public and private services of various kinds. Given the age distribution of a population, it is possible to make fairly dependable inferences about the nature of fertility and mortality trends to which the population had been exposed in the past.

Data Collection in the present survey, unlike the national census, was based on the use of "dejure" method. In the national census "defacto" method is used (see Appendix II).

The total population in the original sample, and the sex and age distribution are shown in Table 5.4, and graphically in Fig. 5.2. The age-sex pyramid (Fig. No. 5.2), in the original population samples, shows a broad base and squat, which is characteristic of a young population with high fertility, and it also indicates that some of the age

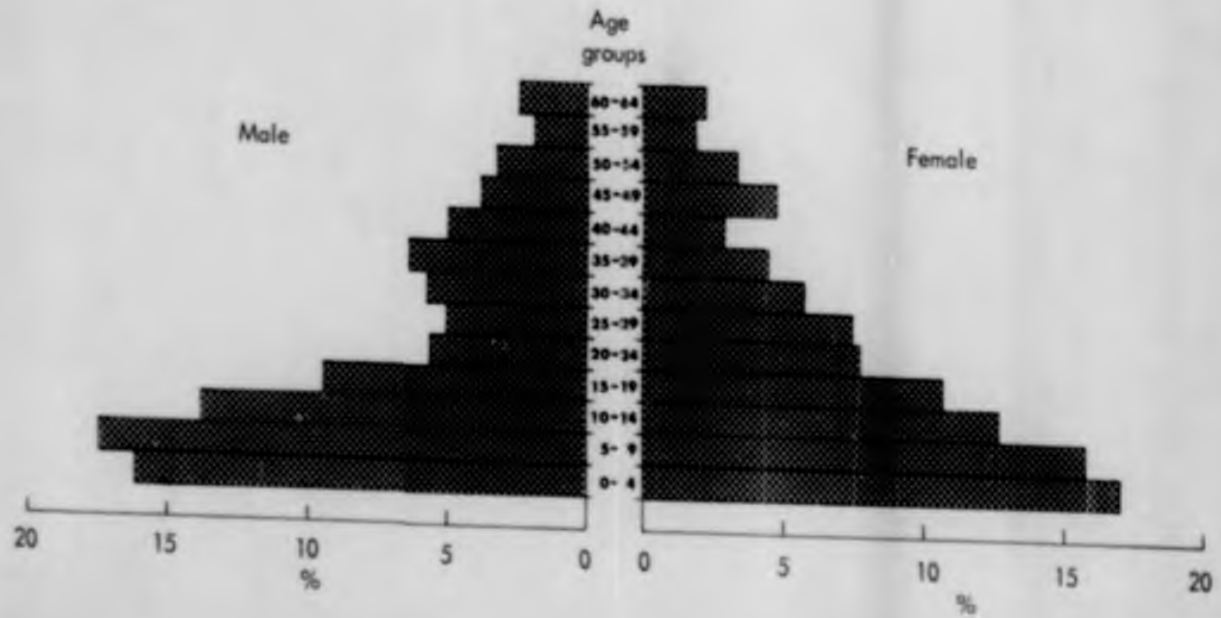
Table 5.4

Age and Sex Distribution of the Original Sample from the Household Questionnaire

Age	Male		Female		Total	
	No.	%	No.	%	No.	%
Less 1	382	4.4	336	4.1	718	4.2
1-4	1023	11.7	1061	12.9	2084	12.3
5-9	1516	17.4	1291	15.7	2807	16.6
10-14	1201	13.8	1027	12.5	2228	13.2
15-19	818	9.4	860	10.5	1678	9.9
20-24	496	5.7	629	7.7	1125	6.6
25-29	437	5.0	605	7.4	1042	6.2
30-34	497	5.7	465	5.7	962	5.7
35-39	547	6.3	447	5.4	994	5.9
40-44	434	5.0	235	2.9	669	3.9
45-49	343	3.9	378	4.6	721	4.3
50-54	292	3.3	272	3.3	564	3.3
55-59	164	1.9	159	1.9	323	1.9
60-64	207	2.4	182	2.2	389	2.3
65+	358	4.1	271	3.3	629	3.7
Unknown	3	0.0	3	0.0	6	0.0
Total	8718	51.5	8221	48.5	16939	100.0

Fig. 5.2

AGE-SEX PYRAMID OF THE SAMPLE POPULATION, QASHQAI TRIBE, 1973



groups are somewhat underrepresented. This is particularly true for males aged 20 to 29 years (males 10.7 per cent, females 15.1 per cent) who emigrated to find jobs outside the tribal community. In some cases individuals in this age group fear that they may be exposed to obligatory military service if their names appear in the records, and therefore their families avoid giving their names.

The under-representation of the figures for the females aged 40 to 44 illustrated in the table (male 5.0 per cent, and female 2.9 per cent) may be due to a mis-statement of age, because in the age-groups 40-49 the rate for both sexes is nearly the same (8.9% and 7.5% respectively).

The median and mean age of the population sample were 16.9 and 22.35 respectively. These vary with the changes in age structure, fertility and mortality levels of the population.

Sex composition is conventionally expressed as the ratio of males per 100 females. It can also be expressed as males per 100 of the population. Both these indices show the greater prevalence of males in the tribe. From the survey it is revealed that the masculinity of the Qashqai tribe is 106 males per 100 females.

The sex ratio at birth is 110 males per 100 females.

From the figures it can be seen that less than half of the population belonged to the age groups under 15 (46.2%) and 50% to the age group 15 to 64 years.

This pattern is characteristic of a population with a high level of fertility over a long period, and moderately declining mortality. In addition, among a younger population with a relatively high fertility rate, the percentage of persons of dependent ages is greater.

Conventionally, the group of people aged 15 to 64 years is considered as a population of working ages, or the economically independent population, and those under 15 and over 65 are accepted as dependent.

In the sample the degree of dependency is about one (Table 5.5). These data imply that the ratio of economically active to the total population is below the typical level of industrialized communities, but the fact is that in nomadic society children start to work at an early age (7 years) and become breadwinners of their families.

Table 5.5

Distribution of Population in the Original Sample by Age and Sex and the Dependancy Ratio

Age groups	Male		Female		Total	
	No.	%	No.	%	No.	%
0 14	4122	47.3	3715	45.2	7837	46.2
15-64	4235	48.6	4232	51.5	8467	50.0
65+	358	4.1	271	3.3	629	3.8
Total	8715	100.0	8218	100.0	16933	100.0
Dependancy Ratio*	1.05		0.94		1.0	

*Dependancy ratio is calculated by dividing the total population of 0-14 years and 65 and over years age groups by 15-64 years age group multiplied by 100.

1.1.3 Marital Status

Marital status is another important factor in the composition of a population. So long as births outside wedlock are religiously and socially stigmatized in the tribal community, the number of persons entering into and continuing in marital union becomes a major determinant of the birth-rate. When the distribution of persons in each age group by marital status is compared over a period, it is revealed whether or not there is any tendency for the postponement of marriage in the population. Such a distribution also gives information on the formation and dissolution of marriages. The survey recognizes four marital statuses. They are single or never married; married; widowed; divorced or separated.

The results are shown in Tables 5.6 and 5.7 for females and males by age separately, and in Figure 5.3. A wide disparity exists between married males and females in the lower age groups, and the percentage of married females in the lower age groups (aged 15 to 19 years) is higher than that of males. The minimum legal age for females to marry is 15 years.

17.4, 64.8 and 89.4 per cent of women in the age groups 15 to 19, 20 to 24 and 25 to 29 years of age respectively reported that they were married. A similar pattern was shown by men, but the rates were lower, 1.7, 21.6 and 44.7 per cent in the age groups 15 to 19, 20 to 24 and 25 to 29 years respectively. However, the most important factor in the married status analysis, particularly from a fertility point of view, is the proportion of women in the child bearing ages (15 to 49) who are currently married. 68.5 per cent were in this category in the present survey.

Table 5.6

Marital Status of the Population by Age and Sex (Female)

(Household Questionnaire)

Age group	Never married or single		Married		Widowed		Divorced		Unknown		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
15-19	706	82.3	149	17.4	0	0.0	0	0.0	3	0.3	858	19.1
20-24	215	34.2	407	64.8	1	0.1	0	0.0	5	0.8	628	13.9
25-29	60	9.9	541	89.4	3	0.5	1	0.2	0	0.0	605	13.4
30-39	29	3.2	865	94.8	17	1.8	1	0.1	0	0.0	912	20.3
40-49	14	2.3	521	85.1	77	12.6	0	0.0	0	0.0	612	13.6
50-59	17	3.9	262	60.8	149	34.6	0	0.0	3	0.7	431	9.6
60-69	10	3.6	96	34.9	168	61.1	0	0.0	1	0.4	275	6.1
70+	9	5.0	37	20.8	128	71.9	0	0.0	4	2.2	178	4.0
Unknown	0	0.0	2	66.6	1	33.3	0	0.0	0	0.0	3	0.1
Total	1060	23.5	2880	64.0	544	12.1	2	0.0	16	0.4	4502	100.0

Table 6.7

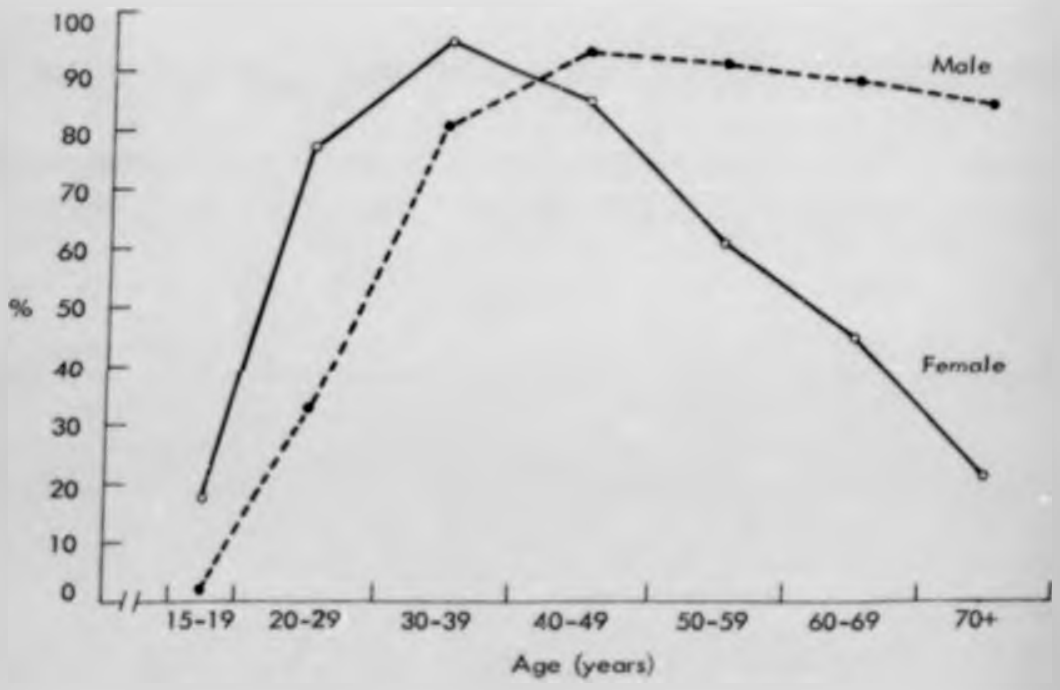
Marital Status of the Population by Age and Sex (Male)

(Household Questionnaire)

Age group	Never married or single		Married		Widowed		Separated		Not reported		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
15-19	801	98.0	14	1.7	0	0.0	0	0.0	2	0.2	817	17.8
20-24	379	76.4	107	21.6	4	0.8	0	0.0	6	1.2	496	10.8
25-29	239	54.8	195	44.7	0	0.0	0	0.0	2	0.4	436	9.5
30-39	183	17.5	846	81.1	10	0.9	3	0.3	1	0.1	1043	22.7
40-49	34	4.4	724	93.2	19	2.4	0	0.0	0	0.0	777	16.9
50-59	16	3.5	415	91.0	25	5.5	0	0.0	0	0.0	456	9.9
60-69	6	1.7	305	88.2	34	9.8	0	0.0	1	0.3	346	7.5
70+	5	2.3	184	84.0	28	12.8	0	0.0	2	0.9	219	4.8
Unknown	1	33.3	2	66.6	0	0.0	0	0.0	0	0.0	3	0.1
Total	1664	36.2	2792	60.8	120	2.6	3	0.1	14	0.3	4593	100.0

Fig. 5.3

PERCENTAGE OF CURRENT MARRIED MALE AND FEMALE
AGED 15-69 YEARS AND OVER IN ORIGINAL POPULATION SAMPLE
QASHQAI TRIBE, 1973



For every 100 married men there were on average 103 married women.

According to Figure 5.3, the graph for the female population displayed a peak in the age group 30 to 39 years, and declined gradually at the age of 70 and over. For the males the shape of the graph in the first part is similar to that of the females, but the point of start is very low and gradually rises to a peak in the age group 40 to 49 years, and then begins to flatten, and like that of the females, does not decline sharply. There are two reasons for this discrepancy. First, in the case of men a widower can remarry, and some men even practise polygamy in the upper age group, while widowed women have less chance of a second marriage. The second reason, a discrepancy exists between the ages of men and women at the time of their first marriage.

The graph shows that the percentage of married people reaches its maximum at an earlier age for women than for men.

The maximum height of the curve representing the proportion of married people is about the same for both sexes. Clearly, the percentage of those remaining single throughout life has always been insignificant (Tables 5.6 and 5.7).

The percentage of women aged 15-49 who had never married was as follows:

Age group	15-19	20-24	25-29	30-39	40-49
Percentage	82.3	34.2	9.9	3.2	2.3

82.3 per cent of women aged 15-49 were single. In other words, 28 women per 100 aged 15-49 had never married.

Divorce. Legally it is simple, especially for men, but it is a rare occurrence in a tribal community. According to Tables 5.6 and 5.7, among 4502 women and 4593 men at the age of 15-65 years and over, only two women were reported divorced, and three men separated. This fact depends on the socio-cultural behaviour of the tribes. Widows greatly outnumber widowers in the upper age groups. The proportion of young widows is low, and increases sharply from the age group 50 to 59 and above. This represents the existing discrepancy between the ages of men and women at the time of marriage.

As indicated in Tables 5.6 and 5.7, in tribal society women are married in the early years of life, and are less likely to stay single, but during the ages of 30 to 39 years, men are more likely than women to be married, as opposed to the early years of life.

1.1.4 Age at first marriage, and opinions about the preferable age for marriage.

Age at first marriage is another important element affecting the birth and fertility rates in the population.

In the present survey the question of the age at first marriage was asked only to currently married women aged 15 to 44 years. The pattern of age at first marriage is shown in Table 5.8 and Figure 5.4. 8.6 and 64.8 per cent of currently married women have been married before they reached the age of 15 and 20 years respectively. According to these figures, it seems that some of the married women had been married before reaching the minimum age set by law. The calculated median age for an entire group of married women aged 15-44 is 18.4 years.

Table 5.8

Age Distribution at First Marriage, Currently Married Women Aged 15-44

Age at first marriage	No.	%	Cumulative %
<15 years	187	8.6	8.6
15 "	302	13.9	22.5
16 "	239	10.8	33.3
17 "	259	12.0	45.3
18 "	266	12.3	57.6
19 "	155	7.2	64.8
20 "	314	14.5	79.3
21 "	72	3.3	82.6
22 "	112	5.2	87.8
23 "	61	2.8	90.6
24+ "	193	8.9	99.5
Unstated	11	0.5	100.0
Total	2167	100.0	

Fig. 5.4

AGE DISTRIBUTION AT FIRST MARRIAGE,
(MARRIED WOMEN AGE GROUP 15-44),
QASHQAI TRIBE, 1973

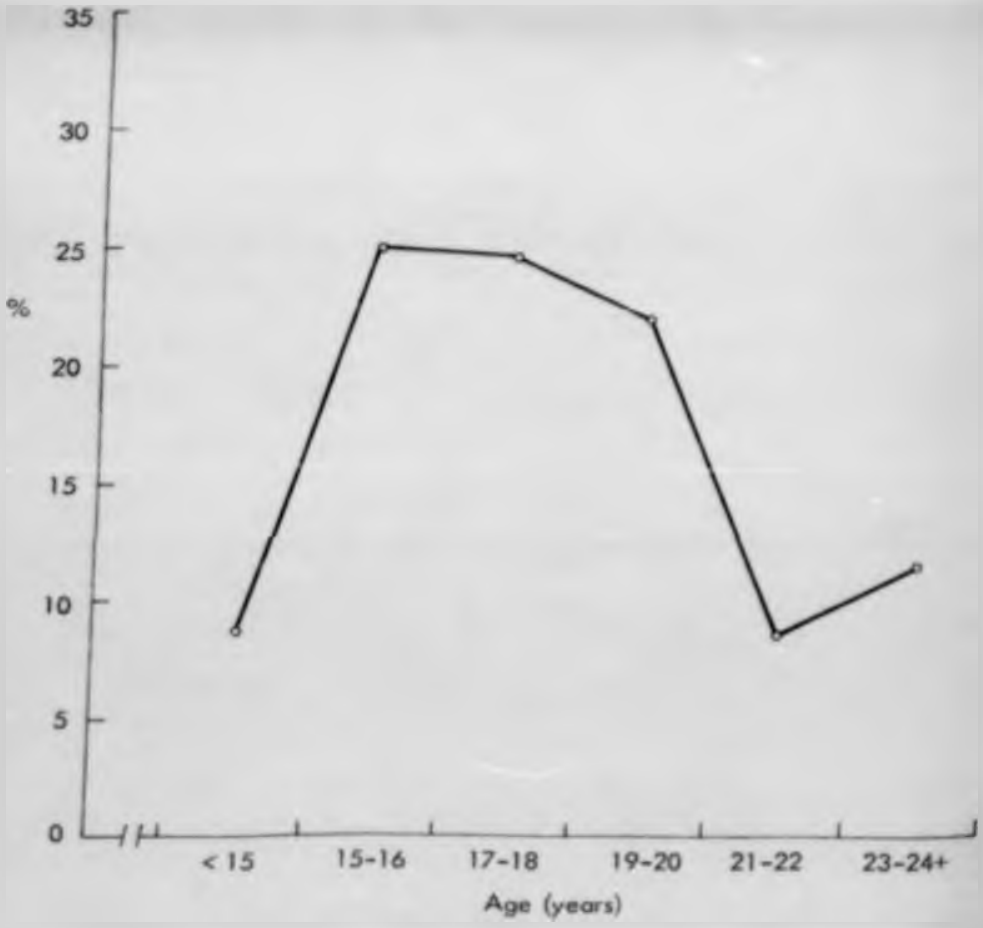


Table 5.9

Number and Percentage of Married Women Aged 15 to 44, Considering the Preferable Age for Marriage for Girls and Boys

Preferable and ideal age for marriage by age	Girl		Boy	
	No.	%	No.	%
<15 years	643	29.7	54	2.5
15 "	452	20.9	47	2.2
16 "	185	8.5	51	2.4
17 "	127	5.9	37	1.7
18 "	195	9.0	206	9.5
19 "	28	1.3	15	0.7
20-24 "	275	12.7	994	45.9
25-29 "	45	2.1	485	22.4
30-34 "	3	0.1	65	3.0
35-39 "	0	0.0	3	0.1
40+	3	0.1	1	0.0
Unstated	211	9.7	209	9.6
Total	2167	100.0	2167	100.0

The graph for the age distribution at first marriage indicates a maximum between 15 to 16 years of age, and a sharp decline to the age of 23 years (Figure 5.4).

Briefly, the tendency to marry at earlier ages is most pronounced, as seen from Table 5.8.

Finally, the age at which woman marry is very young, and the proportion of those entering marriage in each group has increased. Consequently there is an increase in the fertility rate, and this leads to an increase in family size.

Opinions about the preferable age for marriage for girls and boys: 2,167 currently married women were questioned about the preferable age for marriage for both sexes. Their responses are shown in Table 5.9. About one half of the women believed that the ideal age for marriage for a girl is 15 years or less, and only 4.7 per cent had any fixed ideas for boys, while 22.5 per cent of the respondents had married at this age (15 years and below).

1.1.5 Literacy and Educational Attainment

That education is an important element in the composition of a population needs no exposition. As far as individuals are concerned, educational attainment is an index of socio-economic status, and for the society as a whole, educational composition of its population furnishes an inventory of its human resources. Further, the receptivity of a population to organized attempts at social change, such as an attempt to popularise the idea of having a small family, through mass educational programmes, is partly determined by the educational composition of the population. The simplest measure of the level of the education of a population was used in the survey classified as literate by age and sex (Table 5.10).

Table 5.10

Number and Percentage of the Literate Population

According to Age and Sex, Original Sample Population

Sex / Age group	Male		Female		% of literacy		
	No. literate	No. illiterate	No. literate	No. illiterate	Male	Female	Total
7-9	407	416	91	596	49.4	13.2	33.0
10-14	762	428	145	863	64.0	14.4	41.3
15-19	448	364	46	802	55.2	5.4	29.7
20-24	178	310	17	601	36.5	2.7	17.6
25-29	77	356	8	590	17.8	1.3	8.2
30-34	74	415	3	458	15.1	0.6	8.1
35-39	73	472	5	439	13.4	1.1	7.9
40-44	61	373	5	230	14.0	2.1	9.9
45-49	53	288	3	374	15.5	0.8	7.8
50-54	39	253	0	270	13.3	0.0	6.9
55-59	17	147	1	154	10.4	0.6	5.6
60-64	22	184	0	181	10.7	0.0	5.7
65+	49	309	1	268	13.7	0.4	7.9
Total	2260	4315	325	5826	34.3	5.3	20.3

It can be easily seen from Table 5.10 that literacy among males (34.3%) exceeded that among females (5.3%), and that is true for all age groups. Another fact revealed from the table is that the ratio of literate to illiterate decreases as the age increases, and this ratio is very low in all age groups, especially in the upper age groups. Only 20.3 per cent of the total population aged 7 years and over were literate. According to the census of 1966, 41 and 18 per cent of males and females were literate in Iran respectively.

Detailed educational attainment tabulation is shown in Table 5.11. As was the case with literacy, marked differences in educational attainment levels were apparent between males and females, and between young and old.

Of the total population, 1.7 per cent graduated from primary and 0.3 per cent from secondary schools. Lower numbers of females than males had secondary education.

The high illiteracy rate among nomads poses an additional burden upon the education system. In the next chapters it would appear that illiteracy is a factor affecting the dissemination and acceptance of birth control information and techniques in nomadic communities.

In recent years a lot of attention has been drawn to the education of nomadic communities. People are gradually becoming educated, and there is compulsory education for the children.

Table 5.11

Education Level of the Population by Sex (Age 7+)

(Household Questionnaire)

Education Level	Male		Female		Total	
	No.	%	No.	%	No.	%
Illiterate	4298	65.3	5795	94.2	10093	79.3
Only reading	390	5.9	12	0.2	402	3.2
Incomplete primary	1183	18.0	247	4.0	1430	11.2
Complete primary	189	2.9	30	0.5	219	1.7
Incomplete secondary	453	6.9	28	0.5	481	3.8
Complete secondary	30	0.5	2	0.0	32	0.3
Higher institutions	2	0.0	0	0.0	2	0.0
Other	2	0.0	4	0.1	6	0.0
Unknown	35	0.5	34	0.6	69	0.5
Total	6582	51.7	6152	48.3	12734	100.0

1.1.6 The Main Occupational Distribution of Heads of Households

An analysis of the occupational distribution in the survey is limited to the male heads of households, because it will give a true picture of the position in nomadic society. The occupational pattern of the heads of households is divided into five main classes (Table 5.12). Livestock only (54.4%); agriculture only (3.1%); livestock and agriculture (25.3%); selling and business (12.8%) and government services (4.4%). Sheep raising is the most common of all occupations (79.7%).

Table 5.12

Main Occupational Distribution of the Male Heads of Households

(Household Survey)

Type of occupation	No.	%
Livestock only	1556	54.4
Agriculture only	88	3.1
Livestock and agriculture	724	25.3
Selling and business	365	12.8
Government services	125	4.4
Total	2858	100.0

1.2 Vital Statistics

Fertility, mortality and mobility, the three components of population change, constitute the principle of vital statistics. Vital statistics also include many items of information which may be of demographic interest. It also includes such topics as hospitalization, specific causes of death, etc.

In the survey the second questionnaire (see Appendix I) was concerned with the data on vital events that had happened in the original sample population during the last 12 months prior to the time of the survey.

In the survey four elements of vital statistics were considered, namely: natality, mortality, marriage and migration.

1.2.1 Crude Birth Rate

The measure known as the birth rate is by far the most commonly used index of the rate of reproduction. In its crudest and simplest form, the birth rate is merely the ratio of the number of live births during one year to the total number of persons in the population. Although the birth rate gives the general picture of reproduction, it is of limited value because it does not take into account such variations as the age distribution of the female population, nor of the proportion of females married. In the household survey, each married woman was asked to state the number of children who had been born to her within the last twelve months to the time of the survey. In the present survey 817 live births were recorded among 16,939 people, and the crude birth rates were calculated as 48.2 per thousand per year, and it is close to the estimated birth rate for the whole country (Iran), which was 48 per thousand in 1971.

The cases that may have been missed in the survey were those

infants who were born alive but died shortly after birth. We brought the attention of the interviewers to this point by putting a remark about it in the questionnaire.

As was indicated in previous pages in this report, 84 out of 3120 females aged 15-44 years were reported literate (2.7%), and the majority of these literate women were found in the age group 15 to 19 years. Therefore, almost all the children born in the nomadic society were born to the women who reported that they could not read or write.

1.2.1.1 Place of the Birth

The distribution of "live births" according to the place of occurrence is shown in Table 5.13.

Table 5.13

Place of the Last Live Birth

Location	No.	%
Tent	713	87.3
On pathway	51	6.2
Residential house	16	1.9
Maternity hospital	8	1.0
Other places and unknown	29	3.6
Total	817	100.0

A glance at this table indicates that 87.3 per cent of the children were born in tents. Delivery at maternity hospitals and rural health centres was only 1.0 per cent of the total, and this may be due to abnormal labour occurring while passing through neighbouring villages or towns.

6.2 per cent were delivered en route during migration, and 1.9 per cent were born at home (residential house).

1.2.1.2 Type of Helpers at Delivery

The types of helpers at delivery are classified according to Table 5.14. 90.1 per cent of babies were delivered with the help of relatives and friends, while only 6.9 per cent of all deliveries took place with the aid of midwives.

Table 5.14

Types of Helpers at Delivery

Type of helpers	No. of births	%
Relatives and friends	736	90.1
Untrained local midwife	28	3.4
Trained local midwife	15	1.8
Educated midwife	14	1.7
Physician (doctor)	3	0.4
Unstated	21	2.6
Total	817	100.0

1.2.1.3 The Medical Expenses of Delivery

The medical expenses of the delivery of 817 "live births" were calculated as shown in Table 5.15. According to the table, 89.7 per cent of total deliveries were performed without medical expenses.

Table 5.15

Medical Expenses for the Last Delivery

	Amount of expenses						
	No expense	10-49*	50-99	100-499	500+	Unknown	Total
No. of deliveries	733	30	11	11	4	28	817
% of delivery according to medical expenses	89.7	3.7	1.3	1.3	0.5	3.4	100.0

*The unit used is Touman and 16 Toumans equal £1 sterling.

1.2.1.4 Distribution of live births according to the age of married women

The distribution of "live births" during the last 12 months according to the age group of currently married women aged 15-44 is shown in Table 5.16, and also the cumulative percentages in Figure 5.5.

According to the figures the most productive age group was 25-29 (29.4 per cent of the total births, or 43.4 per cent of the married women aged 25-29 years had live births).

49.7 per cent or about one half of the total births occurred among married women aged 20 to 29 years.

The overall annual fertility rate was calculated as 252.1 children per 1,000 women aged 15-44 years.

The sex ratio at birth was calculated as $\frac{428 \times 100}{389}$ = 110 males per 100 females.

1.2.2 Crude Death Rate

One of the simplest expressions of death in the population is the

Table 5.16

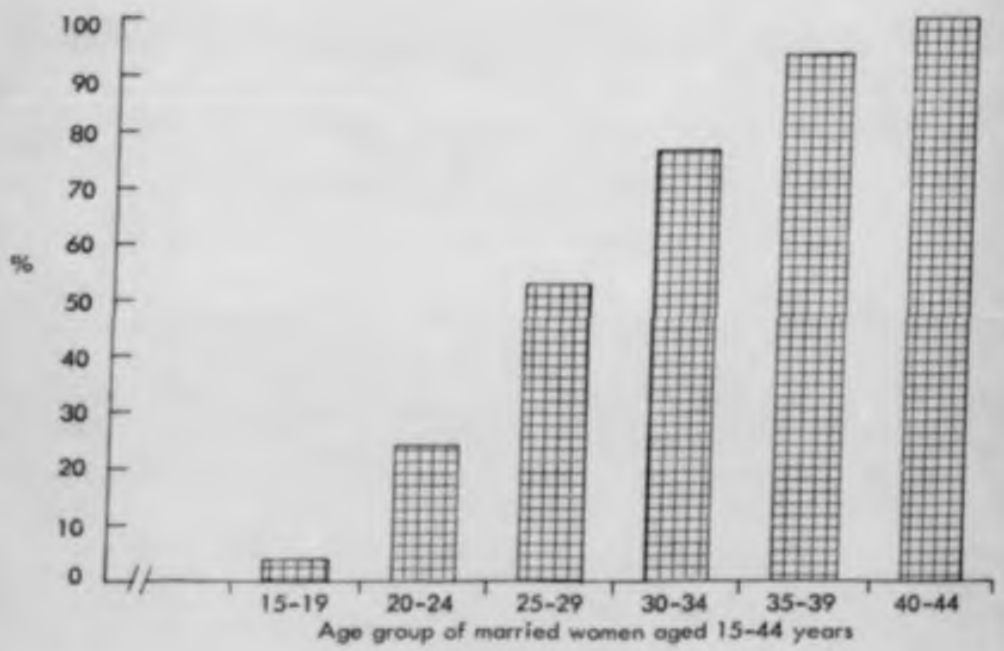
Distribution of Live Births During the Last 12 Months

According to the Age of the Mothers

Age group	No. married women	% of married women had live birth	Live births during the last 12 months				
			Male	Female	Total	% of live birth	Cumulative %
15-19	146	21.2	10	21	31	3.8	3.8
20-24	407	40.8	88	78	166	20.3	24.1
25-29	539	43.4	127	113	240	29.4	53.5
30-34	435	43.0	94	93	187	22.9	76.4
35-39	428	32.0	78	59	137	16.8	93.2
40-44	206	27.2	31	25	56	6.8	100.0
Total	2161	37.8	428	389	817	100.0	

Fig. 5.5

DISTRIBUTION OF CUMULATIVE BIRTH RATES BY THE AGE OF MOTHER DURING THE LAST 12 MONTHS, QASHQAI TRIBE, 1973



crude death rate. It is computed by dividing the number of deaths taking place during the course of one year by the number of people in the population in which the death occurred. The crude death rate reflects the combination of all conditions that affect mortality such as age, sex and cause.

The total number of deaths in each household during the prior 12 months and age at the time of death were collected during the household survey on the original population sample.

The crude death rate from the survey was computed as 12.16 per thousand of population per year.

The crude death rate for the whole of Iran was estimated to be about 16 per thousand of population in 1971 (Friesen et al., 1972).

The important point is that data regarding the crude death rates in Iran are particularly unsatisfactory. Recorded crude death rates are 9.9 per thousand between 1945 and 1949 and 8.2 per thousand between 1950 and 1954, which are unrealistically low (Clarke et al., 1974).

1.2.2.1 Age Specific Death Rates

One of the most fundamental statistical requirements of public health workers is detailed knowledge of the probabilities of death by age and sex. Table 5.17 indicates figures for the age specific death rates in the original sample population.

These rates were computed by relating the deaths among a given age sex group to the population of that age-sex group.

According to reported age-specific death rates, the death rate in the first month of life was high (85.7 per thousand) and decreased to 57.5 per thousand for the rest of the first year of life.

Table 5.17

Age Specific Death Rates in the Original Population Sample

Age group	Male			Female			Total		
	Pop'n	Death	°/00	Pop'n	Death	°/00	Pop'n	Death	°/00
1-4	1023	19	18.6	1061	12	11.3	2084	31	11.0
5-9	1516	6	3.9	1291	6	4.6	2807	12	4.3
10-14	1201	2	1.7	1027	0	0.0	2228	2	0.9
15-19	818	2	2.4	860	1	1.2	1678	3	1.8
20-24	496	3	6.0	629	1	1.6	1125	4	3.5
25-34	934	0	0.0	1070	4	3.7	2004	4	2.0
35-44	981	0	0.0	682	2	2.9	1663	2	1.2
45-54	635	3	4.7	650	3	4.6	1285	6	4.7
55-64	371	3	8.1	341	3	8.8	712	6	8.4
65+	358	14	39.1	271	5	18.4	629	19	30.2

The death rate in age group 1 to 4 years was 11 per thousand of population. Then it sharply decreased to 0.9 per thousand in the age group 10 to 14 years. It again increased steadily from the age of 45 onwards, and reached 30.2 per thousand in the age group 65 and over.

1.2.2.2 Infant Mortality Rate

Probably the most important index of the overall health and well-being of people in an area is the infant mortality rate. This is defined as the number of deaths occurring among children under one year in a given area in relation to the total number of live births in the same area and time.

In this case, all the deaths do not necessarily occur in those infants born during the year the survey is conducted. Some of the deaths during the year of the survey are among infants born during the previous year, but who had not reached the age of one at the time of the survey.

The infant mortality rate for a tribal community as computed in the sample survey was 143 per thousand live births.

Infant mortality for Iran varies, being 80 per thousand live births in urban areas versus 120 in rural areas, a national average of 104 (Amani, 1971; Northman, 1972; Saxena, 1972; Table 4, UN, 1971; TAO/IRA/60, pp. 26-31, 1966 census).

Of the total of 117 infant deaths, 40 or 34.2 per cent belong to the mothers' age group of 25-29 years. This percentage is similar to the percentage of live births among this age group. In other words, the most productive age group (20 to 29 years) also has the highest infant mortality.

The infant mortality experience by sex shows that males had a higher mortality than females (120.7 males per 100 females).

Table 5.18

Distribution of Infant Mortality during the last 12 Months

According to the Age of the Mothers

Age group	No. married women	Infant mortality			Infant deaths per 1000 married women
		Male	Female	Total	
15-19	146	5	2	7	47.9
20-24	407	12	10	22	54.1
25-29	539	21	19	40	74.2
30-34	435	11	10	21	48.3
35-39	428	8	8	16	37.4
40-44	206	5	9	9	43.7
45-49	315	2	0	2	6.3
Total	2476	64	53	117	47.2

The infant mortality in tribal areas is relatively high, and a large number of deaths occur during the first month of life. Therefore it is convenient to divide the components of infant mortality into two parts:

(i) Neo natal mortality (infant deaths at the age of 0 to 29 days). In our survey we found that the majority of deaths had occurred in the first month of life (70 out of 117 deaths). This may be due to injuries at birth, congenital malformation, or due to diseases common in early infancy. The neo-natal mortality rate was calculated as 85.7 per thousand live births.

(ii) Post neo-natal mortality (infant deaths at 30 days to 12 months). This rate is 57.5 per thousand live births in our survey.

1.2.2.3 Place of Death

The distribution of deaths of infants aged 0 to 12 months and other age groups in the original population sample during the 12 months preceding the time of survey, according to the place of occurrence, is shown in Table 5.19.

Table 5.19

Place of Death of Infants and Other Age Groups

Location	Infants		Other age groups		Total	
	No.	%	No.	%	No.	%
Winter quarters	68	58.1	54	60.7	122	59.2
Summer quarters	35	29.9	24	30.0	59	28.6
Path-way	6	5.1	6	6.7	12	5.8
Other places	5	4.3	4	4.5	9	4.4
Unknown	3	2.6	1	1.1	4	1.9
Total	117	56.8	89	43.2	206	100.0

59.2 per cent of all the deaths occurred in winter quarters, 28.6 per cent in summer quarters, while only 5.8 per cent occurred en route during the seasonal migration. The percentage of deaths according to the place of occurrence for both infants and other age groups shows a similar pattern.

It is worth while noting here that tribes usually spend five months of a year in winter quarters, about three months in summer quarters, and another four months on the migration route between quarters.

The only plausible explanation for the low occurrence of deaths among infants and other age groups on the migration route is the accessibility of nomads to the health services at the time of seasonal movements.

1.2.2.4 Life Table and Expectation of Life Amongst the Qashqai Tribe

The statistics on the death rate among the Qashqai Tribe are needed for the preparation of the life table. But it can be seen from the table on age specific death rates (Table 5.47) that the pattern of the death rates is uneven, and the rates generally seem low (due to under-reporting), so it is not reasonable to calculate a life table from them. Therefore it was decided to concentrate on the alternative way of preparing a life table, that is to fit a model to the Brass Estimation of l_2 (Brass Estimation of l_2 = 8040). Brass one parameter Model, Level 40, issued (Carrier et al., 1971).

Table 5.20 indicates the estimated life expectation of the first year of life and 5 year age groups in the Qashqai Tribe.

The average life expectancy in both sexes in the 0-4 years age group is 40 years, and that in the 5-9 years age group is 48.07 years. The lower figure for the first group is due to the high infant mortality rate.

1.2.3 Migration

Migration can generally be defined in terms of extralocal and non-recurrent movement.

Tribes habitually have their fixed annual periodic movement to summer and winter quarters as well as within the quarters.

Here, the migrants are considered other than during the above

Table 5.20

Qashqai Nomad Model Life Table

Fitted to a Brass Estimate of l_2 = 8040
Model is a Brass One Parameter Model Life Table, Level 40.

Age x	nqx	lx	ndx	nMx	nLx	nTx	e^o_o
0-4	.25178	10000	2518	.06236	40373	4000000	40.0
5-9	.05369	7482	402	.01103	36407	359627	48.07
10-14	.02169	7080	153	.00439	35018	323220	45.65
15-19	.03655	6927	253	.00745	34002	288202	41.61
20-24	.04906	6674	328	.01006	32550	254200	38.09
25-29	.05046	6346	320	.01035	30931	221650	34.93
30-34	.05253	6026	317	.01079	29339	190719	31.65
35-39	.05892	5709	336	.01214	27706	161380	28.67
40-44	.06892	5373	370	.01428	25940	133674	24.88
45-49	.08594	5003	430	.01796	23939	107734	21.53
50-54	.11191	4573	512	.02371	21585	83795	18.32
55-59	.14634	4061	594	.03158	18820	62210	15.32
60-64	.20300	3467	704	.04519	15574	43390	12.52
65-69	.27092	2763	749	.06267	11944	27816	10.07
70-74	.37402	2014	753	.09201	8189	15872	7.88
75-79	.50074	1261	631	.13360	4726	7683	6.09
80-84	.64408	630	406	.19000	2134	2957	4.69
85+		224	224		823		

mentioned movements. Household or household members who moved in or out of their routine migrant areas and reside on a permanent basis elsewhere, when permanency is not known, and persons moving out of the household without the expectation of returning for at least one month.

Generally in the tribal community the most characteristic movement is emigration of the household or member(s) of the household to another clan, village or town. In the survey immigration was not considered because it takes place rarely.

Information regarding migration was collected from the original population sample for the last twelve months prior to the survey.

Table 5.21 indicates that one to seven and above members of the 299 from the total 2929, or 10.2% of the surveyed households emigrated during the last twelve months.

Table 5.21

Distribution of the Households with One or More Members who Emigrated

No. of households	Population	No. of members emigrated	% of emig. population
226	1523	1	14.8
49	383	2	25.6
13	116	3	33.6
7	79	4	35.4
1	7	5	71.4
2	20	6	60.0
1	14	7+	50.0
299	2142		19.4

From the 226 households, only one person, and from the 11 households 4 to 7 persons emigrated during the year. According to Table 5.21 19.4 per cent of the population of 299 households had emigrated for a short or long period during the last 12 months.

As can be seen from Table 5.22, males are more prone to migration than females (87.9 per cent of the total migration took place by males), and the duration of 35.3 per cent of the migrations ranged from 7 months to a year and over. Moreover, Table 5.22 represents those who had already migrated and returned, and so were present at the time of the survey. In addition there were those who were still out of the family group at the time of the survey. The question regarding migration was framed in such a way that one cannot separate these two groups from each other (see Appendix I, Questionnaire of Vital Events). Many migrants do not actually know what lies in store for them before and after migration.

Table 5.22

Duration of Emigration According to Sex

Duration	Male		Female		Total	
	No.	%	No.	%	No.	%
One month	78	21.8	24	48.9	102	25.1
2-3 months	68	19.0	8	16.4	76	18.7
4-6 months	38	10.6	4	8.2	42	10.3
7-12 months	98	27.4	6	12.2	104	25.5
More than 1 year	38	10.6	2	4.1	40	9.8
Undetermined period	22	6.1	5	10.2	27	6.6
Unknown	16	4.5	0	0.0	16	3.9
Total	358	87.9	49	12.1	407	100.0

Often they intend moving on a permanent basis, but once arrived at their destination, they find that conditions are not satisfactory and they either return to their place of origin or move somewhere else.

The types of emigration classified by reasons of movement are illustrated in Table 5.23.

Table 5.23

Reasons for Emigration According to Sex

Reasons	Male		Female		Total	
	No.	%	No.	%	No.	%
Education	129	36.0	1	2.0	130	31.9
Military services	29	8.1	0	0.0	29	7.1
Economic	113	31.6	5	10.2	118	29.0
Government services	5	1.4	1	2.0	6	1.5
Settlement	12	3.4	3	6.1	15	3.7
Hospitalization	16	4.5	11	22.4	27	6.6
Other	38	10.6	26	53.1	64	15.7
Unknown	16	4.5	2	4.1	18	4.4
Total	358	87.9	49	12.1	407	100.0

In order to give the reader a better perspective concerning migration, 31.9, 29.0 and 7.1 per cent of the emigration took place for educational purposes, economic (finding jobs), and military service respectively. Only one male reported migrating out of Iran. 3.7 per cent of the total emigration was for settlement outside the tribal community, and 6.6 per cent for hospitalisation.

With regard to the place of destination as indicated in Table 5.24, 50.6 per cent of the total emigration during the last twelve months was to the urban areas.

Table 5.24

Places of Destination According to Sex

Type of destination area	Male		Female		Total	
	No.	%	No.	%	No.	%
Villages (rural areas)	82	22.9	15	30.6	97	23.8
Urban areas	186	51.9	20	40.8	206	50.6
Other class	16	4.5	3	6.1	19	4.7
Out of Iran	1	0.3	0	0.0	1	0.2
Other places	57	15.9	9	18.4	66	16.2
Unknown	16	4.5	2	4.1	18	4.4
Total	358	87.9	49	12.1	407	100.0

Although during recent years a comprehensive rural development programme, consisting of efforts to improve agricultural methods, improvement of credit and marketing facilities, land reform, rural electrification, road construction etc. has been conducted by the government in rural areas, only 23.8% of the total emigration was to villages, of which some of the people went for short periods as a labour forcefor harvesting or other agricultural jobs. Tribal people do not know the skills in agriculture that villagers have, and the arable lands have already been occupied by the settled population. Therefore the tribesman prefers to move to urban

areas to find a job. (L. Swant, 1969; Stauffer, 1965; Arasteh, 1964; Awad, 1959 and Rowton, 1973).

The above-mentioned migration does not include those households totally migrated from the tribes under the survey to other places such as towns, villages for settlement or for a short or long period.

According to the statement of heads and other senior people of the subclans or clans, a number of 142 households, with a population of about 820 persons emigrated during the last 12 months prior to the time of survey, and settled down elsewhere.

1.2.4 Marriage and Divorce

Information on the marriages and divorces which occurred during the preceding twelve months up to the time of survey was collected in the 2929 households that were under survey.

180 boys and 51 girls in the population sample were married during the last twelve months. The most important point is that the bride and bridegroom might both be from the households that were under survey or one of them might be from outside the population sample. The questionnaire was designed in such a way that separation of these two groups was not possible, therefore there was to some extent a double count.

Table 5.25 shows the prevalence of kinship among 231 married couples.

76.2 per cent of the total marriages which occurred during the last twelve months, were among kinsmen; 54.2 per cent were close kin, and were first cousins or children of two sisters or two brothers.

Among 4593 males aged 15 and above under survey, 180 or 3.9 per cent were married during that year. In contrast, among 4503 females

Table 5.25

Distribution of Kinship of Married Couples

Types of relationships of married couples	No.	%
1) Close kin, first cousins, children of two sisters, or of two brothers	125	54.2
2) Mother's brother's son, father's sister's daughter	26	11.2
3) Marriage between second cousins	25	10.8
4) Non-related	54	23.4
5) Unknown	1	0.4
Total	231	100.0

aged 15 and above under survey, only 51 or 1.1 per cent were married, and this indicated that most of the boys married girls outside the population sample.

Table 5.26

Marital status of the Couples Prior to the Present Marriage

Marital status before the present marriage	No.	%
Single (male and female)	203	87.9
Divorced	1	0.4
Widow or widower	11	4.8
Already married (male)	7	3.0
Unknown	9	3.9
Total	231	100.0

According to Table 5.26, 87.9 per cent of males and females at the time of marriage were single, and had never married. Only one divorced woman married again, and 11 widowed were married during one year, in the population sample.

Polygamy in the form of marriage with more than one wife was computed as 3.0 per cent of the total marriages.

Divorce. This occurs rarely in tribal society. During 12 months, only one male reported was separated from his wife after ten years of marriage. The reasons for the breakdown of the family after such a long period of married life were that the wife was childless.

1.3 The Patterns of the Growth of Population in Tribes

(a) Birth-Death Ratio.

The birth-death ratio, called the "vital index", gives an idea of the productivity of the population.

This index is computed in the population sample as 396.6 (by dividing total births by total deaths, multiplied by 100).

(b) Rate of Natural Increase.

The national increase in the population sample worked out at 3.6 per cent per year.

The growth rate of the population increase for Iran was estimated to be about 2.9 per cent per year during 1956-1966 (Clarke et al., 1972), and this rate was estimated as 3.2 per cent per year (Friesen et al., 1972). Both the growth rate among tribes (3.6 per cent per year) and in Iran as a whole (3.2 per cent) is one of the world's highest.

1.3.1 Fertility and Indices of the Rate of Production

In population analysis data of the tribes, reproduction is the central feature of this study, and this is one of the three important elements of

vital processes (the other two being mortality and migration). These elements play such an important role in the population structure and pattern of growth, that there is much to discuss in detail in this section.

The level of fertility in the tribal community can be determined by means of a number of indices, some of them (crude birth rate) having been described previously in this report. A number of other indices still remain, some of which are applicable and valuable for our purposes, and which will be described as follows:

(a) Age-specific birth rates. These rates are computed for the same reasons as age-specific death rates and express the number of births per thousand women, and are computed as: number of live births to mothers of a given age group divided by mid-year female population of the given age group multiplied by 1000.

Table 5.27 shows the age-specific birth rates in the original population sample. For every 1000 women aged 30 to 34 years, 402 children were born, while in the case of females aged 15-19 years, only 36 children per thousand women were born.

Table 5.27

Age-Specific Birth Rates in the Original Population Sample

Age group	15-19	20-24	25-29	30-34	35-39	40-44	Total
No. of females	860	629	605	465	447	235	3241
Births per 1000 women	36.0	263.9	396.7	402.1	306.5	238.3	282.1
Births per woman	0.036	0.2639	0.3967	0.402	0.3065	0.2383	0.2821

age-specific birth rates

(b) General fertility rate. One of the most important indices of the population growth is the general fertility rate. This rate relates to the number of live births during the last 12 months to the number of female population at child-bearing age (age group 15-44). This indice was calculated in the original population sample and was $\frac{817 \times 1000}{3241} = 252$ children per 1000 women aged 15-44 years. The sex ratio was 137.9 and 114.1 per thousand women aged 15-44 years for the male and female children respectively.

(c) Child-Woman ratio. This ratio is based upon the number of young children and the number of young women in the child-bearing ages (usually children under five and women aged 15-44 years). This ratio in the population sample was calculated as $\frac{2802 \times 1000}{3241} = 864.5$ per 1000 women aged 15-44 years.

(d) Total Fertility Rate. This rate is the sum of age-specific birth rates of women, at each age from 15 to 44 years, and it is expressed as rates "per woman" instead of rates per 1000 women. Unlike the general fertility rate, however, it is not affected by changes of age composition within the population of women of reproductive age. Therefore it is sufficient to compute the sum of these birth rates by 5-year age intervals.

Total fertility rate = 5 (0.0360 + 0.2639 + 0.3967 + 0.4021 + 0.3065 + 0.2383) = 8.217 male and female children per woman aged 15 to 44, would be produced.

(e) Gross Reproduction Rate. The gross reproduction rate indicates the number of female babies which would be produced by the average woman who lived during the entire productive period and who experienced

the age-specific birth rate prevailing during the given enumeration period. This rate is the sum of the age-specific birth rates of women aged 15 to 44 years (restricted to female births only) when there is an interval of 5 years age groups and the sum multiplied by 5. The rate calculated from the data is shown in Table 5.27, and the result is summarized as 0.7938 x 5 x 1000 = [illegible] daughters per 1000 women aged 15 to 44 years.

1.3.2 The outcome of previous pregnancies:

Infant and Child Mortality

Data on the history of previous pregnancies, their outcome, infant and childhood mortality was obtained on the basis of interviews with almost all married women aged 15 to 44 years.

The information required to construct these measures was collected by a standard pregnancy history form (Appendix 1, Questionnaire No. 3). This form consists of a set of questions which requires the respondent to reconstruct her entire history of pregnancies regarding foetal deaths and live births (Table 5.28). The results are summarized as follows:

	No.	%
Miscarriages per 1000 live births	359	41.1
Still births per 1000 live births	145	16.6
Induced abortionsper 1000 live births	5	0.6
No. of deceased children per 1000 live births	2079	238.
No. of live children per 1000 live births	6649	782.

According to Table 5.28 and the statement of the respondents, induced abortion is a rare occurrance among the tribal community.

Table 5.28

Outcome of Previous Pregnancies and Number of Live and Deceased Infants and Children

Age group	No. of mis-carriages	No. of abortions	No. of still births	No. of live births	No. of deceased children	No. of live children
15-19	0	0	0	66	12	54
20-24	32	0	18	621	97	524
25-29	56	1	27	1659	350	1309
30-34	90	2	36	2111	515	1596
35-39	124	2	50	2659	649	2010
40-44	57	0	14	1612	456	1156
Total	359	5	145	8728	2079	6649
Per 1000 live births	41.1	0.6	16.6	1000	238.2	761.8

The total and the average number of products of previous pregnancies among 2161 married women aged 15-44 years was 9237 and 4.3, respectively. As indicated in Table 5.28, the vital losses (foetal deaths and deaths of those born alive) is 23.8 per cent of the products. This represents almost as great a reproduction wastage among tribal women.

Infant and childhood mortality in products of previous pregnancies.

The total infant and childhood death rates among the products of previous pregnancies is shown in Table 5.29.

Table 5.29

Number of Deceased Children According to their Age at the Time of Death, of Currently Married Women Aged 15 to 44 Years

No. of deaths / Age group		First 24 hours of life	1-6 days	7-29 days	1-12 months	1-4 years	5+ years	Total deceased infants & children
15-19		0	3	4	3	1	1	12
20-24		4	24	15	38	16	0	97
25-29		40	36	45	120	103	6	350
30-34		48	64	44	151	182	26	515
35-39		37	66	58	168	257	58	644*
40-44		24	43	41	110	183	55	456
Total	No.	153	236	207	590	742	146	2074
	%	7.4	11.4	10.0	24.4	35.8	7.0	100.0

*One mother is not reported.

The infant mortality rate results from widely different trends in mortality at various ages during infancy. Hence it is better to divide the components of infant mortality into two parts: neo-natal (infant deaths at the age of 0 to 29 days), and post neo-natal (infants of 30 days to 12 months). For the analysis of the survey data we selected three age groups in the neo-natal period, namely, under one day, 1-6 days and 7-29 days, and one age group in the post neo-natal period (Table 5.29). This will give a fairly complete basis for understanding the pattern of infant mortality in the tribal community.

According to Table 5.29, the death of 7.4, 18.8 and 28.8 per cent of the total infants and children occurred on the first day, first week and first month of life respectively. In other words, 12.9 per cent 19.9 per cent and 17.4 per cent of infants died in the first 24 hours, 1 to 6 days and 7 to 29 days of life respectively.

Neo natal deaths and post-neonatal deaths were recorded as 50.2 and 49.8 per cent of the total infant deaths respectively. In comparison with current infant mortality in the 12 months preceding the survey, it has been observed that neo-natal mortality showed a higher rate (59.8%). This difference may be due to mis-reporting of age of infants at the time of death in retrospective mortality, especially by mothers in elderly age groups.

1.4 Married Women of Reproductive Age

In the original population sample, 2168 married women of reproductive age (15 to 44) were recorded, of whom 2161 were interviewed for their marital history and fertility information (99.7 per cent of all married women aged 15 to 44).

Table 5.30 indicates the pattern of age distribution of married women aged 15-44 in the population sample.

Table 5.30

Patterns of Age Distribution of Married Women Aged 15-44 Years

Age groups	No.	%
* <15	6	0.3
15-19	146	6.7
20-24	407	18.8
25-29	539	24.9
30-34	435	20.0
35-39	428	19.8
40-44	206	9.5
Total	2167	100.0

(*Married by the age of 15 years so they are included in all the following tables.)

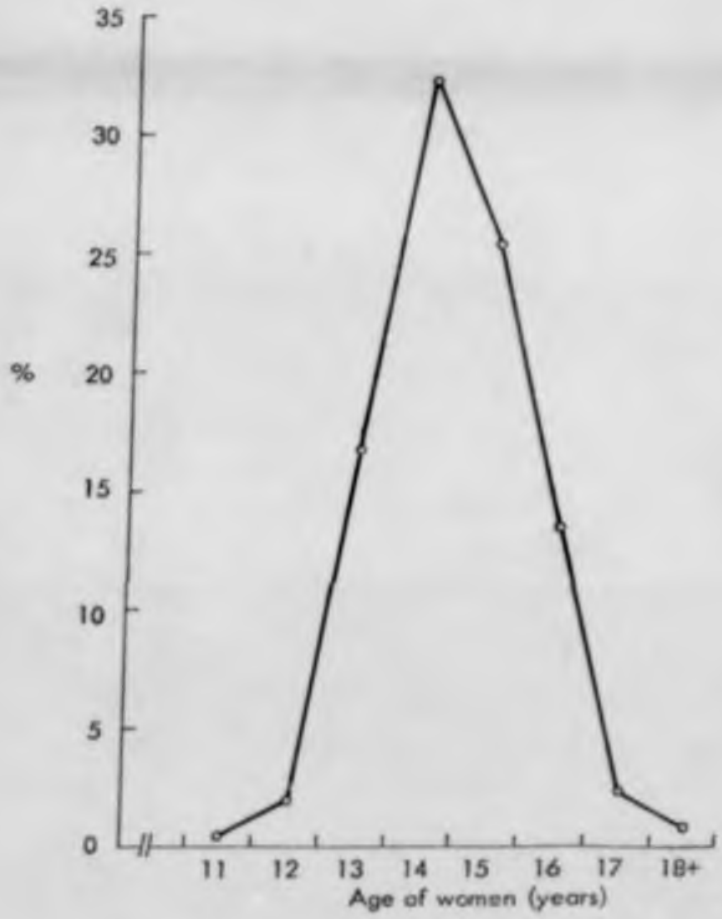
The median ages for married women aged 15 to 44 was computed as: 25.97, and an average as: 29.79.

1.4.1 Age at the onset of puberty in girls

This can be seen in Table 5.31. There is a tendency for some to reach puberty before the age of 15 (91.1 per cent), but 71.1 per cent of the total of the onset of puberty among girls occurred in the age group 14 to 16 years.

Although the women interviewed were illiterate and therefore some of them could not recall the exact age of the onset of puberty, the data given in the table are applicable to the literate population in Iran in general, and in many tropical countries, even amongst the nomadic population of the different ethnic groups in the Sudan, females reach puberty earlier than

Fig. 5.6
AGE AT THE ONSET OF PUBERTY, DEMOGRAPHY SURVEY
QASHQAI TRIBE, 1973



mentioned above and the average reported age at puberty varied from 8.9 years in central southerners to 14.8 years in Nubiyin (Paul Demeny, 1968).

Table 5.31

Age Distribution of Married Women aged 15-44, at the Onset of Puberty

Age (years)	No.	%
11 years	8	0.4
12 "	38	1.8
13 "	360	16.6
14 "	701	32.3
15 "	548	25.3
16 "	293	13.5
17 "	49	2.3
18+ "	22	1.0
Unstated	148	6.8
Total	2167	100.0

The median ages for the onset of puberty is calculated as: 14.86 and the mean as 14.45.

1.4.2 Age at First Marriage

Age at first marriage is another cultural factor which may account for the differences in fertility performance.

The distribution of married women aged 15-44 at first marriage is given in Table 5.8.

The percentage of women whose marriages were earlier than 20

years among the tribal group was 64.8 per cent, and four out of five married women were married before the age of 21 years. In short, the usual social custom of the tribal community as a whole is to marry the girls at an early age.

1.4.3 Age at First Pregnancy

Among 2167 married women, 1892, or 87.3 per cent were found with a history of pregnancy.

The distribution of married women according to age at first pregnancy is given in Table 5.32.

Table 5.32

Distribution of Married Women According to Age at First Pregnancy

Age (years)	No.	%
<15 years	7	0.4
15 "	149	7.7
16 "	184	9.5
17 "	226	11.6
18 "	216	11.1
19 "	213	11.0
20-24 "	694	35.7
25-29 "	162	8.3
30-34 "	23	1.2
35-39 "	3	0.2
Unstated	15	3.3
Total	1892	100.0

From Table 5.32 it is seen that 51.3 per cent of all first pregnancies took place among married women aged 19 years or less.

1.5 The Actual and the Ideal Number of Children for a Family

1.5.1 Number of Children in order according to the Age of the Mother

Among questions asked on fertility history of women aged 15 to 44 years, one was the number of children born alive and who are still living and the number who have died.

Birth order of a child indicates whether the newborn infant was the first, second, third, etc. child born alive to a particular mother.

Table 5.33 shows the number of children according to the age of the mother, and the percentage is presented graphically in Fig. 5.7.

According to Table 5.33, 296 women or 13.7 per cent of all married women aged 15-44 were childless, of whom 198 women, or 9.2 per cent of total married women, were between 15 and 24 years of age. Therefore the number of women who did not have any children decreases as their age increases. Women of 30 years and older had eight children or more. (Fertility information was collected only for the current married women aged 15-44 years.)

According to the survey, 68.9 per cent of the women aged 15-19 did not have any children, while only 3.4 per cent of the age group 40 to 44 were found to be childless, and 112 out of 205, or 54.6 per cent had 6 to 13 or more children.

The child per woman ratio is computed as 308/100 married women aged 15-44, or 205/100 women aged 15-44 in the population sample.

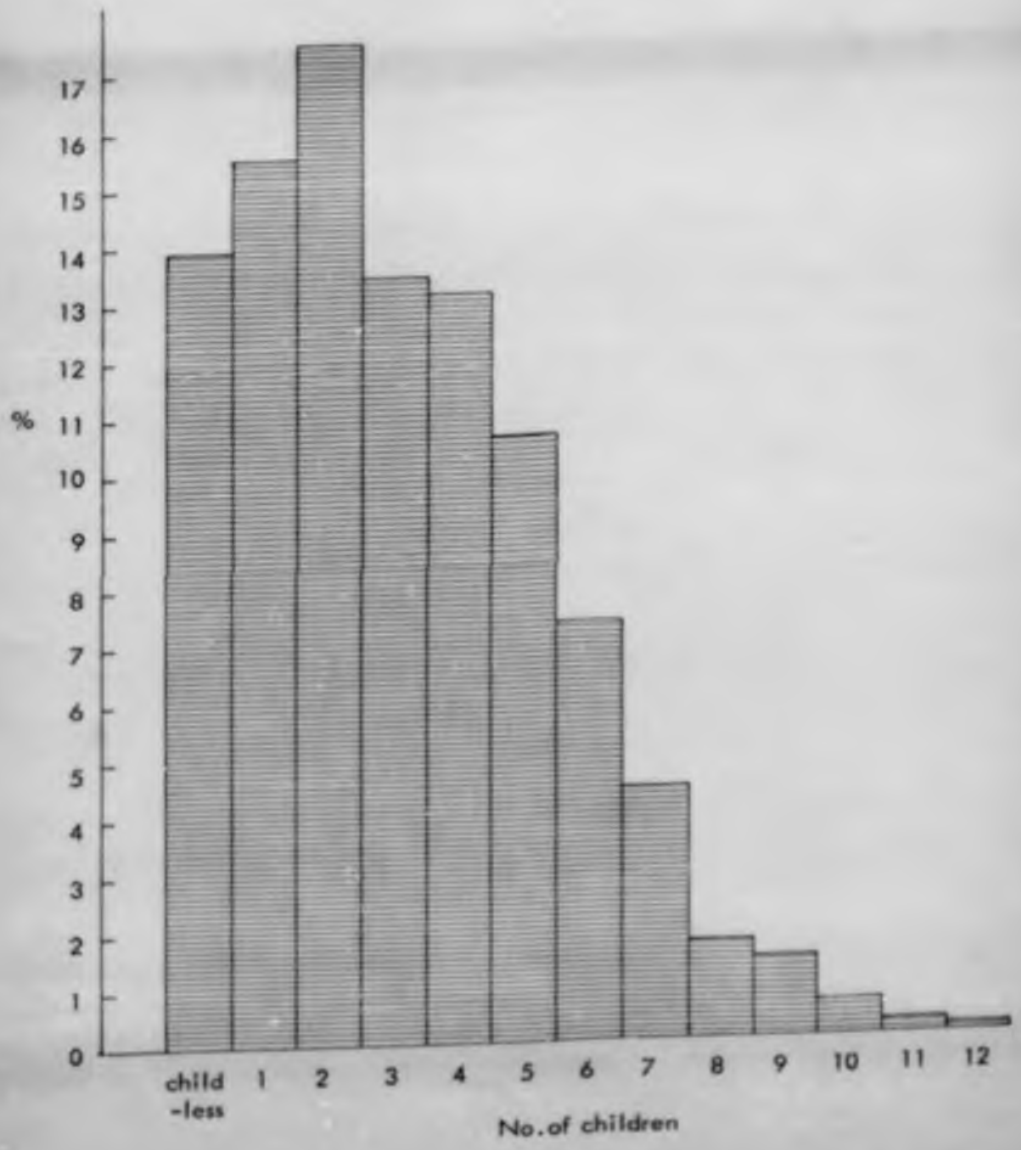
Table 5.30

Number of Live Children in Order According to Age of Mother

Age Group	No. of Children															Total		
	Child-less	1	2	3	4	5	6	7	8	9	10	11	12	13 +	Unknown	Children	Married	%
15–19	180	38	8													56	198	[illegible]
20–24	98	141	125	36	5	1									1	524	407	129.1
25–29	56	86	156	114	79	32	12	3							1	1309	539	243.3
30–34	17	44	54	74	106	76	39	17	2	2	2	1			1	1596	435	367.7
35–39	18	20	28	52	69	89	67	44	18	18	3	1			1	2010	428	470.7
40–44	7	7	8	14	25	32	40	32	16	11	7	3	2	1	1	1156	206	563.9
Total	296	336	379	290	284	230	158	96	36	31	12	5	2	1	5	6649	2161	307.7
%	13.7	15.6	17.5	13.4	13.1	10.6	7.3	4.4	1.7	1.4	0.6	0.2	0.1	0.0	0.2		100.0	

Fig. 5.7

PERCENTAGE OF CURRENT MARRIED WOMEN AGED 15-44,
HAVING 1-12 CHILDREN,
QASHQAI TRIBE, 1973



1.5.2 Ideal Number of Children to Have for a Family

Among various questions asked to obtain information on the desired family size was one which asked married women aged 15-44 to state what, in their opinion, is the ideal number of children a family should have. The answer to this question has been set out in Table 5.34. As one would expect, a large majority of the respondents preferred large families. In fact, 42.9% and 40.5% of the respondents desired 4 to 6 and 7 to 11 and more children for a family.

Table 5.34

Ideal Number of Children for a Family

No. of children	Respondents	
	No.	%
1	3	0.1
2	34	1.6
3	91	4.2
4	219	10.1
5	326	15.1
6	384	17.7
7	353	16.3
8	245	11.3
9	107	4.9
10	109	5.1
11+	64	2.9
Unknown	232	10.7
Total	2167	100.0

It is interesting to note that none of them agreed to a childless family. A small percentage (1.7%) desired 1 to 2 children, and 14.3% were interested in having 3 to 4 children.

10.7 per cent of the respondents could not give specific answers to this question, and had such ideas as "It is a matter of fate" or "It is up to God" or "As many as she can have" etc. This figure is higher than might be expected. However, many women preferred more children than they had themselves. The average desired children for a family was calculated as being 6.38, and an average of children born was 4.13, and an average of 3.07 was the live children they had at the time of the survey.

People in favour of having a large family who did not consider poverty and other factors will be discussed later in Chapter VI under the general discussion.

After the married women indicated how many children they preferred for a family, they were asked how many of these should be boys and how many girls. According to Table 5.35 and Figure 5.8, there was a strong preference for boys. The average was 4.3 boys against 1.99 girls per respondent. In other words the number of desired boys was more than twice that of girls.

70.1% of the respondents indicated that the ideal number of boys for a family is from 3 to 6. Only 21.4% of the respondents had the idea of 3 to 6 girls for a family. The majority (61.4%) preferred 1 to 2 girls for a family. Only 18 childless women (Table 5.37) stated that they would not have liked a son, and 29 childless women (Table 5.39) had no wish to have a daughter, and they chose one sex.

Fig. 5.8

NUMBER OF IDEAL SONS AND DAUGHTERS FOR A FAMILY, QASHQAI TRIBE, 1973

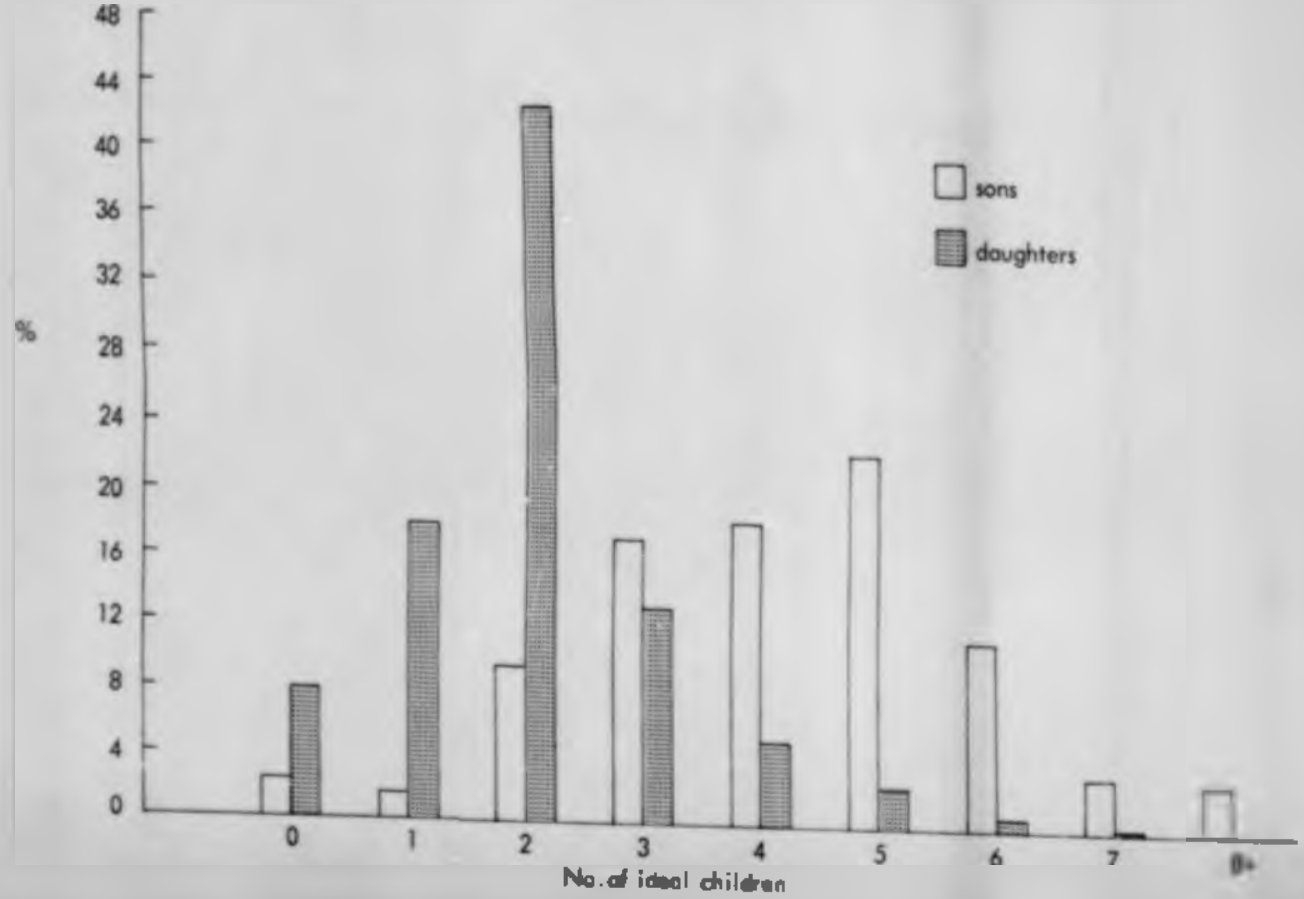


Table 5.35

Number of Boy(s) and Girl(s) Considered Ideal for a Family

Number of children	Sons		daughters	
	No.	%	No.	%
0	47	2.2	171	7.9
1	32	1.5	389	18.0
2	204	9.4	941	43.4
3	380	17.5	285	13.2
4	395	18.2	122	5.6
5	489	22.6	49	2.3
6	255	11.8	6	0.3
7	80	3.7	2	0.1
8 and over	70	3.2	0	0.0
unstated	215	9.9	202	9.3
Total	2167	100.0	2167	100.0

On the other hand, mothers of four or more children indicated that they preferred 4 to 6 or more boys for a family (Table 5.35) and fewer girls (Table 5.38).

About 9% of married women could not give a specific numerical answer. These features came under the category of "Unstated".

Tables 5.37 and 5.39 show that the women who had already large families expressed a preference for more children than those who had fewer. There was no reluctance to report wanting larger numbers than they had. As an example, it can be mentioned that married women of

Table 5.36

Distribution of Current Married Women Aged 15-44

Considered Number of Son(s) are Ideal for a Family

Age Group	Ideal Son(s)															
	No Son(s)		1		2		3		4		5		6+		Unstated		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Under 15	1	2.1					2	0.5	2	0.5	1	0.2					6	0.3
15-19	4	8.5	1	3.1	12	5.9	26	6.8	21	5.3	30	6.1	19	4.7	33	15.3	146	6.7
20-24	8	17.0	5	15.6	47	23.0	71	18.2	85	21.5	94	19.2	63	15.5	34	15.8	407	18.8
25-29	16	34.0	8	25.0	44	21.6	93	24.5	97	24.5	134	27.4	97	23.9	50	23.3	539	24.9
30-34	6	12.8	8	25.0	49	24.0	83	21.8	74	18.7	84	17.2	92	22.7	39	18.1	435	20.1
35-39	7	14.9	4	12.5	35	17.2	74	19.5	85	21.5	103	21.1	81	20.0	39	18.1	428	19.7
40-44	5	10.6	6	18.8	17	8.3	31	8.2	32	8.1	43	8.8	53	13.8	19	8.8	206	9.5
Total	47	2.2	32	1.5	204	9.4	380	17.5	396	18.3	489	22.6	405	18.7	214	9.9	2167	100.0

Table 5.37

Distribution of Son(s) Considered Ideal for a Family, by Those Married Women having 0-6 and above Children

No. of ideal sons	No. of live children											
	Childless		1		2		3		4		5		6+		Unstated		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
No sons	18	6.0	7	2.1	6	1.6	6	2.1	4	1.4	2	0.9	4	1.2			47	2.2
One	3	1.0	6	1.8	10	2.6	5	1.7	4	1.4	4	1.7					32	1.5
Two	20	6.6	31	9.2	44	11.6	23	8.0	39	13.7	23	10.0	24	7.0			204	9.4
Three	54	17.9	47	13.9	57	15.0	63	21.8	58	20.4	58	25.2	43	12.6			380	17.5
Four	51	16.9	65	19.3	68	17.9	58	20.1	51	18.0	36	15.7	65	19.1	1	20	395	18.2
Five	53	17.5	92	27.3	89	23.5	66	22.8	60	21.1	47	20.4	81	23.7	1	20	489	22.6
Six	32	10.6	31	9.2	45	11.9	28	9.7	30	10.6	31	13.5	58	17.0			255	11.8
Seven and over	14	4.6	19	5.7	23	6.1	14	4.9	22	7.7	14	6.1	44	12.9			150	6.9
Unstated	57	18.9	39	11.6	37	9.8	26	9.0	16	5.6	15	6.5	22	6.5	3	60	215	9.9
Total	302	13.9	337	15.6	379	17.5	289	13.3	284	13.1	230	10.6	341	15.7	5	0.2	2167	100.0

Table 5.38

Distribution of Current Married Women Aged 15-44 Considering Number of Daughter(s) are Ideal for a Family

Age Group	Ideal daughters													
	No daughters		1		2		3		4		5+		Unstated		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Under 15	2	1.2	1	0.3	3	0.3									6	0.3
15 - 19	10	5.8	27	6.9	54	5.7	11	3.9	10	8.2	1	1.8	33	16.3	146	6.7
20 - 24	28	16.4	90	23.1	181	19.2	51	17.9	14	11.5	13	22.8	30	14.9	407	18.8
25 - 29	47	27.5	100	25.7	236	25.1	73	25.6	28	23.0	8	14.0	47	23.3	539	24.9
30 - 34	32	18.7	85	21.9	191	20.3	50	17.5	28	23.0	13	22.8	36	17.8	435	20.1
35 - 39	37	21.6	64	16.5	185	19.6	66	23.2	27	22.1	13	22.8	36	17.8	428	19.7
40 - 44	15	8.8	22	5.7	92	9.8	34	11.9	15	12.3	9	15.8	19	9.4	206	9.5
Total	171	7.9	389	17.9	942	43.5	285	13.1	122	5.6	57	2.7	201	9.3	2167	100.0

Table 5.39

Distribution of Daughter(s) Considered Ideal for a Family by Those Currently Married Women Aged 15-44 Who have 0-6 and over Children

No. of ideal daughters \ No. of live children	Childless	1	2	3	4	5	6	Unstated	Total
No daughters	29 9.6	25 7.4	35 9.2	14 4.8	18 6.3	15 6.5	35 10.3	0	171 7.9
1	46 15.2	78 23.1	72 19.0	65 19.0	61 21.5	34 14.8	42 12.3	1	389 17.9
2	107 35.4	138 40.9	180 47.5	134 46.4	120 42.3	110 47.8	151 44.3	1	941 43.4
3	33 10.9	36 10.7	37 9.8	47 16.3	41 14.4	40 17.4	51 14.9	0	285 13.2
4	20 6.6	14 4.2	15 4.0	13 4.5	21 7.4	14 6.1	25 7.3	0	122 5.6
5	9 3.0	7 2.1	7 1.8	3 1.0	6 2.1	3 1.3	14 4.1	0	49 2.3
6+	1 0.3	0	3 0.8	0	1 0.4	1 0.4	2 0.6	0	8 0.4
unstated	57 18.9	39 11.6	30 7.9	23 8.0	16 5.6	13 5.7	21 6.1	3	202 9.3
Total	302 13.9	337 15.6	379 17.5	289 13.3	284 13.1	230 10.6	341 15.7	5	2167 100.0

40 to 44 were about to complete their reproductive period with an average of 8.9 pregnancies, and an average of 5.6 live children at the time of the survey. They had the idea that the ideal number of children for a family would be 6.5. In other words, they would have been in favour of having more children than they had at the time of the survey (Tables 5.37, 5.39).

1.5.3 The Chief Advantages and Disadvantages of Having Children

It has been shown in the earlier pages of this report that many of the respondents desired large numbers of children. It is logical therefore to ask them the chief advantage of having children. It might show their attitudes towards large families.

The reasons given in the survey for the chief advantages and disadvantages of having children are shown in Tables 5.40 and 5.41.

Table. 5.40

The Chief Advantages in Having Children

Reasons	No.	%
Help with family economy	398	18.3
Help with work	479	22.1
To carry on the family	168	7.8
Not any advantage	798	36.9
Others	47	2.1
Unstated	277	12.8
Total	2167	100.0

Table 5.41

The Chief Disadvantages in Having Children

Reasons	No.	%
Increase the family expenses	774	35.7
They become ill	45	2.1
Difficult to train	5	0.2
They need care	707	32.6
None	234	10.8
Others	125	5.8
Unstated	277	12.8
Total	2167	100.0

As can be seen from Table 5.40, 40.4% of the respondents were in favour of having children since it would be helpful to family earning and with work.

According to the results from the interviews, 36.9% had the opposite idea, and believed that children do not have any advantages for family life. This seems unreasonable and is perhaps not a true picture of the actual situation, since it disagrees with other ideas of these respondents regarding family size. It is interesting to note that only 7.8% of the respondents have the idea of children keeping the lineage going and carrying on the family name and traditions.

Only 2.1 and 0.2% of respondents complained that children need care during illness and training is difficult respectively. Thus, the value of children as an economic asset to a family earning according to the survey is about 40%.

Results of the opinions of the married women concerning child conception.

2167 married women were asked whether having children was up to the married couple or not. Only 2.3% of them confirmed this idea, 91.9% of respondents believed that having children was solely in the hands of God. This implies that there is cultural behaviour and strong religious beliefs in tribes. The result is shown in Table 5.42.

Table 5.42

Survey of beliefs of Married Women aged 15-44 Regarding Cause of Having Children

Children due to:	No.	%
Will of married couple	49	2.3
Will of God	1971	91.9
Unstated	147	5.8
Total	2167	100.0

1.6 Birth Control

One major aim of this study was to obtain information about the tribeswomen's knowledge, attitudes and practices (KAP study). Information on this topic was obtained during a survey by asking each married woman aged 15-44 years (six girls were married by the age of 15 and so were considered in the survey) a number of direct questions on birth control. The questions covered the following topics - knowledge on birth control, interest in birth control, present use of birth control techniques, the sources of obtaining information on birth control, and the reason for

not practising birth control techniques.

2167 married women were asked whether they had any idea that married couples use methods for birth control. 1438 or 66.4% of the respondents said that they had heard about it.

Table 5.43

Number and Percentage of Married Women Aged 15-44 Being Aware of Birth Control by Age Group

Age group	Yes		No		Unstated		Total	
	No.	%	No.	%	No.	%	No.	%
<15	4	0.3	1	0.2	1	0.5	6	0.3
15-19	81	5.6	39	7.4	26	11.4	146	6.7
20-24	279	19.4	92	17.5	36	17.7	407	18.8
25-29	363	25.2	130	24.8	46	21.1	539	24.9
30-34	287	20.0	115	21.9	33	17.1	435	20.1
35-39	280	19.5	105	20.0	43	22.9	428	19.7
40-44	144	10.0	43	8.2	19	9.1	206	9.5
Total	1438	66.4	525	24.2	204	9.4	2167	100.0

Of 2167 married women who were taking part in the survey on birth control, further questions were asked about their interest in family planning. The answers to this question have been presented in Table 5.44.

Of the total of 2167 married women, 379 or 17.5% replied that they were interested in birth control.

Table 5.44

Number and Percentage of Married Women who were Interested in Birth Control, by Age Group

Age group	Interested		Not interested		Unstated		Total		% of women interested in birth control
	No.	%	No.	%	No.	%	No.	%	
<15	0	0.0	5	0.3	1	0.5	6	0.3	0.0
15-19	1	0.3	129	8.1	16	8.5	146	6.7	0.7
20-24	22	5.8	361	22.5	24	12.8	407	18.8	5.4
25-29	55	14.5	446	27.9	38	20.2	539	24.9	10.2
30-34	93	24.5	316	19.7	26	13.8	435	20.1	21.4
35-39	130	34.3	248	15.5	50	26.6	428	19.7	30.4
40-44	78	20.6	95	5.9	33	17.5	206	9.5	37.9
Total	379	17.5	1600	73.8	188	8.7	2167	100.0	17.5

An interesting feature of the responses to the question is that only a small percentage of the young respondents were interested in birth control and the upper age groups were more interested (30.4 and 37.9% of women aged 35 to 39 and 40 to 44 years respectively). Of 379 married women who were interested in birth control, a further question was asked about the use of birth control techniques at the time of the survey. The responses are shown in Table 5.45. Various points may be noted from this table. 49 or 12.9% of interested women were using some form of contraception. Moreover, mostly older women were interested in birth control. 13.9 and 18.2% of women in the age groups 35-39 and 40-44

were practised birth control respectively. The interesting point is that only 2.3% of all married women under the survey practised birth control.

Table 5.45

Number and Percentage of Married Women Interested in Birth Control who Practised the Techniques

Age group	Practising B.C.		Not practising B.C.		Unstated		Total		% of women using B.C.
	No.	%	No.	%	No.	%	No.	%	
15-19			1	0.3			1	0.3	
20-24	3	6.1	16	5.1	0		19	5.0	15.8
25-29	5	10.2	43	13.8	5	27.8	53	14.0	9.4
30-34	8	16.3	81	25.9	4	22.2	93	24.5	8.6
35-39	19	38.8	113	36.2	4	22.2	136	35.9	13.9
40-44	14	26.6	58	18.6	5	27.8	77	20.3	18.2
Total	49	12.9	312	82.3	18	4.8	379	100.0	

1.6.1 Birth Control Techniques

The main aim was to ascertain the specific techniques used by tribal women for birth control. The result is shown in Table 5.46.

According to Table 5.46, the major technique used was the consumption of the pill.

48.9% of the respondents refused to state what, if any, method of birth control was used, since they had a natural reluctance to discuss anything concerned with sexual practices.

Table 5.46

Birth Control Methods Used by Tribal Women

Methods	No.	%
Coitus interruptus	3	6.1
Condom	1	2.0
Rhythm	1	2.0
Pill	17	34.7
IUD	1	2.0
Other	2	4.1
Unstated	24	48.9
Total	49	100.0

49 married women were asked about the recommendation sources for birth control and the result is presented in Table 5.47.

Table 5.47

Distribution of Recommendation Sources

Sources	No.	%
Relatives & neighbours	0	0.0
Family planning agents	10	20.4
Doctor	11	22.5
Mass media (radio, TV newspapers etc.)	0	0.0
Spouse	1	2.0
Other	2	4.1
Unstated	25	51.0
Total	49	100.0

According to Table 5.47 mass media communications had no effect on tribal knowledge, attitudes and practice in family planning, because our survey on households showed that out of 2929 households, 161 or 5.5% had radio, of which 17.7 were interested in news, 15.8% in special programmes for peasants and 6% in music programmes, therefore mass media is not a useful procedure for teaching family planning among tribes.

According to Table 5.48, majority of women interested in birth control (63.3%) did not practise it because of unavailability of methods. Only 1.5% pointed out that it is not religiously acceptable.

Table 5.48

Reasons for not Practising Birth Control at the time of Survey Among those Interested in Birth Control

Age group	Fear of side effect		Husband against		Unavail-ability		Morals & religion		Others		Unstated		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
15-19									1	6.6			1	0.3
20-24			1	8.3	17	8.1					1	1.4	19	5.7
25-29	5	26.3	2	16.6	30	14.3	3	60.0	2	13.3	8	11.4	50	15.2
30-34	3	15.8	3	25.0	51	24.4	0	0.0	6	40.0	22	31.4	85	25.7
35-39	10	52.6	4	33.3	58	27.7	1	20.0	5	33.3	33	47.2	111	33.6
40-44	1	5.2	2	16.6	53	25.3	1	20.0	1	6.6	6	8.6	64	19.4
Total	19	5.8	12	3.6	209	63.3	5	1.5	15	4.5	70	21.2	330	100.0

2. STATE OF HEALTH AND DISEASE

The morbidity data presented in this report are collected in two ways, viz: (a) a great deal of information was obtained at the time of the household survey in the original sample population; and, (b) the sickness data were collected during the health interview and medical survey.

The object of the survey was to assess the state of health and morbidity of the population. So it is better to define these terms before presenting the results of the survey.

It is difficult to define the state of health and morbidity, due to the fact that one may be ill without the doctor being able to diagnose the trouble or in contrast to this one may feel completely well, yet may be suffering from a grave disease, that a doctor alone can diagnose. A state of morbidity is sometimes defined as absence of complete health.

Disease is defined in Webster's New Collegiate Dictionary as "a condition in which body health is impaired" and health as "the state of being hale or sound in body, mind or soul, especially freedom from physical disease or pain".

The World Health Organization defined health as "Health is a state of complete physical, mental and social wellbeing, not merely the absence of disease or infirmity" (WHO, Constitution, 1948).

For these reasons, in the present survey it was decided to collect information on the state of health and disease amongst tribes in two ways: (i) to leave it to the people who were asked about their health, to decide for themselves what sickness is, and what is the knowledge of the population with regard to health.

In household survey and health interviews at the time of the medical survey (subjective symptoms, Individual Questionnaire, see Appendix 1), we tried to collect the reported complaints on the basis of subjective judgement of the respondents, to say how they were, whether they felt ill or not.

(ii) As aforesaid, in many instances the question of a person being well or sick, cannot be decided only on subjective judgement. Therefore objective judgement was considered as another way of diagnoses of sickness by physical examination and laboratory investigation.

On the whole, the present survey provides a picture of morbidity in sample population of the Qashqai tribe and considers the minor illnesses, that do not prevent a sick person from performing his daily activities, such as vague pain, small wounds and injury, ascariasis etc., as well as major sickness leading to bed confinement, e.g. typhoid, pneumonia, etc, are shown.

The following gives detailed information on the state of health and diseases of persons in the sample population collected by subjective and objective procedures.

2.1 Household Survey

Household survey was conducted among 2929 Qashqai households in the original sample population. The schedule contained three questions regarding the health of the family. The head of the household especially, and his wife and/or other adult members of the household present at the time of the survey were asked questions on the state of health or illness of any members of the household.

The procedure was as follows: Question - "Was any member of this

household sick during the preceding fortnight?" If the response was positive, the next question was - "Did the sick person go for treatment?" If yes, "How many days after the onset of disease?"

The second question was about admission of the members of the household to hospital in the preceding twelve months, duration and times of hospitalization.

The third question was about the confinement in bed of any ill members of the household at their rest in the month preceding the time of the survey.

In Table 5.50 it is shown that only 4.0 per centof the total sample population reported that they were sick during the preceding fortnight. The highest rate of sickness is reported in the age group of 45 years or over, the lowest rate is in children aged 5 to 14 years.

Table 5.50

Distribution of the Sickness Among All Respondents (Both Sexes) During a Fortnight (Household Survey)

Age group	No. of sick persons	No. of healthy persons	Unstated	Total population	% of sickness
<1	18	699	1	718	2.5
1-4	40	2,033	11	2,084	1.9
5-14	78	4,908	49	5,035	1.5
15-44	306	6,102	62	6,470	4.7
45+	237	2,375	14	2,626	9.0
Total	679	16,117	137	16,933	4.0

The period prevalence rates among males and females aged 15 to 44 years during a fortnight were 3.7 and 5.7, respectively (Table 5.51).

3.6 and 4.5 per cent of the reported sick persons were found among males and females respectively (Table 5.51).

Table 5.51

Number and Percentage of the reported Sickness During a Fortnight by Age and Sex (Household Survey)

Age group	Male			Female		
	Population	Sick	%	Population	Sick	%
<1	388	16	4.2	336	2	0.6
1-4	1,023	22	2.2	1,061	18	1.7
5-14	2,717	41	1.5	2,318	37	1.6
15-44	3,229	120	3.7	3,241	186	5.7
45+	1,364	114	8.3	1,242	123	9.7
Total	8,719	313	3.6	8,218	366	4.5

The sickness rate among female infants in comparison with males in the same age group is under-reported.

The types of health services and treatment procedures carried out by sick persons is shown in Table 5.52.

It emerged from Table 5.52 that about one half of sick persons did not apply for their treatment, and 16.6 per cent used home treatment, 15.3 per cent visited a private physician, while only 11.5 per cent utilised governmental health services.

Table 5.52

Number and Percentage of Sick Persons by Type of Remedial Action Taken (Household Survey)

Action taken	No.	%
Traditional herbal and home treatment	113	16.6
Traditional doctor (Hakimbashi)	8	1.2
Pharmacist	15	2.2
Midwife	5	0.7
Private physician	104	15.3
Public sector health services	78	11.5
Other	14	2.1
None	342	50.4
Total	679	100.0

The number and percentage of surveyed population admitted to hospitals during the last twelve months to the time of survey is shown in Table 5.53.

Table 5.53

Number of Persons Hospitalized as Inpatients during the last 12 months by Age and Sex (Household Survey)

Age group	Population	Hospitalization	
		No.	%
0-4	2,802	11	0.4
5-14	5,035	26	0.5
15-44 male	3,229	38	1.2
15-44 female	3,241	63	1.9
45+	2,626	53	2.0
Total	16,933	191	1.1

According to Table 5.53 the highest rate of admission is in the upper age group (45 and over). In other words the higher morbidity among old people leads to a higher admission to hospitals. More females, aged 15 to 44 years were admitted to hospital than males in the same age group during a year.

Times and duration of hospitalization of the surveyed population during 12 months preceding survey are shown in Tables 5.54 and 5.55.

Table 5.54

Times of Hospitalization During the 12 Months Preceding Survey

Times	Hospitalization	
	No.	%
One time	158	82.6
Two times	15	7.9
Three times	11	5.8
More than three times	7	3.7
Total	191	100.0

According to Table 5.54, 82.6% of inpatient hospitalized once during 12 months and only 3.7% of inpatient hospitalized more than three times during a year. 42 out of 191 persons that were hospitalized during the preceding 12 months stayed in hospital more than 31 days, while 66 persons were in hospital less than a week (Table 5.55).

Table 5.55

Duration of Hospitalization During the last 12 Months

According to Age and Sex

Period (days)	<7		8-15		16-30		31+		Total		
Age group	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Total
<1	3	0	0	0	0	0	0	0	3	0	3
1-4	3	1	1	1	0	0	2	0	6	2	8
5-14	7	2	7	4	2	2	2	0	18	8	26
15-44	9	20	10	20	6	10	13	13	38	63	101
45+	19	7	1	5	12	2	6	6	33	20	53
Total	36	30	19	30	20	14	23	19	98	93	191
Total (both sexes)	66		49		34		42		191		

M. = Male
F. = Female

Table 5.56 shows reasons for hospitalization as inpatients. Simple categories are used according to the knowledge of the respondents.

Table 5.56

Prevalence of Hospitalization by Category of Sickness

During the 12 months Preceding the Survey

Type of Sickness	No.	%
Diarrhoea and/or vomiting	4	2.1
Cough	16	8.4
Fever	3	1.6
Injuries, burns and their consequences	1	0.5
Eye and/or ear disorders	7	3.7
Skin disorders	5	2.6
Digestive trouble and abdominal pain	28	14.7
Osteo-muscular joint pain	10	5.2
Headache	6	3.1
Common cold, influenza	9	4.7
Palpitation, blood pressure, etc.	13	6.8
General weakness	1	0.5
Teeth and mouth disorders	1	0.5
Addiction to opium	0	0.0
Women's diseases	25	13.1
Others	62	32.4
Total	191	100.0

Digestive trouble, abdominal pain, women's diseases and cough were the main causes of hospitalization.

2.2 Medical Survey

In the present survey, the second method of collecting data on morbidity amongst the Qashqai tribe was carried out by medical survey on the subsample which was derived from the original sample (see Chapter IV, Sampling). It consisted of 620 households with a total population of 3584 persons, of which 596 households and 3153 persons (96.1 and 88 per cent of the total households and population respectively) were examined.

Although a considerable proportion of eligible males in the 15 to 44 age group were not present at the time of the medical survey at the camp site (Table 5.57), the percentage of the people in the subsample who were under the medical survey were otherwise near to that of the original population sample.

Table 5.57

Distribution of population by age and sex in Original Sample Population and Medical Survey

Age groups	Original sample population		Medical survey sample population	
	No.	%	No.	%
0-4	2,802	16.5	605	19.2
5-14	5,035	29.7	1,014	32.1
15-44 M.	3,229	19.1	456	14.5
15-44 F.	3,241	19.2	614	19.5
45+	2,626	15.5	464	14.7
Total	16,933	100.0	3,153	100.0

The procedures used in the medical survey are summarized as follows:-

- Health interviews and case history study;
- Physical examination;
- Laboratory investigation;
- Skin tests.

2.2.1 Health Interviews. Subjective Symptoms and Prevalence of Reported Complaints

Table 5.58 gives the number and percentages of different complaints by age and sex. Fig. 5.9 shows the percentages of complaints in order of prevalence.

According to Table 5.58 the most common complaint was pain (36.4% of total complaints). Different types of pain were reported (Table 5.59). 2.6 and 3.2 per cent of all complaints were fever and general weakness, respectively. 12.0 per cent and 11.1 per cent related to the digestive and respiratory systems, respectively.

The number of females, aged 15 to 44 years with pain was about twice that of the males in the same age group.

Finally, the percentages of sickness rose steadily with age, and the types of complaints were different in different age groups. However, it should be pointed out that it is possible for any one person to report more than one complaint. For example, out of 50 sick persons who had urogenital trouble, 29 suffered from abdominal and osteomuscular pain.

The main complaint of older age groups was pain. The types of pain reported are shown in Table 5.59.

Out of the total of 521 reported compalints about pain, 350 (67.2 per cent), 36 (6.9 per cent) and 42 (4.2 per cent) were found to be due to

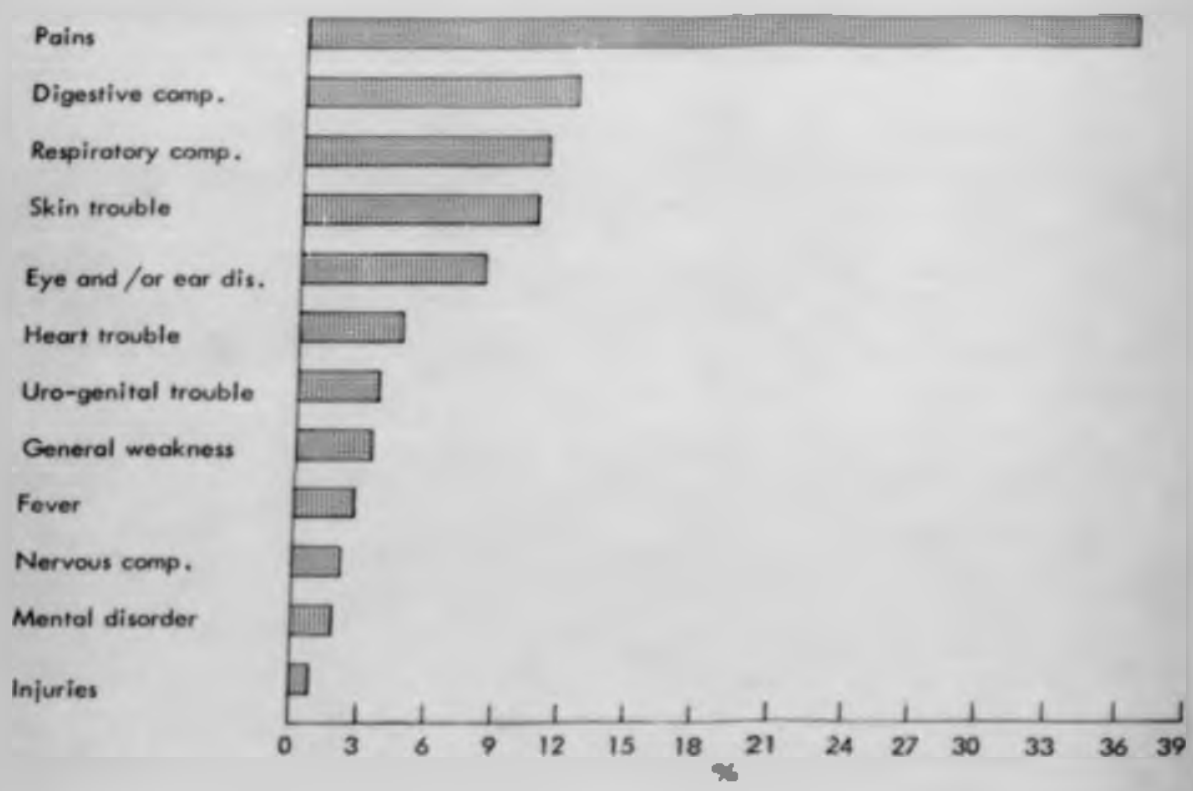
Table 5.58

Prevalence of the Complaints and Subjective Symptoms at the Time Medical Survey by Age Group

Complaints	Age Group: <1		1-4		5-14		15-44 Male		15-44 Female		45+		Total	
	Number of Examined Persons: 148		457		1014		456		614		464		3153	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	% of illness
Osteo-muscular and other pains					36	3.5	89	19.5	163	26.5	233	50.2	521	36.4
Fever	1	0.7	10	2.2	18	1.8	1	0.2	7	1.1			37	2.6
General weakness	2	1.35	8	1.7	14	1.4	1	0.2	7	1.1	14	3.0	46	3.2
Uro-genital trouble	1	0.7			2	0.2	3	0.7	31	5.0	13	2.8	50	3.5
Respiratory complaints	5	3.8	29	6.3	33	3.3	17	3.7	31	5.0	44	9.5	159	11.1
Digestive complaints	11	7.4	28	6.1	35	3.5	30	6.6	37	6.0	31	6.7	172	12.0
Mental disorders			3	0.7	7	0.7	1	0.2	8	1.3	7	1.5	26	1.8
Nervous complaints					11	1.1	6	1.3	9	1.5	8	1.7	34	2.4
Heart trouble					6	0.6	7	1.5	22	3.6	30	6.5	65	4.5
Skin trouble	5	3.8	17	3.7	33	3.3	24	5.3	47	7.7	24	5.2	150	10.5
Eye and/or ear disorders	4	2.7	15	3.3	24	2.4	21	4.6	16	2.6	35	7.5	115	8.0
Injuries, burns and their consequences	1	0.7	2	0.4	1	0.1	5	1.1	2	0.3	3	0.6	14	1.0
Others			6	1.3	13	1.3	6	1.3	6	1.0	12	2.6	43	3.0
Total	30	20.3	118	25.8	233	23.0	211	46.3	386	62.9	454	97.8	1432	100.0

Fig.5.9

PREVALENCE OF COMPLAINTS AND SUBJECTIVE SYMPTOMS AT THE TIME OF CLINICAL EXAMINATION, MEDICAL SURVEY, QASHQAI TRIBE, 1973



osteomuscular, headache and abdominal trouble, respectively.

Table 5.59

Prevalence and Distribution of Pain, Medical Survey, Qashqai Tribe, 1973

Type of pain	No.	%
Vague pain	26	5.0
Cough and chest pain	8	1.5
Fever and accompanying pain	4	0.7
Injuries and burns	3	0.6
Eye and/or ear	15	2.9
Skin (boil, wound, etc.)	4	0.7
Abdominal pain	22	4.2
Osteo-muscular pain	350	67.2
Headache	36	6.9
Sore throat	3	0.6
Generalised pain and weakness	12	2.3
Other pains	38	7.3
Total	521	100.0

Table 5.60

Duration (in days) of Complaints and Subjective Symptoms by Age Group

Age group / Days	<1	1-4	5-14	15-44 male	15-44 female	45+	Total No.	Total %
1-8 days	18	54	56	23	22	12	185	12.9
9-90 days	7	19	46	26	33	19	150	10.5
Unknown and in some cases longer than 90 days	5	45	131	162	331	423	1097	76.6
Total	30	118	233	211	386	454	1432	100.0

12.9% of all complaints lasted 1 to 8 days, and 10.5% lasted 9 to 90 days.

2.2.2 Physical Examination

All the members of the selected households present at the camp sites at the time of the survey were routinely examined. Abnormalities and disorders discovered were recorded in individual clinical questionnaire (see Appendix I).

Every effort was made to contact each member of households of selected families during consecutive days when the medical team visited the camp site. The results obtained from physical examination have been summarized as follows:

a) Diseases of the eye, conjunctiva and other conditions

Every individual had both eyes examined. The lid margins, the bulbar conjunctiva, the sclera, the everted upper lid conjunctiva, especially near the fornix and then the cornea and iris and pupil were examined in indirect daylight and with the aid of a hand torch, with a well focused lightbeam.

- Conjunctivitis was divided into three broad categories: namely active trachoma, cicatristic trachoma and other conjunctivitis. (Active trachoma, infection with folliculosis with or without a few scars and with pannus with corneal infiltration; type A of the World Health Organisation classification 1962). Other types: B, C and D. The trachoma is healed with good sight, impared sight or blindness. There are entropion, trichiasis and corneal scars.

- Sclerae: bitot spots, pterygium (pterygium is a fold of conjunctiva and a leash of vessels extending on the cornea usually from the inner angle).

- Corneal opacities, here include any macroscopically visible pannus of trachoma, old scarring and opacities associated with keratitis or corneal ulceration.

- Cataract is any lens opacity revealed by the reflected milky light from the torch when directing the beam obliquely during confrontation.

Vision was determined by asking the subjects whether they could see far and near, also the visibility of hand movements at one metre was tested and if this failed then the subject was tested with a torch-light directed straight into the eye to see if light was perceived.

Physical examination of the eyes showed that 96 per cent of all persons had no problem about their eye sight. One hundred and ten persons or 3.5 per cent and 17 cases or 0.5 per cent were found to have impaired vision and blindness respectively.

Table 5.61 gives the vision disorders by age and sex in the medical survey. According to the table blindness is infrequent in nomads, and most of the cases were found among the elderly people (53 per cent of the total blindness). Causes of blindness usually were trauma, accident or corneal diseases.

The number of females in the 15 to 44 age group suffering from visual disorders is about twice as much as for males in the same age group.

Table 5.61

Distribution of Impaired Vision and Blindness by Age and Sex, Medical Survey, Qashqai Tribe

Age group / Type of complaint	<1	1-4	5-14	15-44 male	15-44 female	45+	Total No.	Total %
Impaired vision	0	3	4	8	24	71	110	3.5
Blindness (total and partial)	0	1	2	3	2	9	17	0.5
Total	0	4	6	11	26	80	127	4.0
Total examined	148	457	1014	456	614	464	3153	100.0
% of disorders	0.0	0.8	0.6	2.4	4.2	17.2	4.0	

- Trachoma and other conjunctivitis: trachoma is a contagious virus infection. Geographical and climatic conditions enhance its distribution. The way of life of the inhabitants and the sanitary conditions are chiefly responsible for the spread of trachoma. As a rule, eye infections are more prevalent in hot, arid zones. In cases of chronic irritation of the conjunctivae dust, wind and sun create conditions favourable for the onset of infection (Siebeck, 1952). Scarcity of water at camp site, regular use of the same surmeh (surmeh is smoked carbon powder, mixed with almond oil, which is used for beautifying the eyes among women, Mohsenin et al., 1974) by all women of the family and the use of the same dirty towels which are often used by infected members of the family to wipe their eyes (Moutinho, 1949) lead to the spread of diseases within the community group.

In areas round Persian Gulf, Southern Iran, the prevalence rate of trachoma is the highest in the country, with an infection rate of 73 to 90 per cent (active and cicatrized trachoma). A great number of partial or total blindness is due to chronic trachoma (Sadoughi, 1948; Gremliza, 1952; Institute of Parasitology and Malariology, 1960; Mohsenin et al., 1969).

During our survey, external eye examination was carried out routinely amongst the population. The results are shown in Table 5.62.

According to Table 5.62, although tribes exposed to conditions suitable for the spreading of trachoma, especially in arid and hot zones of winter quarters, the prevalence of the disease was found to be low and was not comparable with prevalence in settled populations in those areas.

12.8 per cent of the total examined were found to have some kind of conjunctivitis. There was a great variation between the rate of infection in infants aged less than one year and in older age groups (45 and over) as can be seen from Table 5.62. The number of infected women in the 15 to 44 years age group was twice that of males in the same age group.

Table 5.62

Prevalence of Trachoma and Other Conjunctivitis in Sample Population According to Age and Sex, Medical Survey

Age group / Complaints	<1	1-4	5-14	15-44 M.	15-44 F.	45+	Total No.	Total %
Active trachoma	0	2	15	3	5	1	26	0.8
Cicatristic "	0	0	0	15	28	32	75	2.4
Other conjunctivitis	6	23	54	30	93	98	304	9.6
Total	6	25	69	48	126	131	405	12.8
Total examined persons	148	457	1014	456	614	464	3153	
% of all conjunctivitis	4.0	5.5	6.8	10.5	20.5	28.2		

- Diseases of the cornea and lens and other diseases of the eye.

Table 5.63 shows the distribution of diseases of cornea and lens among the sample population.

Table 5.63

Prevalence of Diseases of Cornea and Lens by Age and Sex,

Medical Survey, Qashqai Tribe

Complaint \ Age group	<1	1-4	5-14	Male 15-44	Female 15-44	45+	Total No.	Total %
Cataracta (uni or bilateral)	0	3	3	3	2	33	44	1.3
Corneal opacities	0	1	2	2	5	15	25	0.8
Other eye diseases	1	3	8	21	21	82	136	4.3
Total	1	7	13	26	28	130	205	6.5
Total persons examined	148	457	1014	456	614	464	3153	
% of illness	0.7	1.5	1.3	5.7	4.6	28.0	6.5	

In the case of corneal diseases, 44 people or 1.3 per cent had cataract, of which 33 or 75 per cent were found in persons aged 45 years and over. According to Table 5.63 females aged 15 to 44 years had less complaints than the males in the same age group. Among other diseases of the eye, pterygium was found to be prevalent. Internal and external strabismus, previous bleeding in eyes, night blindness, eyes operated on for cataract and other diseases, arcus senilis, inflammation of the eye have been seen.

b) Diseases of the ears - Examination of the ear

The external auditory canal was examined with the aid of an auriscope for exudate or other abnormalities. The drums were then examined for signs of scarring or perforation or the dull red character of inflamed drums.

Acute otitis media was diagnosed in the sick individual with a bulging red inflamed drum usually complaining of ear ache. In the case of a child , usually saw scraping of the ear and most cases were associated with fever. Therefore a short history of very recent fever and ear ache and then current purulent otorrhoea of recent onset with a tympanic perforation was diagnosed as acute otitis media.

Chronic otitis media was diagnosed in the presence of long standing otorrhoea with a perforated drum.

Otitis externa was diagnosed if the external auditory meatus was inflamed with or without surface exudate. Pressed over the tragus or pulled, the ear caused pain.

Inquiry about the quality of hearing of the subject was made by asking him or her.

Hearing disorders and infection of the ears found in sample population are shown in Table 5.64.

In this class of disease, 103 cases or 3.3 per cent were found among the total people examined. Suppurative otitis account for 1.1 per cent of the total.

According to Table 5.64, diseases of the ear were found among females aged 15 to 44 about twice as often than in the males in the same age group. The rate of disorder is the highest in the elderly (45 and over) because of impaired hearing due to ageing, and lowest in the age group

1 to 4 years.

Table 5.64

Prevalence of Disorders and Diseases of the Ear by Age and Sex

Complaint \ Age group	<1	1-4	5-14	15-44 male	15-44 female	45+	Total No.	Total %
Suppurative otitis	2	5	16	3	5	2	33	1.1
Impaired hearing (subjective)	0	0	7	2	11	24	44	1.4
Other	1	3	5	2	10	5	26	0.8
Total ear disorder	3	8	28	7	26	31	103	3.3
Total persons examined	148	457	1014	456	614	464	3193	
% of illness	2.0	1.7	2.8	1.5	4.2	6.7	3.3	

e) Tonsillitis

During physical examination, routine check of mouth and throat was carried out among sample population. Different conditions of tonsillitis recorded are shown in Table 5.65 according to age group and sex.

Table 5.65

Prevalence of Tonsillitis by Age and Sex, Medical Survey

Complaint \ Age group	<1	1-4	5-14	15-44 male	15-44 female	45+	Total No.	Total %
Inflammated but non-suppurative tonsillitis	1	8	15	10	1	4	39	1.2
Suppurative tonsillitis	0	2	3	1	0	0	6	0.2
Other	2	13	27	7	7	2	58	1.8
Total	3	23	45	18	8	6	103	3.2
Total persons examined	148	457	1014	456	614	464	3150	
% of illness	2.0	5.0	4.5	3.9	1.3	1.2	3.2	

d) Diseases of skin

Skin was examined while the patient was in a standing position. Already most of the body had been examined during the previous examination but at the time of the skin examination a careful check was made on hands and feet, and other parts for skin trouble.

Diseases of the skin were classified in three groups:

1. Infectious dermatitis: various pyodermia, impetigo, ecthyma, panaritium, inflammation of skin, boils, etc.
2. Allergic diseases, eczema, urticaria, etc.
3. Other diseases of skin: fungal infection (tinea versicolor, tinea corporis and other tineasis), different wounds especially unhealed, scars of wounds or of previous operations, burns and scars from burns, wasp, scorpion, mosquito bites, corn, parlache, cheilosis, acne vulgaris, hyperkeratotic extreme, pock marked, lichen, etc.

The findings presented in Table 5.66 were obtained by physical examination of skin and hair of those persons routinely examined.

Table 5.66

Distribution of Diseases of Skin by Age and Sex, Medical Survey

Complaint \ Age group	<1	1-4	5-14	15-44 male	15-44 female	45+	Total No.	Total %
Infectious dermatitis	2	9	18	2	4	5	40	1.3
Allergic dermatitis	0	6	6	8	31	17	68	2.1
Scalp ring worm	0	3	4	1	0	2	10	0.3
Other skin trouble	5	8	62	21	43	37	176	5.6
Total skin diseases	7	26	90	32	78	31	294	9.3
Total examined	148	457	1014	456	614	464	3153	
% of skin disorders	4.7	5.7	8.9	7.0	12.7	6.7		

A great variety and high prevalence of skin disorders have been observed in physical examination.

Table 5.66 gives a detailed list of the major disorders observed. Other skin troubles include all disorders mentioned above in the third group of diseases of skin, and especially impetigo, ecthyma, sores and fungal infections were more prevalent among children aged 5-14 years.

According to Table 5.66 the lowest rate of skin trouble is in infants aged less than a year (4.7 per cent) and the highest rate in females aged 15 to 44 years (12.7 per cent) and this rate is almost double the prevalence rate among the males in the same age group.

a) Diseases of bones and joints

Two important diseases of this type namely: rickets and acute arthritis were considered by the survey. Both were found to be less prevalent among nomads than in the Iranian sedentary population (Health and Morbidity Survey in the North of Iran, 1974), especially in the case of rickets, because nomads usually consume milk and other dairy products, and they are exposed to sunshine most of year.

Other diseases of bones and joints observed during physical examination were bow-leg, dislocation of forearm and leg due to an old fracture of bones, comminuted fracture, Colles' fracture, distortion of both ankles, suspected discal hernia, synovial cyst of the knee.

Table 5.67

Complaints \ Age group	<1	1-4	5-14	15-44 male	15-44 female	45+	Total No.	Total %
Rickets	4	5	2	0	0	0	11	0.3
Acute arthritis	0	0	2	0	1	3	6	0.2
Other	1	5	11	18	9	19	63	2.0
Total disorders	5	10	15	18	10	22	80	2.5
Total persons examined	148	457	1014	456	614	464	3153	
% of disorders	3.4	2.2	1.5	3.9	1.6	4.7		

f) Physical examination of abdomen

Attention was paid to routine examination of the abdomen. The abnormalities observed have been recorded and shown in Table 5.68.

Table 5.68

Prevalence of Abnormalities in Abdominal Examination

by Age and Sex

Complaint \ Age group	<1	1-4	5-14	15-44 male	15-44 female	45+	Total No.	Total %
Hernia of inguina and other types	0	4	7	1	1	5	18	0.6
Scars of previous operations	0	2	1	2	3	7	15	0.4
Others	2	5	13	5	16	16	57	1.8
Total disorders	2	11	21	8	20	28	90	2.8
Total examined	148	457	1014	456	614	464	3153	
% of disorders	1.3	2.4	2.1	1.7	3.2	6.0		

Eighteen cases of hernia were found, one of which was in a female in the age group 15 to 44. 2.8 per cent of the total sample population had some kind of abnormality or other in the abdomen. Other abnormalities include distension due to wind gas, tumour, pain in the epigaster and ovarian regions, tenderness and rigidity.

- Spleen and liver

3153 persons were examined for enlargement of spleen and liver, the results are shown in Table 5.69.

Table 5.69

Prevalence of Hepatosplenomegaly in Population Under Survey by Age and Sex, Medical Survey

Complaint \ Age group	<1	1-4	5-14	15-44 male	15-44 female	45+	Total No.	Total %
Splenomegaly	1	6	12	1	3	1	24	0.7
Hepatomegaly	0	6	10	2	7	13	38	1.2
Total	1	12	22	3	10	14	62	1.9
Total persons examined	148	457	1014	456	614	464	3153	
% of abnormalities	0.7	2.6	2.2	0.6	1.6	3.0		

It appears from the data in Table 5.69 that, although tribes were exposed to malaria in previous years, because of malaria eradication the spleen enlargement came down to a negligible proportion being only 0.7 per cent, with slight preponderance in the lower age group of population.

About 1.2 per cent of the population showed palpability or enlargement of liver, the proportion being slightly higher than that of splenic enlargement. Practically no difference in incidence of enlarged liver

was observed between the younger and the older age groups.

No easy explanation can be given for the causes of hepatomegaly in the population surveyed. Because of a certain degree of inaccuracy in the physical examination, more information is needed in order to investigate the etiology of hepatomegaly.

Physical examination of heart and lungs

Routine physical examination of chest (heart and lung) were made. Auscultation was performed to define the heart sounds in all areas, then to note abnormal rhythms and sounds such as gallop rhythm, systolic murmurs (aortic systolic, pulmonary systolic, pansystolic, apical pansystolic, etc.) as well as diastolic murmurs.

Survey considered only one category for heart diseases under the heading, pathologic sounds of heart included all systolic and diastolic murmurs.

Percussion of the chest was performed in vertical lines, then at corresponding sites on each side.

If any percussion sound was found uncharacteristic, more detailed percussion was performed. Auscultation was then done at the same corresponding points defined above for percussion. If any abnormality of breath sound or accompaniments was heard, further detailed auscultation was carried out to clarify the condition.

g) Respiratory diseases

The total number of persons suffering from acute and chronic respiratory diseases, in physical examination, was 88 or 2.8 per cent out of 3153 persons examined.

This broad group of respiratory diseases (codes 44 and 48) includes pulmonary tuberculosis, acute and chronic bronchitis, pneumonia, asthma and other lower respiratory diseases. It does not include diseases such as whooping cough, or any other conditions coded in the group of infectious diseases.

The highest rate was found among old persons aged 45 and over (7.7 per cent), the lowest rate among infants (1.3 per cent) and females aged 15 to 44 (1.1 per cent).

Table 5.70

Prevalence of the Respiratory Diseases According to Age and Sex

Age group / Complaint	<1	1-4	5-14	15-44 male	15-44 female	45+	Total No.	Total %
Sick	2	17	18	8	7	36	88	2.8
Total examined persons	148	457	1014	456	614	464	3153	
% of sickness	1.3	3.7	1.8	1.7	1.1	7.7		

b) Cardiovascular diseases

According to Table 5.71, 59 persons or 1.9 per cent of total examined were found with pathologic sound of heart, especially systolic murmur due to mitral insufficiency. The highest rate was 3.4 per cent among females aged 15 to 44.

Six cases of varicose veins of the legs were found among males (4 in the age group 15 to 44 and 2 in the group aged 45 and over).

Table 5.71

Prevalence of the Cardiovascular Complaints according to Age and Sex

Complaint \ Age group	<1	1-4	5-14	15-44 Male	15-44 Female	45+	Total No.	Total %
Murmurs (pathological sounds)	0	2	14	8	21	14	59	1.9
Total persons examined	148	457	1014	456	612	464	3151	
% of heart disorder	0.0	0.4	1.4	1.7	3.4	3.0		

2.2.3 Laboratory Results and Epidemiological Features

2.2.3.1 Intestinal Infection with Helminths and Protozoa

(a) Prevalence of intestinal helminthiasis among tribe.

The results of the study undertaken on the prevalence of various intestinal parasites are summarized as follows:-

According to Table 5.72, of 1579 stool samples examined, 602 or 38.1% were found positive with one or more parasites, of which 524 (33.2 per cent) were infected with one, 69 (4.4 per cent) with two and 8 (0.5 per cent) with three helminths.

Table 5.72

Prevalence of Infected Persons with One or More Intestinal Helminths According to Sex

Sex \ Types of parasite	1		2		3		4		Total		
	No.	%	No.	%	No.	%	No.	%	exam.	pos.	%
Male	237	32.3	28	3.8	4	0.5	0	0.0	733	269	36.7
Female	287	33.9	41	4.8	4	0.5	1	0.1	846	333	39.4
Total	524	33.2	69	4.4	8	0.5	1	0.06	1579	602	38.1

Table 5.73

Prevalence of Some Intestinal Helminthiasis

According to Age Groups

Age Group	Ascaris		Trichuris		Trichostrongylus		H. nana		Ent. vermicularis		Total		
	No.	%	No.	%	No.	%	No.	%	No.	%	Examined	Positive	%
0 - 4	7	3.5	1	0.5	45	22.3	22	10.9	7	3.5	202	82	40.6
5 - 9	16	4.5	3	0.8	100	28.3	36	10.2	10	2.8	353	165	46.7
10 - 14	20	7.0	1	0.3	90	31.3	22	7.7	7	2.4	287	140	48.8
15 - 19	14	8.6	5	3.1	44	27.2	11	6.8	4	2.5	162	78	48.1
20 - 29	15	7.8			64	33.2	7	3.6	2	1.0	193	88	45.6
30 - 39	13	8.5	1	0.6	34	22.2	3	2.0	2	1.3	153	53	34.6
40 - 49	5	5.1	2	2.0	21	21.4	4	4.1	4	4.1	98	36	36.7
50 - 59	3	4.5			19	28.3	1	1.5			67	23	34.3
60+	4	6.2			19	29.7			2	3.1	64	25	39.0
Total	97	6.1	13	0.8	436	27.6	106	6.7	38	2.4	1579	690	43.7

The prevalence of infection among males and females was 36.7 and 39.4 per cent respectively.

Prevalence of infection with Ascaris, Trichuris, Trichostrongylus, H. nana and Enterobius vermicularis among various groups is shown in Table 5.73.

As indicated in Table 5.73, the overall prevalence of infection with Ascaris, Trichuris, Trichostrongylus and H. nana was 6.1, 0.8, 27.6 and 6.7 per cent respectively.

A low prevalence of infection with ascaris and trichuris was observed in the medical survey.

Trichostrongyliasis was found more prevalent than other helminths (27.6 per cent of all parasites).

No case of hookworm or Taenia saginata has been seen in the present survey in sample population.

According to the Table 5.73, H. nana is more prevalent in children than in other age groups, but in the case of other helminths such differences cannot be observed among different age groups.

As indicated in Table 5.74, Trichostrongylus is more prevalent in females (30.3 per cent) than in males (24.5 per cent).

Table 5.74

Prevalence of Intestinal Helminthiasis According to Sex

Sex	Ascaris		Trichuris		Trichostrongylus		H. nana		Enterobius ver.		Total		
	No.	%	No.	%	No.	%	No.	%	No.	%	exam.	pos.	%
Male	44	6.0	5	0.7	180	24.5	53	7.2	23	3.1	733	305	41.6
Female	53	6.3	8	0.9	256	30.3	53	6.3	15	1.8	846	385	45.5
Total	97	6.1	13	0.8	436	27.6	106	6.7	38	2.4	1579	690	43.7

Although the climatic conditions for transmission of nematodes via soil are suitable at the time the nomads spend in summer quarters, the prevalence of ascaris and trichuris is considerably lower in the nomads than in the settled population (Ghadirian et al., 1974).

This difference might be due to the mode of life of the nomads. They do not usually stay for a long time in one camp site. When the camp site and the surroundings become dirty, they leave the area and move to a new camp site about 2 to 3 kilometres away from it. Other groups never choose the used camp site. Therefore they escape from infestation with parasites. According to the Table 5.73, the prevalence of infestation with Trichostrongyloidea spp. is high (27.6 per cent of total stool samples examined), and this rate was found to be even higher amongst other tribes (86.9 per cent in the Bakhtiari tribe of Southern Iran - Ghadirian et al., 1974). The only explanation for this is the zoonotic aspect of Trichostrongyloidea spp. and the proximity of nomads to domesticated animals.

The stool examination techniques used in the two studies were the same and examined for prevalence using flotation method.

(b) Intestinal infection with protozoa

Among various kinds of amoebae in the intestinal flora of man, the chief pathogen is Entamoeba histolytica. Its occurrence is more frequent in the hot than in the temperate zones, and is generally more frequent in arid zones (such as the nomadic areas) than in humid tropics.

Another protozoon which is a major health problem in hot climates is Giardia lamblia. Both protozoa were studied in nomads. 37.8 and 18.9 per cent of total stool specimens were positive for E. histolytica and Giardia, respectively.

According to Table 5.75, E. histolytica is prevalent in all age groups, and it varies from 25.7 per cent among children of 0 to 4 years old to 61.2 per cent in people aged 50 to 59 years. Its prevalence increases as the age increases.

Table 5.75

Prevalence of some Intestinal Protozoa, Qashqai Tribe, 1973

Age group	No. examined	E. histolytica		Giardia	
		No.	%	No.	%
0-4	202	52	25.7	68	33.7
5-9	353	107	30.3	81	22.9
10-14	287	92	32.1	55	19.2
15-19	162	57	35.2	27	16.7
20-29	193	85	44.0	20	10.4
30-39	153	81	52.9	19	12.4
40-49	98	49	50.0	13	13.3
50-59	67	41	61.2	3	4.5
60+	64	33	51.6	6	9.4
Total	1579	597	37.8	292	18.5

More than 90 per cent of the positive sample were positive for cysts of E. histolytica only. In contrast, Giardia was found more prevalent among children aged 0 to 9 years (26.8 per cent of stool samples of this age group were positive).

Table 5.76

The Distribution of the Protozoa According to Sex,

Qashqai Tribe, 1973

Parasites / Sex	E. histolytica		Giardia		Total		
	No.	%	No.	%	exam.	pos.	%
Male	280	38.2	148	20.2	733	428	58.4
Female	317	37.5	144	17.0	846	461	54.5
Total	597	37.8	292	18.5	1579	889	56.3

According to the table no significant sex differentiation can be observed in intestinal protozoal infection ($P > 0.1$).

2.2.3.2 Typhoid Fever and Paratyphoid Infections

Typhoid and paratyphoid fevers are infectious diseases which are transmitted primarily via water; other sources are foodstuffs, milk and sometimes through usage of raw vegetables and fruit. They are almost entirely confined to man. Convalescent persons and healthy carriers play a prominent role in the spreading of these diseases. The paratyphoid B bacillus is likewise a human pathogen, but has been isolated from other mammals and infected cattle; it has been responsible for several milk- and meat-borne outbreaks of disease in man (Smith and Thomas, 1966; Gentes et al., 1972).

In a serological survey, comparatively, a large number were found positive among those without history of previous vaccination against typhoid infection.

The method used is described in Chapter IV of this report (Materials and Methods).

Table 5,77 indicates that 68 out of 1235 examined sera were found with positive reaction for typhoid. No case was, however, recorded in the age group 0 to 4 years (in this age group only 7 blood samples were examined for typhoid). The percentage of positive reaction in females aged 15 to 44 was about four times greater than that in males in the same age group.

Table 5,77

Results on Serological Survey for typhoid Injection according to Age and Sex, Medical Survey

Age group	No. examined	Positive	
		No.	%
0-4	7	0	0.0
5-14	282	12	4.2
15-44 male	350	9	2.6
15-44 female	333	35	10.5
45+	263	12	4.6
Total	1235	68	5.5

Paratyphoid infections were found very rarely; only one case of paratyphoid B was found in a female aged 49 years. No case of paratyphoid A infection was seen.

Although tribes do not use night soil as fertiliser for their cultivation, and their diet mostly lacks fresh vegetables, because of unsatisfactory sanitary conditions at the camp site and shortage of water supplies in or near the camp site, salmonellosis is not uncommon among them.

2.2.3.3 Anthropozoonoses

This is a group of etiologically and epidemiologically differentiated infections which occur in animals but may also be transmitted to man. Most of the diseases are widespread in tribal groups, because their main occupation is animal husbandry.

Among various zoonoses such as brucellosis, anthrax, hydatic cysts and rabies, we decided to study brucellosis in tribal population due to the existence of predisposing factors, i.e. animal husbandry and frequent consumption of milk and dairy products.

(a) Brucellosis

The brucelloses are infections caused by several closely related germs (e.g. Brucella abortus, B. melitensis, B. suis), which occur epizootically among domestic animals and human beings as well.

Among the goat and sheep raising nomads such as the Qashqai tribe B. melitensis should be common, because it is transmitted through dairy products and meat. In practice we found that this is not true and the prevalence of residual antibodies from previous infections with B. melitensis or B. abortus was found very low. Out of 1239 sera examined 4 (2 males and 2 females aged 15 to 44 years) or 0.32 per cent were found to be positive.

2.2.3.4 Diseases Transmitted by Arthropods

Two diseases, namely malaria and relapsing fever, were considered.

(a) Malaria

In Iran, it was one of the major health problems of the settled population as well as the nomads, but at the same time it was one of the most successfully handled by the health authorities.

Malaria was the most significant disease among the nomads before the launching of the malaria eradication programme in 1957.

On comparison with previous records on malaria, it can be seen that the disease is suppressed to a satisfactorily low level, but it is not eradicated (Motabar, 1971).

At the time of the survey, the nomadic areas were under the late attack phase of malaria eradication programme. As a result only 7 cases of P. vivax were found out of 1236 blood smears collected during the survey. One male and 6 females aged 2 to 9 (3 cases) and 15 to 35 (4 cases) were positive for malaria, hence, the parasite rate calculated was 0.56 per cent of the total blood samples.

(b) Relapsing Fever

The relapsing fever constitutes a group of acute infectious diseases which are marked by repeated relapses that last for several days and are caused by different species of Borrelia. Body lice or ticks are the vectors, so the louse-borne relapsing fevers occurring seasonally and for the most part epidemically, must be distinguished from the tick-borne relapsing fevers which are endemic and occur throughout the year and are in sporadic form. The aim of the survey was to study the tick-borne relapsing fever in nomads, because the way of life of nomads brings them in close contact with rodents and infected ornithodorus ticks. Hence it is possible for nomads to fall ill with relapsing fever more frequently than do the sedentary population.

1232 blood smears were examined for Borrelia. All were found negative for this parasite.

2.2.3.5 Venereal Diseases (Syphilis)

Occurrence of syphilis is rare among the Qashqai tribe, due to social customs and religious obligations. The disease is introduced to the tribe by the males who go to work in urban areas or join military services.

Serological tests on 1235 sera revealed four positive for syphilis. Three were cases in the age group 45 and over. One was in a married female. Epidemiological investigation showed that she had contracted the disease from her husband. The rate was computed as 0.32 per cent for this disease.

2.2.3.6 Total Serum Protein

The serum protein determinates is affected by the level of protein intake in the diet. However, it may also be influenced by various diseases not directly related to nutrition.

Albumin constitutes part of the total serum proteins and more than any other protein fraction of the serum is related to nutrition.

Animal protein is frequently available to nomads. Therefore their percentage of total serum protein is not usually low.

During medical survey 1236 serum specimens were tested for total protein. Only 21 cases or 1.7 per cent had a percentage level of 6 gm/100 ml or less; six of these samples were from males.

The mean value computed was 7.96 and it showed a higher level for females. The mean value for females was 8.32 and for males 7.68 gm/100 ml.

The results are presented in Tables 5.78 and 5.79 and Figures 5.10 and 5.11.

Table 5.78

Distribution of Different Levels of Serum Total Protein (G/100 ml) Group by Age, Medical Survey

Age Group	G/100 ml													Total	
	6.0	6.3	6.6	6.9	7.2	7.5	7.8	8.1	8.4	8.7	9.0	9.3	9.6+	No.	%
1 - 4	2							1		1			3	7	0.6
5 - 14	9	6	15	35	52	32	40	36	25	10	6	3	14	283	22.9
15 - 44	7	15	28	56	113	84	121	80	66	47	20	12	34	683	55.2
45+	3	10	16	27	44	41	48	28	23	10	4	3	6	263	21.3
Total No.	21	31	59	118	209	157	209	145	114	68	30	18	57	1236	100.0
Total %	1.76	2.51	4.77	9.55	16.91	12.70	16.91	11.73	9.22	5.50	2.43	1.46	4.61	100.0	

Table 5.79

Prevalence of Total Serum Protein by Sex, Medical Survey

Level of serum P.T. - gm/100 ml	Male		Female		Total	
	No.	%	No.	%	No.	%
- 6.00	16	2.32	5	0.91	21	1.70
6.30	22	3.19	9	1.64	31	2.51
6.60	32	4.64	27	4.93	59	4.77
6.90	77	11.17	41	7.49	118	9.55
7.20	113	16.40	96	17.55	209	16.91
7.50	81	11.75	76	13.89	157	12.70
7.80	113	16.40	96	17.55	209	16.91
8.10	81	11.75	64	11.70	145	11.73
8.40	63	9.14	51	9.32	114	9.22
8.70	37	5.37	31	5.66	68	5.50
9.00	16	2.32	14	2.56	30	2.43
9.30	9	1.30	9	1.64	18	1.46
9.60+	29	4.20	28	5.11	57	4.61
Total	689	55.74	547	44.26	1236	100.00

Fig. 5.10
TOTAL SERUM PROTEIN, QASHQAI TRIBE, 1973

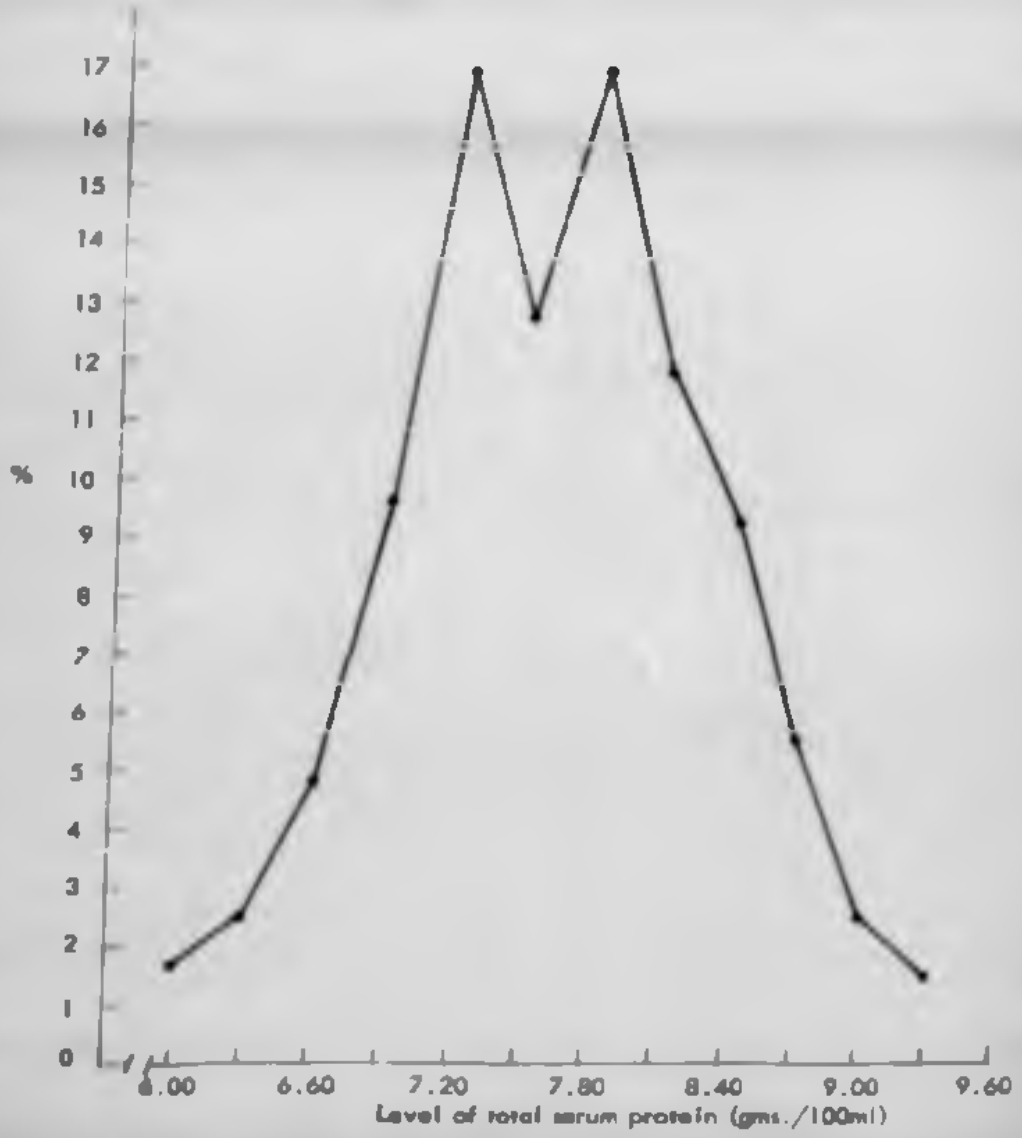
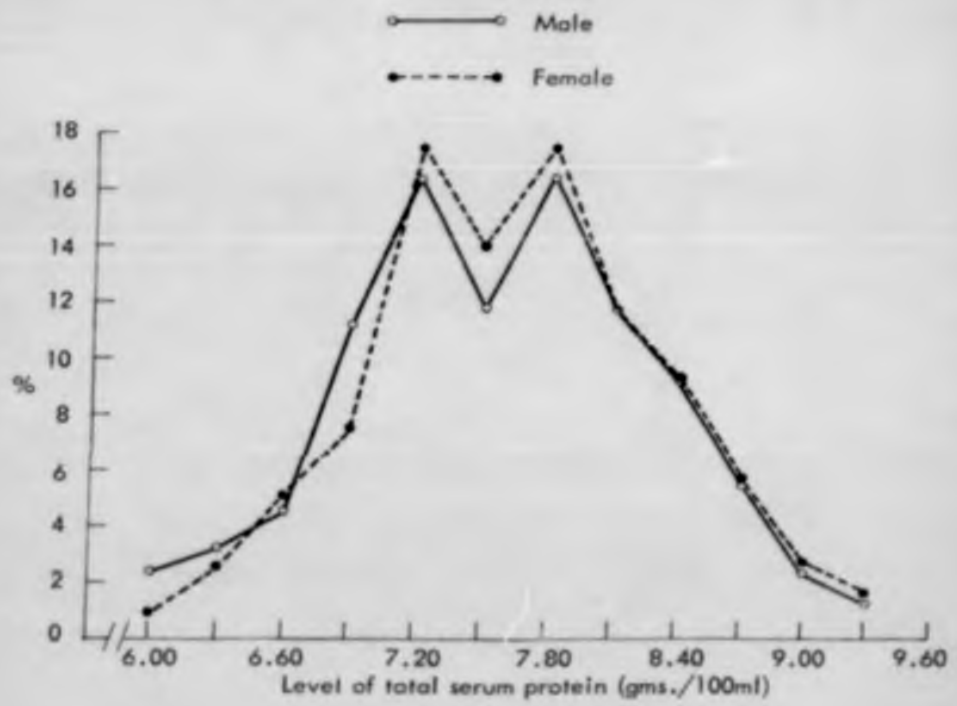


Fig. 5.11
PREVALENCE OF TOTAL SERUM PROTEIN BY SEX,
QASHQAI TRIBE, 1973



2.2.3.7 Haemoglobin and Haematocrit

Haemoglobin and haematocrit are two measures used to assess anaemia, and more specifically iron deficiency anaemia. In the survey sample population both measures were determined on 1233 blood samples.

In 2.3 per cent of the cases observed the haemoglobin concentration was 10 gm% or below and in 8.1 per cent of the cases it fell 12 gm% and below (Table 5.80 and Figure 5.12).

According to Table 5.80, females aged 15 to 44 years had a higher percentage of low haemoglobin values than in the case of males in the same age group. The mean haemoglobin values among males aged 15 to 44 was found to be 16.49 per cent and for the females of the comparable age group it was 13.99 per cent. The difference statistically is not significant (degrees of freedom 670, pooled S.D. 1.95, t value = 1.39 P > 0.1).

Haematocrit

Of the 1233 persons on whom haematocrit determinations were made, 8.7 per cent were below 31 per cent and 28.1 per cent or 349 persons had a haematocrit level less than 38 per cent (Table 5.81).

On the basis of the classification used for determination of the level of haematocrit in the First Survey on Nutrition in USA, 1971, 72, the following categories were obtained in the present survey (Table 5.82).

Clinically 193 suspected cases of anaemias were diagnosed and the results are shown in the following Table 5.83. Hence, two methods of diagnosis (clinical and laboratory) showed an almost similar pattern except in the case of children aged 0 to 4 years. The observed difference in this age group may be due to the fact that most of the children of this

Fig. 5.12

FREQUENCY DISTRIBUTION OF HAEMOGLOBIN LEVEL
QASHQAI TRIBE, 1973

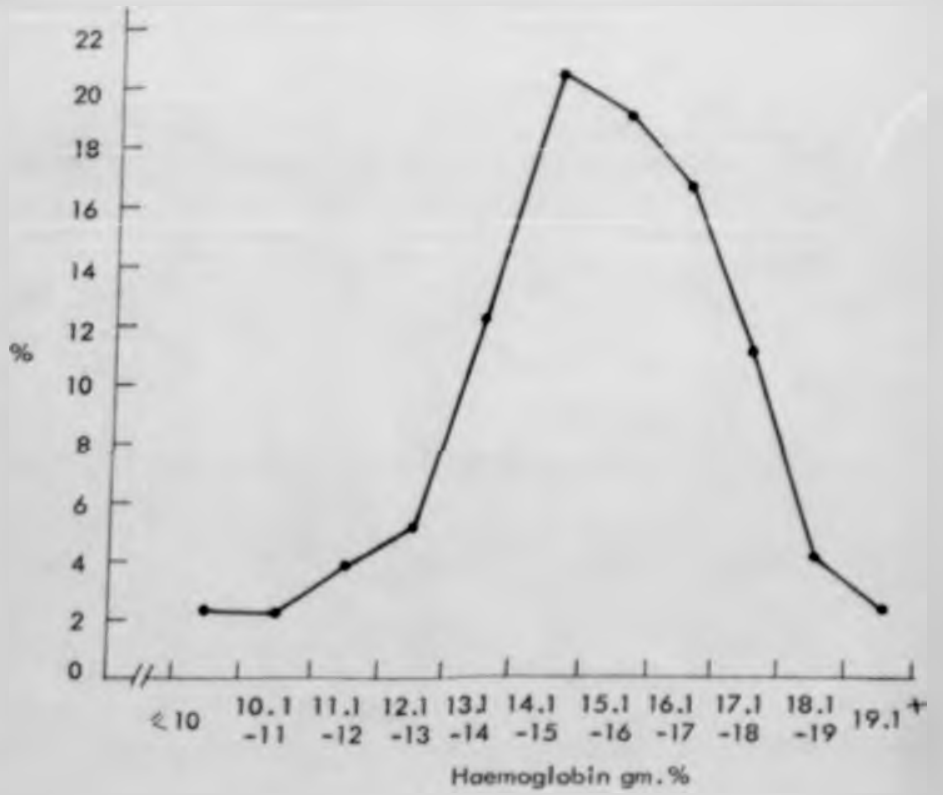


Table 5.80

Distribution of Haemoglobin Values by Age and Sex, Qashqai Tribe, 1973

	Hb gms %															
	<10		10.1-11		11.1-12		12.1-13		13.1-14		14.1-15		15.1-16		16.1-17		17.1+		Total	
Age Group	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0 - 4	1	16.7							5	83.3									6	0.5
5 - 14	3	1.1	7	2.5	15	5.3	24	8.5	64	22.8	99	35.2	45	16.0	21	7.5	3	1.1	281	22.8
15 - 44 Male	1	0.3	1	0.3	2	0.5	7	2.0	6	1.7	29	8.3	81	23.1	95	27.1	128	36.6	350	28.3
15 - 44 Female	16	4.8	14	4.2	26	7.8	30	9.0	57	17.1	86	25.8	54	16.2	36	10.8	14	4.2	333	27.1
45+	7	2.7	4	1.5	5	1.9	7	2.7	18	6.8	37	14.1	55	20.9	53	20.1	77	29.3	263	21.3
Total	28	2.3	26	2.1	48	3.9	68	5.5	150	12.2	251	20.4	235	19.0	205	16.6	222	18.0	1233	100.0

Age Group	Mean (gms/100 ml)	S.D.
5-14	14.12	1.73
15-44 (Males)	16.49	1.61
15-44 (Females)	13.99	2.31
45+	15.86	2.38

Table 5.81

Distribution of Haematocrit Values According to Age and Sex, Qashqai Tribe

1973

Haematocrit / Age group	<31	31-34	35-38	39-42	43-45	46-48	49-52	53+	Total
0-4	4	0	2	0	0	0	0	0	6
5-14	32	34	54	95	45	17	4	0	281
15-44 male	18	7	29	50	75	92	60	25	350
15-44 female	42	25	63	98	72	29	4	0	333
45+	13	13	19	38	70	55	32	23	263
Total	107	79	163	281	262	193	100	48	1233
%	8.7	6.4	13.2	22.8	21.2	15.6	8.1	3.9	100.0

Table 5.82

Distribution of Haematocrit (per cent) by Age and Sex, Qashqai Tribe, 1973

Haema. values / Age group	Low	Acceptable	High	Total
5-14	<35 66(23.5%)	35-38 54(19.2%)	>38 161(57.3%)	281
15-44 male	<43 98(28%)	43-52 227(64.8%)	>52 25(7.1%)	350
15-44 female	<39 130(39%)	39-48 199(59.8%)	>48 4(1.2%)	333

age group refused to have blood drawn. From 602 children aged 0 to 4 years under medical survey, only 7 blood samples were collected. Anaemia was found more prevalent amongst females aged 15-44 years (11.7 per cent) than other age and sex groups.

Table 5.83

Prevalence of Clinically Suspected Anaemia, Medical Survey, Qashqai Tribe, 1973

Age group	No. examined	No. with anaemia	%
0-4	602	18	3.0
5-14	1014	32	3.2
15-44 (male)	456	3	0.7
15-44 (female)	614	72	11.7
45 +	464	18	3.9
Total	3153	143	4.5

Table 5.84

Distribution of Haemoglobin and Haematocrit Values among Qashqai Tribe, 1973

Haemoglobin \ Haematocrit	<31	31-34	35-38	39-42	43-46	47-50	51-54	55+	Total
⩽ 10	21	5	2						28
10.1-11	5	13	8	1					26
11.1-12	7	9	20	10	1	1			48
12.1-13	8	9	21	20	7	3			68
13.1-14	9	11	51	52	25	2			150
14.1-15	31	14	23	88	74	21			251
15.1-16	10	6	16	59	110	33	1		235
16.1-17	10	5	10	31	85	59	3	2	205
17.1 +	6	8	12	20	35	80	40	21	222
Total	107	79	163	281	337	199	44	23	1233

2.2.3.8 Age, Sex and Height, Weight

The individual's standing height was measured. This was done in centimetres with the subject barefoot. Height was determined by putting a rectangular object on the head of the subject, until it made firm contact with the scalp. For babies not yet walking the infantometer was used by placing the head at the non-movable end and ensuring that the legs were together with the knees extended. The movable section was then shortened until the ankles were at right angles. The reading on the infantometer was then read.

Weight: The weight was recorded at bare weight and hence a series of corrections were used depending on what the individual was wearing. For the babies the method of weighing was to weigh mother and baby together and then record the weight of the mother, and subtract the second weight from the first.

The age, sex weight graphs of the female and male in infants show that the weight of female infants less than one year old is slightly greater (7.44 kg) than that of male infants (6.83 kg) (Graph 5.13). In contrast, in the second year of life the male child is heavier than the female child. Thereafter the average weight in both sexes increases steadily, but male children weigh more up to the age of 10 years.

However, the average weight of female children is higher than that of male children from 11 to 13 years; in the 14th year the weight of both sexes is about the same, but thereafter males exceed the females of the same ages in weight. The weight of the males increases steadily up to the age of 20 years, except in the 17th year when it decreases. This fluctuation may be due to the sample size being small in this age group. As age increases the difference between the average weights in both

sexes fluctuates and in some age groups the difference is greater, for example, in the 19th year the difference is 10.34 kg. This might be also due to the small size of the sample in this age group, and this difference statistically being significant. $P < .001$ (Males' S.D. = 5.89, Females' S.D. = 4.00, $S = 5.5$ and $t_{23} = 4.97$).

Age, Sex and Height: The age, sex graphs for height of males and females show less differences and fluctuations than the average age - weight graphs. The age-height graphs for both sexes almost start from the same figure viz. 62.12 and 61.83 centimetre for male and female infants, respectively (Graph 5.14). The male child has a slightly higher initial rate increase, only female children of one year of age were taller than male children, being 71.0 and 70.25 centimetres respectively. At the age of 5 years and after that up to 10 years, the male is taller than the female child. At the age of 11 years the female is again taller than the male child (being 137.88 and 133.0 centimetres respectively). Thereafter the male maintains superiority all along for the higher age period, the height of both sexes steadily increases up to the age of 20 years, but as the age increases the difference between the average heights of both sexes becomes greater, being about 14 to 13 centimetres at the age of 18 to 20 years.

In comparing the means of height and weight of boys and girls aged 1 to 19 of the Qashqai tribe to those means of height and weight of settled children in the villages of winter quarters and other rural areas of the Province of Fars, (Institute for Nutrition Study, Iran, 1970), one can observe that the tribal children are heavier and taller than the children of settled population, especially in the case of females (Tables 5.85, 5.86).

Fig. 5.13

AVERAGE WEIGHT BY SEX AND AGE. QASHQAI TRIBE (1973) AND SEDENTARY POPULATION OF THE RURAL AREAS (1970)

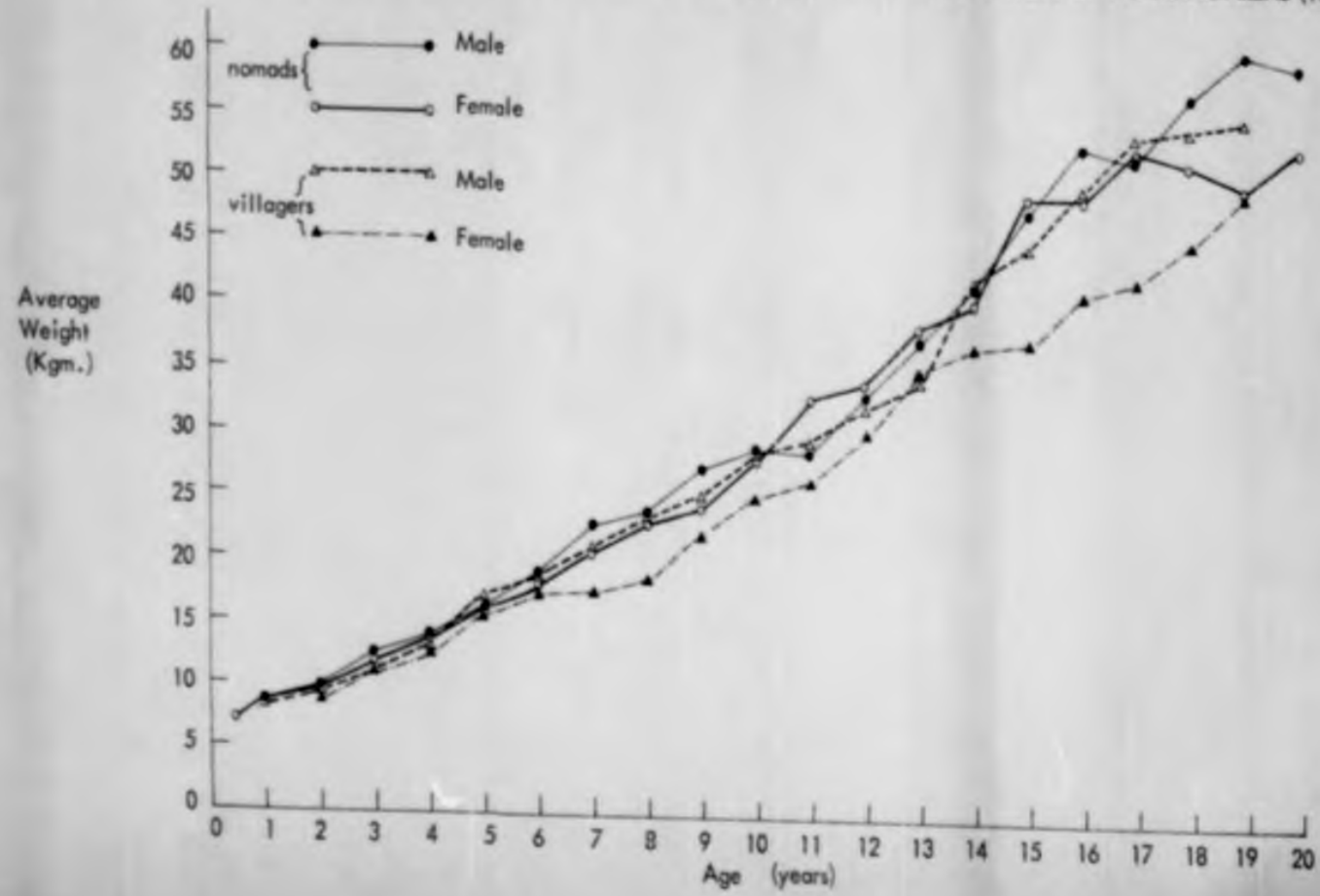


Fig.5.14.AVERAGE HEIGHT IN CENTIMETRES, BY SEX AND AGE. QASHQAI TRIBE (1973), RURAL AREA (1970)

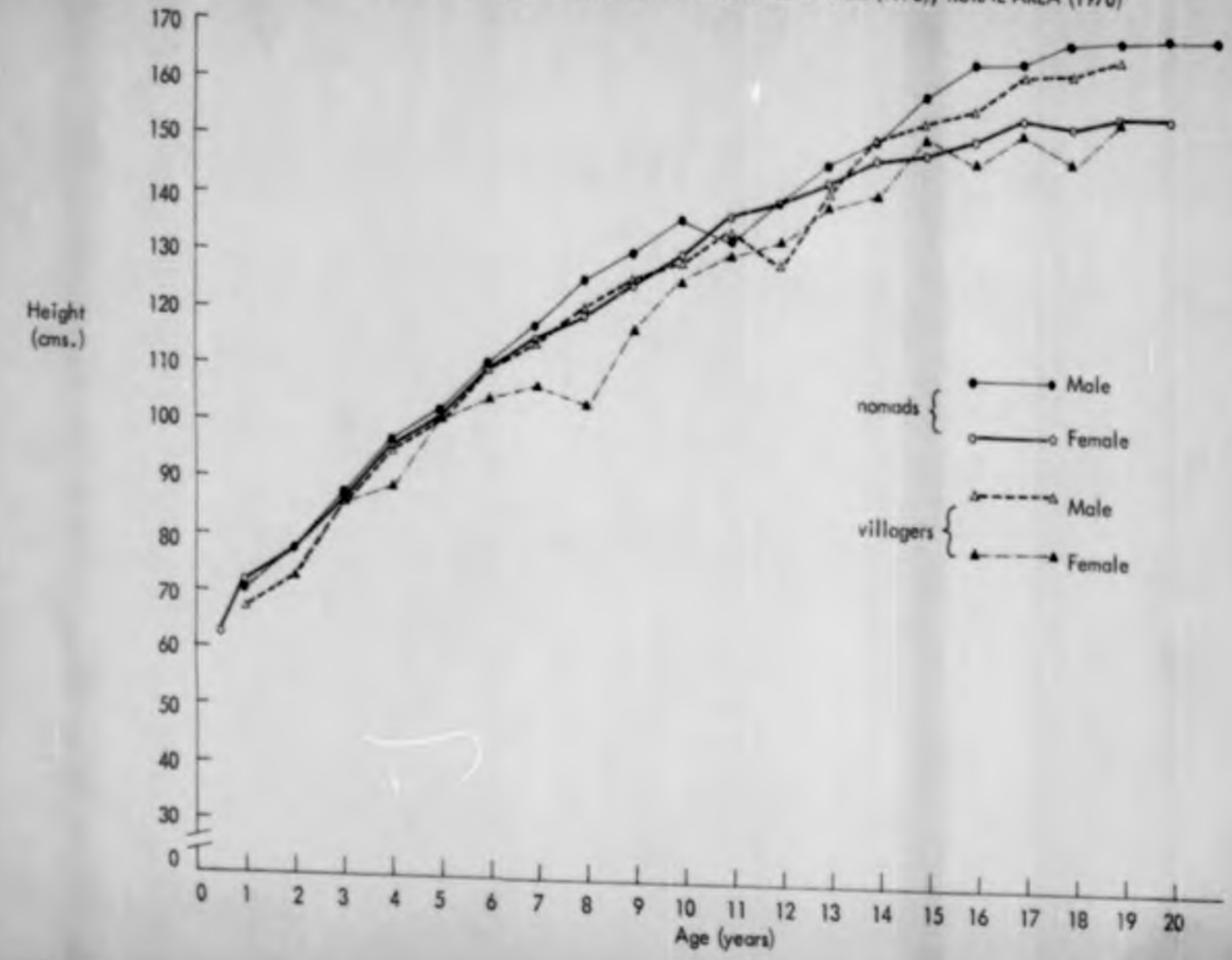


Table 5.85

Average Height in Centimeters and Weight in Kilograms by Age and Sex, Medical Survey, Qashqai Tribe, 1973

Age Group	Male						Female					
	Height			Weight			Height			Weight		
	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.	No.	Mean	S.D.
<1	73	62.12	7.26	73	6.83	2.05	65	61.81	7.77	63	7.44	1.56
- 1	16	70.25	7.64	16	8.60	1.85	16	71.0	10.28	16	8.97	2.06
- 2	40	78.22	8.67	38	10.04	1.97	62	76.84	9.32	62	9.89	2.52
- 3	63	88.03	9.67	62	12.60	2.30	88	86.52	8.98	87	11.86	1.85
- 4	57	97.26	8.97	57	14.31	2.06	67	96.20	11.06	65	14.04	2.42
- 5	72	102.57	7.70	71	16.44	2.66	61	101.36	7.89	59	15.61	2.56
- 6	71	111.27	9.72	71	18.96	4.80	53	110.24	11.82	53	18.22	4.54
- 7	79	117.75	9.51	78	23.12	3.17	59	114.88	10.24	57	20.73	4.30
- 8	49	126.30	14.48	49	24.11	5.27	52	120.19	10.87	52	23.18	5.14
- 9	43	131.26	12.16	43	27.60	6.93	26	125.40	11.91	25	24.25	7.03
-10	47	137.29	12.21	44	29.35	9.01	68	131.0	10.04	65	28.15	7.04
-11	24	133.0	9.27	24	28.30	6.31	18	137.88	11.14	18	33.11	9.85
-12	69	141.27	11.50	69	33.46	7.85	61	140.23	12.80	59	31.43	8.72
-13	26	147.85	15.48	26	37.76	10.66	27	144.07	8.93	27	38.64	10.32
-14	41	150.51	16.12	41	41.73	11.84	40	147.33	10.28	40	40.68	8.62
-15	25	159.68	12.06	24	48.60	10.35	35	148.68	9.82	34	49.45	9.19
-16	32	165.22	9.34	31	53.23	9.56	40	151.13	9.65	40	48.86	9.03
-17	22	165.38	10.47	22	52.36	7.69	28	155.57	8.72	27	53.05	5.29
-18	25	168.84	10.49	25	57.7	8.63	39	153.97	8.85	36	51.90	4.98
-19	14	169.07	5.42	14	60.58	5.88	10	156.1	5.56	11	50.24	4.00
20	21	169.66	6.82	21	59.88	7.89	55	156.36	5.31	56	53.34	6.27

Table 5.86

Average Height in Centimetres and Weight in Kilograms

by Age and Sex in Rural Areas of Province of Fars*

Age group	Male			Female		
	No. examined	Height Mean	Weight mean/kgm	No. examined	Height Mean	Weight mean/kgm
1	1	67	8	-	-	
2	7	72.8	9.6	1	73	9
3	6	84.7	11.3	4	86.5	11.7
4	35	94.9	13.1	5	89	12.5
5	42	101.2	17.3	10	100.6	15.5
6	46	109.5	18.5	11	104.8	17.2
7	138	114.9	21.1	29	106.7	17.6
8	178	120.9	23.4	25	103.8	18.6
9	120	126.0	25.6	31	116.8	22.2
10	86	130.2	28.8	17	126.0	25.0
11	89	133.8	29.6	12	130.7	26.4
12	115	129.6	32.4	11	134.1	30.6
13	60	141.5	34.3	13	140.0	35.5
14	42	152.0	42.3	9	141.6	37.3
15	36	153.7	45.3	3	151.3	37.6
16	16	157.1	49.7	7	148	41.2
17	7	163.5	53.8	3	153	42.5
18	18	163.3	54.5	5	148	45.8
19	5	166	55.6	2	156	50
Total	1047			197		

*Adapted from the Report of the Institute for Nutrition Study, Iran.

2.2.3.9 Prevalence of High Blood Pressure in Population Sample

Blood pressure was measured routinely of all persons aged 35 years and over in the sample population, in a sitting position with an aneroid instrument (Sphygmanometer Erka) made in Germany and checked at frequent intervals. The systolic pressure recorded at the appearance of the first sound when the cuff is deflated slowly and diastolic the point of disappearance of the sounds.

Blood pressure determination performed once on each person.

Data on the blood pressure of persons aged 35 and over are presented in Tables 5.87, 5.88 and Figures 5.15, 5.16.

Table 5.87 and Fig. 5.15 show the frequency distribution of systolic blood pressure in each sex. Mean SBP is 127.2 mm and 131.6 mm for males and females respectively.

In Table 5.88 and Fig. 5.16 are presented the frequency distribution of diastolic blood pressure. Mean DBP is 83.4 mm and 84.1 mm for males and females respectively.

All these data show that blood pressure tends to be a little higher in women than in men in this age group.

For presenting sex differences in hypertension frequency, the criteria used for the study are based on the recommendation of a WHO Expert Committee on hypertension and coronary heart disease (WHO, 1959). According to the definition the following cut off points be used:

(a) Systolic blood pressure below 140 mm Hg and diastolic blood pressure 90 mm HG; both below = normotensive;

(b) Systolic blood pressure 160 mm HG or more, diastolic blood pressure 95 mm Hg or more; both above these levels = hypertensive.

Table 5.87

Distribution of Systolic Blood Pressure According to Sex

Qashqai Tribe, 1973

Systolic blood pressure	Male		Female		Total	
	No.	%	No.	%	No.	%
80-89	5	1.3	3	0.8	8	1.1
90-99	12	3.2	11	3.0	23	3.1
100-109	39	10.3	50	13.5	89	11.9
110-119	70	18.5	55	14.9	125	16.7
120-129	135	35.7	80	21.7	215	28.8
130-139	48	12.7	56	15.2	104	13.9
140-149	31	8.2	54	14.6	85	11.4
150-159	14	3.7	20	5.4	34	4.5
160-169	7	1.8	15	4.1	22	2.9
170-179	6	1.6	7	1.9	13	1.7
180-189	3	0.8	5	1.3	8	1.1
190-199	1	0.3	2	0.5	3	0.4
200+	7	1.8	11	3.0	18	2.4
Total	378	50.6	369	49.4	747	100.0

Table 5.88

Distribution of Diastolic Blood Pressure According to Sex

Qashqai Tribe, 1973

Diastolic blood pressure	Male		Female		Total	
	No.	%	No.	%	No.	%
40 49	6	1.6	12	3.2	18	2.4
50-59	15	4.0	18	4.9	33	4.4
60-69	25	6.6	20	5.4	45	6.0
70-79	80	21.2	81	21.9	161	21.5
80-89	163	43.1	113	30.6	276	36.9
90-99	59	15.6	81	21.9	140	18.7
100-109	15	4.0	28	7.6	43	5.7
110-119	6	1.6	8	2.2	14	1.9
120+	9	2.4	8	2.2	17	2.3
Total	378	50.6	369	49.4	747	100.0

Fig. 5.15

DISTRIBUTION OF SYSTOLIC BLOOD PRESSURE
SAMPLE POPULATION, QASHQAI TRIBE, 1973

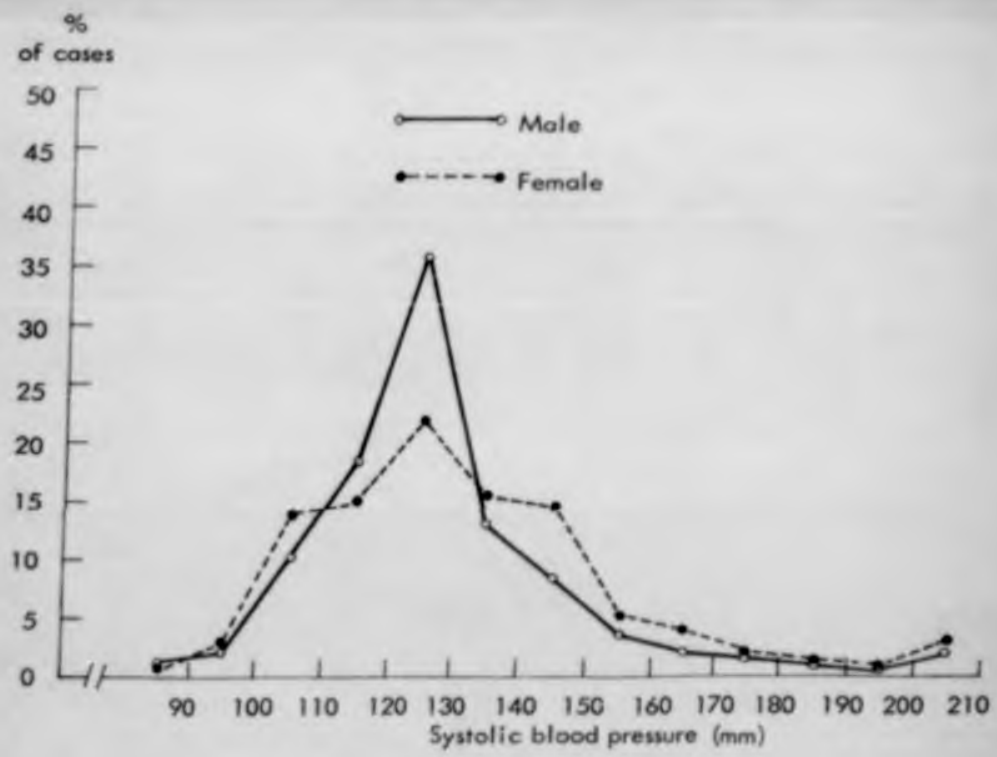


Fig .5.16

DISTRIBUTION OF DIASTOLIC BLOOD PRESSURE
SAMPLE POPULATION, QASHQAI TRIBE, 1973

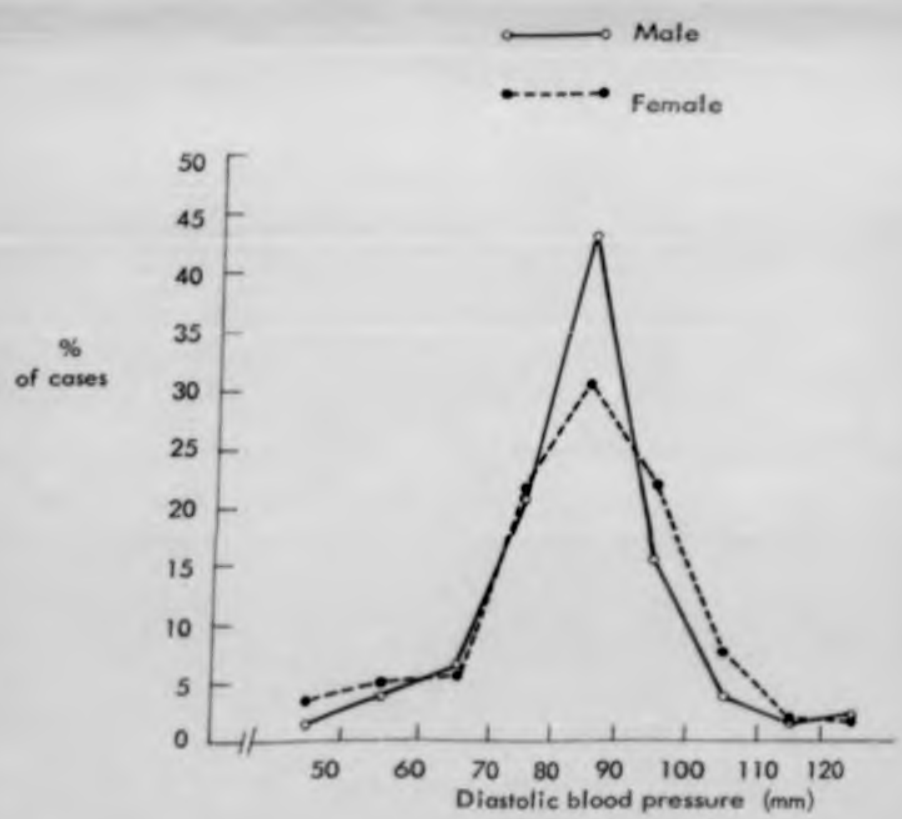


Table 5.89

Prevalence of Hypertension by Age and Sex, Medical Survey, Qashqai Tribe, 1973

Sex	Age group	Normotensive		Borderline		Hypertensive		No. examined
		No.	%	No.	%	No.	%	
Male	35-44	143	89.9	12	7.5	4	2.6	159
	45-54	79	87.8	4	7.8	4	4.4	90
	55-64	55	76.4	10	13.9	7	9.7	72
	65+	30	54.5	16	29.1	9	16.4	55
	Total	307	81.6	45	12.0	24	6.4	376
Female	35-44	101	85.6	13	11.0	4	3.4	118
	45-54	102	72.3	26	18.4	13	9.2	141
	55-64	32	53.3	15	25.0	13	21.7	60
	65+	27	57.4	10	21.3	10	21.3	47
	Total	262	71.6	64	17.5	40	10.9	366
	Total	569	76.7	109	14.7	64	8.6	742

(c) Systolic blood pressure less than 16 mm Hg and diastolic less than 95 mm Hg but above 90 mm HG = to borderline.

According to these definitions Table 5.89 shows that the prevalence of high blood pressure is higher in females as compared with males (10.9 per cent in females and 6.4 per cent in males), the difference being statistically significant (x^2 = 4.3034 - 0.01 < P < 0.05).

The highest rate occure in females aged 55 to 64 years who show a prevalence rate of 21.7 per cent. The prevalence of high blood pressure among males in the same age group was found to be 9.7 per cent.

It also can be seen from Table 5.89 that the prevalence of hypertension is higher in females aged 55 to 64 years as compared with other age groups, and then decreases from 21.7 per cent to 21.3 per cent in the age group of 65 years and over. The difference of prevalence of high blood pressure among females and males in the age group of 55 to 64 is not statistically significant (x^2 = 2.7622 and p > 0.05).

Study among some other nomadic population has shown that high blood pressure is uncommon, (Truswell et al., 1969). Our figures from the Qashqai tribe show that hypertension is by no means a rare condition among the nomadic population of Iran.

In our survey the prevalence of high blood pressure shows the pattern of increase with the increase of age in contrast to other surveys where it does not increase with age (Truswell et al., 1969).

2.2.3.10 Disabilities

The prevalence of disabling conditions was estimated during medical examination. The results are listed in Tables 5.90 and 5.91 and are classified as congenital malformation or acquired disability. Both cases were found with partial or complete disability. Disabilities

Table 5.90

Prevalence of Congenital Physical Defects by Age and Sex, Medical Survey Qashqai Tribe, 1973

Types of disabilities \ Age group		1-9 No.	10-29 No.	30-49 No.	50+ No.	Total No.
Blindness	male	1	1	3	1	6
	female	0	0	0	0	0
Deafness & mute	male	1	0	0	0	1
	female	0	1	1	0	2
Defective limbs	male	1	1	0	0	2
	female	0	0	0	1	1
Others	male	1	0	0	0	1
	female	1	1	0	0	2
Total	male	4	2	3	1	)
	female	1	2	1	1	) 15

Table 5.91

Prevalence of the Acquired Disabilities According to Age and Sex, Medical Survey, Qashqai Tribe, 1973

Types of disabilities \ Age group		1-9 No.	10-29 No.	30-49 No.	50+ No.	Total No.
Blindness	male	0	0	2	1	3
	female	0	1	2	5	8
Deafness & mute	male	0	1	0	0	1
	female	0	0	0	0	0
Defective limbs	male	1	2	1	2	6
	female	0	0	0	0	0
Total	male	1	3	3	3	)
	female	0	1	2	5	) 18

are divided into: blindness, deafmutism, defective limbs and others.

Of 3153 medically examined persons, 33 or 1.05 per cent were found to be disabled. Disability was more prevalent among males than among females (1.3 per cent of males and 0.7 per cent of females).

Disability was not detected among the infant population, only one case of blindness reported in a boy in the 1 to 4 year age group.

The percentage of disabled persons increased with increasing age (more at 30 years and over).

Finally the disabilities found among 3153 persons who were under medical survey are summarized as follows:-

Table 5.92

Prevalence of the Disabilities, Medical Survey, Qashqai Tribe, 1973

Type of Disability	No.	per 1000
Blindness	17	5.4
Deafness	4	1.3
Defective limbs	9	2.8
Others	3	0.9
Total	33	10.5

According to Table 5.92 disabilities found in the sample population are not prevalent such as in the cases observed in other surveys; Seal et al. (1961) reported a rate of 22 per thousand among 3016 persons who were under health survey in West Bengal, India.

2.2.3.11 Dental Survey

The object was to study dental decay among nomads. The dental examinations were done in an open tent and in daylight.

Fractures, surface pigmentations and discolorations were not considered as dental decay.

Among the majority of nomads, absence of dental care and inadequacy of dental hygiene is prevalent.

Table 5.93

Number of Persons with Non-carious and Decayed Teeth,

Medical Survey, Qashqai Tribe, 1973

Age group	Non-carious teeth		Decayed		Fallen teeth or extracted	Filled	Total	
	No.	%	No.	%			No.	%
<1	53	100.0	0	0.0	-	-	53	1.8
1-4	426	95.3	21	4.7	2	0	447	15.4
5-14	808	81.0	190	19.0	84	0	998	34.3
15-44 M.	235	54.3	198	45.7	146	13	433	14.9
15-44 F.	308	52.9	274	47.1	208	22	582	20.0
45+	34	8.6	361	91.4	379	24	395	13.6
Total	1864	64.1	1044	35.9	819	59	2908	100.0

According to Table 5.93 of 2908 persons examined for dental caries 1044 or 35.9 per cent were found to have decayed teeth, of which 91.4 per cent were in the age group 45 years and over. It showed that dental caries were very prevalent among nomads. Very few of the examined persons had filled teeth (2 per cent). Gingivitis and alveolar pyorrhea and periodontitis were common findings in those examined.

Extension of dental hygiene education for tribal children, particularly through the medical auxiliary teams and public school teacher training programmes, is a helpful step that would improve dental health among the tribal population.

2.2.3.12 Blood Grouping in Qashqai Tribe

The value of using the distribution of blood groups and other similar factors in the study of human genetics is well demonstrated by the publication of numerous research papers. Meanwhile the demands of the blood transfusion services are leading to the study of such things as determination of ABO and Rh blood groups for the population.

The distribution of the blood groups among the population sample was studied by collecting one or two blood specimens from each household, such as husband, wife or only from one of their children.

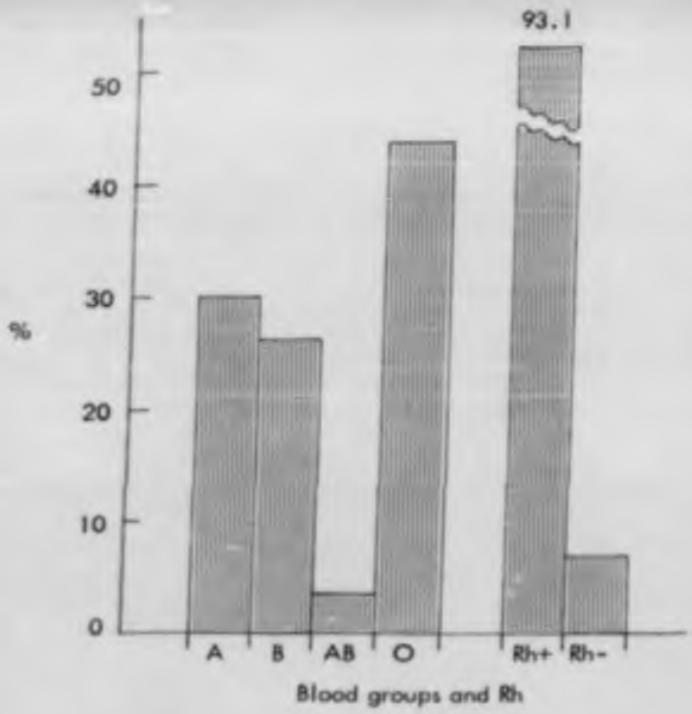
The results of ABO and Rh distribution are shown in Table 5.94 and graphically in Figure 5.17.

Table 5.94

Distribution of ABO Blood Groups Among Population Sample

Blood groups	0-4	5-14	15-44 male	15-44 female	45+	Total	
						No.	%
A	2	89	110	98	72	371	30.1
B	1	64	87	66	53	271	22.0
AB	0	13	12	13	14	52	4.2
O	3	115	141	155	124	538	43.7
Total	6	281	350	332	263	1232	100.0

Fig. 5.17
PERCENTAGE OF BLOOD GROUPS AND Rh IN QASHQAI TRIBE, 1973



According to Table 5.94 the high proportion of the O constituent (43.7 per cent of the total) has been observed in all age groups. Groups A and B outnumber group AB. 30.1 and 22.0 per cent for group A and group B respectively.

Out of 1232 blood samples examined for Rh, 86 (50 male and 36 female) or 6.9 per cent were found negative.

Determination of Glucose-6-Phosphate Dehydrogenase (G_6PD).

G_6PD deficiency was determined among tribal population sample by the method of Motolsky et al., 1959. Two hundred and fifty eight samples were taken from non-related males in population sample (10 to 15 samples from each subclan) and 17 persons or 6.6 per cent of males were found to have G_6PD deficiencies.

Bowman et al 1964, conducted a survey among a group of Qashqai tribes and found 11 per cent of tribesmen with G_6PD deficiencies.

Assuming normality, and 99 per cent C.I. for (p) is:

$2.62\% < p < 10.6\%$. Therefore the difference is statistically significant at the 1 per cent level.

He also proved that the G_6PD deficiency pattern in the Qashqai tribe was similar to that of other Iranian Moslem groups.

2.2.3.11 Vaccination and Vaccination Histories

A history of vaccination against smallpox was obtained by routine questioning in the health interviews. In addition, estimates of vaccination coverage were made by registering smallpox scars detected in physical examinations. In addition, various immunisation activities against other diseases such as cholera and measles were used before survey by health services. Nomads could not give the correct information about these kinds of vaccination, so we preferred to give figures only for smallpox

vaccination.

Because of the well organized campaigns by the mobile services for smallpox vaccination, a high percentage (81.0 per cent) of population sample had received at least one inoculation of smallpox vaccine during the preceding years before the survey, but according to Table 5.95 the coverage was uneven and most of the infants and small children were not vaccinated.

Table 5.95

Distribution of Smallpox Vaccination Scars by Age and Sex

Age group	<1	1-4	5-14	15-44 male	15-44 female	45+	Total
Smallpox scars	45	265	873	433	540	398	2554
Total examined persons	148	457	1014	456	614	464	3153
% of smallpox vaccinated	30.4	57.9	86.1	94.9	87.9	85.7	81.0

It should be mentioned here that Iran accepted the smallpox eradication programme and is actively trying to eradicate the disease within the country.

2.2.3.14 Pregnancy and state of Health of Pregnant Women

Information on the percentage of pregnancies of married women aged 15 to 44 at the time of the household survey was obtained from 2161 married women. Three hundred and forty seven or 16.1 per cent were pregnant (Table 5.96).

Table 5.96

Distribution of Pregnant Women According to Age Group

Pregnant / Age group	Yes		No		Unknown		Total	
	No	%	No.	%	No.	%	No.	%
15-19	26	17.8	89	61.0	31	21.2	146	6.8
20-24	94	23.1	270	66.3	43	10.6	407	18.8
25-29	105	19.5	389	72.2	45	8.3	539	24.9
30-34	60	13.8	353	81.1	22	5.1	435	20.1
35-39	47	11.0	360	84.1	21	4.9	428	19.8
40-44	15	7.3	178	86.4	13	6.3	206	9.5
Total	347	16.1	1639	75.8	175	8.1	2161	100.0

According to Table 5.96 the highest rate of pregnancy was found among women aged 20 to 24 years (23.1 per cent) and the lowest in those aged 40 to 44 years (7.3 per cent). 30.3 per cent of all pregnancies were reported in women aged 25 to 29 and 34.6 per cent in women aged less than 25 years.

Out of 347 pregnant women, 89 were seen at the time of the medical survey, 39 or 43.8 per cent of whom were healthy and without any complaints, 21 or 23.6 per cent had been suffering from osteo-muscular pain, 6.7 and 5.6 per cent had headache and heart pain or palpitation respectively; 18 per cent suffered from general weakness, skin trouble and others.

The rate of sickness was found to be higher in pregnant women than in other females in the same age groups.

The validity of the aforesaid crude birth rate is based on the statements made during interviews at the time of the household survey. This can be further examined by comparing the frequency of pregnancy as determined by the present cross-sectional survey. It can be estimated for one full year. Assuming that no major changes in the population of the tribe will take place and the probable gestation period being 280 days. In our experiance, it is difficult to record all pregnancies with gestation period less than three months, because most women are not certain if they are pregnant, until the end of the first trimester. According to Table 5.96 8.1 per cent of respondents were not certain about their pregnancy, so the total number of pregnancies reaching term is estimated as $\frac{347 \times 2167 \times 365}{1986(280-90)} = 725$ or 43/1000 birth rate.

347 = number of pregnant women reported at the time of the household survey.

1986 = number of married woman aged 15 to 44 years interviewed for information about their pregnancy and they were certain on positive or negative reply.

2167 = total number of current married woman aged 15 to 44 years in the population sample.

In comparison with the crude birth rate in the preceding 12 months in the sample population that is about 48/1000, this estimation is slightly lower.

2.2.4 Skin test (tuberculin test)

Seven hundred and seventy four persons of the migratory tribal population under medical survey were given tuberculin tests with PPD-S, the purified protein derivative of human tubercule bacillus. The material

is produced by the Institute Pasteur of Iran, prepared freshly and kept refrigerated at the laboratory and often kept cool on ice in the field.

The Mantoux test was performed on one arm and 0.1 ml were inoculated. All readings were made 48 to 72 hours later and we recorded the results in millimetres of induration by using a ruler. The induration size of 0-9 millimetres was selected as negative and from 10 and over as positive (according to the instruction of the Unit of Tuberculosis, Preventive Health Department, Ministry of Health, Iran).

The age and sex specific prevalence of reactions are shown in Table 5.97.

According to Table 5.97 four categories, namely: BCG vaccinated positive, non-vaccinated positive, BCG vaccinated negative and non-vaccinated negative were considered for the evaluation of the results of tests.

According to Table 5.97, 89.6 per cent of the total tested were negative without the history of BCG inoculation. Only 7.6 per cent of the population were found positive without having previous inoculation of BCG and this started from the age of ten years and over. In addition 1.3 per cent were found with negative reaction with having previous inoculation of BCG. The results indicated that tuberculosis is not a real health problem of the tribal population of Iran and the results obtained by tuberculin tests were confirmed in the findings in the physical examination, because only four suspected cases of tuberculosis were reported in clinical examination among the population sample. As mentioned earlier the tuberculin test was done by an experienced vaccinator with the valid PPD-S Tuberculin from the Pasteur Institute, Iran.

Table 5.97

Prevalence of Reaction in Tuberculin Tests with PPD-S According to Age, Sex and History of BCG Vaccination

Age group	No. tested	With history of BCG vaccination				No previous BCG vaccination			
		Positive		Negative		Positive		Negative	
		M.	F.	M.	F.	M.	F.	M.	F.
0-11 months	20							9	11
1-4 years	120	1						57	62
5-9 years	102	2		3	2			48	47
10-14 years	109	4	2	2	2	5	2	43	49
15-19 years	98	1	1	1			3	41	51
20+ years	325					20	29	145	131
Total	774	8	3	6	4	25	34	343	351
%	100.0	1.0	0.4	0.8	0.5	3.2	4.4	44.3	45.3

In contrast, tuberculosis was reported a prevalent disease among nomads in some countries such as Afghanistan, Jordan, Sudan, etc. (WHO, 1973), but there is no figure to present the magnitude of the health problem of this disease among nomads in the above-mentioned countries.

Wigley (1970-71) conducted a survey on tuberculosis in Papua New Guinea (Bell, 1973), and he found that the disease is more prevalent among the Melanesian community in high urbanized areas, and the average of positive tuberculin tests was 66.0 per cent in the sample of 4,000 population in Port Moresby. Age/sex analysis of infection rates showed that as urbanization increases, infection spreads more diffusely in the

community. Disease was less prevalent in the remote areas (positive skin rate test was 1.7 per cent among a sample of 16,000 people, 1959). He found the disease being introduced by returning indentured labourers. One plausible explanation of the low infection rate of T.B. among the Qashqai tribe might be due to the way of life of the nomads, which leads to less contact between households.

2.3 The Prevalence of Sickness by Diagnoses

It is as important to establish clear operational definitions for the state of health and disease, because in a survey or experiment, unless standard working definitions are used the findings will not be reproducible.

In previous pages of this report we described the state of health and the definitions used for health and sickness.

In the present health survey we have formulated and used an operational definition of health and sickness. It was classified in three main categories, namely:

(a) "Healthy people";

(b) "Moderately healthy"; and

(c) "Apparently ill".

The definition and criteria used for each of these categories are summarized as follows:-

(a) Healthy people are those who feel perfectly well and are without any pathologic signs by physical examination and laboratory investigation.

(b) Moderately healthy: are those with conditions which do not incapacitate them. They have minor troubles such as toothache, finger injury or intestinal parasites like ascariasis.

(c) Apparently ill, are those with incapacitating illnesses for a short

or long period such as typhoid, pneumonia, etc.

In order to summarize both the above-mentioned categories regarding the state of health and illness, and the definitions used for this state, that used in the previous pages of this report, can be defined as "any condition causing the person to suffer or in any way disturb the state of his or her health at the time of medical survey."

2.3.1 Types of Diagnosis

In the present medical survey the types of diagnosis are used, viz: primary diagnosis or provisional diagnosis and final or main diagnosis.

(a) Primary or provisional diagnosis

This is based on the case history, physical examination and health interview of the sick person. This diagnosis was made at the time of visit and physical examination. The results obtained from primary diagnosis are presented in Table 5.98 by the level of severity and therapeutic needs.

According to Table 5.98 out of 3080 persons diagnosed at primary diagnosis, 1644 or 53.4 per cent were found to be healthy. 37.1 per cent and 9.5 per cent were moderately healthy and apparently ill respectively. Thus 293 out of 3080 persons or 9.5 per cent of the total population were under diagnosis and were found with a higher level of severity of illness.

The level of therapeutic need is shown in the same Table 5.98 and graphically in Fig. 5.18. Out of 3080 persons examined in primary diagnosis 1722 or 55.9 per cent were found to be in no need of any treatment. 18.1 per cent, 15.3 per cent and 7.8 per cent needed prescriptions, at primary care level and out-patient care at district or provincial health services respectively.

Table 5.98

Number and Percentages of Population Diagnosed as Ill in Primary Diagnosis by the Therapeutic Needs, Medical Survey, Qashqai Tribe, 1973

Level of health & disease / Therapeutic needs	Healthy		Moderately healthy		Apparently ill		Total	
	No.	%	No.	%	No.	%	No.	%
Prescription only	28	1.7	387	33.8	142	48.5	557	18.1
Primary care level	0	0.0	408	35.7	64	21.8	472	15.3
(Outpatient care level (at district or provincial (health centres	0	0.0	197	17.2	42	14.3	239	7.8
Admission to hospitals	0	0.0	51	4.5	39	13.3	90	2.9
Specialized treatment out of province	0	0.0	0	0.0	0	0.0	0	0.0
None	1616	98.3	100	8.7	6	2.0	1722	55.9
Total examined	1644	53.4	1143	37.1	293	9.5	3080	100.0

*For 73 persons primary diagnoses were not made.

Ninety persons or 2.9 per cent of total population under survey needed admission to the hospital at the time of the survey.

For the illustration the categories of the state of health and disease, and the level of therapeutic need used in primary diagnosis and therapeutic needs in medical survey and justifying the criteria and definition used for the above mentioned Table 5.99 we selected 30 households at random from all those households under medical survey and the results of primary diagnosis and therapeutic needs for each individual member of these households are presented in Table 5.99.

Fig. 5.18

DISTRIBUTION OF THERAPEUTIC NEEDS IN PRIMARY DIAGNOSIS
MEDICAL SURVEY, QASHQAI TRIBE, 1973

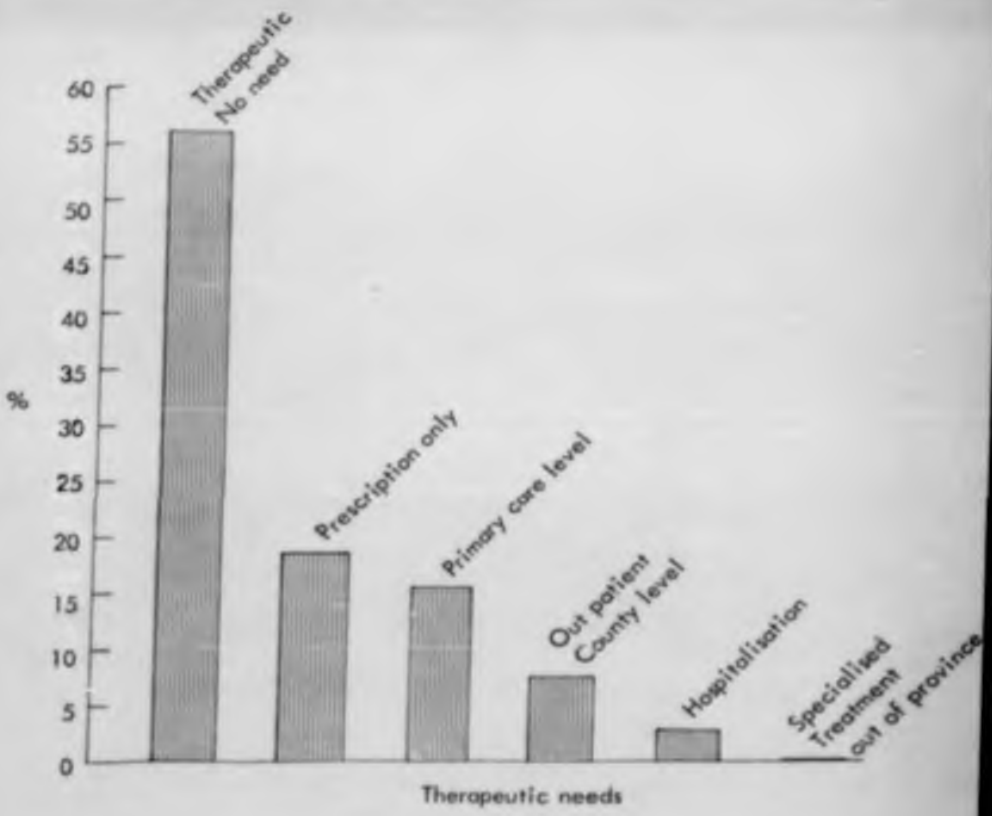


Table 3.99

Sample of 30 Households, State of Health and Disease of the Individuals in Each Household and Therapeutic Needs, Primary Diagnosis, Medical Survey

Serial no.	No. of individuals	No. of examined	No. of families	No. of ill persons	Sick individuals/households, by membership number								Therapeutic Needs					
					1st	2nd	3rd	4th	5th	6th	7th	8th	prescription only (1)	primary care level (2)	out-patient care level of D.H.C. or P.H.C. (3)	hospitalisation (4)	specialized treatment out of province (5)	treat-less patient (6)
1	6	6	3	3	chronic lung disease	extension of hydatid cyst				chronic bronchitis				6th	1st	2nd		
2	4	4	-	4	pterygium	mitral stenosis	lumbago	pterygium						2nd 3rd	1st 4th			
3	4	4	1	1	accident injuries	pterygium									2nd	1st		
4	4	4	1	2	entero colitis	general weakness		gastro colitis					2nd 4th	1st				
5	2	2	1	2	allergic dermatitis		keilosis							2nd	1st			
6	4	4	2	2	blepharitis	muscula skeletal pain							1st	2nd				
7	5	3	-	3		muscula skeletal pain	hypertensive	glomero nephritis						2nd 3rd		4th		
8	6	6	3	3	blepharitis	right hypochondrial pain	hypovitaminosis						1st		2nd			3rd
9	7	6	5	1					blepharitis				5th					
10	4	3	2	1			gastritis						2nd					
11	8	8	3	5		lumbar pain		osteo myelitis		whooping cough	whooping cough	whooping cough	2nd, 6th 7th, 8th			4th		
12	8	7	3	4		headache		diabetes mellitus	whooping cough		chronic otitis		2nd, 5th 7th			4th		
13	6	6	3	3		pterygium	sore throat			abdominal hernia			3rd		2nd	6th		
14	3	3	1	2		anaemia	anaemia							2nd 2nd				
15	6	6	5	1					enteritis				5th					

					1st	2nd	3rd	4th	5th	6th	7th	8th	(1)	(2)	(3)	(4)	(5)	(6)
16	7	4	-	4		dispepsia	nasal polyp	allergic conjunc.			night blind nes				2nd, 4th 7th	3rd		
17	7	7	3	4	arthritis		dismenorrhoea	entero colitis		intestinal parasite			6th	4th	1st			3rd
18	7	7	3	4	arthralgia	ear wax (insuchon)	lichen plan	petit mal						1st	2nd 3rd	4th		
19	6	6	4	2			F.U.O	F.U.O							3rd 4th			
20	5	4	2	2	hyper-secretion of stomach	headache							1st 2nd					
21	5	5	4	1	cataract											1st		
22	4	4	1	3	acute bronchitis	dispepsia		common cold					4th	1st 2nd				
23	7	6	3	3		anaemia	spondylitis	epistaxis						2nd	3rd 4th			
24	4	4	2	2		contact dermatis	mycotic infection of skin						2nd 3rd					
25	7	7	7	-														
26	6	6	5	1		intra muscular pain							2nd					
27	7	7	4	3		anaemia	F.U.O				chronic trachoma			2nd 7th	3rd			
28	6	6	4	2		brucellosis or typhoid			upper respira-				5th	2nd				
29	5	5	3	2	arthrosis	spondylosis								2nd	1st			
30	7	7	6	1	intra muscular pain									1st				

(b) Final or Main Diagnosis

The most important disease from the doctor and/or patients' viewpoint at the time of survey. It was made after the results of the laboratory tests were ready.

The methods used for final diagnosis were based on the data collected by health interview, case history study, physical examination and laboratory investigation. Diagnosis was done by one or all procedures together. Table 5.100 shows the different methods used for the final diagnosis and the percentages of each of these methods used for diagnosis.

Table 5.100

Distribution of Diagnostic Procedures Used in the Final Diagnosis, Medical Survey, 1973

Diagnostic procedures	Setting	
	No.	%
Case history alone	419	24.4
History plus physical examination	929	54.2
History, physical examination and laboratory investigation	114	6.6
Laboratory methods only	254	14.8
Total	1716*	100.0

*2 cases were in the unknown category

According to Table 5.100, 78.6 per cent or 1348 out of 1716 of the diagnoses were done by health interview and physical examination. More than one half was based only on physical examination (54.2 per cent of all the diagnoses), while only 14.8 per cent was done by the laboratory

investigation alone.

Different methods used in the survey for the final diagnosis are presented in Table 5.100.

In Table 5.101 under the heading of "Number of ill people" both the categories of "moderately ill" and those "apparently ill" have been included.

The result of the final diagnosis on 3153 persons under medical survey are shown in Table 5.101 and graphically in Fig. 5.19.

Table 5.101

Number and Percentage of Population by Diagnosed Health Status, and by Age and Sex, Final Diagnosis, Medical Survey

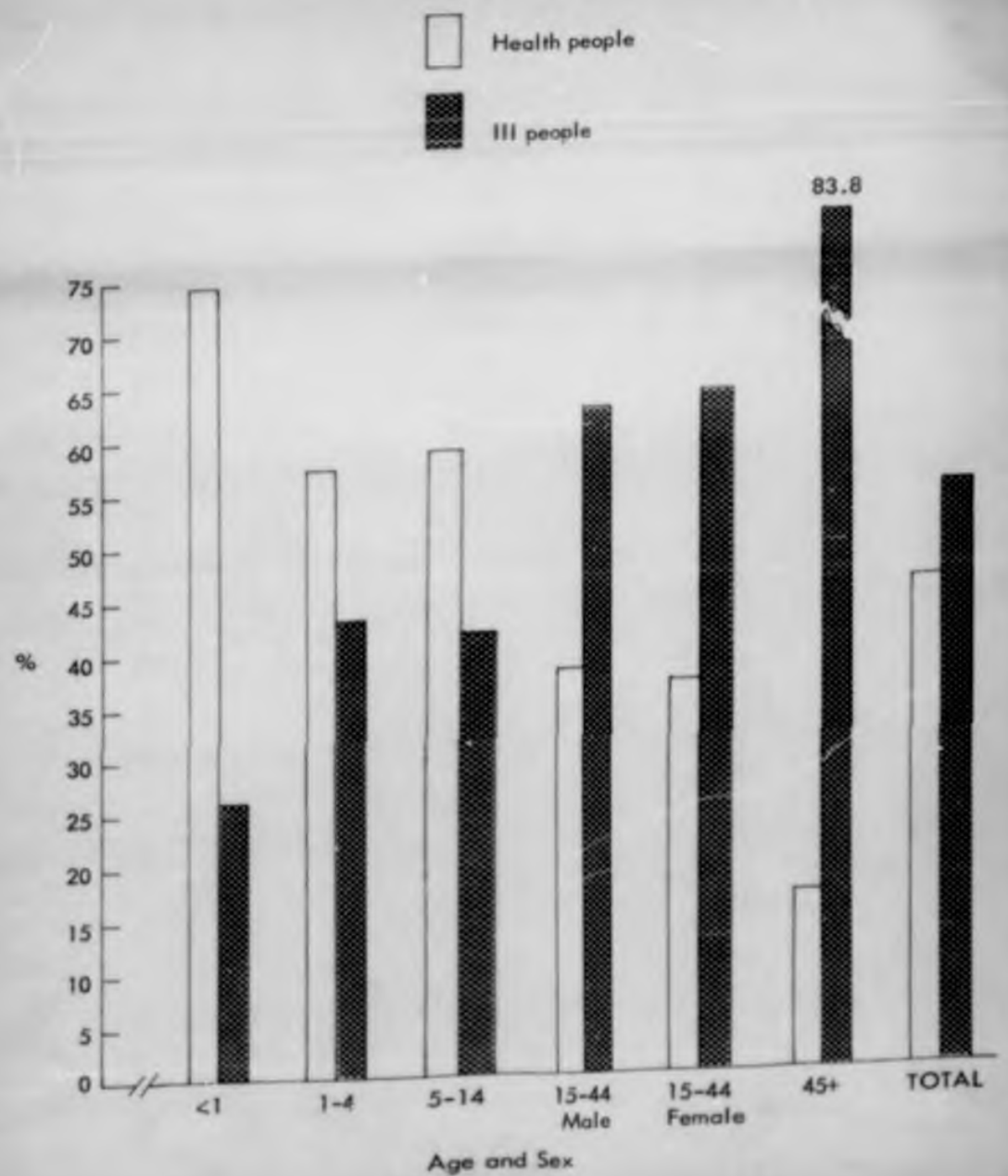
Age group / Diagnosis	<1	1-4	5-14	15-44 male	15-44 female	45+	Total
Total examined	148	457	1014	456	614	464	3153
No. of ill people	38	197	420	284	390	389	1718
No. of healthy "	110	260	594	172	224	75	1435
% of ill people	25.7	43.1	41.4	62.3	63.5	83.8	54.5

There exist differences between the number of illnesses found by the two methods of diagnosis (primary and final diagnosis) which will be explained in the next Chapter of this report under the general discussion.

According to Table 5.101 the total number of persons suffering from illness at the time of the survey was 1718 out of 3153 persons examined i.e. 54.5 per cent. The sickness rate became progressively higher with increasing age. The highest rate, 83.8 per cent, was reported in those aged 45 years and above. The sickness rate among males and

Fig. 5.19

PERCENTAGE OF HEALTHY AND ILL PERSONS BY AGE AND SEX
FINAL DIAGNOSIS, QASHQAI TRIBE, 1973



females aged 15 to 44 was 62.3 and 63.2 respectively. The causes are given in Table 9.102.

2.3.2 Method of Grouping of Diagnoses

The question of how to group the many vague and symptomatic layman terms used by tribesmen for diseases and morbid conditions was considered. The one existing group comprising all forms of sickness is The International Classification of Diseases - ICD which was published by WHO in 1948 and now is in its eighth revision (WHO, 1948, 1957, 1967) and is widely used as a nominal scale for the categorization of diseases. It is a comprehensive list of the names of diseases, symptoms and other medical conditions with four digit serial numbers. There is a modification from the ICD. The Royal College of General Practitioners has published a classification based on the ICD, designed to meet the needs of morbidity studies in general practice. Although this classification of diseases is a short list of the ICD, it is based on the frequency of diseases encountered in general practice in Britain. The list contains a series of names of diseases and symptoms with more than five hundred codes.

The use of ICD or its modification required considerable care as it contains classification and a large list of diseases found unsuitable for morbidity survey. For the convenience of the readers in this field, for example, we selected one category of diseases and symptoms regarding the circulatory system as an example and summarized them as follows:-

Diseases of the circulatory system in ICD started from Code No. 390 and ended with Code No. 458 (69 codes altogether) with several sub-codes in each case. The same group of diseases and symptoms summarized in the General Practitioner Classification of Diseases were

classed in 28 codes (Code No. 2 to 237).

In our list of grouping, we selected only four codes for the circulatory diseases (Code Nos. 64 to 67).

Two simple lists of morbidity statistics were used in this survey (Appendix III). The first list contained 13 cases of diseases and morbidity. This was used for the household survey. The second list contained about 50 diseases, symptoms and other medical conditions, (No. 41 to 88) and was used for the medical survey; final diagnosis was based on it.

The principles followed in this grouping were governed by the wish to single out diseases or morbid conditions such as:-

(a) Those occurring frequently in the survey, or

(b) unspecified complaints which are prevalent in the population;

(c) special interest of population, such as the belief in the dichotomy of foods and drugs as "hot" and "cold".

2.3.3 List of Diseases and other Medical Conditions in Medical Survey

The main complaints found among the sample population in the medical survey and the results of final diagnosis according to the list of the grouping of diseases and symptoms are shown in Table 5.102 by age group and sex.

Special consideration was given to those important complaints and diseases that were prevalent among the population sample at the time of survey. The first ten of them found prevalent by age and sex are shown in Table 5.103 and graphically in Figure 5.20.

According to Table 5.103 the first ten groups of diseases comprised 64.9 per cent of all illnesses observed among tribes during medical survey. The most common diseases and conditions are intestinal

Table 5.102

Distribution of Diseases and Other Medical Conditions According to Main Diagnosis, Final Diagnosis, by Age and Sex

Diagnosis	Code	Age Group						Total	
		<1	1-4	5-14	15-44 Male	15-44 Female	45+	No.	%
Enterocolitis, diarrhoea	41	9	23	14	16	10	11	83	4.8
Intestinal parasites	42		50	120	40	51	12	273	15.9
Specified infectious diseases typhoid, pertussis, etc.	43	1	9	34	2	12	1	59	3.4
Tuberculosis (pulmonary)	44			1	1	1	1	4	0.2
Chronic cough, chronic bronchitis, pneumopathia, etc.	45		3	3	9	6	21	42	2.4
Common cold, influenza, tonsillophar yngitis	46	4	10	28	8	7	4	61	3.6
Specified lower respiratory diseases, sore throat, tonsillitis, sinusitis	47		3	10	12	9	1	35	2.0
Specified lower respiratory diseases, pneumonia, asthma, etc.	48	1	3	2	6	3	1	10	0.6
Anaemia (vero similiter sidropenica)	49		9	9	1	22	13	54	3.1
Specified nutritional deficiencies, specified vitamin deficiencies	50	9	22	51	4	13	1	100	5.8
Other metabolic diseases, diabetes, gout	51			2			1	3	0.3
Gastritis chronica, duodenal or gastric ulcer	52			3	28	18	22	71	4.1
Hernia	53		2	4			1	7	0.4

	Code	<1	1-4	5-14	15-44 Male	15-44 Female	45+	Total
Other digestive diseases, hepatitis, cholecystitis, glossititis	54			1	1	4	7	13 0.6
Trachoma	55		1	5	5	10	8	29 1.7
Other conjuctivitis, blepharitis etc.	56	1	11	14	9	6	8	49 2.9
Eye diseases	57	2	2	6	20	24	57	111 6.5
Suppurative otitis, chronic otitis media	58	3	6	12	2	3	3	29 1.7
Other ear diseases, impaired hearing	59		1	2	3	4	5	15 0.9
Neurosis, nervousness, hysteria	60			1		1	1	3 0.2
Other mental disorders, psychosis mental retardation	61		2	2	1	4	3	12 0.7
Epilepsia	62		1	1	1	2	3	8 0.5
Other neurologic diseases	63		2	5	2		1	10 0.6
Rheumatic heart disease, rheumatic fever	64			11	3	12	2	28 1.6
Hypertension	65	-	-	-	5	3	23	31 1.8
Varicosis, haemorrhoids	66				3			3 0.2
Other cardio vascular diseases, heart failure, corpulmonale, etc.	67		1	1	2	1	13	18 1.1
Women's genital diseases, menstrual disturbances, vaginal discharge	68			2		17	1	20 1.2

	Code	<1	1-4	5-14	15-44 Male	15-44 Female	45+	Total	
Cystitis	69					1	1	2	0.1
Other genito-urinary diseases, kidney diseases, etc.	70		1	3	4	2	4	14	0.8
Infectious dermatitis, pyodermia	71	4	14	20	7	10	4	59	3.4
Alergic skin diseases, eczema, urticaria	72		7	11	9	26	10	63	3.7
Specified osteo-muscular diseases, rheumatoid arthritis, etc.	73		1	3	7	3	4	18	1.1
Osteo-muscular pain, neuralgia shoulder and lumber pain	74			12	51	74	99	236	13.7
Minor injuries	75	1	2	2	6	1	1	13	0.8
Other injuries, disabilities after broken legs	76		1	2		1	3	7	0.4
General weakness, asthenia, senility	77		2				12	14	0.8
Headache, not specified	78			5	10	20	13	48	2.8
Other undefined symptomatic diagnosis	79					3	4	7	0.4
Malignoma and suspicious malignoma	80				2		5	7	0.4
Other tumours	81			2		1	1	4	0.2
Other not specified or not ascertained diseases	82	3	9	16	10	5	3	46	2.7
Total		38	197	420	284	390	389	1718	100.0

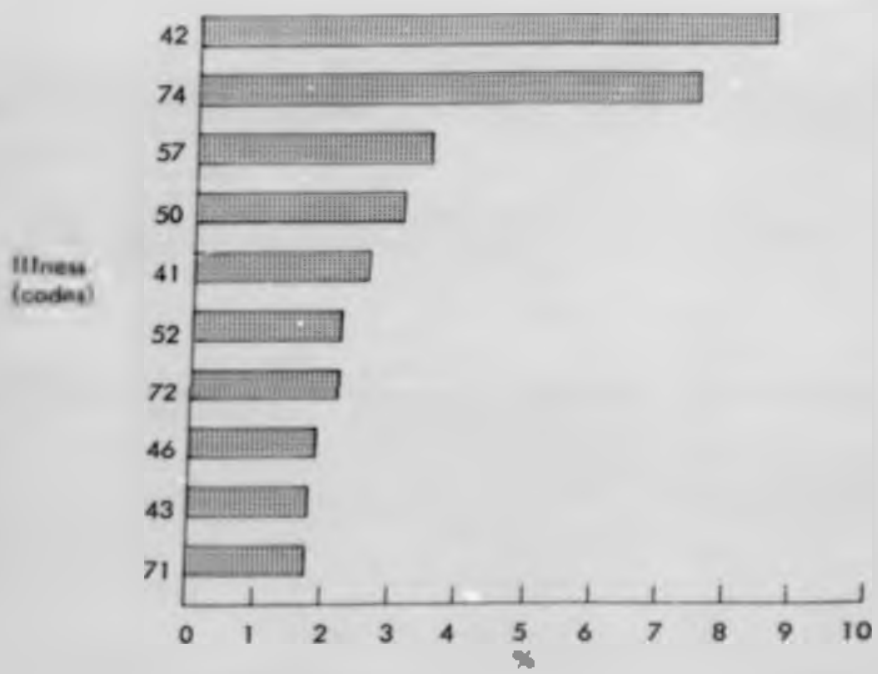
Table 5.103

Number and Percentage of the First Ten Diseases and Conditions in Prevalence Order, Among Population Diagnosed Medically Ill by Age and Sex, Final Diagnosis

Diagnosis	Code	Age Group <1		1-4		5-14		15-44 male		15-44 female		45+		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Intestinal parasite	42			50	10.9	120	11.8	40	8.8	51	8.3	12	2.6	273	8.6
Osteo-muscular pain	74					12	1.2	51	11.2	74	12.0	99	21.3	236	7.5
Eye diseases	57	2	1.3	2	0.4	6	0.6	20	4.4	24	3.9	57	12.3	111	3.5
Nutritional deficiencies	50	9	6.1	22	4.8	51	5.0	4	0.9	13	2.1	1	0.2	100	3.1
Enteracolitis	41	9	6.1	23	5.0	14	1.4	16	3.5	10	1.6	11	2.4	83	2.6
Gastritis chronica, Gastric ulcer	52					3	0.3	28	6.1	18	2.9	22	4.7	71	2.2
Allergic skin diseases	72			7	1.5	11	1.1	9	2.0	26	4.2	10	2.1	63	2.2
Common cold	46	4	2.7	10	2.2	28	2.8	8	1.8	7	1.1	4	0.9	61	1.9
Infectious diseases	43	1	0.7	9	2.0	34	3.3	2	0.4	12	1.9	1	0.2	59	1.8
Infectious dermatitis	71	4	2.7	14	3.1	20	2.0	7	1.5	10	1.6	4	0.9	59	1.8
Total		29	19.6	137	30.0	299	29.5	185	40.6	245	39.9	221	47.6	1116	35.4
Other sicknesses		9	6.1	60	13.1	121	11.9	99	21.7	145	23.6	168	36.2	602	19.1
Total sick people		38	25.7	197	43.1	420	41.4	284	62.3	390	63.5	389	83.8	1718	54.5
Total examined		148	4.7	457	14.5	1014	32.1	456	14.5	614	19.5	464	14.7	3153	100.0

Fig. 5.20

PERCENTAGE OF FIRST 10 LEADING GROUPS OF ILLNESSES
MEDICAL SURVEY, QASHQAI TRIBE, 1973



parasites, helminthiasis as well as protozoal infections, viz. E. histolytica and Giardia. Others in order of importance are unclassified osteo-muscular pains, neuralgia, shoulder and lumbar pains, etc. These are followed by diseases of the eyes and finally by nutritional deficiencies, vitamin deficiencies, etc. Diseases such as ente-rocolitis, gastroenteritis, diarrhoea, dyspepsia have a prevalence rate of 2.6 per cent of the total examined.

2.4 Preventability of Illness

Preventability of diagnosed illnesses and other medical conditions in the present survey is classified in the following five groups:-

1. Preventable under observed conditions: includes diseases such as measles, whooping cough, diphtheria, tetanus, which could be prevented under the existing conditions of the nomadic areas of the country.
2. Preventable under ideal conditions: by this we understand those diseases that can be completely prevented if proper hygiene is observed under certain conditions and development at camp sites. This includes diseases such as cholera, intestinal parasites, etc.
3. Probably preventable: such as bacterial enterocolitis which can be prevented by observing proper hygiene and by better nutrition.
4. Not preventable: such as cancer and other malignant tumours, hereditary diseases, etc.
5. Uncertain or unknown: diseases that are not considered in the above-mentioned categories.

Preventability of the diseases in the final diagnosis in the present survey is shown in Table 5.104.

Table 5.104

Number and Percentage of Medically Diagnosed "Ill" Persons Classified by Preventability of Diagnosed Medical Conditions, Final Diagnosis, Medical Survey, Qashqai Tribe, 1973

Preventability	Persons diagnosed "ill"	
	No.	%
Preventable under observed conditions	45	2.6
Preventable under ideal conditions (50% of cases could be prevented)	591	34.4
Probably preventable (10-50% of cases could be prevented)	299	17.4
Not preventable (10% of cases could possibly be prevented)	326	18.9
Unknown or uncertain	457	26.7
Total	1718	100.0

According to Table 5.104 most of the diseases and conditions are theoretically preventable, but not under conditions that now exist. Only 2.6 per cent of medical conditions and diseases are preventable under present observed conditions. 34.4 per cent of diseases are preventable under ideal conditions, and 17.4 per cent are probably preventable conditions.

2.5 Prognosis

Prognosis of ill persons, medically diagnosed in the medical survey, is classified as follows:-

1. Good without intervention: the role of intervention could be either to improve prognosis, or support the process of recovery, or temporarily alleviate symptoms. This category includes diseases such as the common cold without further complications. Patients can recover with simple treatment without referral.
2. Good but with intervention: in this case prognosis is good, provided the patients are referred to a doctor. This includes conditions such as infectious diseases, etc.
3. Essentially poor but modifiable: such as diabetes, gout; here prognosis is principally bad but with intervention it can be improved.
4. Poor but susceptible to symptomatic treatment: such as malignant tumours, prognosis is bad. Only symptomatic treatment can be used.
5. Poor, irrespective of help offered: prognosis is bad and the disease is incurable with even the intervention of a doctor. This includes diseases such as progressed cancer and malignant tumours, marasmus, etc.

Table 5.105

Number and Percentage of Medically Diagnosed Ill Persons Classified by Prognosis of Diagnosed Conditions, Final Diagnosis, Medical Survey Qashqai Tribe, 1973

Prognosis	Persons diagnosed ill	
	No.	%
Good without intervention	567	32.9
Good but with intervention	791	46.0
Essentially poor but modifiable	58	3.4
Poor but susceptible to symptomatic treatment	21	1.2
Poor irrespective of help offered	11	0.6
Cannot be determined	270	15.8
Total	1718	100.0

According to Table 5.105 most defined conditions and illnesses have a good prognosis especially with treatment. In 32.9 per cent prognosis is good without intervention and in 46 per cent prognosis is good with intervention. Therefore 78.9 per cent of total illnesses have a good prognosis.

CHAPTER VI

1. GENERAL DISCUSSION

Planning for the health services, control of diseases and economic development of tribes in undeveloped parts of the country is frequently made difficult by the paucity of information concerning demography, health and disease in these communities.

So far, there have been no reliable demographic figures or information about health and diseases in the Qashqai tribe of Southern Iran. The previous information was limited to some small groups of this tribe which could not be representative of the total population.

Therefore, the 1973 survey, with the aim of studying the pattern of diseases and demographic trends, started with a cross-sectional study of the Qashqai tribe.

In previous chapters of this report we presented general information about nomadism in the world and in Iran, the health problems of nomads, the objectives of the present survey, the methodology used, and finally the results obtained by the survey. In the present chapter we will discuss the main points of the results of the survey.

1.1 Demography and Vital Events

Nomadism usually constitutes a part of the population of most of the countries in the Middle East and Africa. But traditionally the population of these countries is divided into two strata, namely urban and rural. In some of these countries the size of the nomadic population is significant. In such cases it would be better to divide the population into three categories, urban, rural and nomads. The fact is that in comparing the nomadic population with the total population of a country, the former may

form a minority. But from the point of view of politics, socio-economy and especially health, they are significant. Hence those countries facing the problem of nomadism, used to study more about the way of life of, and the problems created by migratory tribes in order to overcome the nomadic problems in the near future.

In Iran it is estimated that about two million nomads still exist. Two censuses were conducted in 1956 and 1966.

According to the 1956 census the tribes were not considered as a separate community and were taken as part of the population in rural areas, and a figure of about 241,000 migratory population for the whole country has been given.

In the second census (1966), the figure was 560,000 and the census authorities believed that that was an underestimation.

Enumeration of a nomadic population by current statistical methods, used for estimating the number for the settled population, so far is not practical because of their migratory way of life. New methods such as aerial photography should be used more extensively.

Therefore Clarke et al., 1974, believed that there were two drawbacks to the census data of Iran; first, most of the 1956 data cannot be compared with the 1966 data as the statistical units have been altered and different questions asked; and secondly, there is considerable doubt as to the accuracy of some of the figures (Bharier, 1968; Clarke et al., 1974).

Some of the demographic data obtained in the present survey need to be discussed in more detail in this chapter.

1.1.1 Size of Households

The basic social unit in a tribal community is the nuclear family (parents and their children). The average size of the household was found to be 5.78 persons, in contrast to that of households in rural areas (7.6 persons - census 1966). Possible explanations for the existing discrepancy in the size of the household in these communities are that: (i) the nature of the agricultural methods used may demand a large number of children to help with the farm work. This is true in the case of those nomads who were settled in previous decades and increased the size of the household with passing of time. Henin conducted a fertility survey among settled and mobile nomads in the Sudan in 1961/62 and found that the current fertility was higher among the settled than among the migratory nomads. (ii) The higher infant mortality in a tribal community leads to the smaller size; and (iii) a tribal family usually has limited space in the tents (every family usually has one tent). Therefore a newly married son cannot stay any longer with his parents and so has to separate and set up a new household.

Changes in vital events such as births, deaths, marriage and migration have an important effect on the formation and the size of the household.

Another fact regarding the composition of households is that in a tribal community men and especially women very rarely live alone (Table 5.1). In the survey only 0.6 per cent were single member households. Parents usually stay with their sons' family, in contrast to the situation in developed countries, especially in urban areas.

AGE - SEX STRUCTURE OF THE POPULATION

According to the results of the survey, the population of the Qashqai tribe is relatively young. The symmetrical age-sex pyramid is characteristic of underdeveloped areas in which the base is broad but narrows sharply in the older age group categories with a surplus of males in all age groups, except in the 15 to 29 years age group. This may be due to the fact that some of them, away from home for jobs, pursue educational courses or enter military service.

This type of age structure increasingly imposes a greater dependency burden on the working age groups of the population.

1.1.2 Sex Ratio at Birth

The sex ratio at birth was found to be 110 males per 100 females. The true sex ratio (males per female) was equal to 1.03 to 1.06, Romaniuk (1968). The anomaly must originate in one of the following biases: - it might be due to incorrect reporting of the age of infants of either sex or the systematic omission of the female category, such as in the case where infants died shortly after birth. There is also evidence that our people strongly prefer having male children to female children (Table 5.35), so more male than female infants may have been reported, as happens in other cultures. Etienne van de Walle, 1966, in the review of Characteristics of African Demographic Data opines that these biases in the sex ratio in tropical Africa may be due to the fact that fictitious boys are added; girls are reported as boys; or boys are remembered better than girls and even more so with older mothers.

In our survey there is also evidence in tribal statistics that there are a greater number of male infants under one year of age than females in the same age group (Table 5.4). In fact the high sex ratio at birth

is consistent with a high sex ratio in age groups 0 to 1, [illegible] and 5 to 9 years and so on (Table 5.4), the exception being the 15 to 29 years age group, due to emigration or other factors.

Although the consistency of a high male sex ratio exists in most age groups (Table 5.4), as will be discussed later, the reported infant mortality rate is 143 per cent per 1,000 live births, while the estimated rate amounts to 153. It is very likely that the omitted deaths are female infants born who died during the first months in the preceding year. (The sex ratio of neonatal mortality during the last 12 months was 133.3 infant males per 100 infant females.) It is worth while noting that infanticide has never been reported from this tribe. The general sex ratio calculated in the survey for all ages was 106 males per 100 females.

1.1.3 Pattern of Demography of the Qashqai Tribe and Iran

In order to draw the attention of readers of this report, who are not familiar with the demographic pattern of Iran, it seems it would be better if the results obtained by the survey and the data available for the country as a whole were summarized.

Table 6.1 shows the demographic pattern of Iran and the results obtained by survey among the Qashqai tribe.

Most of the demographic figures obtained by survey for the Qashqai tribe show a similar pattern to that of Iran as a whole.

A crude death rate of 12.2 per 1000 population has been observed in the survey, and this differs from that estimated for the country as a whole (estimated crude death rate for Iran is 16 per 1000, 1973).

Table 6. 1

Pattern of Demography of the Qashqai Tribe and Iran

Data	[illegible]	Survey
Population	Estimated 30 million in 1970	Estimated by survey 110,000 migratory individuals, 1973.
Size of household	5.8 persons for urban, 7.6 persons in rural areas	5.78 persons
Masculinity rate	107.3/100 females (1966)	106/100 females
Age group 0-10 years	34.1% of total population (1966)	33.1% of total population
Age group < 20 years	54.6% of total population (1966)	56.2% of total population
Mean age(years)	22.2	22.35
Median	16.9	16.9
Child:woman ratio	915.1/1000	864.5/1000
Crude birth rate	Estimated 48/1000 (1973)	48.2/1000
Crude death rate	Estimated 16/1000 (1973)	12.2/1000
Infant mortality	120/1000 in rural, 80/1000 in urban, national average of 104/1000	143/1000
Annual rate of population increase	3.2% (1972)	3.6%
Life expectancy	56.5 (1966) (first year of life)	40.0 years (aged 0-4)
% males married (15 years and over)	-	63%
% females married (15 years and over)	61% (1966)	60.7%
% aged 15-19 years at first marriage	45%	56.2%

The infant mortality rate was found to be higher among nomads than in urban or even rural areas of the country; one possible reason for it is that nomads usually stay in the remotest areas of the country with low accessibility to health facilities.

The annual rate of population increase for the tribal population was found to be 3,6 per cent against 3,2 per cent for the country as a whole. As mentioned earlier the pastures for grazing animals are limited in nomadic areas. Hence there exists a balance between pastures, the number of animals and population as regards the emigration or settlment of some families.

Expectation of life in those aged 0 to 4 in a tribal population is estimated at about 40 years while it is 56,6 years in the first year of life for the country as a whole. The discrepancy may be due to high infant mortality among nomads in comparison to urban and rural areas.

1,1,4 Mortality Data

Data on mortality were collected from the following sources during the household survey:

1 - total number of deaths in each household during the 12 months preceding the survey and age at time of death;

2 - an account of infant mortality and number of children surveyed from each married woman aged 15 to 44 years and total reproduction of this age group.

The results are presented in detail in Tables 5,18 and 5,29. Some comments can be made with regard to the accuracy of the data collected on death, especially in regard to age, specific death rates of children in the 1 to 4 and elderly age groups (due to under-reporting).

The number of deaths reported in response to questions on death during the past 12 months has been found inaccurate in many surveys, and experience seems to indicate that in most cases the source of inaccuracy is not a systematic tendency on the part of respondents to fail to report deaths that have occurred or to exaggerate the number of these deaths, but possibly the difficulty the respondents have in identifying the length of the interval for which the deaths should be reported. This explanation should be true in the case of birth reporting, but in practice does not really occur as often in the case of death, because the date of occurrence of death relies on the memory of the respondent, while the result of birth was present at the time of the survey.

Another source of error is the omission of infant deaths from the reports and the uncertainty of the reporting of ages of deceased persons.

Lastly, although death is an element which psychologically has a deep effect on the relatives, people are reluctant to notify death, and this happens usually in the case of infants and children. The factors causing this reference error seem likely to depend on general culture and social conditions, the circumstances of the survey and instructions to the interviewers.

The alternative method of measuring death rates is the estimation method. It seems reasonable to seek an estimation method based on knowledge which was collected in the demographic survey.

In the estimation of mortality from reports of the number of children ever born who had died previous to the survey, it will be assumed that age-specific fertility and mortality rates have remained constant for the required age - range and time period.

Brass's estimation procedure makes it possible to use the following

calculation and estimate the infant mortality (Brass et al., 1968).

Table 4.2

Distribution of Child Mortality by Age Group of Women Aged 15-44

Amongst Qashqai Tribe, 1973

Age group	(a)	No. of women	No. of children ever born	Children women ratio	Proportion dead	K	q(a)	Logit diffs
15-19	1	860	66	.077	.1818	1.228	.223	
20-24	2	629	621	.987	.1562	1.119	.175	.0600
25-29	3	605	1659	2.742	.2110	1.050	.222	.0282
30-34	5	465	2111	4.540	.2440	1.043	.254	.0628
35-39	10	447	2659	5.949	.2441	1.051	.256	
40-44	15	235	1712	7.285	.2664	1.034	.275	

Where: proportion dead = [children born who have died / total children ever born] by 5 year age groups of women

K is a set of factors which was developed by Brass et al., (1968)

for converting "proportion dead" by five-year age groups of women into probabilities of dying between birth and integer ages a.

These are obtained from a table by a measure of the age location of fertility, being $\frac{P_2}{P_3}$, when P_2 is the mean of children ever born by women aged 20 to 24 years, and P_3 is the mean of children ever born by women aged 25-29 years.

q(a) = probability of dying between birth and integer age a.

"Logit diffs" is a method of smoothing the estimates obtained for a = 2, 3, 5 by comparison with a typical model mortality pattern.

$P_2/P_1 = 0.360$

$L_2 = 804$ $L_1 = 847$

Infant mortality rate = 1000 - 847 = 153 per 1000 live births

The estimated infant mortality rate according to the above-mentioned model is 153 per thousand live births, in comparison with the reported infant mortality during the 12 months preceding the survey (current infant deaths) that is 143 per 1000 live births difference is observed and this may be due to under-reporting female infants who died shortly after birth (in neonatal period).

1.1.5 Fertility

Direct information on fertility was derived from more than one source and at several stages of completing the schedule. For example, the head of the household was asked about the number of live births, which had occurred in the household during the 12 months preceding the survey time (Questionnaire No. 2 - Appendix I).

Further, a separate schedule was provided with information on retrospective fertility which concerned all children born during the interviewed women's lifetime (married women aged 15 to 44).

Data on births during the 12 months preceding the survey were used to study current fertility, as well as patterns of fertility..

The productive histories were used to analyse fertility trend s.

Three fertility indices were computed from data on births during the 12 months preceding the survey, namely crude birth rate (48.2 per 1000 population), the general fertility rate (252 children per 1000 women aged 15 to 44 years) and the total fertility rate (8.217 children per women aged 15 to 44 years). Also the observed age specific fertility rates were computed from the births in the 12 months preceding the survey by the number of females aged 15 to 44 years (Table 5.27).

The retrospective fertility or the second type of the observed levels of fertility is composed of the average parity of women. These average parities are calculated from the maternity histories of women in the age group 15 to 44 years. The observed parity of women in the Qashqai tribe is seen in Table 5.28.

The alternative way to direct information on fertility is an estimation of the level of fertility in the Qashqai tribe. Here we review the indirect estimation technique that is most widely applicable in the developing world at the present time, that is, technique appropriate when the only data available are those from one or very few single round censuses or surveys.

The Brass technique for estimating levels of fertility and mortality from current and retrospective data is used for comparing the observed and estimated fertility among the Qashqai tribe (Brass, 1964; Brass et al., 1968).

1.1.6 Comparison of Current Fertility with Children Ever Born and Estimated Levels of Fertility

With the assumption that fertility rates have been constant in the recent past, the cumulation of the current fertility rate from a cross

sectional survey corresponds to the past experience of the various cohorts of women summarised in their average parity. Hence the mean of children ever born by a woman of any particular age will be the cumulative of age specific fertility rates up to this particular age. Brass (1964) has developed an ingenious procedure on the basis of this by which the current fertility rates of five-year groups can be converted into the average. The method consists essentially in constructing multipliers. These multipliers relate the recorded parity for age group i, Pi to the cumulated age specific fertility to the bottom of age group i, Φi, plus Ki, the multiplier times the age specific fertility for age group i, fi, i.e. $Pi = \Phi i + Ki \times fi$. The value of Ki depends on the shape and position of the age specific fertility schedule.

The routine for using the factors in Table 6.3 is the following:-

- let f_1, f_2 ... and f_6 denote the average fertility (the number of children born per woman during the past 12 months). These average fertility rates for the six five year groups that cover the reproductive period will be denoted fi.

- The values of Φi, the cumulated fertility to the lower boundary of ith age interval - $\Phi = 5 (f_1 + f_2 + \ldots + f_{i-1})$.

- Pi denotes the retrospective reports of the mean number of children ever born per woman for the same five-year age groups; and

- calculation of K factors by linear interpolation is guided by the observed f_1/f_2 for the first three K's and by observed $\bar{m}$ for the remaining age groups. Then estimate Pi from the expression $\Phi i + Ki\ fi$.

The values calculated for ages 15 to 19 are always highly uncertain and best ignored. Ordinarily, it could be assumed that reports on children ever born to women aged 20 to 24 tend to be reliable (by

Table 6.3

The Application of Brass Method (1964) to the Observed Age Specific Fertility Rates for Qashqai Tribe, 1973

Age group of women	i	Age specific fertility rates (fi)	ϕi	Fi	Pi	Pi/Fi	Adjusted fi by P2/F2
15-19	1	0.0360	0	.108	.077	.713	0.0365
20-24	2	.2639	.180	.972	.987	1.015	0.2678
25-29	3	.3967	1.499	2.689	2.742	1.020	0.4026
30-34	4	.4021	3.483	4.713	4.540	0.963	0.4081
35-39	5	.3065	5.519	6.455	5.948	.921	0.3348
40-44	6	.2383	7.026	7.781	7.285	.936	0.2419
		1.652	8.217				

$\frac{f1}{f2} = 0.1364$ $\quad m^{*} = 31.080$

definition these reports are not affected by the problem of time reference error, and forgetting children of such an age is highly unlikely). Hence, any discrepancy between the value of P_2/F_2 and the expected value of 1.0 reflects a period reference error in the current fertility reports. Since there is no reason to expect that such time-reference errors are related to the age of the respondents, the correction factor P_2/F_2 could be used to adjust upwards the entire series of current fertility rates.

The Pi/Fi ratios are close to 100 for the women in the age group 20 to 24 and 25 to 29 years. At ages beyond 30 years the Pi/Fi ratios tend to fall.

1.1.7 The Fertility Patterns and the Mean of the Current Fertility, Qashqai and Other Nomadic Populations

In order to compare the patterns of fertility of the Qashqai tribe of Iran to that of the Mossi tribe of Upper Volta (Brass, 1968), the age group of 20 to 24 years was chosen as a base (= 100), and other age group fertility rates were expressed as percentages of the (20 to 24) age group. The results are seen in Table 6.4 and the corresponding Figure 6.1.

Table 6.4

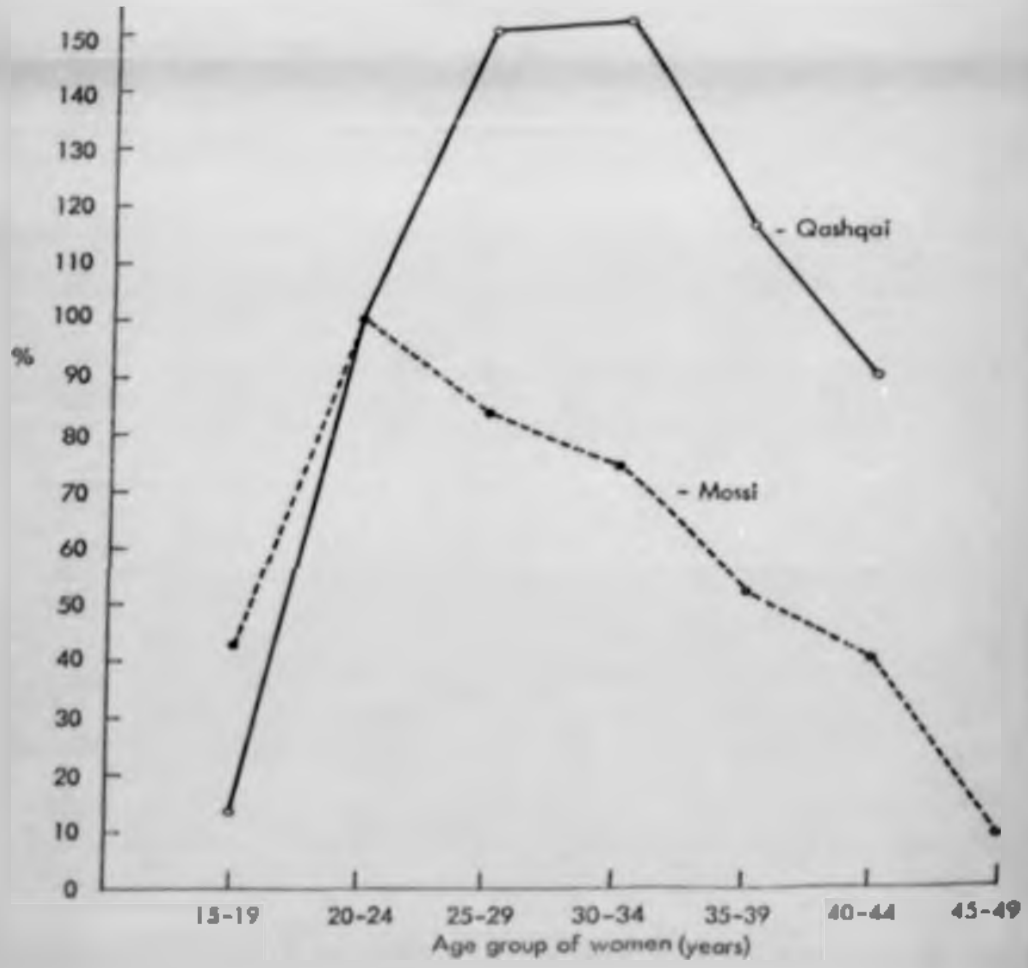
Observed Current Fertility Patterns and Other Indices Qashqai (1973) and Mossi Nomadic Population (1960-61), (Relative Values Based on 20 to 24 x 100)

Age group women	Qashqai Tribe		Mossi Tribe	
	Observed	%	Observed	%
15-19	0.036	13.6	0.144	43.4
20-24	0.264	100.0	0.332	100.0
25-29	0.397	150.4	0.278	83.7
30-34	0.402	152.3	0.246	74.1
35-39	0.307	116.3	0.177	53.3
40-44	0.238	90.2	0.133	40.1
Total Fertility	8.217		6.605	
Crude Birth Rate	48.2		50.8	
Mean (m−) in years	31.08		28.7	
P_1/P_4	0.08		0.15	

Fig. 6.1

OBSERVED FERTILITY PATTERNS FOR QASHQAI AND MOSSI NOMADIC POPULATION

(related values based on 20-24 - 100)



This type of approach reveals a lower fertility rate among the age group 15-19 years and a higher fertility amongst the post (20 to 24) age groups in both Qashqai and Mossi tribes.

The slopes of the two curves in Figure 6.1 are generally different. The pre-20 to 24 age group part of the curves shows the Qashqai with sharper steepness of the slope and this sharpness continues for the age group 20 to 24 years, then tends to flatten between the (25 to 29) and (30 to 34) age groups and thereafter the gradient of the curve increases sharply to the age group (40 to 44), while the post 25 to 29 age group part of the curve for Mossi is illustrated as less steep than that of Qashqai.

The reason for the difference between the slopes of the latter part of the current fertility curves for the Qashqai and Mossi tribes can be attributed to the increased rate of pregnancy in the age group 25 to 34 years of the Qashqai, as against the decreased fertility with increasing age of the Mossi.

Table 6.4 shows fertility rates in 5 year age groups for the Qashqai and Mossi tribes, calculated from the reported "current" births in the year preceding the survey and the corresponding total fertility ratios, crude birth rates, the means of the specific fertility distributions and the P_1/P_2 ratios computed from the retrospective reports of the numbers of children born per woman in the first two age groups of 15 to 19 years and 20 to 24 years.

The data show no unusual features. They indicate a high but not exceptional fertility, with only an early start to child bearing. The higher reported specific rates for women in the latter half of the reproductive period for the Qashqai as compared with the Mossi tribe lead to a higher

total fertility ratio and increased mean for the distribution.

It is clear from the observed age specific fertility distribution of the Qashqai that the mode of almost all distributions is the 30 to 34 age group and that the mean for the fertility distributions considered is over 30 years while for the Moosi, the mode is the 20 to 24 age group and the mean is below 30 years.

The high age specific fertility rate in the age group 30 to 34 found among Qashqai (the mode) may be related to the high prevalence of married women (94 per cent) in this age group compared with lower age groups.

The second property of the fertility pattern considered is the mean of the current fertility schedules. The mean of the Qashqai current fertility distribution was not much different from the mean of the Moosi's current fertility distribution, but this does not explain the different fertility patterns demonstrated above.

1.1.8 Attitudes Towards Family Planning and Limitation in Nomads

The Government has already adopted a population policy for the country. Hence it is desirable to estimate to what extent the nomadic population favours family planning.

A considerable number of baseline studies have already been attempted in Iran (Aminzadeh, 1968; Blake, 1971; CENTO, 1971; Fendall, 1970; Friesen et al., 1972, Gulick, 1969; Iran, Ministry of Health, 1972, Isfahan, Regional Seminar on Functional Literacy and Family Planning Education 1971; Jalali, 1972; Jalali et al., 1972; Keyhan, 1968; Khatamee, 1970; Namazi, 1972; Nortman, Dorothy 1971;

Population Council, 1967; Sardari, 1972; UNESCO, 1971; United Nations, 1968, 1971; I.L.O. and UN Fund for Population Activities, 1971a, 1971b). Most of these studies were undertaken to find out or to evaluate the social, economic and cultural factors that may facilitate or create barriers to the adaptation of family planning in this country, and to examine the extent to which people have knowledge of and practice family planning. All previous studies conducted among the rural and urban populations, the present survey is a primary source of data on a (KAP) knowledge, attitudes, practice study in nomads. Results of this study are presented in a previous chapter.

Our aim is to explain the existing attitudes and practice of family planning in nomads. The main point is that the prospects for any future fertility decline depend not only on the extent to which respondents are familiar with the methods of family planning, but also on whether the respondents approve of family planning methods in general or not. The survey considered this fact. We will compare the results obtained from the present survey with those of the two studies, namely KAP study in Tehran (UNESCO, 1971), and surveys undertaken as part of the Isfahan Mass Communications Project. 11, 23 and 91.9 per cent in urban, rural and tribal communities respectively believe that having children is "up to God", according to the responses to the same question in the three studies.

On the question regarding the desired number of children in a family, as one would expect, a large majority of nomadic respondents want a large family: 6.38, 4.1 and 3.2 per cent of tribal, villagers and illiterate women in urban areas, respectively. The number of desired children increased with the age of the respondents. The desire for more

children is related to many elements in the cultural and social organization of the people. In tribal society, the social organization is based on the lineage system. In such a society being childless is regarded with contempt and one child is undesirable (Table 5.34). The desire for a large family may be a measure to combat high infant mortality (Table 5.18) or for the prestige value of having a large family (Table 5.35). Moreover, children are considered to be economic assets to the family (Table 5.40).

In the Tehran survey more than two thirds of all respondents reported having knowledge of some contraceptive methods; 66.4 per cent of tribal women gave affirmative replies on being asked if they had heard of methods to prevent pregnancy. In other words, in both surveys the knowledge of the population on birth control was similar.

Among illiterate tribal women, the older ones were found to have more knowledge about birth control than the young newly married women.

27.0 per cent of women in rural areas wanted to prevent getting pregnant, while 17.6 per cent of tribeswomen were interested in using contraceptive methods (attitude).

At the time of the survey only 2.2 per cent of total respondents utilized contraceptive methods, of which 35 per cent took pills. 42 per cent of those who used contraceptive methods were guided by doctor or family planning agents. In contrast to the results obtained in urban areas, the present survey showed that face to face communications, especially with family and friends, played a major role in an awareness of and learning about contraception and family size concepts.

In the present survey some respondents were interested but did not practise, due to the following reasons:

5.8 per cent feared the side effects of contraceptives, 3.6 per cent said their husbands were against the idea, 63.3 had unavailability of the device and only 1.5 per cent had religious reasons which prevented them from using birth control.

However, although the Unit of Family Planning, Ministry of Health, Iran, is trying to implement birth control in rural areas, our survey showed a most discouraging result. The extremely low proportion of tribal women practising family planning indicates that the action programmes have not been successful in educating tribal women with regard to family limitation or in convincing them that family planning is acceptable.

Finally, this study attempted to explain the reasons behind this religious belief and other social and demographic factors which could account for preventing tribal women from using birth control. We were dealing with a kind of primitive community which is mainly inclined towards deterministic ideas about life, nature and social relationship. At the same time, they are exposed to the new approaches to life as a result of medical aid. Therefore, we may conclude that although they see and accept the effectiveness of contraceptives and birth control, in the last resort, they believe that God causes all phenomena and it is up to His will whether children are born or not. It seems that they are more inclined to categorise these techniques and knowledge of medicine as the tools provided through God.

According to the data it is clear that the main reason for denying or ignoring birth control depends on the economic consideration of having a large family, especially with more boys, and in some cases unavailability of pills and health education. Other socio-economic factors such as

illiteracy of the tribal women, age, age at first marriage, total number of living children play important roles in the use of birth control.

1.2 Morbidity Survey

It is not intended to discuss all the diseases that occur among the Qashqai tribe. Some of them are of no significance in geo-medical analysis, others are not sufficiently investigated in the survey. For such reasons only those diseases that are important and/or prevalent with the following characteristics were considered by the survey:

- having a high incidence of morbidity and/or mortality in all age groups or a special group of nomads;
- having a need for medical and health care;
- preventable; and
- easy to diagnose.

In this regard the concept of morbidity may be defined by: (a) the number of sick persons; (b) number of cases of sickness among a certain group of persons; because one person may have been suffering from two or more illnesses at the time of the survey, and (c) the duration of illnesses (WHO, 1956, 1957, 1958).

The present survey is concerned with morbidity that occurred within a particular space of time, in a certain period (period prevalence rate), that is to say in the preceding fortnight (household survey) or in the case of the medical survey which was a cross-sectional study, considered the number of illnesses existing at the time of the survey: point prevalence rate (WHO, 1956, 1958).

Definitions for the state of health and disease have already been discussed in a previous chapter. Here it is necessary to consider the

level of severity of illness.

We have pointed out earlier that from the standpoint of severity of illnesses, two categories were selected, viz:

(a) Moderately ill: this includes all minor illnesses with no incapacitating conditions. Therefore this is a broad category and includes such things as minor aches and pain, infections, accidents, cuts and sprains, toothache and intestinal parasites.

(b) Apparently ill: this includes those illnesses with disabling conditions, very often accompanied by extreme discomfort and includes emergency cases. The disabling illness is the one which prevents the individual from carrying on his normal duties at work, in school, or in the home.

We found this classification relatively unsatisfactory during the analysis of data of the survey due to other factors such as the level of severity used in determining the illness and its condition not being complete. It is worthwhile noting that the severity of disease and the duration of illness, both, are the two elements that the classification should be based upon each separately, but this type of classification will be more complicated and not easy to use. Therefore the following classification which seems simple is proposed for a future survey:-

In this classification the indicator is more or less the number of days the person is incapacitated on account of sickness:

(a) serious illness, involving considerable risk of death or causing total incapacity for work for four weeks or more.

(b) Moderate illness, less risk of death, incapacitating and preventing work from 7 to 28 days.

(c) Middle illness, 3 to six days of incapacity.

(d) Minor illness, one to two days of incapacity.

(e) Indifferent, minor illness, without incapacity; and

(f) Healthy or well.

In a previous chapter, we pointed out that the reporting of illness in the household survey depends on the subjective judgement of a respondent upon illness and his understanding about the health and illness and other factors such as his ability to recall and the accuracy of reporting, the effect of illness on the health of different members of the household. (Because the role of an individual in the family is important, if something is wrong with the head of the household it might be more important as he is the breadwinner, but it is considered less serious if one of the other members of the household is taken ill.) Finally, the degree of severity of the illness.

The Danish Morbidity Survey (1951) revealed that fewer illnesses were recorded among persons interviewed by males than among those interviewed by females. For the male interviewers found a morbidity rate of 28.5 per cent against the female interviewers' 36.6 per cent among the same population (Sickness Survey of Denmark, 1951-1954). In other words, there was 22 per cent less sickness in the household survey collected by male interviewers.

In addition, two other factors namely the age and sex of respondents interfered with the rate of reported sickness. This means that some of the sicknesses were of such a nature that respondents would prefer to confide in a woman rather than in a man, or the age of the respondents may possibly have determined the outcome of registration, and it was perhaps more difficult for males to get on a confidential footing with some age groups than for females.

In the British Survey of Sickness (Logan et al., 1957), a representative section of the population was chosen by sampling methods and trained interviewers visited a total of 3,000 people every month who were asked about their illnesses in the previous three months, thereafter every two months. The source of error described as defective memory was undoubtedly greatest for the more remote time, i.e. the first of the two months of survey-period, is credited with some importance but not enough to compromise the main results of the survey. In addition, the social survey made a single inquiry into interviewer variance, taking 23 fairly uniformly populated districts in Greater London and examining the variability of the individual interviewer and also the interviewers mutually. As regards sickness, the conclusion arrived at was that there was most variation, as might be expected, in the case of badly defined ailments and symptoms.

On this basis the comparison of the data collected in the household survey with those obtained at the time of the medical survey makes it difficult or in some cases impossible.

According to the household survey, 679 people out of 16,939 or 4 per cent of the total population were reported to be ill during the fortnight before the survey. This figure is an underestimation when compared with results of the medical survey.

From the interview experience, it is believed that illnesses reported in the household survey were mostly of a disabling type which fall in the category of "apparently ill". The reason for this statement is that the nomads possibly did not mention illnesses that did not interfere with their daily duties.

On the other hand, at the time of the medical survey, the medical teams were supplied with medicine and therapeutic facilities inorder to obtain the co-operation of the nomads. This availability to them of service in such remote areas, has an effect on the number of complaints and increased the subjective signs.

Aches and pains were found to be most common complaints in the medical survey, especially ailments like osteo muscular pain, pain in the shoulders, lumbar pains, neuralgia, arthrosis, etc. (36.4 per cent of the total complaints). The cause of osteo muscular pains could be due to the fact that these tribes usually select camp sites on grass plots or on wet ground, especially in summer quarters, and on a pathway. They set up the tent, rest and sleep on such wet ground without using cots. As a result they suffer from the pains mentioned above. Two main complaints, viz. respiratory and digestive complaints were more prevalent among nomads, with 11.1 and 12 per cent of total complaints, respectively.

The reason for these respiratory complaints is the environment of their camp site and the way of life they lead which exposes them to temperature and climatic changes with very little protection against cold, rainfall and wind; in addition their clothing is inadequate.

The types of illness found prevalent among the tribal population sample at the time of the medical survey, were as follows:

(a) Diseases transmitted by faecal contamination. Indiscriminate defaecation habits of the tribe around the camp site, and contamination of the environment by faecal deposits and unhygienic habits. The majority of them use stones or leaves as the principal cleansing material after defaecation. This leads to infection of man directly from water and food via contaminated hands and flies (by handling and preserving food), and

causes diseases such as typhoid, amoebic dysentery, salmonellosis, shigellosis, cholera, poliomyelitis, etc. Transmission via a necessary period in the soil, via the skin or mouth of hookworm, ascaris and trichuris were remarkable by their low frequency in these nomads.

Typhoid and Paratyphoid Infections

The serum of a population of persons in any country contains antibodies capable of reacting to a variable titre. In the Widal Test, the frequency distribution of H antibodies, O antibodies, or both has been studied by numerous authors (for example, Rosher and Fielden, 1922; Smith et al., 1930; Gardner and Stunbington, 1932; Giglioli, 1933; Mackenzie and Taylor, 1945; Hughes, 1955; Collard et al., 1959; Schubert et al., 1959). In the absence of previous inoculation with TAB vaccine, the frequency of agglutinins in a population reflects its experience of Salmonellae with the corresponding antigen - either in the form of enteric fever or latent infection, and therefore varies widely from country to country where enteric infection has for many years been uncommon, as in Britain only 1 to 2 per cent is permissible (Topley and Wilson, 1974).

In a community in which enteric fever is more prevalent, H antibodies against the prevalent strains may be found in up to one quarter of all sera.

However, our survey confirmed that 5.5 per cent of all examined sera were positive, and with the unhygienic conditions existing at the camp sites, typhoid infection should be considered as an infectious disease of the tribal communities.

Only one case of paratyphoid B was reported in a woman aged 49 years.

A great variety of the intestinal parasite infections were found among the population under survey:

Out of 1579 stool samples, 597 or 37,8 per cent were found positive for E. histolytica cysts and 292 or 18,2 per cent were found positive for Giardia. The results showed that these parasites were prevalent in nomads, especially among children.

The reasons for the low prevalence of Ascaris and Trichuris was mentioned in a previous chapter. The freezing temperature in summer quarters in winter and the extreme heat and dryness in the winter quarters in summer, may be favourable factors in reducing the environmental load of eggs containing living larvae.

Overall the prevalence rate of infection with Trichostrongyloides was 63,2 per cent of total intestinal helminthiasis or 27,6 per cent of total stool examinations. The highest infection rate was observed among children aged 5 to 14 years. The only reasonable epidemiological factor for the prevalence of this parasite among the tribe was described in a previous chapter.

(b) Other anthroponoses. Epidemiological investigation of anthroponoses among nomads is of great importance because of their way of life, habits, occupation and their proximity to wild and domesticated animals that are reservoir hosts for the causative agents of various infectious and parasitic diseases such as rabies, hydatic cysts, brucellosis, anthrax.

From this group of diseases, brucellosis was considered in the survey. A total of 4 or 0,3 per cent of the 1235 sera examined were found to be reactive.

As a result the survey showed that brucellosis is not a major health problem among nomads as it is in the case of sedentary population in some parts of Iran (Sabbagian, 1973, 1974; Moallem, 1975).

The only possible explanation for the low frequency of brucellosis among tribes is that the flocks of each family usually roam separately over a vast grazing ground, or the flocks that belong to a maximum of 2 to 3 families roam together under the supervision of one shepherd. Therefore the contact for contraction of disease among them is very low. In contrast, the villagers' flocks almost all graze together and pass them on from one to the other.

No case of anthrax was reported at the time of the medical survey.

(c) Diseases transmitted by insect vectors. The distribution of diseases transmitted by insect vectors is governed by the distribution of the specific vector for each disease and by man's relationship to them.

One disease among nomads about which the most information is available is malaria.

At present it is not a major health problem amongst the tribes. The incidence of malaria was found to be low, of 1236 blood smears, 7 cases of P. vivax were found and the parasite rate was calculated as 0.56 per cent of the total blood examination.

Epidemiological investigation showed that most of them contracted diseases in winter quarters.

As mentioned earlier the tribes play an important role in malaria eradication in Southern Iran (Chapter III, background information on the demography and state of health of the Qashqai tribe).

The second disease of this group it was decided to study in the present survey was tick-borne relapsing fever. Because of the way of

life led by the tribes, they come in close contact with rodent populations, and the chances of contracting the disease are greater than in the case of the settled population.

The survey revealed no case of relapsing fever at that time. 1232 blood smears were examined and all were found negative for Borrelia.

(d) Other medical conditions.

(i) Diseases of the eye and conjunctivae were described in detail in the previous chapter. The prevalence rate for trachoma among the tribes was much lower than among the sedentary population.

The possible explanations for the observed differences between the prevalence of disease among nomads and sedentary populations in winter quarters are as follows:-

In our study, external examinations were conducted routinely, but scrapings from the conjunctiva and examination for inclusion bodies were not made. Therefore there may be a certain degree of inaccuracy in the diagnosis, especially in the case of acute trachoma which was possibly confused with other types of conjunctivitis.

Other reasons: the predisposing factors for the contraction of disease are not similar in both communities, i.e. tribes usually stay together in small groups of two to three tents, over vast areas of land at most times of the year. Therefore the contact between them is much lower than in the case of large villages or towns.

The survey on epidemiology of trachoma in Malayer (Iran) in 1962 conducted by Daragar revealed that the prevalence of trachoma in small remote villages was lower than in large villages and towns. (Unpublished report to the School of Public Health, Iran.)

The environment of camp site, as mentioned earlier, is less dirty. There is also a lower density of flies compared with that in villages which are more unhygienic. The role of flies in the distribution of diseases is known.

Tribes usually leave the harsh weather of their winter quarters, which is favourable for the disease and move to summer quarters.

(ii) Diseases of the skin: a great variety of skin disorders was observed. Women who were handling wools and its processing such as dyeing, weaving and carpet making had a special kind of skin condition. Further investigation is needed to determine the cause and prevalence of this condition.

1.1 Diagnoses

The diagnoses ascertained by the sickness survey were derived from the information collected by health interview and case history study, physical examination, laboratory tests and skin tests. The accuracy of these diagnoses will depend on the value of the sickness survey as a whole.

Two kinds of diagnoses were used in the survey, viz. primary diagnosis and final diagnosis. It will be seen that there are differences in the results obtained by these two methods.

However, according to the primary diagnosis, out of 3080 persons diagnosed 1644 persons or 53.4 per cent were found healthy, without any complaints. But out of 1436 persons having one or more complaints, only 293 persons or 9.5 per cent of the total population diagnosed were found apparently ill.

The first ten groups of diseases found prevalent in the final diagnosis

are grouped together (Table 6, 5) and recorded in order of prevalence as follows:-

(1) Diseases and symptoms of bones, Joints and osteomuscular pain etc.

(2) Diseases of the eye and conjunctivae.

(3) Diseases of the digestive system.

(4) Nutritional deficiencies, anaemia, metabolic diseases, etc.

(5) Diseases of the respiratory system.

(6) Diseases of the skin.

(7) Infectious diseases.

(8) Diseases of the circulatory system.

(9) Headache not specified.

(10) Diseases of the ear.

1.4 Health Needs and Demands

In the present survey, by the household survey and medical examination of the population sample of the Qashqai tribe, a general picture of the state of health, diseases and health needs has been found and described. Any new or unexpected diseases have not been found as was expected, but a series of health problems are present among the tribes, due to their way of living, ecological conditions, customs and nutritional status.

The demand on the various public health units for medical care depends on the nature of the disease, types and period of illness, availability and accessibility of the services to the tribe. The groups needing medical care most are women at child bearing aged 15 to 44 years, people in the upper age groups, and children (Tables 5.101, 5.102). The pattern of utilization of medical care was observed for a fortnight during the household survey (Table 5.52). The data showed a low utilization rate.

Table 6.5

Prevalence of Diseases and Symptoms, Other Medical Conditions by Age and Sex

	Codes	<1	1-4	5-14	15-44 Male	15-44 Female	45+	Total No.	Total %
Diseases of the digestive system	41, 52, 54	9	23	18	45	32	40	167	11.6
Diseases of the respiratory system	44, 45, 46 47, 48	5	19	44	30	26	28	152	10.5
Diseases of the circulatory system	65, 66, 67		1	1	10	4	36	52	3.6
Diseases of the uro-genital system	68, 69, 70		1	5	4	20	6	36	2.5
Diseases of the skin	71, 72	4	21	31	16	36	14	122	8.4
Diseases of the eye and conjunctivae	55, 56, 57	3	14	25	34	40	73	189	13.1
Diseases of the ear	58, 59	3	7	14	5	7	8	44	3.0
Infectious diseases	43	1	9	34	2	12	1	59	4.1
Nervous and mental disorders	60, 61, 62 63		5	9	4	7	8	33	2.3
Diseases and symptoms, bones joints, osteo muscular pains, etc.	64, 73, 74		1	26	61	89	105	282	19.5
Nutritional deficiencies, anaemia metabolic diseases	49, 50, 51	9	31	62	5	35	15	157	10.9
Accidents, injuries	75, 76	1	3	4	6	2	4	20	1.4
Headache, not specified	78			5	10	20	13	48	3.3
General weakness	77		2				12	14	1.0
Other illnesses	53, 79, 80 81, 82	3	10	22	12	9	14	70	4.8
Total		38	147	300	244	339	377	1445	100.0

This could be underestimated because utilization is affected by seasonal migration and distribution of health services in the areas. The assumption could be made that during their stay in quarters due to extensive dispersal of tents and the shortage of health services in such remote areas of the country, the utilization of the existing health services is very low in contrast to the migration period when it is high.

The total number of health needs computed by the medical survey is much higher as was expected. It was computed at the time of the survey of a total of 3080 persons diagnosed in primary diagnosis; 1358 or 44.0 per cent were found with therapeutic needs as set out in Table 6.6.

Table 6.6

Therapeutic Needs of the Population Under Medical Survey

Types of Need	No. of people	%
Prescription only	557	18.1
Primary care level	472	18.3
Outpatient of district or provincial health services	239	7.8
Hospitalization	90	2.9
No need	1722	55.9
Total	3080	100.0

Tribes live in scattered and remote areas with poor communications, seasonal migration and inaccessibility to most social amenities. The population has a high growth rate with the tendency to a low death rate. The health needs show a transition from a satisfactory control of the

major epidemic and endemic diseases (malaria, smallpox, etc.) to pronounced needs for the permanent services for the specific risk groups in order (women, especially of child bearing age, elderly people and children) and a rising demand for medical care services.

Some findings on the health aspect of the tribal population and their health needs are summarised as follows:-

(a) Malaria is suppressed but is not eradicated and maintenance should be continued.

(b) There have not been any outbreaks of epidemics of infectious diseases that are preventable by planned vaccinations, but a few isolated cases occur and general conditions are favourable for the spread of these diseases. Smallpox and cholera have not been found during the survey. Although diphtheria, tetanus and measles were not reported at the time of the survey. There are not infrequent diseases occurring among nomads.

Endemic foci of enteric diseases, salmonellasis and conjunctivitis exist.

(c) Tuberculin positive tests in children under 15 years showed a low prevalence of infection.

(d) Digestive and respiratory troubles are common.

(e) Pains of various types are frequent complaints.

(f) Intestinal parasitic infestations such as , ascaris and trichuris showed a low frequency. Trichostrongylus, E. hystolytica cyst and Giardia were prevalent intestinal parasites among nomads.

(g) Nutritional deficiency has not been identified in expected dimensions, but it was found that the malnutrition and anaemia are not uncommon

in women of child bearing age and children.

(h) The rate of severe long term disability was found to be comparatively low.

(i) The tribal population has a high growth rate.

(j) Infant mortality was found to be high.

(k) Tribal population lives in scattered small groups with poor communications and seasonal movements and inaccessibility to most social amenities in the towns and some villages.

(l) The health needs show a transitional pattern from a satisfactory control of major epidemics and endemics to pronounced needs for permanent services for specific risk groups.

(m) Demands for public health services are essentially simple and concentrated in a few categories.

(n) The analysis shows a concentration of demand in order in women of child bearing age, aged people and children, in the same groups where the need for preventive activities are more important.

(o) It was found that there is a very low coverage of health services especially maternal and child health services (including family planning) in the tribal areas.

1.5 Proposed Plan for the Development of Health Services Among Tribal Populations

In view of the complexities of the life style of tribes, it is easy to understand why the provision of health services to them poses serious logistical problems.

Tribes are generally unfamiliar with the services being offered them. Consequently there is little consumer recognition of the desirability of

the services.

In most countries where nomads exist, the national budget is limited, and therefore sparsely populated areas are neglected. There is a total shortage of professional as well as auxiliary health personnel and health services, and it is more profitable from an immediate economic point of view to make investments in densely populated areas. This applies especially to health services, where a new unit in a sparsely populated area will not be properly utilised because of low population density in the area and the consequent long distances and low accessibility.

The motivation for the sedentarization of the nomads has been the fact that the establishment of the social services such as: administration of justice, police posts, schools and dispensaries in a static village are much easier for the government than to provide the same facilities for a mobile population.

The implementation of the mobile health units does not seem to be the ideal solution for nomads, where hundreds of nomadic groups are widely dispersed, without means of communication or roads. Problems such as the breakdown of a car or lack of accessibility to petrol resources, prevent mobile teams from continuing their work for any length of time. Also the mobile mass campaign technique for short-term and long-term goals, due to the lack of the essential coverage of the population, high cost of operation, insufficient use of personnel, ineffectiveness of services, and other problems are not considered ideal health programmes, especially in long-term planning.

James Imperato, (1975) as a short-term goal, used vaccination against smallpox, measles and yellow fever as a mass campaign technique

among sedentary villages and Tuareg pastoralism nomads in the Sahara, to the north of the Sahel, West Africa. He found that the coverage of smallpox vaccination among the sedentary population ranged from 95 to 98 per cent in different villages and for nomads 60 to 92 per cent with a lower coverage rate than in sedentary populations. On a cost per person basis, he found that this amounts to one US cent per sedentary and 11 US cents per nomad. In other words the delivery of services in this programme cost 11 times more per nomad than per sedentary agriculturist, in a region in which both groups live in an identical topographical zone. Therefore the implementation of an acceptable and feasible plan for the development of health services is the main and most important part of the present health survey.

It should be stressed that tribes at present receive health service care from several stationary health posts of the Health Corps, village dispensaries and hospitals, plus mobile units for mass campaign vaccinations. The present health service units come under different agencies and organizations.

The main problem associated with the efficiency of health services, not only for the tribal population but also for the settled population, lies in the shortage, maldistribution and under-utilization of manpower, especially disintegrated preventive and medical care functions, and insufficient use of basic health team members.

One approach to the existing disparity between resources and health needs has been the use of lesser trained medical auxiliaries, such as medical assistants have been used widely in many countries, and it is admitted that services could not function without them, and they will be regular members of the health team.

In many parts of the world doctors have such conditions when working with medical auxiliaries. Most of the developing countries are now giving attention to the development of different types of medical auxiliary training programmes. The estimation of the ratio of auxiliaries to population in these countries depends on several factors and is different from each other.

The health care of people in the countryside of China is based on the brigade or unit of commune workers and families of 200 persons which might include two to three health workers, "barefoot doctors" (Murrel, 1975).

In India, the Primary Health Centre (PHC) is staffed by two doctors and seven nursing auxiliaries with theoretically 10 to 20 beds to serve a population of 100,000. Auxiliary nurse-midwives are responsible for a population of 10,000 which is served by each of 10 sub-centres. This has been shown to be an unrealistic demand upon the A.N.Ms. (Reid, 1969) and later studies have shown one A.N.M. for one to two villages at one mile distance, with a population of 2,500 (Takulia et al., 1970).

In Guatemala, the ratio of auxiliary to population at primary care level varies from 100 to 8,000 in rural areas (Habicht, 1973). But meanwhile, Habicht et al., (1973) proposed that one full-time primary care person can cover a population of about 1,000, as a primary care person takes other responsibilities such as health education, environmental hygiene, agriculture, or other community-development work.

Generally speaking, Iran does not have trained medical assistants at present. It seems useful, however, to mention that "behdare", the Iranian version of medical assistants, were trained from 1950 to 1960

to serve in rural and tribal areas. Though the behdars rendered most welcome and appreciated services, both curative and preventive, to the population, the Government had to discontinue their training. The need for health care in remote areas of the country remained, however, and with it the search for alternative solutions, such as the Health Corps system, in which young physicians spend 18 months as part of their military service delivering health care to rural and tribal areas. Each team consisting of one physician and 3 to 5 auxiliaries serve as the only source of medical care for a population of about 20,000 persons. The coverage is not satisfactory as less than 10 per cent of the villages are reached, leaving the remainder without any modern health care (Daniel Flahault, 1973).

The Iranian national authorities are now thinking about resuming the training of a new type ofmedical auxiliary (Mofidi, 1972; Ronaghy et al., 1970, 1973, 1974).

In Iran two pilot projects on the use of auxiliaries in public health care are run at present. The first one is in the Province of Fars, run by the University of Pahlavi. They appointed 16 male and female auxiliaries to a population of about 20,000 in about 50 villages (Ronaghy et al., 1973); the second, which is in West Azarbiajan is run by The School of Public Health. In the project the auxiliary team consisting of a pair of male and female work at primary care level among sedentary populations in villages and they cover a population of 4,000 to 5,000 (Project for Health Development Research in Iran, 1973). The demand on various public health units for medical care and the determination of coverage is dependent on the ratio of auxiliary to population on the one hand and the ratio of auxiliary to other personnel in the health team

at higher health units for the referral and supervision on the other.

Although the types of auxiliary required for the development of health services in rural areas for the static population are under investigation, such medical auxiliaries seem to be the most reasonable and practical means of providing health care for the isolated tribal areas, and may be the only way of catering for the health needs of nomads. Training tribal youths as auxiliary health personnel will be one of the ways of developing health care for nomads. This suggestion is based on the experience of the present mobile education service for tribes in Iran, which is one of the best so far developed.

The function of the primary care service is to take preventive measures and provide medical care where referral to a medical specialist or institutional care is not needed.

In practical terms primary care is similar to comprehensive services provided by a health team working in co-operation with a general practitioner.

The role of tribal auxiliaries at primary care level will be:

- to extend selectively chosen health programmes either through community channels or through personal and family contacts;
- to provide first-aid treatment in accidents and for selected diseases (mostly combined with active health programmes);
- to provide follow-up treatment when planned by the doctor;
- to provide surveillance and gather information;
- to provide the community with health activities and make a bridge between the health services and the population.

To play the roles mentioned above, the auxiliaries will cover a

defined group of tribe (subclan-Obeh) or geog aphically defined area with defined population. However, they are an integral part of the primary health team and under direct supervision of doctors in local integrated health centres.

The auxiliary team should consist of two persons, recruited and trained among the tribes themselves. It appears to be the answer to the question of shortage of staffing of health services in the remote areas.

- The first is a male dealing predominantly with community health problems, environmental sanitation, health education, personal hygiene, surveillance of the infectious diseases and gathering information regarding population, vital events, etc.

- The second is preferably female, covering most personal and community health problems (maternal and child health, family planning) and midwifery, etc.

These health teams should be guided by a health centre near to a clan or a suitable village in the tribal area.

Special courses for the training of multi-purpose health auxiliaries should be established for young people from amongst the tribe.

The subject and content of training consisting of basic preventive and curative health care, the training of male and female auxiliaries should be different from each other. The provisional functions and content of training depend on their future duties in the health care of the population on the one hand, and the results obtained by the present survey on the other hand, and is given in detail in Appendix IV of this thesis. The characteristics of training activities will be predominantly practical training procedures not of theoretically educational content.

The period of training usually consists of a basic one-year course

with further in-service training.

The minimum educational requirement is that they should have completed primary high school (i.e. 9 years education). An important principle of recruitment from the beginning is that the clans should as much as possible select their own health workers.

It should be stressed that, in principle, health services for tribes should be part of, and integrated into existing rural health services.

The efficiency of these units (both static and mobile) could be greatly enhanced by regular supervision, the use of existing radio-telephone services or the establishment of a new radio-communication network.

According to Table 5, 90 the demand on the public sector health units in a fortnight is about 40 per 1000 people. But as aforesaid, this figure is underestimated and it depends on many factors such as availability and accessibility of health facilities in the area, distance of catchment, severity of diseases and economic conditions of the household.

In our study the estimation of the ratio of auxiliary health workers to the population cannot be based only on the results obtained from the household survey and the medical examination. This is because the magnitude of utilisation rate in nomadic areas is different from that of urban or sedentary population in the villages. Nomads usually stay together in a small unit consisting of two to three tents and these are dispersed over vast areas. In such conditions the rate of utilization seems to be very low and usually does not exceed more than 10 visits per day or one delivery per week per auxiliary.

The average number of people per subclan is about 110 families

which is equivalent to about 600 persons, and the average coverage of a population by each team of auxiliaries is estimated at about 1000 to 1500 people distributed in one or two subclans situated near each other.

Finally, much remains to be learned about the demography and health aspects of nomadic population in Iran and other countries.

I am confident that the experience gained here will serve as a basis for further studies into the health problems of nomads. It is also hoped that the data presented on the demography and disease among these people in this thesis will contribute to the health planners in developing health services for tribal populations in Iran.

Since personal experience has shown how great are the needs of these people, it would be encouraging to see greater efforts being made to improve the standard of health of tribal people in Iran.

APPENDIX I

The questionnaires, physical examination sheet and laboratory diagnosis sheet used in various aspects of demography and morbidity surveys in Qashqai tribe are:

1. Household questionnaire: Questionnaire No. 1
2. Vital events questionnaire: " No. 2
3. Fertility and birth control questionnaire: Questionnaire No. 3
4. Individual questionnaire and clinical examination sheet: " No. 4
5. Laboratory sheet
6. Final diagnosis sheet
7. Original schedules in Farsi language.

Household Questionnaire

Place of Interview: Summer quarters

Winter quarters

Route

Name of nearest village to the place of interview:

Name of interviewee and his relationship to household

Name of interviewer

Date of interview

Name of obbeh

Name of subclan

Name of clan

Name of head of household

Name and surname	Household membership in order		Sex 1 = M 2 = F	Age Year (more than 1 year)	Age Month (infants)	Relationship to head of household	Marital status	Absentees	Occupation	Literacy	Sickness during last two weeks: Yes or No	Sickness during last two weeks: If yes, did you refer for treatment? To whom?	Sickness during last two weeks: After how many days?	Hospitalization during last 12 months: Yes or No	Hospitalization during last 12 months: If yes, reason for	Hospitalization during last 12 months: Bed-ridden	Hospitalization during last 12 months: If yes, how many times?	Hospitalization during last 12 months: If yes, how many days?	Bedridden at tent during last month: Yes or No	Bedridden at tent during last month: If yes, how many days
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37 38 39	40	41 42

Vital Events Questionnaire (No. 2)

Place of interview:

Summer quarters

Winter quarters

Route

Name of nearest village

Name of ob eh

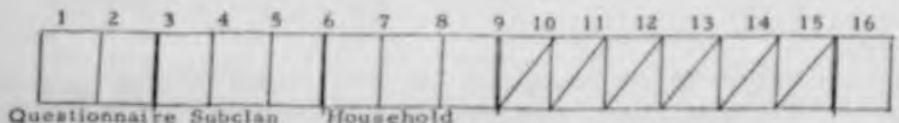
Name of subclan

Name of clan

Name of head of household

Name of interviewee

Date of interview



Did any "live birth" occur during last 18 months in this household?

(From the time of last summer quarters to the time of present summer quarters)

Yes = 1, No = 8, Unstated = 9 — 17 ☐

If yes: No. of boys — 18 ☐

No. of girls — 19 ☐

Did any person of household die during last 12 months?
(This question also includes infants who were born and died during last 12 months)

Yes = 1, No = 8, Unstated = 9

20 ☐

If yes, characteristics of deceased person(s) write down

	sex	age of deceased year	age of deceased month	place of death
First	21	22	23 24	25 26
second	27	28	29 30	31 32
third	33	34	35 36	37 38

Did any marriage occur during last 18 months in this household

Yes: boy = 1, girl = 2
No = 8
Unstated = 9

☐ 39

Type of kinship of married couples:

1 = kinship grade I
2 = kinship grade II
3 = kinship grade III
4 = No relationship
5 = unknown

40 ☐

If yes, marital condition of couples before this

1 = single (male and female)
2 = divorced or separated
3 = widowed or widowered
4 = polygamist (only married man)
5 = unstated

41 ☐

Did any divorce occur during last 12 months in this family?

1 = yes, male
2 = yes, female
8 = no
9 = unstated

42 ☐

If yes, age at the time of divorce

male 43 44 ☐☐

female 45 46 ☐☐

If yes, duration of marriage couples were together by years

47 48 ☐☐

Did any person or persons of this household emigrate from this obeh or subclan during last 12 months?

1 = Yes
8 = No
9 = Unstated

49 ☐

If yes: Number of persons who have emigrated

50 51 ☐☐

If yes, characteristics of emigrated persons - write down:

	Reason	dura-tion	destin-ation	Sex	age
first person					
2nd person	52 ☐	53 ☐	54 ☐	55 ☐	56 57 ☐☐
3rd person	58 ☐	59 ☐	60 ☐	61 ☐	62 63 ☐☐
4th person	64 ☐	65 ☐	66 ☐	67 ☐	68 69 ☐☐
	70 ☐	71 ☐	72 ☐	73 ☐	74 75 ☐☐

Fertility and Birth Control Questionnaire (No. 3)

(Currently married women 15-44)

Place of interview:
Summer quarters
Winter quarters
Route

Name of ob eh
Name of subclan
Name of clan
Name of head of household
Nameof interviewee
Name of interviewer
Date of interview

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ques No.		Subclan No.			Household No.			Individual No.		Sex	Year		Month Age		Team No.

What is your age? 17 18

At what age did you begin puberty? (first mensis) 19 20

How old were you at first marriage? 21 22

How old were you at first pregnancy? 23 24

How many times have you been pregnant? 25 26

How many children have you? 27 28

How many times have you had twins? 29

How many live children have you born from the beginning of marriage until now? 30 31

Are you pregnant now or not 32

Yes = 1, No = 8, Unknown = 9

Have you ever had a miscarriage or abortion?

No. of miscarriages 33

No. of induced abortions 34

Have you ever born a dead infant?

No. of stillbirths 35

Did any of your children die, from the beginning of marriage to the present? 36

No. of deceased children

If yes, write the age of each deceased child as follows:

No. of deaths occurred during the first 24 hours of life 37

No. of deaths occurred between 24 hours and first week of life 38

No. of deaths occurred between first 7 and 29 days of life 39

No. of deaths between 1-12 months 40

No. of deaths in children 1 to 4 years 41 ☐

No. of deaths after first four years of age 42 ☐

Did any birth occur during last 12 months?

1 = yes, 8 = no, 9 = unstated 43 ☐

If yes, by whom did you have the baby delivered?
1 = relatives and neighbours
2 = untrained local midwife
3 = trained local midwife
4 = educated midwife
5 = doctor
6 = self
7 = others
9 = unstated 44 ☐

If yes, where did you have the last delivery?
1 = on route of migration
2 = at tent
3 = at residential house
4 = at dispensary
5 = at maternity hospital
6 = others
9 = unknown 45 ☐

If yes, what were the medical expenses of last delivery
1 = free of medical charge or about 100 Rials
2 = From 100 to 490 Rials
3 = From 500 to 990 Rials
4 = 1000 to 4990 Rials
5 = 5000 Rials and over
9 = Unknown 46 ☐ 47 ☒

Did any of your children die during the last 12 months? 48

1 = yes, 8 = no, 9 = unstated ☐

If yes, where did your child die?

1 = on the route of migration
2 = at summer quarters
3 = at winter quarters
4 = other places
9 = unstated 49 ☐

In your opinion, birth of children is in the hands of couples?

1 = yes, 8 = no, 9 = unstated 50 ☐

Have you ever heard that married couples do something to prevent getting pregnant?

1 = yes, 8 = no, 9 unstated 51 ☐

In your opinion, what is the advantage in having children

1 = help with family earning
2 = help with work
3 = to carry on the family
4 = no advantage
5 = others
9 = unstated 52 ☐

In your opinion, what are the disadvantages in having children?

8 = no disadvantages
1 = increase the family expenses
2 = they fall ill
3 = difficult to train
4 = they need care
5 = others
9 = unstated

53 ☐

How many children do you think would be ideal for the average married couples in a family?

Among these children how many should be

boys 54 ☐

girls 55 ☐

In your opinion, what is the ideal age for marriage for

boys 56 57 ☐☐

girls 58 59 ☐☐

Would you like to prevent yourself *from becoming pregnant?*

1 = yes, 8 = no, 9 = unstated

60 ☐

If yes, are you currently using one of the contraceptive methods

1 = yes, 8 = no, 9 = unstated

61 ☐

If yes, what is it?

1 = coitus interruptus
2 = condom
3 = rhythm
4 = pill
5 = IUD
6 = others
9 = unknown

62 ☐

If yes, how long have you used continuously contraceptive method?

63 64 year ☐☐ 65 66 month ☐☐

If yes, from where or whom did you learn this method?

1 = relatives, neighbours
2 = health workers & family planning agencies
3 = mass communications (radio, TV, journal, newspaper)
4 = spouse
5 = others
9 = unknown

67 ☐

Are you interested in using contraceptive methods, what is your reason for not using it?

1 = fear of its side effects
2 = opposition of husband
3 = unavailability of method
4 = moral and religious points of view
9 = unknown

68 ☐

Individual and Clinical Questionnaire (no. 6)

Name of Obuh
Name of subclan
Name of clan

Name of head of household
Name(s) of examined persons
Place of examination - summer quarters
winter quarters
on pathway

Date of the survey

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Questionnaire No. Subclan No. Household No. Individual No. Sex year month Age Tribe No.

Case History and Subjective Symptoms

Classification of complaints

Pregnancy	17
Dental trouble	18
Gastro-intestinal pain	19
Other pain (specify)	20
Fever	21
General weakness	22
Digestive trouble	23
Respiratory complaint	24
Mental disorder	25
Nervous disorder	26
Heart complaint	27
Skin trouble	28
Urinary complaints	29
Injuries and immediate complication	30
Latent complication	31
Other (specify)	32

How long have you been ill?
(in days) 32 33 34

Physical Examination

(1-16)

General Fitness

Body temp. 17 18 19

Body height (cm) 20 21 22

Body weight (kg) 23 24 25 26 27

Blood pressure max 28 29 30

min 31 32 33

General signs

BCG scar 34

Smallpox scar 35

Pock marked 36

Eyes

Vision:

Normal 37

Blindness 38

Impaired vision and other 39

Conjunctivae:

Acute trachoma 40

Cicatrized trach. 41

Other conjunctivitis 42

Cornea and lens

Cataracta (uni or bilateral 43

Corneal opacities 44

Other eye diseases 45

Ears

Suppurative otitis 46

Impaired hearing 47

Other (specify) 48

Tonsils

Normal 49

Non suppurative tonsillitis 50

Suppurative tonsillitis 51

Other (specify) 52

Skin and hair

Scalp ring worm (fungal infections of hair) 53 ☐

Infectious dermatitis 54 ☐

Allergic dermatitis 55 ☐

Other (specify) 56 ☐

Bones

Normal 57 ☐

Rickets 58 ☐

Others (specify) 59 ☐

Joints

Normal 60 ☐

Acute arthritis 61 ☐

Others (specify) 62 ☐

Abdomen

Normal 63 ☐

Hernia (all types) 64 ☐

Sicatris of the previous operations 65 ☐

Other (specify) 66 ☐

Liver

Normal 67 ☐

Hepatomegaly 68 ☐

Spleen

Normal 69 ☐

Splenomegaly 70 ☐

Lymph gland

Normal 71 ☐

Localized inflammatory gland 72 ☐

Other (specify) 73 ☐

Thyroid gland

Hypertrophia 74 ☐

Other (specify) 75 ☐

Card No. 2

Codes (1-16)

Respiratory system

Normal — 17 ☐

Abnormal (sick) — 18 ☐

Cardio-vascular system

Systolic and/or diastolic murmur — 19 ☐

Varicosis of vein — 20 ☐

Other (specify) — 21 ☐

Teeth

Non-carious teeth — 22 ☐

Carious and decayed teeth — 23 ☐

Extracted and missing teeth — 24 ☐

Filled teeth — 25 ☐

Physical handicaps

1 = congenital, 2 = acquired

Blindness — 26 ☐

Deafness and mutism — 27 ☐

Crippled or limb defect — 28 ☐

Other diseases (explain) — 29 ☐

Card No. 3

Primary or Provisional Diagnosis

Name and surname of examined person

Name of the head of household

Name of ob. eh

Name of subclan

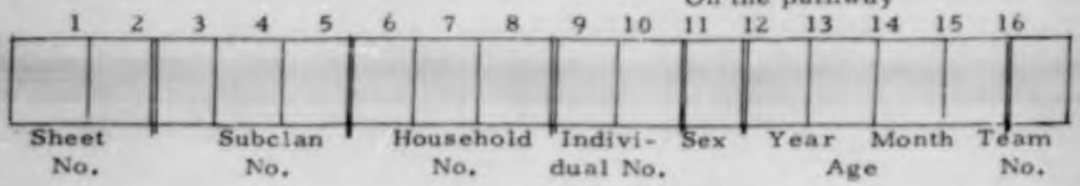
Date of survey

Place of examination

Summer quarters

Winter quarters

On the pathway



Primary or provisional diagnosis

1 [30][31]

2 [32][33]

3 [34][35]

4 - Hospitalization

5 - Specialized treatment out of province

Categories of the health status of individual

1 - Healthy

2 - Moderately healthy

3 - Apparently ill

[36]

Therapeutic need

8 - Treatment-free patient (no need)

1 - Prescription only [37]

2 - Primary care level

3 - Out-patient care level of district or provincial Health Centre

Laboratory Form

Name
Surname
Date of Examination

Name of Obeh
Name of Subclan
Name of Clan

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Sheet No. | Subclan No. | Household No. | Individual No. | Sex | Year Age | Month | Team No.

1 = positive, 8 = negative, 0 = unknown

Haemoglobin(g/ml) 17 18 19

Haematocrit (%) 20 21

Total serum protein 22 23 24 25

Blood groups

A	26
B	27
O	28
AB	29
Rh	30

Stool Examination (intestinal parasites)

Ascaris	31
Hookworm	32
Trichuris	33
Trichostrongyloides	34
Hymenolepis nana	35
Enterobius vermicularis	36

E. histolytica cyst	37
Giardia	38
Others (specify)	39
Unknown	40

Serological Tests

Brucellosis	41
Syphilis	42

Typhoid

Typhic	43
Para A	44
Para B	45

Blood Parasites

Malaria	46
Borrelia	47

Test of Tuberculin 48

Size of reaction 49 50

Blood sample 51
Stool specimen 52

Results of the Final Diagnosis

Name
Surname
Date of Examination

Name of Obah
Name of Subclan
Name of Clan

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Sheet No. | Subclan No. | Household No | Individual No. | Sex | Year Age | Month | Team No.

Main diagnosis 17 18

Sub-diagnoses

1 19 20

2 21 22

3 23 24

International Code for the main diagnosis 25 26 27 28

Preventability of the main disease 30

1. Preventable under observed conditions
2. Preventable under ideal conditions
3. Probably preventable
4. Non-preventable
5. Unknown

Methods used for the determination of main diagnosis 29

1. Symptomatic diagnosis
2. Diagnosis with the aid of Physician (symptomatic, case history and physical examination)
3. Clinical and laboratory diagnosis
4. Only by laboratory results

Prognosis 31

1. Good without intervention
2. Good but with intervention
3. Essentially poor but modifiable
4. Poor but susceptible to symptomatic treatment
5. Poor irrespective of help offered
6. Cannot be determined

طرح بررسی عوامل جمعیتی بهداشتی و اجتماعی در عشایر فارس

فرم خانوار

محل مصاحبه: بیلاق ☐ قشلاق ☐ در مسیر ☐

نام اویه:

نام تیره:

نام طایفه:

نام رئیس خانوار:

نام نزدیکترین آبادی به محل مصاحبه

نام پاسخگو

تاریخ مصاحبه

نام سرپرستگر

۱	۲	۳	۴	۵	۶	۷	۸	۹	۱۰	۱۱	۱۲	۱۳	۱۴	۱۵	۱۶
۰	۲														

شماره فرم — شماره تیره — شماره خانوار — شماره سرپرستگر

۴۰	۴۱	۴۲	۴۳	۴۴	۴۵	۴۶	۴۷	۴۸	۴۹	۵۰	۵۱	۵۲	۵۳	۵۴	۵۵	۵۶	۵۷	۵۸	۵۹	۶۰
بستری در منزل در یکماه اخیر																				
اگر بلی چند روز	بلی یا خیر																			
بادر ۲ ماه گذشته بکشب یا بیشتر در بیمارستان بستری بوده است																				
اگر بلی چند روز																				
اگر بلی چند بار																				
اگر بلی علت بستری شدن																				
بلی یا خیر																				
بیماری درد و خسته گذشته																				
چند روز بعد																				
چه اقدامی انجام داد																				
بلی یا خیر																				
وضع اشتغال																				
اصلی																				
موقعیت در شغل																				
وضع سواد																				
حضور و غیاب افراد																				
وضع زناشوئی																				
نسبت با رئیس خانوار																				
سن																				
بماه (برای افراد کمتر از یک سال)																				
بسال (برای افراد بیشتر از یکسال)																				
جنس ۱=مرد ۲=زن																				
شماره فرد در خانوار																				
نام و نام خانوادگی																				
۱۷	۱۸	۱۹	۲۰	۲۱	۲۲	۲۳	۲۴	۲۵	۲۶	۲۷	۲۸	۲۹	۳۰	۳۱	۳۲	۳۳	۳۴	۳۵	۳۶	۳۷

۱۳۲/۵۶/۵۰۰۰

طرح بررسی مسائل جمعیتی وبهداشتی واجتماعی درعشایرفارس

فرم وقایع حیاتی (تولد ــ مرگ ــ ازدواج ــ مهاجرت)

نام ایه:　　نام تیره :　　نام اینه　　محل مصاحبه:　　ییلاق☐ قشلاق☐ مسیر☐

نام رئیس خانوار:

نام ونام خانوادگی پاسخگو　　نام نزدیکترین آبادی بمحل مصاحبه　　تاریخ تنظیم:

۱	۲	۳	٤	٥	٦	۷	۸	۹	۱۰	۱۱	۱۲	۱۳	۱٤	۱٥	۱٦	۱۷
۰	۲															
شماره فرم		شماره تیره			شماره خانوار											شماره پرسشگر

آیا در ۱۲ ماه گذشته در این خانواده طفل زنده ای متولد شده است ؟
(از زمان ییلاق گذشته تا ییلاق کنونی)

۱۸
۱ = بلی
۸ = نمیدانم
۹ = اظهار نشده

اگر بلی :

۱۹ تعداد پسر
۲۰ تعداد دختر

آیا در ۱۲ ماه گذشته عضوی از خانواده شما فوت کرده است ؟
(این سئوال شامل نوزادانی که طی ۱۲ ماه گذشته بدنیا آمده وفوت کرده اند میشود)

۲۱
۱ = بلی
۸ = نمیدانم
۹ = اظهار نشده

اگر بلی مشخصات فوت شدگان یادداشت شود

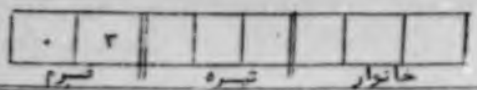
	محل فوت	سن				جنس
		ماه		سال		
اولین	۲۷	۲٦	۲٥	۲٤	۲۳	۲۲
دومین	۳۳	۳۲	۳۱	۳۰	۲۹	۲۸
سومین	۳۹	۳۸	۳۷	۳٦	۳٥	۳٤

آیا در ۱۲ ماه گذشته در این خانواده عروسی انجام گرفته است ؟

٤۰
۱ = بلی پسر
۲ = بلی دختر
۸ = نمیدانم
۹ = اظهار نشده

اگر بلی نسبت زوجین با یکدیگر

٤۱
۱ = نسبت درجه ۱
۲ = نسبت درجه ۲
۳ = نسبت درجه ۳
٤ = ناخویشاوند
۹ = اظهار



اگر بلی

وضع تأهل زوجتان موقع ازدواج

۴۲

۱ = مجرد (مرد وزن)

۲ = متاهل یا سابقه

۳ = زن مرده یا شوهر مرده

۴ = همسردار (فقط درمورد مرد)

۹ = ذکر نشده

اگربلی چند نفر

۵۱ ۵۲

اگربلی

نفر اول	۵۳	۵۴	۵۵	۵۶	۵۷	۵۸
	علت	مدت	شغل	جنس	سن	
نفر دوم	۵۹	۶۰	۶۱	۶۲	۶۳	۶۴
نفر سوم	۶۵	۶۶	۶۷	۶۸	۶۹	۷۰
نفر چهارم	۷۱	۷۲	۷۳	۷۴	۷۵	۷۶

آیا طی یکسال اخیر طلاق در این خانواده واقع شده است

۴۳

۱ = بلی مرد (طلاق داده)

۲ = بلی زن (طلاق گرفته)

۸ = خیر

۹ = اظهار نشده

اگربلی سن درموقع طلاق:

۴۴ ۴۵

سن مرد

۴۶ ۴۷

سن زن

اگربلی (طلاق) مدت زناشوئی چند سال طول کشیده بود .

۴۸ ۴۹

آیا طی ۱۲ ماه گذشته شخص یا اشخاصی از خانواده شما ازاینجا به نقطه خارج شده اند ؟

۵۰

۱ = بلی

۸ = خیر

۹ = اظهار نشده

نام ایل یا طایفه: نام تیره: نام طایفه: نام رئیس خانوار:
نام و نام خانوادگی پاسخگو: تاریخ مصاحبه: نام پرسشگر:

محل مصاحبه: ییلاق ☐ قشلاق ☐ در مسیر ☐

۱	۲	۳	۴	۵	۶	۷	۸	۹	۱۰	۱۱	۱۲	۱۳	۱۴	۱۵	۱۶
۰	۴														
شماره فرم		شماره تیره		شماره خانوار			شماره فرد		سال		ماه			شماره پرسشگر	

سن

سن شما چقدر است؟ ۱۷ ۱۸ ☐☐

در چه سنی قاعده شدید؟ ۱۹ ۲۰ ☐☐

برای اولین بار در چه سنی ازدواج کردید؟ ۲۱ ۲۲ ☐☐

برای اولین بار در چه سنی حامله شدید؟ ۲۳ ۲۴ ☐☐

از اولین ازدواج تاکنون چند بار حامله شده‌اید؟ ۲۵ ۲۶ ☐☐

در حال حاضر چند فرزند زنده دارید؟ ۲۷ ۲۸ ☐☐

چند بار تاکنون دوقلو زایمان داشته‌اید؟ ۲۹ ☐

از اولین ازدواج تاکنون چند طفل زنده به دنیا آورده‌اید؟ ۳۰ ۳۱ ☐☐

آیا در حال حاضر حامله هستید؟ ۳۲ ☐
۱ بلی ۸ نمی‌دانم ۲ نمی‌دانم

آیا تاکنون سقط داشته‌اید؟ تعداد دفعات ۳۳ ☐

تعداد دفعات ۳۴ ☐

از اولین ازدواج تاکنون چند طفل مرده به دنیا آورده‌اید؟ ۳۵ ☐

از اولین ازدواج تاکنون چند فرزند شما مرده است؟ ۳۶ ☐

اگر فرزند مرده داشته‌اید سن آنها را دقیقاً مشخص کنید:

تعداد مرگ در ۲۴ ساعت اول بعد از زایمان ۳۷ ☐

تعداد مرگ بعد از ۲۴ ساعت اول و قبل از یک هفته ۳۸ ☐

تعداد مرگ بعد از یک هفته اول و قبل از یکماه ۳۹ ☐

تعداد مرگ بعد از یکماه و قبل از یکسالگی ۴۰ ☐

تعداد مرگ از ۱ - ۴ سالگی ۴۱ ☐

تعداد مرگ بعد از ۵ سالگی ۴۲ ☐

آیا در ۲ سال گذشته طفل زنده‌ای به دنیا آورده‌اید؟ ۴۳ ☐
۱ بلی ۸ نمی‌دانم ۲ بیاد نمی‌آورم

اگر بلی در موقع وضع حمل چه کسی به شما کمک کرده؟ ۴۴ ☐

۱ خویشان و همسایگان
۲ قابله محلی تعلیم ندیده
۳ قابله محلی تعلیم دیده
۴ قابله تحصیل کرده
۵ طبیب
۶ هیچکس
۷ غیره (مشخص شود)
۹ مشخص نشده

اگر بلی، آخرین فرزند را در کجا به دنیا آورده‌اید

۱ - در راه موقع حرکت
۲ - در زیر چادر
۳ - در خانه مسکونی
۴ - در زایشگاه
۵ - در زایشگاه بیمارستان
۶ - سایر (مشخص شود)
۹ - مشخص نشده

اگر بلی، مخارج زایمان چقدر بوده است (برحسب تومان)

۱ - رایگان یا کمتر از ۱۰ تومان
۲ - از ۱۰ تا ۴۹ تومان
۳ - از ۵۰ تا ۹۹ تومان
۴ - از ۱۰۰ تا ۴۹۹ تومان
۵ - از ۵۰۰ تومان به بالا
۹ - مشخص نشده

آیا در طی ۱۲ ماه گذشته فرزند کمتر از یکسال شما فوت کرده است؟

۱ - بلی
۸ - خیر

اگر بلی در کجا فوت کرده است

۱ - موقع حرکت
۲ - ییلاق
۳ - قشلاق
۴ - بیمارستان، دیگر (مشخص شود)

آیا بنظر شما تولد بچه بدست خود انسان است

۷ - ؟
۱ - بلی
۸ - خیر
۹ - اظهار نشده

آیا شنیده‌اید که میتوان از حاملگی جلوگیری کرد.

۱ - بلی ۸ - خیر ۹ - اظهار نشده

بنظر شما فرزند برای شما چه فایده‌ها دارد.

۱ - کمک خرج
۲ - کمک در کار
۳ - نگهدار دودمان
۴ - فایده‌ای ندارد
۵ - موارد دیگر (مشخص شود)
۹ - اظهار نشده

۵۲

بنظر شما فرزند برای شما چه زحمت و دردسرهایی دارد.

۸ - هیچ دردسری ندارد
۱ - هزینه خانواده را بالا میبرد
۲ - بیمار میشود
۳ - خوب تربیت نمیشود
۴ - مواظبت لازم دارد
۵ - موارد دیگر (مشخص شود)
۹ - اظهار نشده

آیا بنظر شما یک خانوار معمولاً باید چند فرزند داشته باشد

تعداد پسر
تعداد دختر

بنظر شما برای عروسی چه سنی بهتر است.

۵۵ ۵۶ برای پسر
برای دختر

۵۹

آیا میل دارید از داشتن بچه جلوگیری کنید.

۱ - بلی
۸ - خیر
۹ - تعداد به دست خدا (بدون جواب)

۶۰

اگر بلی آیا تاکنون یکی از روش‌های جلوگیری از حاملگی را بکار برده‌اید

۱ - بلی
۸ - خیر
۹ - بدون جواب

اگر بلی از چه روشی استفاده میکنید ٦١

۱ـ مقاربت منقطع

۲ـ کاندوم

۳ـ دوره‌های ایمنی

٤ـ قرص

٥ـ IUD

٦ـ غیره (مشخص شود)

۹ ـ تعیین نشده

اگر بلی، چه مدت است از این روش بطور مداوم استفاده میکنید ؟

٦٢ ٦٣ ٦٤ ٦٥

سال ماه

اگر بلی این روش را چه کسی یا مرجعی بشما توصیه کرده ؟ ٦٦

۱ ـ خویشان و همسایگان

۲ ـ مأمورین بهداشت و تنظیم خانواده

۳ ـ پزشک

٤ ـ از طریق رادیو ـ مجله ـ روزنامه ، تلویزیون

٥ ـ از همسر خود

٦ ـ غیره (مشخص شود)

۹ ـ نامعلوم و تعیین نشده

اگر میل دارید از حاملگی جلوگیری کنید ولی از روش های جلوگیری استفاده نمی‌کنید علت را شرح دهید ٦٧

۱ ـ ترس از عوارض

۲ ـ مخالفت شوهر

۳ ـ عدم دسترسی بوسیله

٤ ـ اشکال مذهبی و اخلاقی

٥ ـ غیره مشخص شود

۹ ـ تعیین نشده

فرم فردی ـ بالینی

نام ده ____ نام تیره ____ نام طایفه ____ نام رئیس خانوار ____

نام و نام خانوادگی معاینه‌شونده ____ تاریخ معاینه ____ محل معاینه: ____

درمسیر ☐ بیلاق ☐ قشلاق ☐

۱	۲	۳	۴	۵	۶	۷	۸	۹	۱۰	۱۱	۱۲	۱۳	۱۴	۱۵	۱۶
۴	۱														

شماره فرم | شماره تیره | شماره خانوار | شماره فرد | جنس | سال | ماه | شماره شناسنامه

سن

تاریخچه و اطلاعات سوژکتیو

تاریخچه بیماری :

آیا در حال حاضر از بیماری یا ناراحتی ۱۷ ☐
شکایت دارید ؟

اگر بلی آنها را مختصراً شرح داده مهمترین و سخت‌ترین آنها را مشخص نمائید .

دایمه بندی ناراحتی اصلی بیمار ۱۸ ۱۹ ☐☐
آیا ناراحتیهای زیر را دارید :

سرفه ۲۰ ☐

اسهال یا استفراغ ۲۱ ☐

باذکر نام ناراحتی اصلی سئوال کنید طول مدت آن چقدر است ؟ ۲۲ ۲۳ ☐☐

ماه ۲۴ ۲۵ ☐☐

آیا برای معالجه بیماری خودتان اقدام کرده‌اید ؟ ۲۶ ☐
اگر جواب مثبت است مختصراً شرح دهید :

برای معالجه بیماریتان یک یا چند از افراد ذیل مراجعه کرده‌اید (درصورت مثبت بودن پاسخ تعداد دفعات مراجعه داخل خانه داده شود)

حکیم باشی ۲۷ ☐

داروخانه‌چی ۲۸ ☐

قابله محلی تعلیم ندیده ۲۹ ☐

قابله محلی تعلیم دیده ۳۰ ☐

قابله تحصیلکرده ۳۱ ☐

پزشک خصوصی ۳۲ ☐

پزشک دولتی ۳۳ ☐

انواع دیگر (مشخص شود) ۳۴ ☐

در دو هفته اخیر برای معالجه بیماریتان چه داروئی ۳۵ ☐
دواجات خانگی و سایر درمانهای محلی

داروهای خریداری شده از داروخانه ۳۶ ☐
۳۱/۵۲/۰۰۰

شماره فردی [|] شماره خانوار [| |] شماره شهر [| |]

فرم فردی ـ معاینات بالینی
تاریخچه و اطلاعات سوبژکتیو

۳۷ ۳۸
[X][X]

طبقه بندی ناراحتیهای بیمار بوسیله پزشک : ۳۹			
حاملگی	[ ]	ناراحتیهای دستگاه ادراری	۵۱ [ ]
ناراحتیهای دستگاه تناسلی	۴۰ [ ]	صدمات تازه	۵۲ [ ]
درد استخوانی عضلانی	۴۱ [ ]	عوارض صدمات گذشته	۵۳ [ ]
سایر دردها (مشخص شود)	۴۲ [ ]	انواع دیگر (مشخص شود)	۵۴ [ ]
[illegible]	۴۳ [ ]	شکایتی ندارد	۵۵ [X]
		دندانها	
ضعف عمومی	۴۴ [ ]	طبیعی (همگی سالم)	۵۶ [ ]
		وجود دندان معیوب (پوسیده)	۵۷ [ ]
ناراحتیهای گوارشی	۴۵ [ ]	دندان کشیده یا افتاده	۵۸ [ ]
		دندان پرکرده	۵۹ [ ]
ناراحتیهای تنفسی	۴۶ [ ]	لثه‌ها	۶۰ [ ]
		نقص عضو	
ناراحتیهای روانی	۴۷ [ ]	۱ = مادرزادی ۲ = اکتسابی ۳ = هردو	۶۱ [ ]
ناراحتیهای عصبی	۴۸ [ ]	کوری	۶۲ [ ]
		کری ولالی	۶۳ [ ]
ناراحتیهای قلبی	۴۹ [ ]	چلاقی	۶۴ [ ]
ناراحتیهای پوستی	۵۰ [ ]	شماره کارت	۸۰ [۱]

۱۳۰۱/۰۴/ــــ

شماره فردی ☐☐ شماره خانوار ☐☐☐ شماره تیره ☐☐☐

فرم فردی ـ معاینات بالینی

۱ ۱۶

کد مربوط به اطلاعات عمومی صفحه اول

وضع عمومی

درجه حرارت ۱۷ ۱۸ ۱۹ ☐☐☐

قد ۲۰ ۲۱ ۲۲ ☐☐☐

وزن ۲۳ ۲۴ ۲۵ ۲۶ ۲۷ ☐☐☐☐☐

فشارخون ماکزیمم ۲۸ ۲۹ ۳۰ ☐☐☐

فشارخون مینیمم ۳۱ ۳۲ ۳۳ ☐☐☐

علائم عمومی

اثر ب ، ث ، ژ ۳۴ ☐

اثر واکسن آبله ۳۵ ☐

آثار بیماری آبله ۳۶ ☐

چشم ها (قدرت بینائی)

بینا ۳۷ ☐

نابینا ۳۸ ☐

انواع دیگر (مشخص شود) ۳۹ ۰ ☐

طنجمه

تراخم حاد ۴۰ ☐

تراخم التیام یافته ۴۱ ☐

انواع دیگر (مشخص شود) ۴۲ ☐

قرنیه وعدسی

آب مروارید ۴۳ ☐

لک قرنیه ۴۴ ☐

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ثقل سامعه ۴۷ ☐

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طبیعی ۴۹ ☐

ملتهب ۵۰ ☐

چرکی ۵۱ ☐

انواع دیگر (مشخص شود) ۵۲ ☐

۳۱/۵۲/۰۰۰

شماره نردی ☐☐ شماره خانوار ☐☐☐ شماره تیره ☐☐☐

فرم نردی ـ معاینات بالینی

پوست و مو

کچلی سر ۵۳ ☐

درماتیت عفونی ۵۴ ☐

درماتیت آلرژیک ۵۵ ☐

انواع دیگر (مشخص شود) ۵۶ ☐

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دامبلی ۵۷ ☐

علائم سوء جذب ۵۹ ☐

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دامبلی ۶۱ ☐

التهاب مفاصل ۶۲ ☐

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شکم

تنبیدگی ۶۴ ☐

قشق ۶۵ ☐

سیکاتریس بعد از جراحی ۶۶ ☐

انواع دیگر (مشخص شود) ۶۷ ☐

کبد

طبیعی ۶۸ ☐

بزرگ ۶۹ ☐

طحال

طبیعی ۷۰ ☐

بزرگ ۷۱ ☐

شماره کارت ۸۰ ☐

شماره فردی　　　　شماره خانوار　　　　شماره خوشه

فرم فردی ـ معاینات بالینی

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کد مربوط به اطلاعات عمومی صفحه اول

غدد لنفاوی

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۱۸ ☐ تورم موضعی

۱۹ ☐ انواع دیگر (مشخص شود)

غده تیروئید

۲۰ ☐ هیپرتروفی

۲۱ ☐ انواع دیگر (مشخص شود)

دستگاه تنفس

۲۲ ☐ طبیعی

۲۳ ☐ بیمار (مشخص شود)

قلب وعروق

۲۴ ☐ سوفل ارگانیک

۲۵ ☐ واریس

۲۶ ☐ انواع دیگر (مشخص شود)

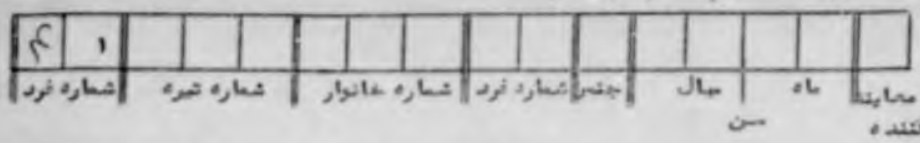
۲۷ ☒

۲۸ ☐ سایر بیماریها وعلائم بیماری نوشته شود

فرم نتیجه معاینات بالینی وفیزیکی پزشک (تشخیص ابتدائی)

نام ثبره　　نام ناحیه　　محل معاینه　　ییلاق　　قشلاق　　مسیر

نام فرد　　نام پدر　　نام خانوادگی　　تاریخ تنظیم



تشخیص‌های اولیه :　۲۹ ۳۰

۱ــ

۲ــ　۳۱ ۳۲

۳ــ　۳۳ ۳۴

درجه بندی وضع عمومی فرد

۱ــ کاملاً سالم

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۳ــ بیماری آشکار

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۱ــ عکس‌العمل اشتغال درکار بعلت بیماری　۳۶

۲ــ بستری بودن بااحتیاج بکمک دیگران

ب ــ ناتوانی درکار (طویل المدت)

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۲ــ به‌تر نبودن بااحتیاج بکمک دیگران

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۸ــ احتیاج ندارد

۱ــ با استفاده از داروی تجویز شده خوب خواهد شد .

۲ــ علاوه برمصرف دارو باید تحت نظر پایگاه مرکز بهداشتی درجه ۴ باشد .

۳ــ باید جهت معالجه سرپائی به مرکزشهرستان یا مرکز استان اعزام گردد .

۴ــ احتیاج به بستری شدن دربیمارستان دارد .

۵ــ باید جهت هرنوع مداوا به خارج از استان اعزام گردد .

۸۰
۲

شماره کارت

۱۳۵۲۰۵

طرح بررسی مسائل جمعیتی بهداشتی و اجتماعی در عشایر فارس

فرم آزمایشگاه

نام اوبه : نام تیره : نام طایفه :

نام نام پدر نام خانوادگی تاریخ تنظیم

۱	۲	۳	۴	۵	۶	۷	۸	۹	۱۰	۱۱	۱۲	۱۳	۱۴	۱۵	۱۶
٤	٢														
شماره فرم		شماره تیره			شماره خانوار			شماره فرد		جنس	سن: سال		ماه		شماره مصاحبه کننده

رابطه با ... تست : مثبت بلی [۱] منفی خیر (منفی) [۸] نامعلوم [۰] رابطه ندارد [ ]

هموگلوبین (گرم در صد) ۱۷ ۱۸ ۱۹

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B ۴۷

O ۴۸

AB ۴۹

RH ۵۰

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آسکاریس ۵۲

کرم قلابدار ۵۳

تریکوسفال ۵۴

تریکو استرونژیلوس ۵۵

هیمنولپیس نانا ۵۶

اکسیور ۵۷

انتاموباهیستولیتیکا ۵۸

ژیاردیا ۵۹

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بروسلوز ۶۲

توبرکولین تست ۶۳

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مالاریا ۶۶

اسپیروکت ۶۷

تیفوئید ۶۸

تیفیک ۶۹

پارا آ (Para A) ۶۹

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نمونه مدفوع : ۷۲

طرح بررسی مسائل جمعیتی وبهداشتی واجتماعی درعشایر فارس

فرم تشخیص ونتیجه نهائی

نام تیره نام طایفه محل معاینه: نام خانوادگی تاریخ تنظیم سیر قشلاق ییلاق

نام فرد نام پدر

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
٤	٣														

شماره فرم | شماره تیره | شماره خانوار | شماره فرد | جنس | سال | ماه | شماره معاینه کننده

سن

لیقه بندی نهائی ناراحتی اصلی بیمار — 17 18

تشخیص نهائی :

کد قراردادی — 19 20

کد بین المللی — 21 22 23 24

25 26

درجه بندی وضع عمومی فرد : — 27

١ــ کاملا" سالم
٢ــ سلامت نسبی
٣ــ بیماری آشکار

چگونه بیماری اصلی تشخیص داده شد : — 28

١ــ تشخیص سمپتوماتیک
٢ــ تشخیص با نظر پزشک (سمپتوماتیک تاریخچه معاینات بالینی)
٣ــ تشخیص با استفاده ازکمکهای پاراکلینیکی
٤ــ تشخیص فقط باکمک پاراکلینیک

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١ــ قابل پیشگیری بطورکامل درشرایط موجود
٢ــ قابل پیشگیری بطورکلی
٣ــ قابل پیشگیری بطورنسبی
٤ــ غیرقابل پیشگیری
٥ــ نامعلوم

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١ــ خوب بدون دخالت پزشک
٢ــ خوب ولی باد خالت پزشک
٣ــ اساسا" بد ولی قابل اصلاح نسبی
٤ــ اصولا" بد ولی درمان علامتی لازم است
٥ــ بدوغیرقابل اصلاح باد خالت پزشک
٦ــ نامعلوم

کمکهای تشخیصی : — 31

٨ــ احتیاج ندارد
١ــ درحد مرکزبهداشتی درجه ٤
٢ــ درحد شهرستان
٣ــ درحد مرکزاستان
٤ــ درحد مراکزتخصصی خارج ازاستان

کمکهای درمانی : — 32

٨ــ احتیاج ندارد
١ــ با استفاده ازداروی تجویزشده خوب خواهد شد
٢ــ علاوه برمصرف داروباید تحت نظرپزشک مرکزبهداشتی درجه ٤ باشد
٣ــ باید جهت معالجه سرپائی به مرکزشهرویا مرکزاستان اعزام گردد .
٤ــ احتیاج به بستری شدن دربیمارستان دارد
٥ــ باید جهت هرنوع مداوا به خارج ازاستان اعزام گردد .

شماره کارت — 80 — 1

APPENDIX II

Definitions:

In order to utilize effectively the data presented in this report it is absolutely essential for the reader to familiarize himself with the definitions of the terms used in this survey. These definitions are consistent with the instructions given to the interviewers and medical teams during training course in pilot survey.

Definitions and explanatory notes of important terms used in this report are listed below:

Household: a household was defined as a person or group of persons living together and eating their main meals from the same kitchen. A household, in addition to the immediate family and more distant relatives of the head of household, may also have consisted of servants, shepherd, etc., and at the time of survey present in the area or temporarily absent. In this case the duration of absence should be less than one year and certain about back home.

"De facto" and "De jure" methods: to avoid misunderstanding and wrong use of terms, it is necessary to recognise:

(a) The "de facto" or present population: the whole number present in the place where and at the moment when the census is taken.

(b) The "de jure" population or the population of habitual residence: the population whose habitual residence is the place where the census is taken includes those temporarily absent and excludes those who are only temporarily present.

Age: was recorded in completed years, except in the case of infants under one year of age, when it was recorded in completed months.

Dependency Ratio: expressed per 100 population

$$= \frac{\text{Children under 15 years + persons 65 and over}}{\text{Population in age group 15-64}} \times 100$$

Marital status: the survey recognizes as marital statuses: Never married or single; married; widowed or widowered; and divorced a or separated.

Age at first marriage: this question is asked of all current married women aged 15-44. It refers to the age of the first marriage regardless of how many marriages have occurred since the first.

Masculinity: number of males per 100 females.

Rate of natural increase: expressed per 100 population

$$\text{R. N.I.} = \frac{\text{Births in calendar year - Deaths in calendar year}}{\text{Population under study}} \times 100$$

Age specific fertility rate: =

$$\frac{\text{Births during given year to women in age group i}}{\text{Women in age group i in middle of given year}}$$

when i is any of the seven five-year age groups within the child-bearing ages.

Live birth: when a child was born alive, even if he or she died after a short time, the birth was considered to be alive birth in doubtful situations.

Crude Birth Rate: expressed per 1000 population

$$\text{C. B. R.} = \frac{\text{Births during given calendar year}}{\text{Population under study}} \times 1000$$

Crude Death Rate: expressed per 1000 population

$$\text{C. D. R.} = \frac{\text{Deaths during calendar year}}{\text{Population under study}} \times 1000$$

Infant Mortality Rate: expressed per 1000 population:

$$\text{I. M. R.} = \frac{\text{Death of children under one year of age in the calendar year}}{\text{Number of births in the same calendar year}} \times 1000$$

Foetal death: is death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy. Death is indicated by the fact that after such separation the foetus does not breathe or show any other evidence of life such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles. The World Health Organization considered that foetal deaths should be grouped into the following categories according to the age of foetus:

Group I "of less than 20 completed weeks of gestation" called "early foetal deaths".

Group II 'of less than 28, but more than 20 completed weeks of gestation" called "Intermediate foetal deaths".

Group III "of 28 or more completed weeks of gestation" called "Late foetal deaths".

Still births: a still birth was recorded when the child although well-formed showed no sign of life whatsoever after birth. Under this definition foetal losses occurring within the first few months after conception were excluded and deaths within a month of birth were included.

Peri-natal mortality: means death that occurs before birth or shortly after birth.

Neo-natal deaths: death of the live born infants during the first 28 days of life.

Post neonatal deaths: death of a live born infant between the 28th day and the first year of life.

Infant death: death of a live born infant before the first birthday.

Age specific mortality rate: expressed per 1000 population

$$= \frac{\text{Deaths occurring in given year to people in age group } i}{\text{Population in age group } i \text{ in middle of given year}} \times 1000$$

APPENDIX III

List of Complaints and their Codes

Code	Complaints (Subjective symptoms is used for Household Questionnaire)
01	Diarrhoea and/or vomiting
02	Cough
03	Fever
04	Injuries, burns and their consequences
05	Eye and/or ear disorders
06	Skin disorders, pruritus, boils, etc.
07	Abdominal pain
08	Osteo-muscular, joint pain
09	Headache
10	Throat pain, common cold
11	Palpitation
12	General weakness
13	Others

List of grouping of diseases, and other medical conditions, Medical Survey

Code	Diseases or complaints
41	Enterocolitis, gastro-enteritis, diarrhoea, dyspepsia
42	Intestinal parasites
43	Specified infectious diseases, typhoid, pertussis, F.U.O. (fever of unknown origin), etc.
44	Tuberculosis (pulmonary)
45	Chronic cough, chronic bronchitis, dyspepsia, pneumopathia
46	Common cold, influenza, tonsillopharyngitis, coryza
47	Specified upper respiratory diseases, sinusitis, tonsillitis, sore throat

Code	Diseases or Complaints
48	Specified lower respiratory diseases, pneumonia, asthma bronchiale
49	Anaemia (verosimiliter sideropenica)
50	Specified nutritional deficie[illegible]ciosi rickets, [illegible], goitre, xerophthalmia and other specified vitamin deficiencies, etc.
51	Other metabolic diseases, gout, diabetes
52	Gastritis chronica, duodenal or gastric ulcer
53	Hernia
54	Other digestive diseases, glossitis (if not nutritional), hepatitis, cirrhosis hepatis, cholecystitis
55	Trachoma
56	Conjunctivitis, blepharitis
57	Eye diseases (consequences of trauma, cataracta, eye inflammation, etc.
58	Chronic otitis media, suppurative otitis
59	Other ear diseases; impaired hearing
60	Neurosis, nervousness, hysteria
61	Other mental diseases, psychosis, mental retardation
62	Epilepsia
63	Other neurologic diseases, hemiplegia, neuritis, localised muscular atrophy
64	Rheumatic heart disease, rheumatic fever
66	Hypertension
66	Varices, haemorrhoids
67	Other cardio vascular diseases, corpulmonale, Heart failure, peripheral vascular disease
68	Woman's genital diseases, menstrual disturbances, vaginal discharge
69	Cystitis
70	Other genito-urinary diseases, kidney diseases, uremia, adenoma prostatae, nephrosis, renal calculi
71	Pyodermia, panaritium, inflammation of skin, boils, fungal infection, etc.

Code	Disease or complaint
72	Allergic skin diseases, eczema, urticaria
73	Specified osteomuscular diseases, rheumatoid arthritis, etc.
74	Osteo-muscular pain, neuralgia, spondylosis, discopathia, arthrosis, pain in shoulders, lumbar pain
75	Minor injuries, superficial wounds, contusion, minor burns
76	Other injuries and disability after broken leg, etc.
77	General weakness, asthenia, senility, not specified "avitaminosis"
78	Headache, not explained
79	Other undefined symptomatic diagnoses
80	Malignoma, and suspicious malignoma
81	Other tumours
82	Other not specified or not ascertained diseases
88	No complaints

APPENDIX IV

Provisional Functions and Content of Training the Medical Auxiliaries

The following is a summary of the provisional functions and the content of training of the medical auxiliary for the development of health services in the rural areas of Iran. At present a pilot project on the basis of utilisation of auxiliaries for the development of health care is in operation in West Azarbijan, Iran. This project is run by a joint team consisting of World Health Organization and the School of Public Health personnel. The curriculum selected for the training of the medical auxiliary for this pilot project (Project of Health Services Development Research in Iran, 1973). But we did some modification in it on the basis of the health needs of nomads.

The subject and content of the training for males and females auxiliaries should be different from each other. The provisional functions and the content of training depend on their future duties in the health care and can be summarised as follows:

(a) Provisional functions and content of training of the tribal male health workers (Behdashtyar):

1. Communicable Disease Control

   - Case finding and reporting
   - First pre-medical treatment of chosen communicable diseases
   - Initial epidemiological field survey and measures in case of epidemics
   - Vaccination (all kinds)
   - Special programmes: malaria, other if organised

2. Environmental Sanitation

- General principles of sanitation: motivation, organization and activities of local community
- Typical solutions for water, animal waste, food
- Maintenance of sanitary condition of camp site,
- Emergency measures in cases of epidemics, catastrophes, etc.
- Control and education of personnel for slaughtering (including principles of meat control)

3. Family Health

- Orientation in MCH programmes, and screening of risk families (coordination with female auxiliary)
- Introduction, motivation for and follow-up of family planning procedures, primarily through the "male channel" and evaluation through data collection.

4. First Aid in Accidents

- Haemorrhage, unconsciousness, snake bite, allergies, shock, broken extremities, head, thorax and abdomen injuries; emergency and referral
- Treatment of minor injuries
- Contents of first-aid supply and training others to use it
- Organization of work in mass disasters

5. Special (potential) programmes for screening and long-term treatment under medical supervision

- malaria, tuberculosis
- Other if organized in the tribal community

6. Simplified treatment, referral and follow-up in defined syndromes

- Chosen infectious diseases

- Procedures in case of animal bites ("Rabies rules")
- Diarrhoea, common cold, conjunctivitis, otitis, cough with or without fever
- Indication of referral for treatment for hernia; varicose veins, haemorrhoids, cataract
- Symptomatic pre-medical treatment in headache
- Osteo-muscular "rheumatic" pain, chronic cough, gastric abdominal pain, nervousness and sleeplessness

7. Data collection, recording and reduction

- Subclan and clan records; population, tents
- Vital statistics recording
- Reporting of infectious diseases
- Routine work recording
- Administration

(b) Provisional Functions and content of training of the female auxiliaries (Behyar mama).

1. Maternal care

- Screening of abnormalities during pregnancy
- Treatment and follow-up of screened abnormalities after physicians' consultation
- General hygienic and prophylactic measures during pregnancy
- Help during normal deliveries
- Early screening of complicated deliveries, first-aid and referral
- Introduction of family planning measures (motivation)

2. Small children care

Infant feeding and hygiene, follow-up of development

-Screening and help in malnutrition and common infections

- Follow-up of children under five

- Vaccination: smallpox, BCG, triple vaccine, polio, measles

3. School children care

- Screening and intervention for hygienic and health conditions

- School nutritional programmes

- Health education

4. Family Planning

- Selection and motivation of risk families

- Organization of distribution of pills

- Follow-up and referral when necessary

5. General sanitation and hygiene

- Only very basic knowledge on epidemiology of infectious diseases, role of contact, of insects, and water

- Preservation of food and basic knowledge on nutrition

6. First Aid in Accidents

- Haemorrhage, unconsciousness, snake bites, allergies, shock, broken extremities, head, thorax and abdomen injuries: emergency and referral

- Treatment of minor injuries

7. First Aid in chosen Acute Illnesses

- Diarrhoea in children and adults, food poisoning

- Abortion and acute genital diseases in women

- High fever in children

- Acute pain

8. Referral, Treatment, Follow-up in Defined Diseases when found during screening or when asked for help

- Parasitosis, malnutrition
- Chosen infectious diseases: measles, chickenpox, pertussis, diphtheria
- Cough, influenza, fever, conjunctivitis, otitis
- Indication of referral for treatment for hernia, varicose veins, haemorrhoids, cataract
- Symptomatic pre-medical treatment in headache
- Osteo muscular and "rheumatic" pains, menstrual disturbances, genital fluor, nervousness, or sleeplessness, chronic cough, anaemia

9. Special potential programmes for screening and long-term treatment under medical supervision

- Malnutrition in children, tuberculosis
- Endemic syphilis, etc. (when organised)

10. Office Procedures

- Sterilisation of instruments
- Injections, i.d., s.c., i.m.
- Examination: general principles, pulse, thermometry, body measurements (height and weight), throat examination, obstetrical measurements, blood pressure measurements, bloodsmear, sputum smear for T.B., urine examination
- Dressing, temporary immobilisation, peroral dehydration
- Care of bed-ridden long-term patients

11. Record Keeping and Recording

- Day to day routine work recording and reporting
- Records on services for maternal and child health
- Family planning records
- Reporting of infectious diseases
- Administration

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