Preventing Induced Abortion Among Urban Poor In Fortaleza, Brazil:

Is Post-Abortion Counselling Effective?

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Thesis submitted to the Faculty of Medicine of the University of London for the degree of Doctor of Philosophy

London School of Hygiene and Tropical Medicine

1998

ABSTRACT

This thesis reports the results of a randomised controlled intervention study carried out between May and November 1993 in a major public hospital in the metropolitan area of Fortaleza City, Ceará, Brazil. The objective was to investigate the impact of post-abortion counselling on uptake of contraception and on subsequent pregnancy and abortion.

The study population was a sample of women hospitalised with complications of induced abortion which were identified during as larger hospital-based study on abortion. The intervention was half an hour of contraceptive counselling prior to discharge at the study site hospital. No contraceptive method was given. A total of 695 women were enrolled into the study, 345 in the intervention group and 350 in the control group. They were followed up at home at 2 weeks, 6 weeks, 4 months, 8 months and 1 year after discharge. Data were collected by trained interviewers using a structured questionnaire. Outcome measures of interest were; knowledge of contraceptive methods, seeking contraceptive services, uptake of contraception, having unprotected sexual intercourse, subsequent pregnancies and subsequent abortion.

The study results show that this particular mode of counselling (single shot hospital-based post-abortion) increased the level of knowledge of some contraceptive methods, but did not have any effect in changing behaviour such as seeking contraceptive services, uptake of contraception or having unprotected sexual relationship. As a consequence, counselling did not show any impact on preventing another unwanted pregnancy and

induced abortion. Among 695 women, 165 (23.7%) became pregnant again before the end of the 1 year follow-up; 81 (23.5%) in the intervention group and 84 (24.0%) in the control group. Of the 695 women, 42 (6.0%) had another abortion before the end of the 1 year follow-up; 27 (7.8%) in the intervention group and 15 (4.3%) in the control group. At 6 weeks visit, of the 662 women interviewed, 345 (52.1%) were using contraceptive methods; 178 (53.8%) in the intervention group and 167 (50.5%) in the control group. Women who were not using contraception after abortion tended to be young, single or without a partner. "Not having sexual intercourse" was the most frequently cited reason for not using a contraceptive method during the follow-up period. Suggestions were made on how a more effective intervention that might prove more successful in responding to these women's needs for enhanced contraception can be developed.

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ACKNOWLEDGEMENTS

First I would like to express my deepest appreciation to my supervisor, Oona Campbell, who gave me tremendous support throughout the years of study and was always willing to offer her expertise in the field of women's health. My special gratitude goes to Betty Kirkwood, who firstly encouraged me to work in the field of women's health and gave me opportunity to join the dynamic initial phase of the Maternal and Child Epidemiology Unit.

I am most grateful to Sharon Huttly, Carl Kendall and Julia Mortimer for reading through drafts and kindly providing invaluable comments. My colleagues of the Maternal and Child Epidemiology Unit always gave me useful advice and friendly support throughout the study. I would like to particularly thank the assistance of Tom Marshall in statistical analysis.

The fieldwork was the product of collective work and I am grateful for the considerable support and valuable work of all the staff of the Assis Chateaubriand Teaching Maternity Hospital of the Federal University of Ceara, the Cesar Cals General Hospital and the State of Ceara Health Secretariat. I wish to thank in particular Dr. Chagas Oliveira, Dr. Dirlene Silveira, Dr. Joao Parente, Dr. Anamaria Cavalcante, Dr. Maria Francisca Barbosa and Ms. Lucilia Fernandes.

My special thanks to Luciano Correia, who first introduced me to the local health authorities and shared with me his great expertise in public health.

I would like to thank our sons, Ryo and Kei, for their patience during the time which I have been working for the study. Lastly, but no way least, I would like to thank Walter Fonseca with whom I have always worked together during past years without his love I could not have done this.

FINANCIAL SUPPORT

This study was supported with grants from the Health and Population Division of the UK Overseas Development Administration (currently DFID) and the HRP/World Health Organisation.

CHAPTER 1 INTRODUCTION

1.1 Introduction

In the last few decades, great progress has been made towards enabling women and couples to control the number of children they have (Kulcjuscki et al., 1996). However, there remain many areas in developing countries where family planning services are not available, or accessible, to those who need them most. The number of women in developing countries who do not want additional children but who fail to use a family planning method is estimated to be 120 million (Mehta, 1994). Such women are at risk of unwanted pregnancy and induced abortion, and their associated complications. Every year it is estimated that up to 53 million induced abortions take place throughout the world (Henshaw and Morrow, 1990). About half of these abortions are illegal and of these, most take place in developing countries (McLauren et al., 1991). It is also estimated that between 100,000 and 200,000 deaths occur annually from complications of unsafe induced abortion, again mostly in developing countries where induced abortion is illegal (Fathalla, 1989). In Latin America, complications of illegal abortion are thought to be the main cause of death in women between the ages of 15 and 39 years (Viel, 1982). Moreover, even if many women survive unsafe abortions, many continue to be exposed to the risk of unwanted pregnancy and unsafe abortion if there is no access to effective contraceptive services.

Benson and others argue that linking abortion care to counselling and family planning services post-abortion may help women escape from the vicious circle of repeated unwanted pregnancy and unsafe abortion (Benson et al. 1992). Such women, it is argued, may be particularly receptive to using contraception. However, family planning programmes have made relatively little effort world wide to reach women

during their post-abortion period. Moreover, despite the potential importance of post-abortion family planning programmes, their effect, especially in developing countries, has been little studied.

This study uses a randomised controlled trial design to examine the impact of a hospital-based post-abortion counselling scheme on contraceptive uptake and on preventing subsequent unwanted pregnancy. The ultimate aim of this type of research is to provide information for health care personnel, at all levels, to develop an integrated reproductive health programme enabling women, especially in the developing world, to have children by choice and to avoid unnecessary deaths and suffering caused by induced abortion.

1.2 Rationale

Targeting high-risk women (e.g. postpartum women) with contraceptive services has been a successful strategy in family planning programmes (Ross et al., 1989; Ickis, 1987). However, there have been few programmes designed to reach women in the post-abortion period (Benson et al., 1992). In part, this is due to the role of anti-abortion politics in the United States. The United States is a major contributor to family programmes in developing countries. However, instead of encouraging links between abortion and family planning services to reduce abortion, US policies and funding restrictions have forced disintegration of these services (McLaurin et al. 1993). They also resulted in little research on post-abortion family planning being conducted in the last decade.

Review of the few studies carried out in the last two decades on abortion services and/or post-abortion family planning programmes (Aggarwal and Mati, 1980; Akhter

and Rider, 1984a; Akhter and Rider, 1984b; Bailey et al., 1988;, Bradley et al., 1991; Bulut, 1984; Chhabra et al., 1988; Dervisoglu and Bakirchi, 1989; Dhall and Harvey, 1984; Family Health International, 1982; Hardy and Herud, 1991; Harlow, 1996; 1975; Koetsawang et al., 1978; Liskin et al., 1980; Mohamed et al., 1992; Profamilia and Instituto Peruano del Aseguro Social, 1990; Ragab, 1973; Rushwan et al., 1978; Su and Chow, 1976; Wachuku, 1993) finds that: the majority of women who are offered contraception following an abortion accept it; contraceptive use improves after abortion; and many women begin using more effective methods following abortion (Benson et al., 1992).

Careful examination of the literature suggests, however, that in many settings, the assumption has been made that post-abortion counselling is part of appropriate post-abortion care, and consequently no evaluation of consequent contraceptive uptake has been conducted. For example, studies in Zambia, Egypt, Zimbabwe and Brazil, aimed at improving abortion care, report starting post-abortion family planning counselling without any formative research or evaluation (Bradley et al.,1991; Huntington et al., 1994; Mahomed et al., 1992; Pathfinder Fund, 1985; Darze and de Codes, 1984). A study in Ohio, USA tried to evaluate the use of counselling to promote effective contraceptive use after abortion using hospital data, but the findings were limited by incomplete reporting (Hammerslough and Irizarry, 1986). In other settings, studies report high levels of contraceptive acceptance following induced abortion. In an Indian study, Chhabra and colleagues (1988) reported that 88 percent of women accepted contraception. Another Indian study showed that 53% of women used contraception after abortion (Pandey et al., 1989). Margolis et al. (1974) reported that 91% of women used contraception at 6 months after abortion in Washington D.C. and Abrams (1985)

reported that in Boston, 77% of adolescent women use contraceptives at one year follow up after abortion. Similarly Hardy and Herud (1975) report that in Chile, 67 and 55 percent of a health education intervention and control group respectively, accepted contraception following admission for abortion complications. None of these studies reports contraceptive prevalence prior to the abortion.

Other studies have used a before-and-after design to demonstrate increased acceptance or use without elucidating the role of counselling. In three Sudanese hospitals in 1974 and 1975, over 2,700 women hospitalised for abortion complications were asked about contraceptive use before and after abortion; 9 percent had used contraception before, compared with 46 percent afterwards, suggesting that the impact of the abortion experience, combined with post-abortion counselling, increased acceptance of contraception by nearly 40 percent (Rushwan et al., 1978). In Turkey, use of effective methods (IUD, pill, or condom) increased from between 7-18 percent to between 43-66 percent, an increase of 36-48 percent (Bulut, 1984). In Taiwan (Su and Chow, 1976) the impact was not as great: 33 percent of women were reported to be using a contraceptive before induced abortion compared with 43% after induced abortion. None of these three studies reported the timing or duration of the follow-up visit. In Canada, use of contraceptive methods increased from 50% to 82.9% at 3 months after abortion (Mackenzie, 1975).

Table 1.1 summarises the published literature of the above studies. Many of the designs used in these studies are flawed. Intervention studies that measure impact need to use a controlled, randomised design with an adequate sample size (Loevinsohn, 1990). Moreover, if the intervention involves health education, the methodological quality of the study is improved by examining objective changes in behaviour and describing the

educational intervention used in detail (Loevinsohn, 1990). Some studies (Bradley et al. 1991) merely describe offering counselling and do not measure any outcome. Two of the above studies used acceptance of contraceptives as an endpoint of evaluation and did not confirm use of the method or subsequent pregnancy (Hardy and Herud, 1975; Chhabra et al., 1988). Two other studies (Su and Chow, 1976; Rushwan et al. 1978) compared acceptance of contraceptive methods before and after induced abortion, which is not an appropriate design to evaluate post-abortion counselling since the induced abortion event itself can increase the acceptance of contraceptive method.

Only four studies (Bulut, 1984; Hardy and Herud, 1975; Andolsek and Pretnar, 1982; Mati, 1993) used a control group when testing the intervention. Hardy and Herud (1975) reported that contraceptive acceptance rates were significantly higher among women who received the educational programme than among a control group of women who did not, but do not report contraceptive use before intervention. Bulut (1984) does compare usage before and after the induced abortion but is hampered by very small sample sizes. The other two studies used more appropriate designs but were unpublished and were not identified at the time this Brazilian research was initiated. Andolsek and Pretnar (1982) used a control group and report choice of contraceptives and the discontinuation rate at 6 months after intervention. Mati (1993) carried out a multicentre study to examine the effect of post-abortion counselling on contraceptive acceptance and use and the incidence of repeat pregnancy and abortion. The study was conducted in Kenya, Zimbabwe, Zambia, Mexico and Nigeria and involved 3,385 women hospitalised for abortion services. In this study, the study population comprised women with both spontaneous and induced abortion and the post-abortion counselling protocol was not standardised.

In summary, none of the published studies used an adequate design to explore the utility of post-abortion counselling for increasing contraceptive uptake and pregnancy avoidance among women with induced abortion. Since post-abortion counselling appears to be a logistically feasible way to reach women who most need contraceptive services and who may be at a critical point in their lives vis a vis to adoption of family planning methods, it has become a well considered orthodoxy although its impact is not yet proven. Policy makers and donors are encouraged to emphasise to the provision of post-abortion family planning counselling as an integral part of all safe motherhood initiatives (Verme et al., 1996; McLaurin et al., 1995; Wolf and Benson, 1994; Wilson, 1994) and local governments are enthusiastic (Asser, 1993; Ekwempu et al., 1993). This study examines whether these assumptions on the effects of post-abortion counselling are warranted.

1.3 Objectives

This thesis focuses on the impact of post-abortion counselling on contraceptive uptake and on preventing subsequent unwanted pregnancy in Fortaleza, Northeast Brazil. The design and methods of the study are intended to meet two basic objectives:

1. to evaluate the impact of post-abortion counselling on the uptake and choice of contraception and on the subsequent risk of pregnancy and/or abortion;
2. to characterise those women who do not take up contraceptives after induced abortion.

1.4 Background

1.4.1 Study Site

Brazil is the fifth largest country in the world in area, with the sixth largest population (over 150 million). It has the tenth largest economy in the world, mainly sustained by the wealthy South. In contrast, the North and Northeast of Brazil are impoverished.

The state of Ceará, located in the Northeast of Brazil, is one of the poorest states in the country. Ceará has 6.7 million inhabitants, which is more than most Central American states, including El Salvador, Costa Rica, Honduras and Nicaragua (UNICEF, 1992). Ceará is an increasingly urban state, with approximately two thirds of population living in areas designated as urban, one third living in five municipalities located in the metropolitan area of Greater Fortaleza (the capital city of the state) (Schmidt-Rahmer, 1990).

Ceará's population is also very poor. About 60% of all families live in poverty, earning not more than half the legal minimum wage per capita (about US$100 per month), and 25% earn a quarter or less of the minimum wage per capita. These incomes are far from adequate for food, shelter, clothing and other routine amenities. More than 79% of the population live in households without adequate sanitary facilities and/or piped water. Thirty percent of the adult population is illiterate (Schmidt-Rahmer, 1990).

The infant mortality rate, estimated at 95 per thousand in 1986, was among the highest in Brazil. However, there have been great improvements over the past decade. Between 1986 and 1989, Ceará reduced its infant death rate by one third, cut child deaths by diarrhoeal disease by half, boosted immunisation levels by up to 40% and

reduced child malnutrition by one third (UNICEF, 1992). Nonetheless, perinatal problems remain a major cause of infant mortality, partly reflecting the poor pregnancy and delivery care provided (McAuliffe et al., 1995).

In 1995, the maternal mortality ratio in Ceará was estimated at 107/100,000 live births (Secretaria da Saúde do Estado do Ceará, 1996). Among the maternal deaths registered, 87.3% were identified as direct maternal deaths. Eclampsia, haemorrhage and abortion accounted for almost 90% of all direct maternal deaths. Abortion alone contributed 7% (Secretaria da Saúde do Estado do Ceará, 1996).

1.4.2 Induced Abortion in Fortaleza

According to Brazilian law, induced abortion is allowed only when necessary to save a woman's life or when pregnancy has occurred following rape (Rezende, 1981). But, as in other Latin American countries, induced abortion is carried out widely despite this law (Paxman et al., 1993). Local data suggest that induced abortion has increased in Fortaleza. In 1991, Federal University attached Assis Chateaubriand Teaching Maternity Hospital (Maternidade Escola Assis Chateaubriand - MEAC) admitted an average of 200 cases of abortion per month, an increase of about 55 percent over 1990. These abortion admissions represent around 30 percent of total admissions, and were not accompanied by any significant increase in the hospital's operative capacity. In MEAC, abortions contributed 10 percent of maternal deaths (Sa and Maia, 1990). The Cesar Cals General Hospital of the State of Ceara Health Secretariat (HGCC), another large public maternity hospital, admitted an average of 130 abortion cases per month from September to November 1991, representing approximately 25 percent of obstetric admissions.

One possible reason for the observed increase in abortion admissions is the use of abortifacients obtained from private pharmacies to induce abortion. Coelho and colleagues used a mystery client technique to visit pharmacies and request treatment for unwanted pregnancy. It was found that an abortifacient was offered in 121 of 190 visits for unwanted pregnancy (64%), with misoprostol ('Cytotec') most frequently offered (99 visits). The average "treatment" with misoprostol cost only $5-6, in the context of a minimum monthly wage of $75 at the time of the study (Coelho et al.,1991).

The increase in abortion admissions, coupled with a report of an unusual congenital malformation in five babies exposed to misoprostol early in pregnancy during unsuccessful abortion attempts (Fonseca et al.,1992), has meant that studying the bio-psychosocial determinants of induced abortion and recommending effective means to reduce unwanted pregnancy has became a major concern of the State of Ceara Health Secretariat.

1.5 Structure of the Thesis

The thesis consists of 6 chapters. Chapter 1 provides an outline, and the context and objectives of the thesis. Chapter 2 consists of a description of the study design and methods used. The next three chapters focus on the results of the study. Chapter 3 discusses the study population, Chapter 4 examines the impact of post-abortion counselling on contraceptive uptake and subsequent pregnancy and abortion, and Chapter 5 describes determinants of contraceptive use in this population. The main findings are discussed in Chapter 6, and recommendations are made regarding their implications for preventing unwanted pregnancy and abortion.

Table 1.1 Previous studies on post-abortion family planning counselling

Citation (alphabetical order)	Country, year of research	Case definition	Sample size	Used control group	Intervention	Used randomised intervention	Outcome measure	Measured pre-abortion initial contraceptive prevalence	Measured post-intervention contraceptive prevalence
Abrams M, 1985	Boston, USA 1982	Adolescent women hospitalised with 1st trimester abortion	181	No	Individual counselling session on contraceptive method	No	Use of effective contraception and subsequent abortion rate	No	Yes (Contraceptive uptake at 1-year : 77%, 2-years: 79%, subsequent abortion rate 1-year 7%, 2-years: 11%)
Andolsek L and Pretnar A, 1982 (Unpublished)	Slajmerjeva, Yugoslavia 1981	Women who had a medical termination of pregnancy	503 intervention (57% had abortion) 527 control (59% had abortion)	Yes	Group motivation counselling (a 30-60 minute lecture on reproductive health and contraceptives) performed by 5 specially trained nurses	Yes	Choice of contraceptives, the continuation rate and the reason for the discontinuation of chosen contraceptives at 6 months after the intervention	Yes	No
Bulut A, 1984	Cubuk, Turkey 1977-78	Married reproductive age women with delayed menses and/or diffuse bleeding in the previous three months + physician's confirmation of induced abortion.	(1)29 women with induced abortion given routine family planning education (2) 42 women with induced abortion given routine +special family planning education. (3) 34 women with no history of induced abortion	Yes	Routine contraceptive counselling and special education on hazards of induced abortion Auxiliary nurse-midwife's home visit	No	Use of effective contraceptive (IUD, pill, condom)	Yes	Yes

Citation	Country, year of research	Case definition	Sample size	Used control group	Intervention	Used randomised intervention	Outcome measure	Measured pre-abortion initial contraceptive prevalence	Measured post-intervention contraceptive prevalence
Hammerslough CR and Inzarry Mora J, 1990	Ohio, USA 1981 and 1986	Women hospitalised with abortion	?	No	Hospital based counselling	No	Use of contraception by hospital records	Yes	No (incomplete reporting)
Hardy E and Herud K , 1975	Santiago, Chile 1969	Women hospitalised with abortion complications	993 intervention 491 controls	Yes	Recorded talk on ontraception with slides and individual interview	No	Acceptance of contraception at discharge and follow-up appointment	No	Yes
Harlow E , 1996	7 provinces in Turkey 1994	Women hospitalised with abortion	194	No	No intervention	No	Desire to initiate contraceptive use and actual percentage of women left clinic with contraceptive method	Yes	N A (90% of post abortal women wanted to initiate contraceptive, but fewer than 50% actually left the facility with methods
Huntington D, Hassan ES, Attalah N, Toubia N, Naguib M and Nawar L, 1995	Cairo, Minia, Egypt 1994	Women hospitalised with abortion	550	No	Post-abortion counselling followed by the newly introduced treatment with manual vacuum aspiration	No	Intention to use contraceptive methods	Yes	Yes
Mackenzie P, 1975	Ontario, Canada 1973	Women hospitalised with abortion	350	No	Hospital based counselling by nurses	No	Use of contraceptive at 3 months post-abortion	Yes	Yes
Margolis A, Rindfuss R, Coghlan P and Rochat R, 1974	Washington D C , USA 1972	Women hospitalised with abortion	303	No	No	No	Choice of contraceptive at the time of abortion and use of contraceptive at 6 months follow-up	No	Yes

Citation	Country, year of research	Case definition	Sample size	Used control group	Intervention	Used randomised intervention	Outcome measure	Measured pre-abortion initial contraceptive prevalence	Measured post-intervention contraceptive prevalence
Mati JK, 1993 (Unpublished)	Nairobi, Kenya Harare, Zimbabwe Lusaka, Zambia Mexico City, Mexico Lagos, Nigeria 1987-90	Women hospitalised for abortion service (spontaneous and induced)	3,385	Yes	Contraceptive counselling (not standardised)	Yes	Acceptance and use of contraception and recurrence of pregnancy and abortion at 1-year follow-up	Yes	Yes
Pandey DN, Singh M, Chaurasiya AK, Gupta K, 1989	Agra, India 1976-1985	Women hospitalised with abortion	1,482	No	No	No	Use of contraception by hospital records	No	Yes
Pathfinder Fund, 1985 (Unpublished)	Recife, Brazil 1982	Adolescent women hospitalised for delivery or post-abortion care	132	No	Contraceptive counselling and service	No	Acceptance of contraception at discharge	No	Yes
Rushwan HE, Ferguson JG and Bernard RP, 1978	Khartoum, Sudan 1974-1975	Women hospitalised with incomplete abortion	2,739	No	Contraceptive counselling	No	Use of contraceptive method at follow-up	Yes	Yes
Su IH and Chow LP, 1976	Taoyuan, Taiwan 1971-1972	Women reporting at least one induced abortion in the past	505	No	No intervention	N/A	Use of contraceptive "shortly" after induced abortion	Yes	Yes

CHAPTER 2 METHODS

2.1 The Study Design

A randomised controlled intervention study was used to evaluate the impact of post-abortion counselling on uptake of contraception and subsequent pregnancy and abortion, and to address the differences between this and previous research in this field. The study population was a sub-sample of women hospitalised with complications of induced abortion. The intervention was half an hour of contraceptive counselling prior to discharge at the study site hospital. A random sample of women given counselling formed the intervention group, while those discharged without counselling formed the control group. The women recruited were followed up at home at 2 weeks, 6 weeks, 4 months, 8 months and 1 year after discharge.

2.1.1 A Hospital-based Study - Sampling Frame for the Study

This intervention study was carried out as a part of a larger research project on induced abortion which consisted of three methodologically distinct approaches:

(1) An ethnographic study of induced abortion (Nations et al. 1997).

(2) A descriptive hospital-based study of mortality and morbidity related to abortion (Fonseca et al. 1996; Misago et al. 1998).

(3) A randomised controlled intervention study among women with induced abortion to evaluate the impact of contraceptive counselling on the uptake of contraception and subsequent pregnancy and abortion.

The author of the dissertation (C. Misago) was principal invetigator for all three projects, with overall responsibility for designing the research (study 2 used a standard WHO/HRP methodlology), and implementing the fieldwork. Analysis of the ethnographic study (study 1) was done with input from an anthropologist (M. Nations) among others; analysis of the hospital-based study (study 2) was done with input from W. Fonseca and others. Study 3 was entirely designed, implemented and analysed as part of the Ph.D process with input from the Ph.D supervisor (O. Campbell) and forms the basis for this thesis.

The hospital-based study (study 2) was used to determine the determinants and medical characteristics of induced abortion and provide a source of women to be enrolled in the intervention study.

The hospital-based study was conducted in two hospitals (MEAC and HGCC) which are the main public maternity hospitals in Fortaleza and mainly serve the urban poor. All women admitted to the two hospitals with a diagnosis of pregnancy loss from 1st October 1992 until 30 November 1993 were included. A total of 4,416 cases were interviewed during the study period. Fifty seven women (1.3%) were excluded, including 7 cases identified as therapeutic abortion, 21 cases diagnosed as non-pregnancy related complications, 17 cases diagnosed as pregnancy-related complications and 12 cases who left the hospital with a continuing pregnancy.

Data were collected by interviewers from hospital records and patient case histories using a structured questionnaire (Appendix I). Patients were interviewed about their socio-demographic backgrounds, reproductive histories, contraceptive practices, and characteristics of the abortion, including a detailed description of methods employed for inducing abortion. Interviewers also recorded detailed information about the woman's

hospital experience including medical complications, hospital duration, and treatment. All cases were re-evaluated based on pre-established medical criteria and interview responses, and were classified into the following four categories, according to the WHO re-classification scheme (HRP/WHO, 1987): (1) **"certainly" induced abortion** when the woman admitted to terminating her pregnancy or signs were found on clinical examination of intervention such as cervical laceration, perforation or foreign bodies in the vagina or uterus; (2) **"probably" induced abortion** when the woman did not report any attempt to terminate pregnancy but had signs of abortion accompanied by sepsis or peritonitis, and stated that the pregnancy was unplanned (either that she was using a contraceptive method during the cycle of conception or she was not using a contraceptive method because of reasons other than desired pregnancy); (3) **"possibly" induced abortion** if only one of the conditions listed under "2" above was present and (4) All other cases were classified as **"spontaneous" abortions**. Standardised, pre-coded questions were used for most variables.

Re-evaluation of 4,359 abortion cases using the WHO classification method is presented in Table 2.1. According to the reclassification, 48% of abortions were certainly induced, 40% were possibly induced, and 12% were spontaneous. In most cases (2,074 if 2,084) classified as certainly induced, women themselves have admitted attempting to terminate pregnancy. Only 10 cases were classified as certainly induced abortion from evidence of trauma or foreign body in the genital tract although the women stated they had experienced spontaneous abortion. There were no cases classified as probably induced abortion. In the five cases of sepsis and/or peritonitis, the women admitted having induced abortion and were, therefore, classified as certainly induced abortion. The 1,760 women classified as possibly induced were so labelled

because they stated their pregnancy was unplanned. The intervention study population was sampled from all induced abortion cases ("certainly" and "possibly" induced abortion).

The methods used to induce abortion among the 2,083 study women classified as having certainly induced abortion are presented in Table 2.2. Two thirds (66%) of the women reported inducing abortion with misoprostol alone or with another method. About one third (34%) of the women reported inducing abortion with other methods which included herbal medication, intramuscular injections and foreign body insertion.

2.1.2 Study Sample Size

The intervention study was carried out in HGCC. Women with a diagnosis of having induced abortion ("certainly" or "possibly" induced abortion) were included. The sample size was chosen in order to demonstrate a 10% difference in contraceptive uptake between a group of women who received contraceptive counselling after induced abortion treatment and a group of women who did not. Where p_1 is the women would use contraceptive methods after induced abortion without any counselling and p_2 is the percent of women would use contraceptive methods after post-abortion counselling.

The formula used was;

$$n = \frac{(u+v)^2\, 2p(1-p)}{(p_1 - p_2)^2}$$

where $p = (p_1-p_2) / 2$

u= 1.96(percentage point of the normal distribution corresponding to the significance level = 5 percent)

v= 1.28(One-sided percentage point of the normal distribution corresponding to 100 percent - the power=90 percent)

The resulting sample size required 268 in each group and was increased by 20 percent to allow for loss and refusal (Kirkwood, 1988).

Between 15 May 1993 and 14 December a total of 345 women in the intervention group and 350 women in the control group were recruited.

2.1.3 Selection of Intervention and Control Group

Randomisation was achieved by giving contraceptive counselling to all induced abortion cases ("certainly" and "possibly" induced cases) identified in the above mentioned hospital-based study on alternate weeks. Women with spontaneous abortion were excluded. Every week, 25 women were selected from among those women for inclusion. In the first week, a day of the week was chosen randomly and then from this starting point 25 women were chosen from the list of eligible women for inclusion. The following week selection took place from the following day of the week, and the next week from the next day of the week. The intervention group consisted of those women who received contraceptive counselling, and the control group consisted of women who did not receive contraceptive counselling. For logistic reasons, the study was restricted to women living in the metropolitan areas of the city.

2.1.4 Definition of Intervention and Outcome

The intervention was a 30 minute counselling session on contraceptive choice. Two nurses with previous experience in health education and family planning were trained to provide counselling to women in the intervention group before hospital discharge. Counsellors were trained to use a problem-solving approach tailored to the individual as a means of increasing the possibility of accepting an effective method. Counselling was carried out in a private room. The counsellors' sympathetic and friendly approach was designed to reduce the distance and barriers between counsellor and patient. The counsellor sat at the same eye level, and avoided having barriers such as a desk between them. For the first five to ten minutes the counsellor listened to the woman's experience, (e.g. why she was not using any method, what her experience of induced abortion was, etc.,) in order to establish a personal and trusting relationship and to understand the woman's problems. For the next 20 minutes the counsellor explained reversible temporary methods available locally (condom, intra uterine device-IUD, injection, pill, diaphragm and rhythm method), showing and letting the woman handle each method and giving some suggestions as to the method which might suit the woman's needs. For the last five minutes, the counsellor explained where methods could be obtained free of charge or at a low price, and answered any questions. No contraceptive method was given. Women were strongly advised to return for the routine 45th day check-up at the hospital, when contraceptive services would also be available. They were also advised to avoid sexual intercourse before the 45th day and to use a condom before resumption of menstruation.

There are several reasons why a strategy of provision of contraceptive methods was not adopted in our post-abortion counselling. First, contraceptive methods are not

always readily available from public health facilities in Fortaleza. Thus, in this study, the counselling effort was intended to focus on counselling and providing information on choices, not on the provision of methods. This also enabled the design to look at the effect of counselling per se, rather than the effects of counselling plus provision. Secondly, women's acceptance on contraceptive methods immediately post-abortion may rely on emotional response to the abortion itself. Rather than being convinced of the importance of contracepting, women may simply accept the method such as IUD as another punitive element of abortion experience.

Outcome measures of interest are; knowledge of contraceptive methods, seeking contraceptive services, risk taking behaviour (having unprotected sexual intercourse), uptake of contraceptives, subsequent pregnancies and subsequent abortions.

All variables were measured by questionnaire rather than by observation or testing. Knowledge of contraceptive methods was defined by asking the woman whether she has ever heard of the methods. Uptake of contraceptives was defined by asking whether she was using any contraceptive method at the time of the interview.

2.1.5 Data Collected

Women were visited at home at specified times after discharge: at 2 weeks, 6 weeks, 4 months, 8 months and 1 year. Data were collected by trained interviewers using a structured questionnaire (Appendix II). The data collected included:

1. Length of disability after hospital discharge.
2. Present condition of health: bleeding, vaginal discharge, pain, fever, headache, weakness (fraquesa in local language), nausea or vomiting, anxiety (angustia, ansiedade or nervosismo in local language),

hospitalisation, visit to health personnel, drug use, menstruation, resumption of sexual activity, pregnancy, any other problems.

3. Uptake of contraception: knowledge of contraceptive methods, source of supply, utilisation of contraceptive methods, satisfaction with methods used, duration and timing of contraception, reasons for not using contraceptive methods.

4. Occurrence of subsequent pregnancy and abortion.

2.2 Field Work

2.2.1 Field Work Team

An office was set up in the Department of Community Medicine, Federal University of Ceará to co-ordinate research. A research co-ordinator was recruited locally, and worked exclusively for the project. She was a university-trained public health nurse with some experience in epidemiological field research and was in charge of data collection, management, and day to day supervision of interviewers.

Six interviewers were carefully selected, trained and closely supervised. Two worked throughout the field work period and others worked during a part of the field work. All interviewers were university-trained nurses or social workers having previous field experience in epidemiological research, good communication skills and showing strong interest in the subject. They worked exclusively for the study. We aimed to establish confidence and rapport with women with abortions. Because of the sensitive nature of the study, sympathetic and skilful female interviewers were selected. An interview manual was prepared to supply detailed instructions for interviewers. This included procedures for filling in the questionnaires and coding.

Ten percent of questionnaires randomly selected each week were repeated by another interviewer to control quality. A social worker with previous experience in community based research was selected for this work.

Meetings between the research staff, the research co-ordinator and interviewers were held once a week in order to review progress and to discuss any problems encountered.

2.2.2 Procedures

In the typical interaction with each woman, the field work involved ten different procedures. These procedures are summarised in the Fig. 2.1.

Firstly, the interviewer in the hospital-based study administered a questionnaire to all women hospitalised as having an abortion complication at the study centre hospital, HGCC. Before each interview, the nature of the study was explained and consent to participate in the study was obtained. Women were also informed that there was a possibility they would be chosen to participate in a follow-up study which involved 5 home visits. Detailed information on the women's residence was collected.

All the abortion cases were classified according to pre-established criteria (see 2.1.1). All "certainly + possibly induced abortion" cases were randomly allocated to contraceptive counselling. All women in the intervention weeks were counselled. 25 women from among these were selected and enrolled in the intervention study. Women with counselling form the intervention group and women without counselling form the control group.

An interviewer then visited the women at 2 weeks, 6 weeks, 4 months, 8 months and 1 year. At the first visit, the women were informed about the follow-up study (intervention study) scheme and encouraged to remain in the study until the last visit.

2.2.3. Ethical Considerations

Before the interview, the nature of the study was explained to the subject, and informed consent was obtained verbally before the initial interview. During home visits, special attention was paid to protect women's privacy, and interviewers were advised not to identify themselves as working for the research project when the woman was not at home. When the interviewer did not find the research subject at home, she presented herself as the woman's colleague or friend and returned another day. Because of the sensitive nature of the study, the reports remained confidential and every effort was made to make them anonymous. After completion of data collection for the women in the study, information that would allow them to be identified individually was removed from the questionnaire.

It should be noted that the study centre did not provide any contraceptive advice or counselling routinely at the time of the study, nor is such counselling part of common practice in Brazil.

2.2.4 Follow-up Pattern

A total of 695 women were enrolled into the study, 345 in the intervention group and 350 in the control group. In the intervention group, 298 women (86.4%) remained in the study for the full year while in the control group, the figure was 290 women

(82.9%). Completeness rates at the last follow-up were similar in both groups (p=0.20 see Table 2.3).

The number of interviews and losses to follow-up at each visit are presented in Table 2.4. "Initial total" presents the total number of women expected at each visit (sum of those interviewed in the previous visit and those temporarily absent). These women were categorised in three groups. Women found at the home visit and successfully interviewed were shown as "Total numbers interviewed". Women who were not found at the home visit, but who would be back by the next visit, were categorised as "Temporarily absent". Women who could not be followed up were categorised as "lost to follow-up". Between 3-5% of women were lost at each visit. Reasons for "lost to follow-up" were summarised in Table 2.5.

A. First (2 weeks) follow-up

In the intervention group, 329 (95.4%) of the 345 women who enrolled, were seen at the first follow-up. Three women (0.8%) were travelling at the time of the visit. The thirteen women who could not be interviewed included eleven women who were not be found at the addresses given and two women who were unwilling to participate in the follow-up study.

In the control group, 339 (96%) of the 350 women enrolled, were interviewed at the first follow-up. Eleven women could not be interviewed, of whom ten were not found and one refused to participate in the study.

B. Second (6 weeks) follow-up

A total of 332 women should have been available for the second follow-up in the intervention group. 329 women were interviewed at the first visit and three women who

were temporarily absent at the first follow-up were supposed to be back for this visit. Of the 332 women enrolled 330 (99.4%) women were interviewed and two women (0.6%) were lost to follow-up. One of these two women became ineligible to be followed-up since she had moved out of the metropolitan area of Fortaleza. The interviewer could not find the other two women at her address.

In the control group, of the 339 enrolled for the second follow-up, 332 women (97.9%) were interviewed. One woman (0.3%) was temporarily absent. Among six women (1.8%) lost to follow-up, four women moved away from the metropolitan area of Fortaleza, one woman refused to participate in the study and one woman was not found at her address.

C. Third (4 months) follow-up

The biggest number of lost to follow-up (total number of 28 women) was observed on the third visit. In the intervention group, 318 women (96.4%) were interviewed among 330 enrolled for this visit. One woman (0.3%) was temporarily absent. Eleven women (3.3%) were lost at this visit, five of them had moved out Fortaleza and six of them could not be found. In the control group, 333 women were enrolled (332 women from the previous follow-up plus one woman temporarily absent at the previous follow-up). Of these 333 women, 315 women (94.6%) were interviewed. One woman (0.3%) was temporarily away. The 17 women (5.1%) who were lost to follow-up consisted of 8 women who moved out of Fortaleza, 7 women who were not found, one woman who was unwilling to continue and one woman who had died. The reported cause of death was lymphoma.

D. Fourth (8 months) follow-up

In the intervention group, 319 women (318 women interviewed at the previous visit plus one woman temporarily absent at the previous visit) were enrolled and 307 (96.2%) of them were interviewed. One woman (0.3%) was temporarily absent. Eleven of them were lost at this visit. Of these eleven women lost, six of them moved out of Fortaleza and five of them were no longer found at their addresses.

In the control group, of the 316 women enrolled (315 women interviewed at the previous visit plus one woman temporarily absent at the previous visit), 300 women (94.6%) were interviewed at this visit. Two women (0.7%) were temporarily absent. Fourteen women were lost to follow-up. Among them, eight women moved out of Fortaleza and six were not found.

E. Last (1 year) follow-up

In the intervention group, 308 women (307 women interviewed at the previous visit and one woman temporarily absent at the previous visit) were enrolled and 298 women (96.8%) were interviewed. Ten women were lost at the last visit; six of them had moved from Fortaleza and four of them were not found.

In the control group, 302 women (300 women interviewed at the previous visit and two women temporarily absent at the previous visit) were enrolled. Of these 302 women, 290 women were interviewed and twelve women were lost at the last follow-up. Among the twelve women lost, nine had moved from Fortaleza and 3 were not found at their addresses.

Overall, coverage rates were almost identical in the intervention and control groups, and reasons for loss to follow-up were broadly similar. Almost half of the loss

to follow-up were women who had "moved" away from the metropolitan area of Fortaleza.

2.3 Data Entry And Analysis

Standardised, pre-coded questions were used for most variables. Detailed instructions for editing and coding questionnaires (including a coding manual) were prepared. Editing was designed to ensure that the data contained in the questionnaires was complete, accurate and consistent. All answers were recorded in the form as required by the coding instructions.

Questionnaire data were entered onto an IBM-compatible micro-computer using EPI-Info version 6. The accuracy of data was assured by double data entry and by using the VALIDATE program of EPI-Info version 6. Data was cleaned and edited using EPI-Info version 6.

The planned analysis procedures included several different stages: A) Simple tabulation of all related variables, B) Bivariate survival analysis, C) Multivariate survival analysis. These are detailed below.

A. Simple tabulations of all related variables according to intervention status, including following:

1. socio-demographic characteristics;
2. reproductive history related characteristics;
3. abortion episode characteristics;
5. morbidity pattern after abortion;
6. uptake of contraception before and after abortion;

7. subsequent pregnancy and abortion.

Statistical methods used included chi-square and t tests (Kirkwood 1988).

B. Bivariate survival analysis to describe in detail the pattern of the related events by intervention status

Originally, survival analysis methods were used in situations when the critical end-point is death. But the methods of survival analysis can be applied to events other than deaths, such as in a study of the duration of breast-feeding where the terminal event might be the completion of weaning (Kirkwood, 1988). In this study, the "survival time" was defined as the time from first hospital admission for treatment of incomplete abortion to the time each of the following events occurred; menstruation, sexual activity, uptake of a modern contraceptive method, visit to a family planning service, subsequent pregnancy, subsequent abortion, unprotected intercourse.

One of the objectives in using survival analysis was to describe, in detail, the pattern of the "survival event" in the study population over the follow-up period, rather than just compare proportions at final outcome. The Kaplan Meier method was used to examine the relationship between intervention status and to the length of each "survival event". The log-rank test was used to test for equality of survival curves across strata.

Another important feature of using survival analysis was that data can be censored: for some subjects follow-up was not complete so the event was not observed to happen. In this study, for the each "event", the women did not experience the "event" or women lost to follow-up were treated as censored.

For the first resumption of menstruation, first resumption of sexual activities, first uptake of contraceptives and first visit to health services, the time of the "event" was

based on the exact dates these events happened. If a woman did not remember the exact dates, the interviewer talked with her and guessed the most approximate date (For example, "Was it before or after Carnival?). If women could not guess the date and only remember the month, the 15th of the month was taken as the time of the "event".

In situations such as first subsequent pregnancy and abortion, the time of the "event" was not known precisely. These events were dated within the follow-up intervals. These were called *interval-censored* and since the length of interval was relatively short compared with the total length of the study, the data were analysed as if each event occurred at the midpoint of its interval (Armitage and Berry, 1994).

C. Multivariate survival analysis to examine the effect of contraceptive counselling after controlling for potential confounding variables

Multivariate survival analysis was planned to control for the effects of several variables using proportional hazards regression. However, this was not used since the bivariate survival analysis showed no effect of contraceptive counselling on the related outcome events.

Table 2.1 Distribution of 4,359 women admitted for abortion-related complications according to type of abortion.

Type of abortion	Number of cases (%)
Certainly induced	2,084 (48)
Probably induced	0
Possibly induced	1,760 (40)
Spontaneous	515 (12)
Total	4,359 (100)

Table 2.2 Distribution of 2,074 certainly induced cases according to women's own statement of method used to induce abortion.

Method	Number (%) of women
Misoprostol	
Alone	607 (29)
Plus other methods*	762 (37)
Other methods*	705 (34)

* includes herbal medication, other drugs, injections, foreign body insertion, etc.

Table 2.3 Total number of women enrolled, lost to follow-up and followed up until end of the study.

	Intervention group(%)	Control group (%)	Total (%)
Initial enrolment	345 (100.0)	350 (100.0)	695 (100.0)
Total lost to follow-up	47 (13.6)	60 (17.1)	107 (15.4)
Followed-up till end	298 (86.4)	290 (82.9)	588 (84.6)

A chi-square test carried out on those lost to follow-up compared to those followed to the end of the two groups.

$$_x2 = 1.65$$

$$p=0.20$$

Table 2.4 Number of interviews and lost to follow-up at each visit.

2 weeks follow-up

	Intervention group(%)	Control group (%)	Total (%)
Initial total	345 (100.0)	350 (100.0)	695 (100.0)
Lost to follow-up	13 (3.8)	11 (3.1)	24 (3.5)
Temporarily absent	3 (0.8)	0 (0)	3 (0.4)
Total interviewed	329 (95.4)	339 (96.9)	668 (96.1)

6 weeks follow-up

	Intervention group(%)	Control group (%)	Total (%)
Initial total	332 (100.0)	339 (100.0)	671 (100.0)
Lost to follow-up	2 (0.6)	6 (1.8)	8 (1.2)
Temporarily absent	0 (0)	1 (0.3)	1 (0.1)
Total interviewed	330 (99.4)	332 (97.9)	662 (98.7)

4 months follow-up

	Intervention group(%)	Control group (%)	Total (%)
Initial total	330 (100.0)	333 (100.0)	663 (100.0)
Lost to follow-up	11 (3.3)	17 (5.1)	28 (4.2)
Temporarily absent	1 (0.3)	1 (0.3)	2 (0.3)
Total interviewed	318 (96.4)	315 (94.6)	633 (95.5)

8 months follow-up

	Intervention group(%)	Control group (%)	Total (%)
Initial total	319 (100.0)	316 (100.0)	635 (100.0)
Lost to follow-up	11 (3.5)	14 (4.4)	25 (3.9)
Temporarily absent	1 0.3)	2 (0.7)	3 (0.5)
Total interviewed	307 (96.4)	300 (94.6)	607 (95.6)

1 year follow-up

	Intervention group (%)	Control group (%)	Total (%)
Initial total	308 (100.0)	302 (100.0)	610 (100.0)
Lost to follow-up	10 (3.2)	12 (4.0)	22 (3.6)
Temporarily absent	0 (0)	0 (0)	0 (0)
Total interviewed	298 (96.8)	290 (96.0)	588 (96.4)

Table 2.5 Reasons for "lost to follow-up".

Intervention group

Reason	2 weeks	6 weeks	4 months	8 months	1 year	Total
Could not find*	11	1	6	5	4	27
Refused	2	0	0	0	0	2
Moved**	0	1	5	6	6	18
Total	13	2	11	11	10	47

Control group

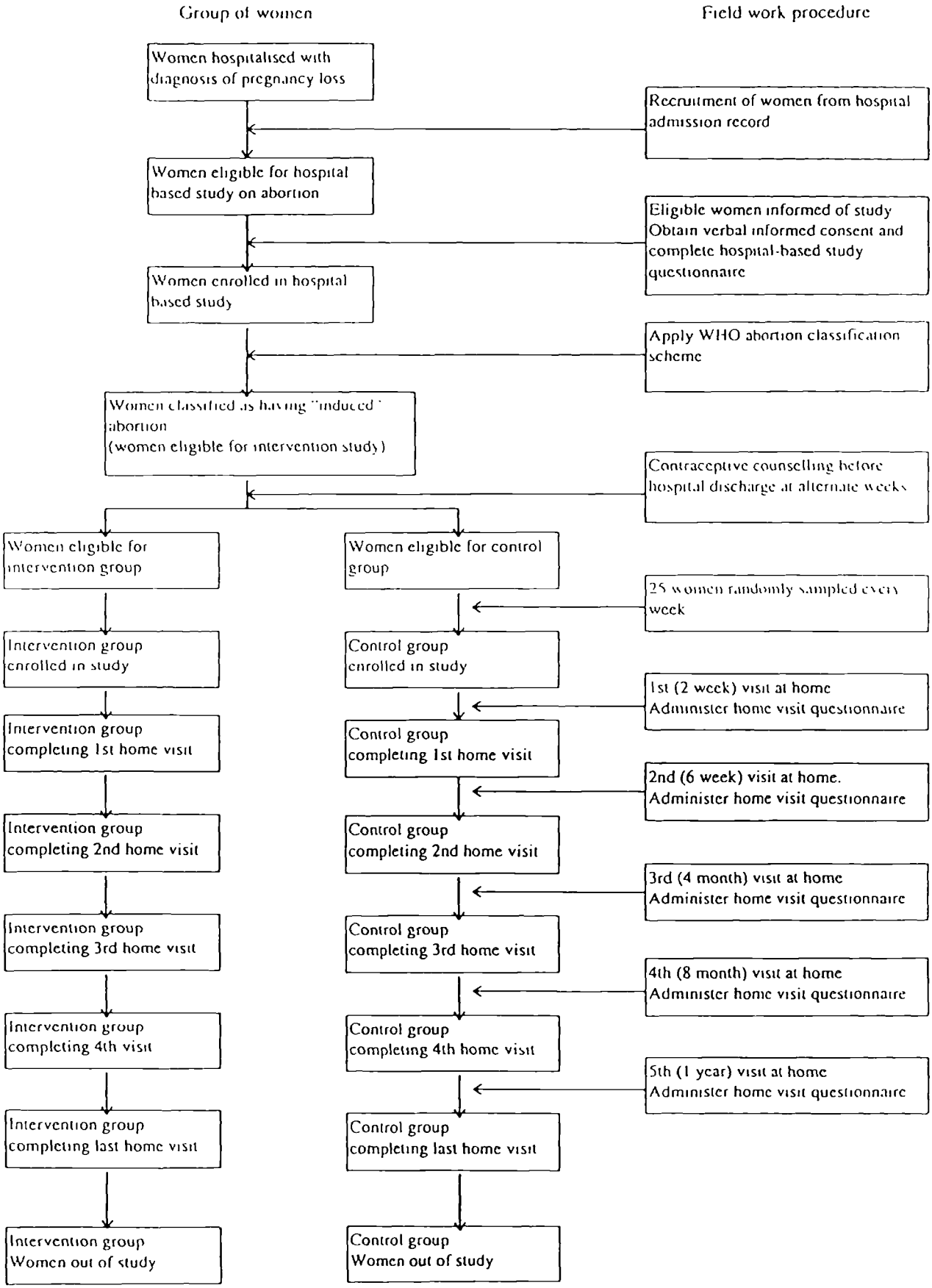
Reason	2 weeks	6 weeks	4 months	8 months	1 year	Total
Could not find	10	1	7	6	3	27
Died***	0	0	1	0	0	1
Refused	1	1	1	0	0	3
Moved	0	4	8	8	9	29
Total	11	6	17	14	12	60

*Could not find- The interviewer could not find the woman. No information as to where she had gone.

*Moved - Woman had moved from the metropolitan area of Fortaleza.

***Reported cause of death was Lymphoma.

Figure 2.1 Schematic outline of field work procedures



CHAPTER 3. STUDY POPULATION CHARACTERISTICS

This chapter describes the characteristics of women enrolled for the intervention study.

3.1 Socio-demographic Characteristics

Selected socio-demographic characteristics of women who enrolled in the study are shown in Table 3.1. The women were recruited from the Cesar Cals General Hospital of the State of the Ceará Health Secretariat and were primarily of low socio-economic status. Overall, more than half (59.6%) of the women were 20 to 29 years old, and 19.9% were aged less than 20 years old. Mean age was 25 years old (S.D.=6.2). Very few women were illiterate (4.9%), but 73.4% had only primary schooling. The majority of the women (89.8%) identified themselves as Catholic. Most women (61.5%) lived alone or were not in a stable union. The most commonly reported occupation of the women was housewife" (36.3%), and 7.5% of women reported their occupation as "student".

There were no statistically significant differences between intervention and control groups in the measured variables.

3.2 Prior Pregnancy Outcomes

The distribution of women enrolled in the study by prior pregnancy outcome is shown in Table 3.2. Of the 695 women enrolled, 69.9% of them had previously been pregnant. This implies that the remaining 30.1% of the women enrolled had their first pregnancy ended by induced abortion. About 36% had experienced no previous live births and 29.4% had experienced one live birth. Almost 30% (28.8%) of women reported two to four prior live births. By contrast, only 5.5% were found to have had five

or more live births. Approximately 18% of women reported a history of previous induced abortion while 16.5% reported a previous spontaneous abortion.

Of the women enrolled, over one third (35.8%) did not have living children. Of the reminder, 31.1% had only one child, and 33% of them had two or more children. Among all the women enrolled, almost one in ten (9.9%) had experienced the death of a child. Women in the control group had slightly more live births than those in the intervention group (65.6% had more than one live birth vs.62.6%). Women in the intervention group had more previous induced abortion episodes than women in the control group (6.7% had more than 2 induced abortions vs 4.3%).

Once again there were no statistically significant differences between the two groups.

3.3 Abortion Episode Characteristics

Current abortion episode characteristics of women enrolled are shown in Table 3.3. The mean gestational age at the time of abortion was 11.5 weeks (S.D.=4.1). Most women (63.5%) had not used any contraceptive method at the time of the index conception. According to the WHO abortion classification scheme, (see 2.1.1) 58.3% of the women were classified as having "certainly induced" abortion and 41.7% of them were classified as having "possibly induced" abortion. Approximately 40% of the women enrolled reported using misoprostol (*Cytotec*) (see 1.4.2).

Comparing the intervention and control group, more women in the intervention group (40%) used misoprostol than in the control group (33%) though the difference is of borderline statistical significance (p=0.07).

3.4 Resumption of Menstruation and Sexual Activity

Of the 695 women included in the analysis, 650 (93.5%) had resumed menstruation during the one year follow-up period, but almost seven percent of women (6.5%) did not start menstruation. At 2 weeks, the post-abortion amenorrhoea rate was approximately 97% in the intervention group and 98% in the control group. This rate goes down to 23% in the intervention group and 17% in the control group at 42 days. The results of the Kaplan Meier survival analysis are shown in Figure 3.1. The log rank test shows difference between the counselling group and the control group was not significant (p=0.26).

Most of the women enrolled (82%) had their first sexual intercourse by 4 months after the curettage. At the 2 weeks visit, 14.1% of women in the intervention group and 17.7% of those in the control group had their first sexual intercourse after curettage. Survival analysis results are presented in Figure 3.2. The log rank test shows no statistically significant difference between the intervention and the control group (p=0.96).

3.5 Morbidity Pattern after Curettage.

All morbidity related results from the follow-up visits were plotted against time after curettage in weeks (Fig.3.3). At each visit, the women enrolled were asked whether they had experienced any symptoms related to the abortion/curettage in the past 2 weeks.

Detailed description of the morbidity pattern after curettage from the comparison of the intervention and the control group at each visit is summarised in Table 3.4. At the

first follow-up visit (approximately 2 weeks after the curettage), a high morbidity pattern was reported. Almost all the women (92.5)% reported at least one problem. Approximately 65% of women were still experiencing bleeding, 55% of them had abdominal pain and almost 50% of them had vaginal discharge. This high morbidity pattern declines with time, except for the slight increase of vaginal discharge, from the first visit to the second visit (45.7% to 48.8%). Women in the intervention group reported all symptoms more often than those in the control group at the first visit, though the difference was not statistically significant.

A. Bleeding

At the 2 weeks visit, almost two thirds of the women (63.3%) suffered from bleeding. This declined sharply at 6 weeks from 63.3% to 13.4% and continue declining at the following visits (5.8% at 4 month visit, 0.9% at 8 month visit and 0.9% at 1 year visit). It was observed that at the 4 month visit more women in the intervention group were bleeding (7.2%) than women in the control group (4.4%). This difference was not statistically significant ($p=0.13$).

B. Abnormal vaginal discharge

Abnormal vaginal discharge due to curettage was reported by almost half of the women (45.7%) interviewed at the first follow-up. The number of women who reported abnormal vaginal discharge increased by 3% at the second follow-up (48.8%). This is the only observed increase against time during follow-up. This was possibly due to the fact that women were more able to observe vaginal discharge once bleeding stopped. The number of women reporting abnormal vaginal discharge was always higher than the

number of women reporting other symptoms during the rest of the follow-up visits (34.1% at 4 months, 18.5% at 8 months and 6.5% at 1 year, respectively).

More women in the intervention group reported abnormal vaginal discharge at the first visit (50.8%) than in the control group (45.7%). By contrast, more women in the control group (51.8%) had abnormal vaginal discharge than in the intervention group (45.8%) at the second follow-up, though all the differences at the five follow-ups are not statistically significant.

C. Abdominal pain

At the 2 weeks follow-up, more than half of the women (56.1%) reported abdominal pain, and almost 40% (36.9%) still suffered from abdominal pain 6 weeks after curettage. After two visits, abdominal pain was the second most common morbidity reported amongst women (29.5% at 4 months visit, 16.6% at 8 months visit). Only 7.1 % of the women reported abdominal pain at the last visit. This was the highest morbidity reported at the last follow-up.

There is no statistically significant difference in the number of women who had abdominal pain in the intervention group and the control group at each visit, though more women in the control group (32.1%) reported abdominal pain than those in the intervention group (27.0%) after 4 months from curettage.

D. Fever

Fever was reported by 10.2% of the women at the 2 weeks visit. This went down to 1.5% at the 6 weeks visit and stayed around 1% during the remainder of the follow-up period. At the first visit, more women in the intervention group (12.5%)

reported fever than in the control group (8.0%) though this was not statistically significant. After the second visit very few women reported fever and eventually one woman in each group had fever at the 1 year follow-up.

E. Headache

Almost half of the women (43.0%) interviewed at the 2 weeks follow-up mentioned they had headaches related to the abortion/curettage procedure. At the 6 weeks visit, approximately a quarter (22.5%) of the women were still having headaches. This went down to 10.6% at the 4 months visit, 7.1% at the 8 months visit and 2.0% at the 1 year visit.

Except for the 6 weeks visit, the proportion of women having headaches at each visit was slightly higher among women in the intervention group than in the control group.

F. Weakness

More than one third of the women (38.9%) reported weakness at the 2 weeks visit. Almost 20% at the 6 weeks visit (16.9%), 7.0% at the 4 months visit, 2.8% at the 8 months visit and 0.7% at the 1 year visit reported weakness.

At the 4 month visit, more women in the control group (9.5%) reported weakness than in the intervention group (4.4%) and the difference was statistically significant ($p<0.05$). The differences between the two groups in other visits were not statistically significant.

G. Nausea

Nausea was mentioned by a small proportion of women during the follow-up period. Approximately six percent of women (5.8%) at the 2 weeks visit reported nausea, followed by 3.6% at the 6 weeks visit, 1.9% at the 4 months visit, 1.2% at the 8 months visit and 0.5% at the 1 year visit. There is no statistically significant difference in reporting nausea between the intervention group and the control group.

H. Anxiety

Anxiety due to the current abortion experience was expressed by almost a quarter of women (26%) at the 2 weeks visit. At the 6 weeks visit, the number of women reporting anxiety decreased to half of those at the first visit (10.3%), 5.8% at the 4 months visit, 1.8% at the 8 months visit and 1.2% at the 1 year visit.

Comparing the intervention and the control group, more women in the control group (7.9%) reported anxiety than in the intervention group (3.8%) at the 4 month visit and the difference was statistically significant ($p<0.05$). There was no statistically significant difference between the intervention group and the control group in other visits.

3.6 Summary

In summary, there is no statistically significant difference in study population characteristics between the intervention and control groups. The randomisation procedure appears to have successfully provided intervention and control groups that were extremely similar at baseline with respect to socio-demographic characteristics,

prior pregnancy outcomes, abortion episode characteristics, resumption of menstruation and sexual activities, and morbidity pattern after curettage.

Most of the women enrolled for the intervention study tended to be young (approximately 60% of them were in their twenties) and single (60% of them were not in a stable union). Most of them were of low parity, had primary schooling and were not using an effective method of contraception at the time of conception. Self-administration of medicines (mainly misoprostol) played an important role in terminating pregnancy. At the 6 weeks follow-up, most women had already resumed menstruation and returned to having a sexual relationship. High post-abortion morbidity was reported at the 2 weeks follow-up and more than half of women still suffered from symptoms related to the index abortion at the 4 months follow-up.

Table 3 1 Socio demographic characteristics of women selected for the follow up study.

	Intervention group N 345 (%)	Control group N 350 (%)	Total N 695
Age (years)			
<19	74 (21 4)	64 (18 3)	138 (19 9)
20 24	116 (33 6)	110 (31 4)	226 (32 5)
25 29	83 (24 1)	105 (30 0)	188 (27 1)
30 34	38 (11 0)	41 (11 7)	79 (11 4)
35+	34 (9 9)	30 (8 6)	64 (9 2)
p value			p=0 44
Mean age mean(+S D)	24 6±6 4	25 1+6 1	25 0+6 2
Marital status			
Single	144 (41 7)	135 (38 6)	279 (40 1)
Married/Stable union	169 (49 0)	185 (52 8)	354 (51 0)
Separated/divorced/widow	32 (9 3)	30 (8 6)	62 (8 9)
p value			p=0 88
Education (years)			
No schooling	19 (5 5)	15 (4 3)	34 (4 9)
1-4 years	105 (30 4)	123 (35 1)	228 (32 8)
5-8 years	147 (42 6)	135 (38 6)	282 (40 6)
8+	74 (21 4)	77 (22 0)	151 (21 7)
p value			p=0 49
Occupation			
Housewife	120 (34 8)	132 (37 7)	252 (36 3)
House maid	39 (11 3)	42 (12 0)	81 (11 7)
Other service	61 (17 7)	42 (12 0)	103 (14 8)
Student	29 (8 4)	23 (6 6)	52 (7 5)
Business	32 (9 3)	36 (10 3)	68 (9 8)
Dress maker	20 (5 8)	30 (8 6)	50 (7 2)
Industry/construction	13 (3 8)	11 (3 2)	24 (3 4)
unemployed/dependent	31 (9 0)	34 (9 7)	65 (9 4)
p value			p 0 38
Religion			
Roman catholic	306 (88 7)	318 (90 9)	624 (89 8)
Others	14 (4 0)	17 (4 8	31 (4 5)
None	25 (7 2)	15 (4 3)	40 (5 8)
p value			p=0 31

Table 3 2 Prior pregnancy outcomes of women selected for the follow-up study

	Intervention group	Control group	Total
	N 345 (%)	N 350 (%)	N 695 (%)
Ever pregnant			
Yes	236 (68 4)	250 (71 4)	486 (69 9)
No	109 (31 6)	100 (28 6)	209 (30 1)
p value			p 0 38
Parity (live birth)			
0	129 (37 4)	124 (35 4)	253 (36 4)
1	101 (29 3)	103 (29 4)	204 (29 4)
2 4	96 (27 8)	104 (29.7)	200 (28 8)
5+	19 (5 5)	19 (5 4)	38 (5 5)
p value			p-0 94
Induced abortion			
0	280 (81 2)	287 (82 0)	567 (81 6)
1	42 (12 2)	48 (13 7)	90 (12 9)
2+	23 (6 7)	15 (4 3)	38 (5 5)
p value			p-0 34
Spontaneous abortion			
0	283 (82 0)	297 (84 9)	580 (83 5)
1	49 (14.2)	42 (12.0)	91 (13 1)
2+	13 (3.8)	11 (3.1)	24 (3.5)
p-value			p=0 60
No of chidren alive			
0	127 (36 8)	122 (34 9)	249 (35 8)
1	103 (29.9)	113 (32 3)	216 (31 1)
2 4	99 (28 7)	97 (27 7)	196 (28 2)
5+	16 (4 6)	18 (5 1)	34 (4 9)
p value			p-0 88
No of children died			
0	321 (93 0)	312 (89 1)	633 (91 1)
1	17 (4 9)	22 (6 3)	39 (5 6)
2+	7 (2 0)	16 (4 6)	23 (3 3)
p value			p-0 12

Table 3.3 Abortion episode characteristics of women selected for the follow up.

	Intervention group N=345 (%)	Control group N=350 (%)	Total N=695(%)
Mean gestational age in weeks (mean±S D.)	11 8± 4.1	11.2 ± 4 0	11 5 ± 4.1
Contraceptive use at the month of conception			
yes	119 (34.5)	135 (38 6)	254 (36 5)
no	226 (65.5)	215 (61 4)	441 (63 5)
p-value			p=0 26
Abortion classification			
"Certainly" induced	203 (58 8)	202 (57 7)	405 (58 3)
"Possibly" induced	142 (41.2)	148 (42 3)	290 (41 7)
p-value			p=0 76
Use of Cytotec			
yes	138 (40 0)	117 (33 4)	255 (36 7)
no	207 (60 0)	233 (66 6)	440 (63 3)
p-value			p=0 07

Table 3 4 Morbidity Pattern after curettage from the comparison of intervention and control group at each visit

2 weeks visit

Morbidity in past 2weeks	Intervention group N=329 (%)	Control group N=339 (%)	Total N=668 (%)	p value
Any morbidity (at least 1)	307 (92 5)	313 (92.3)	620 (92 4)	0.95
Bleeding	208 (63 2)	215 (63.4)	423 (63 3)	0 96
Vaginal discharge	167 (50 8)	155 (45.7)	322 (45 7)	0 19
Abdominal pain	187 (56 8)	188 (55.5)	375 (56 1)	0 72
Fever	41 (12 5)	27 (8 0)	68 (10 2)	0 06
Headache	150 (45 6)	137 (40 4)	287 (43 0)	0 18
Weakness	139 (42 2)	121 (35.7)	260 (38 9)	0 08
Nausea	21 (6 4)	18 (5.3)	39 (5 8)	0 55
Anxiety	88 (26 7)	86 (25.4)	174 (26 0)	0 68

6 weeks visit

Morbidity in past 2weeks	Intervention group N=330 (%)	Control group N=332 (%)	Total N=662 (%)	p value
Any morbidity (at least 1)	237 (71 8)	251, (75.6)	488 (73 7)	0 27
Bleeding	48 (14.5)	41 (12.3)	89 (13 4)	0 41
Vaginal discharge	151 (45 8)	172 (51.8)	323 (48 8)	0 12
Abdominal pain	116 (35 2)	128 (38.6)	244 (36 9)	0.36
Fever	6 (1 8)	4 (1.2)	10 (1 5)	0.52
Headache	73 (22.1)	76 (22.9)	149 (22.5)	0.81
Weakness	57 (17.3)	55 (16.6)	112 (16.9)	0 81
Nausea	11 (3.3)	13 (3.9)	24 (3 6)	0 69
Anxiety	33 (10.0)	35 (10.5)	68 (10 3)	0.81

4 months visit

Morbidity in past 2weeks	Intervention group N=318 (%)	Control group N=315 (%)	Total N=633 (%)	p value
Any morbidity (at least 1)	171 (53.8)	170 (54.0)	341 (53 9)	0 96
Bleeding	23 (7 2)	14 (4.4)	37 (5 8)	0 13
Vaginal discharge	115 (36 2)	101 (32.1)	216 (34 1)	0 28
Abdominal pain	86 (27 0)	101 (32.1)	187 (29 5)	0 17
Fever	4 (1 3)	4 (1 3)	8 (1 3)	0 99
Headache	37 (11.6)	30 (9.5)	67 (10 6)	0 39
Weakness	14 (4 4)	30 (9.5)	44 (7 0)	0 01
Nausea	1 (0 3)	5 (1.6)	6 (1 9)	0 10
Anxiety	12 (3.8)	25 (7.9)	37 (5 8)	0 03

8 months visit

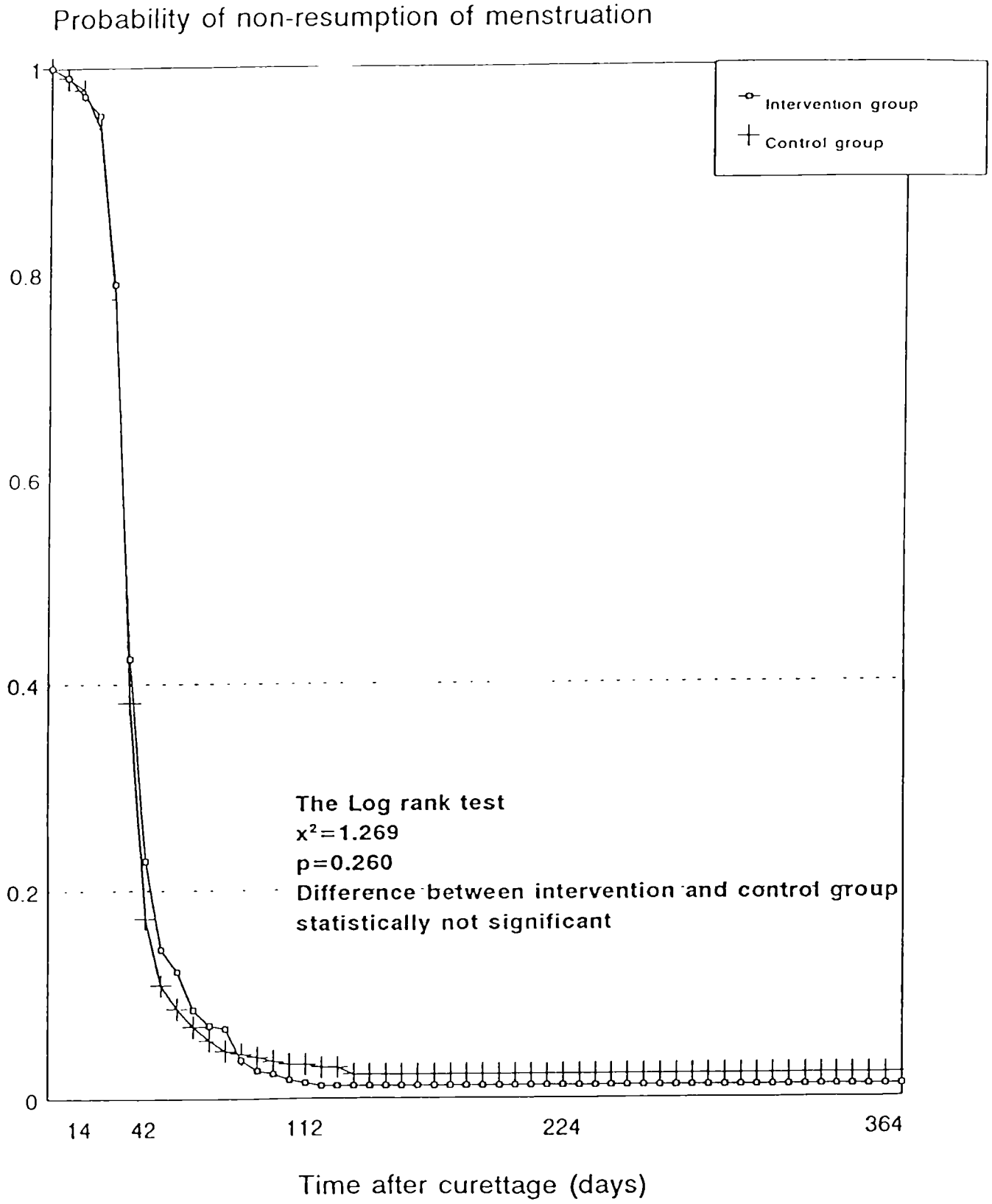
Morbidity in past 2weeks	Intervention group N 307 (%)	Control group N 300 (%)	Total N 607 (%)	p value
Any morbidity (at least 1)	95 (30 9)	79 (26 3)	174 (28 7)	0 21
Bleeding	3 (1 0)	2 (0 7)	5 (0 8)	0 51
Vaginal discharge	62 (20 2)	50 (16 7)	112 (18 5)	0 26
Abdominal pain	54 (17 6)	47 (15 7)	101 (16 6)	0 52
Fever	2 (0 7)	2 (0 7)	4 (0 7)	0 98
Headache	26 (8.5)	17 (5.7)	43 (7 1)	0 18
Weakness	8 (2.6)	9 (3 0)	17 (2 8)	0 77
Nausea	4 (1 3)	3 (1 0)	7 (1 2)	0 73
Anxiety	5 (1 6)	6 (2 0)	11 (1 8)	0 73

1 year visit

Morbidity in past 2weeks	Intervention group N=298 (%)	Control group N=290 (%)	Total N=588 (%)	p value
Any morbidity (at least 1)	44 (14.8)	35 (12 1)	79 (13 4)	0 34
Bleeding	2 (0.7)	3 (1 0)	5 (0 9)	0 63
Vaginal discharge	20 (6 7)	18 (6 2)	38 (6 5)	0 80
Abdominal pain	24 (8 1)	18 (6 2)	42 (7 1)	0 38
Fever	1 (0 3)	1 (0 3)	2 (0 3)	0 98
Headache	8 (2 7)	4 (1 4)	12 (2 0)	0 26
Weakness	2 (0 7)	2 (0 7)	4 (0 7)	0 98
Nausea	1 (0 3)	2 (0 7)	3 (0 5)	0 55
Anxiety	5 (1 7)	2 (0.7)	7 (1.2)	0 27

Figure 3.1 Survival analysis for first resumption of menstruation

(Cumulative probabilities of non-resumption of menstruation, by intervention status)



gure 3.2 Survival analysis for first resumption of sexual activity

(Cumulative probabilities of non resumption of sexual activity)

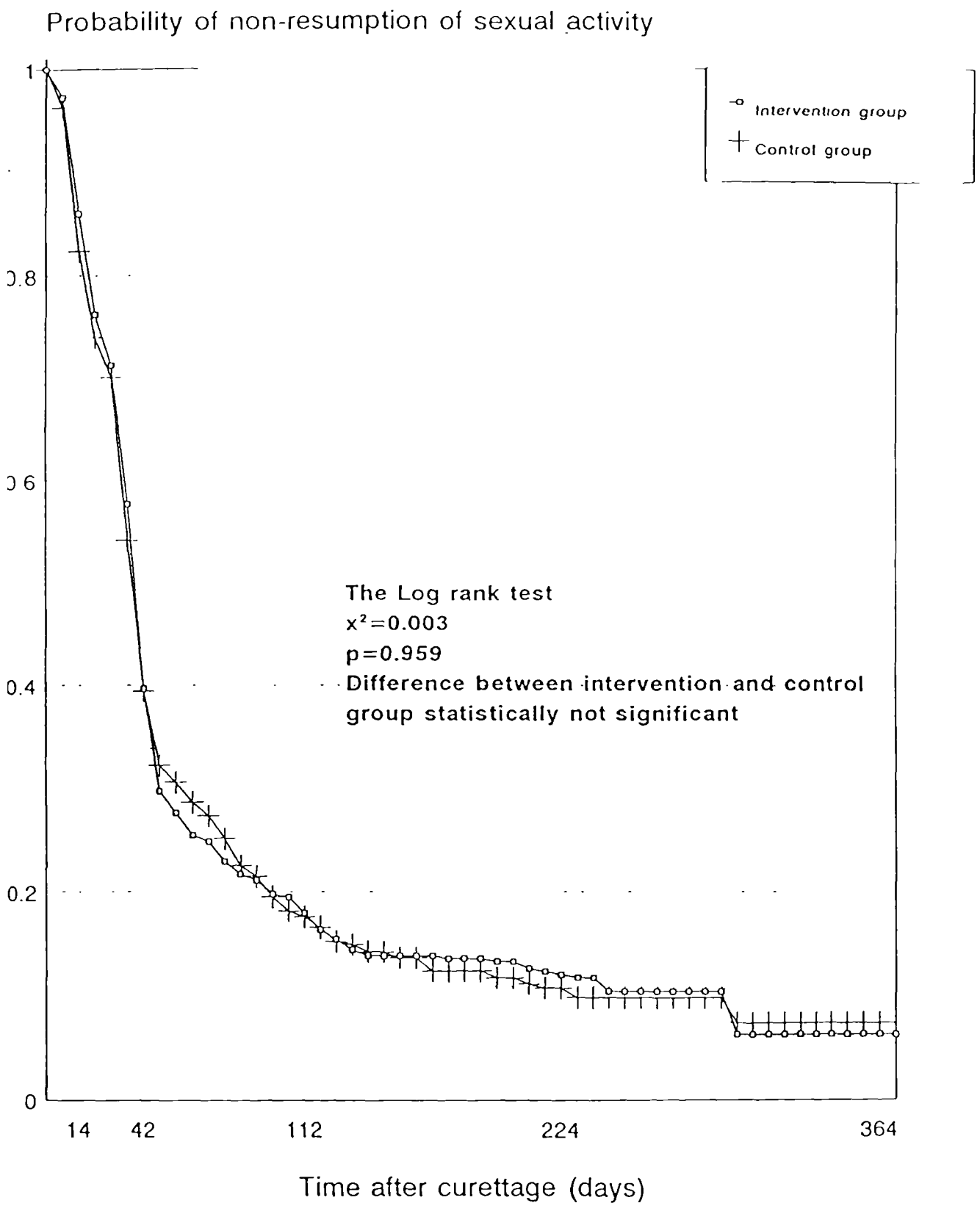
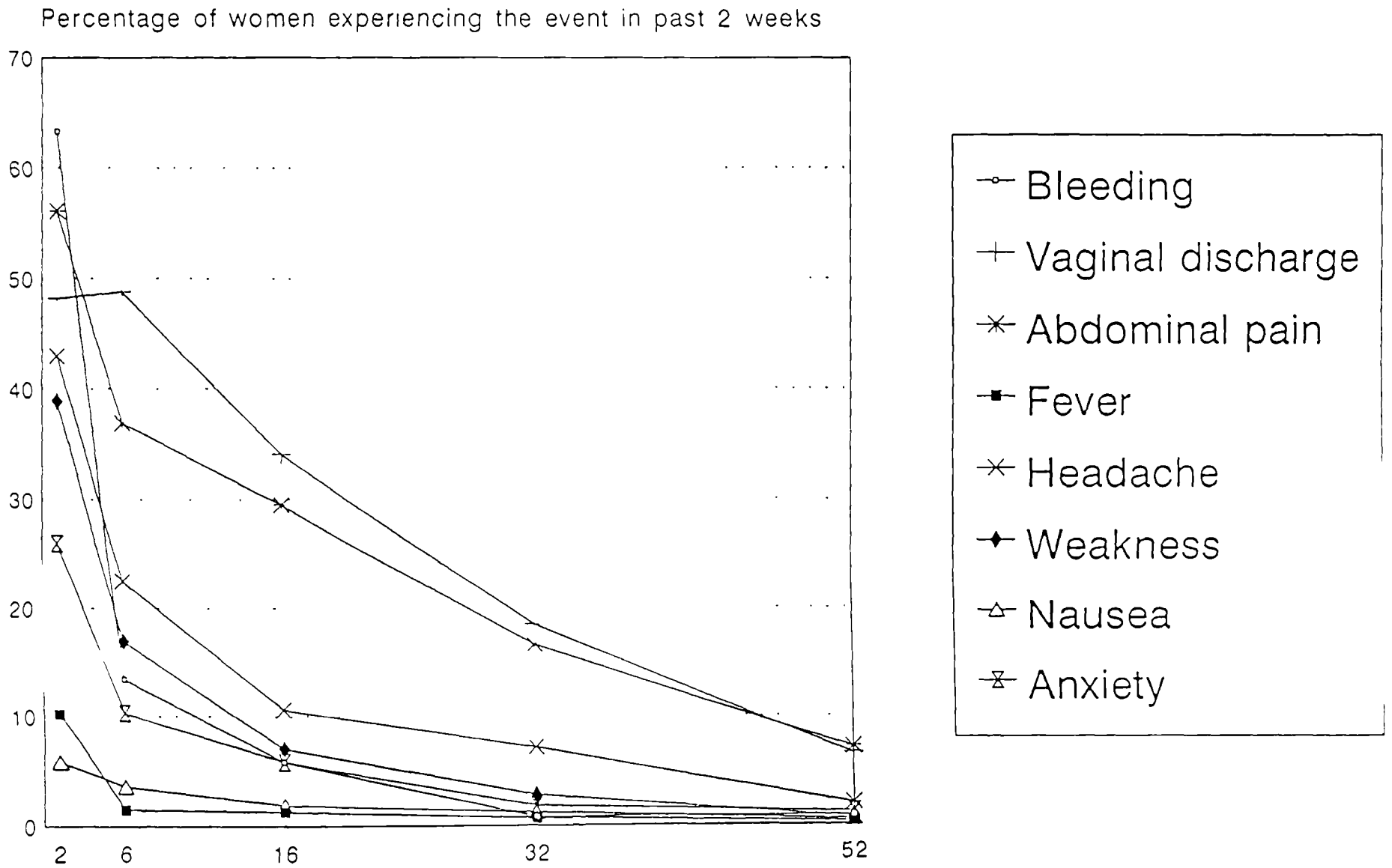


Figure 3.3 Morbidity Pattern of Women after Curettage until One Year

(Results from follow-up visits at 2weeks, 6weeks, 4months, 8months and 1year)



CHAPTER 4 IMPACT OF COUNSELLING ON CONTRACEPTIVE UPTAKE AND SUBSEQUENT PREGNANCY AND ABORTION

4.1 Impact of Counselling on Contraceptive Knowledge and Use

4.1.1 Impact on Knowledge

At the first follow-up visit (2 weeks after hospital discharge), each woman enrolled for the study was asked whether she had ever heard of the following contraceptive methods; oral contraceptive pill, condom, injection, IUD, rhythm method, withdrawal, diaphragm, spermicide, female sterilisation, vasectomy,.

The results are summarised in Table 4.1.

A. Oral contraceptives

The pill appeared to be the best known contraceptive method among women enrolled in the study. Most women interviewed (99.4%) had heard of oral contraceptives. The proportion of women reporting knowledge of oral contraceptives was similar in the intervention (99.1%) and control (99.7%) groups (p=0.30).

B. Condoms

Almost all of the women interviewed (96.3%) had already heard about condoms. Slightly more women in the intervention group (97.6%) knew this method than in the control group (95.0%), though the difference is not statistically significant at the 4% level(p=0.08).

C. Injectables

It is known that once-a-month injectables are one of the popular contraceptive methods sold at pharmacies. Most of the women (90.7%) knew about the method and the proportion of women who had heard of injectables was similar in the intervention and control groups (90.0% and 91.4%, respectively).

D. IUD

Knowledge of the IUD was considerably lower among women in the control group than in the intervention group (71.3% and 91.2% respectively) and the difference between the two groups was statistically significant ($p<0.001$).

E. Rhythm method

The rhythm method was also well known among the women interviewed (84.3%). There was no significant difference in knowledge of the rhythm method between the intervention (82.7%) and control (85.8%) group ($p=0.28$).

F. Withdrawal

Approximately 70% of all women (69.3%) reported that they knew about withdrawal. The proportion was similar in the intervention and control group ($p=0.83$).

G. Diaphragms

Most of the women in the intervention group (80.9%) knew about diaphragms. By contrast, only 24.0% of women in the control group reported that they heard of diaphragms ($p<0.001$).

H. Spermicide

The proportion of women who knew about spermicide was significantly higher in the intervention group (80.3%) than the control group (27.2%) ($p<0.001$).

I. Female Sterilisation

Most of the women interviewed (78.4%) knew about female sterilisation. The proportion of women reporting knowledge of female sterilisation was similar in the intervention (78.2%) and control (78.4%) groups ($p=0.87$).

J. Vasectomy

Almost half of all the women (44.8%) had heard of vasectomy. More women in the intervention group (48.2%) reported knowledge of vasectomy than in the control group (41.4%), though the difference was not statistically significant ($p=0.08$).

4.1.2 Impact on Contraceptive Uptake

A. Contraceptive use at each visit

Table 4.2 and Figure 4.1. show contraceptive use at each visit, including condoms, oral contraceptive pill, IUD, diaphragm, spermicide, injection, vasectomy, female sterilisation, rhythm method, withdrawal, and other methods including traditional methods. Modern contraceptives consisted of the above mentioned contraceptives except for rhythm method, withdrawal and other methods. Modern contraceptive use at each visit is shown in Figure 4.2.1. Table 4.3 presents modern contraceptive methods used at each visit by intervention status. Table 4.4 presents type of contraceptive method used by women before and after induced abortion by intervention status.

Before abortion (at the month of conception)

Of the 695 women enrolled, 36.5% reported using contraceptive methods at the month of the current conception. There is no difference in contraceptive uptake between the intervention (34.5%) and the control groups (38.6%) (p=0.26). Only 21.4% of all the women were using modern contraceptives.

First (2 weeks) visit

Of the 668 women interviewed, only 11.7% were using contraceptive methods. The proportion of women using contraceptive methods was similar in both intervention and control groups, 10.9% and 12.4% respectively. Of the women using methods, those (41.7% of users) in the counselling group were most likely to use condoms while withdrawal was most used in the control group (45.2% of users). Only 7.9% of all the women were using modern contraceptives.

Second (6 weeks) visit

At the 6 weeks visit, almost half of all the women were using contraceptive methods. 53.6% of women in the intervention group and 54.2% of women in the control group started using contraceptive methods before this visit. The difference between both groups was not statistically significant (p=0.53). Comparing the methods used, women in the counselling group used more condoms (24.9% among users) than in the control group (16.5% among users). Less than half of the women (42.9%) were using modern contraceptive methods.

Third (4 month) visit

Approximately 64% of women were using contraceptive methods by 4 months after hospital discharge. Both level of use (63.8% and 64.1% receptively) and type of method used were broadly similar in the two groups. Slightly more than half of the women (52.3%) were using modern contraceptive methods.

Fourth (8 months) visit

Slightly fewer women (58.3%) were using contraceptive methods compared with those at the previous visit. Use of contraceptives was very similar in the intervention and control groups, although more women in the intervention group were using injectables than in the control group (11.9% vs 6.7% respectively) and fewer women were using withdrawal (15.9% and 20.8% respectively). Almost half of the women (48.3%) were using modern contraceptive methods.

Last (1 year) visit

At the 1 year follow-up, almost half of the women (53.7%) interviewed were using modern contraceptives with no significant difference between the intervention group (54.7%) and the control group (52.8%)($p=0.64$). Again methods used were broadly similar in both groups. Modern contraceptives were used by 45.1 % of the women.

B. Survival analysis for first uptake of contraceptives

A Kaplan-Meier survival analysis was used to describe the pattern of the contraceptive uptake during the follow-up year. Survival time was defined as the day of

hospital admission until the day of the first contraceptive uptake. All other outcomes were treated as censored. The results are shown in Figure 4.3. Comparing women in the intervention group and the control group, the log rank test statistic is 0.6662, which is not statistically significant (p=0.41). Thus there is no evidence that the first contraceptive uptake experience of women in the intervention group is different from those in the control group.

4.1.3. Impact on Seeking Contraceptive Services

We also asked women if they had visited any contraceptive services. Of the 637 women included in the analysis, 438 (68.8%) reported visiting contraceptive services by the end of the 1 year follow-up period.

A Kaplan-Meier survival analysis was used to describe the pattern of the first visit to contraceptive services. Survival time was defined as the day of hospital admission until the day of first seeking a contraceptive service. All other outcomes were treated as censored. The results are shown in Figure 4.4. Comparing women in the intervention group and the control group, the log rank test statistic is 0.773, which is not statistically significant (p=0.38). Thus, there is no evidence that women in the intervention group have a different experience at the first visit to health service to those in the control group.

4.1.4 Impact on Risk of Unprotected Sexual Intercourse

Women who were not sexually active or women who were sexually active but using contraceptive methods, were defined as women not at risk of pregnancy, while all other women are defined as having unprotected sex.

Among 695 women included in the analysis, 479 (68.9%) had unprotected sexual intercourse. The Kaplan-Meier survival analysis shows the pattern of the risk taking behaviour during the 1 year follow-up (Figure 4.5). The log rank test statistics (x^2=1.148) shows that there is no statistically significant difference between the intervention group and the control group (p=0.284).

4.2 Impact on Subsequent Pregnancy and Abortion

4.2.2 Impact on Subsequent Pregnancy

Among 695 women included in the follow-up study, 165 (23.7%) became pregnant again before the end of follow-up period; 81 (23.5%) in the intervention group and 84 (24%) in the control group. There is no statistically significant difference in the number of pregnancies between two groups (Table 4.5).

A Kaplan-Meier survival analysis was used to describe the pattern of the first subsequent pregnancy during the follow-up. Since the time of becoming pregnant was not known precisely, the data were analysed as if each event occurred at the midpoint of the follow-up intervals. The results are shown in Figure 4.6. Comparing women in the intervention group and the control group, the log rank test statistic is 0.074, which is not statistically significant (p=0.79).

4.2.3 Impact on Subsequent Abortion

Table 4.6 presents subsequent abortions which occurred during the follow-up. Of the 695 women included in the follow-up study, 42 (6.0%) had another abortion before the end of the 1 year follow-up. Comparing the intervention and the control group, 27 women (7.8%) in the intervention group and 15 women in the control group (4.3%)

had subsequent abortions. No statistical test was done for Table 4.6 because the numbers of women having a subsequent abortion was very small. The proportion of reported pregnancies ending in abortion is 33.3% in the intervention group and 17.9% in the control group. This difference is statistically significant ($p<0.005$).

A Kaplan-Meier survival analysis was used to describe the pattern of the first subsequent abortion during the follow-up. Since the time of the abortion was not known precisely, the data were analysed as if each event occurred at the midpoint of the follow-up intervals. The results are shown in Figure 4.7. Comparing women in the intervention group and the control group, the log rank test statistic is 3.470, which is of borderline statistical significance ($p=0.06$).

4.3 Summary

Knowledge of contraceptives such as the IUD, spermicides and diaphragms was considerably lower among women in the control group suggesting the intervention increased knowledge. There was no statistically significant difference in knowledge of contraceptives such as condoms, the pill, injectables, rhythm method, withdrawal, vasectomy and female sterilisation between the intervention and control groups.

Overall, contraceptive uptake rate after the index abortion was increased. However, comparing women in the intervention group and the control group, there was no difference in contraceptive uptake, seeking contraceptive service and pregnancy risk taking behaviour. There was also no statistically significant difference in subsequent pregnancy. Risk of subsequent abortion in the intervention and control groups do appear to differ but is of borderline significance. The proportion of pregnancies in the intervention group which ends in abortion is significantly higher (33% vs 18%).

Table 4.1 Number of women who had heard of contraceptive methods after 2 weeks of hospital discharge by intervention status.

Contraceptive method	Intervention group N=330 (%)	Control group N=338 (%)	Total N 668 (%)	p-value
Oral contraceptives	327 (99.1)	337 (99.7)	664 (99.4)	p 0.30
Condom	322 (97.6)	321 (95.0)	643 (96.3)	p=0.08
Injection	297 (90.0)	309 (91.4)	606 (90.7)	p=0.53
IUD	301 (91.2)	241 (71.3)	542 (81.1)	p<0.001
Rhythm method	273 (82.7)	290 (85.8)	563 (84.3)	p–0.28
Withdrawal	230 (69.7)	233 (68.9)	463 (69.3)	P=0.83
Diaphragm	267 (80.9)	81 (24.0)	348 (52.1)	p<0.001
Spermicide	265 (80.3)	92 (27.2)	357 (54.4)	p<0.001
Female sterilisation	258 (78.2)	266 (78.7)	524 (78.4)	p=0.87
Vasectomy	159 (48.2)	140 (41.4)	299 (44.8)	p=0.08

Table 4.2 Number of women taking up contraceptives before and after induced abortion by counselling status.

	Contraception uptake	Intervention group Number (%)	Control group Number (%)	Total Number (%)	p value	Odds Ratio (95% C I)
Before abortion*	Yes	119 (34.5)	135 (38.6)	254 (36.5)	0.26	0.84 (0.61-1.16)
	No	226 (65.5)	215 (61.4)	441 (63.5)		
	Total	345	350	695		
2 weeks visit **	Yes	36 (10.9)	42 (12.4)	78 (11.7)	0.56	0.87 (0 52-1.44)
	No	293 (89.1)	297 (87.6)	590 (88.3)		
	Total	329	339	668		
6 weeks visit	Yes	177 (53.6)	170 (54.2)	347 (52.4)	0.53	1.16 (0.84-1.59)
	No	153 (46.4)	162 (48.8)	315 (47.6)		
	Total	330	332	662		
4 months visit	Yes	203 (63.8)	202 (64.1)	405 (64.0)	0.94	0.99 (0.70-1.39)
	No	115 (36.2)	113 (35.9)	227 (36.0)		
	Total	328	315	633		
8 months visit	Yes	176 (57.3)	178 (59.3)	354 (58.3)	0.61	0.92 (0.66-1.29)
	No	131 (42.7)	122 (40.7)	253 (41.7)		
	Total	307	300	607		
1 year visit	Yes	163 (54.7)	153 (52.8)	316 (53.7)	0.64	1.08 (0.77-1.52)
	No	135 (45.3)	136 (47.2)	272 (46.3)		
	Total	298	290	588		

*Number of women taking up contraceptives at the month of conception of the current abortion episode. Denominator used was the number of women at initial enrollment of the intervention study.
**Denominator at each visit was the number of the women interviewed at each visit.

Table 4.3 Number of women taking up modern contraceptives* before and after induced abortion by counselling status.

	Contraception uptake	Intervention group Number (%)	Control group Number (%)	Total Number (%)	p value	Odds Ratio (95% C.I.)
Before abortion**	Yes	70 (20.3)	79 (22.6)	149 (21.4)	0.46	0.87 (0.60-1.28)
	No	275 (79.7)	271 (77.4)	546 (79.6)		
	Total	345	350	695		
2 weeks visit***	Yes	26 (7.9)	27 (8.0)	53 (7.9)	0.98	0.99 (0.55-1.80)
	No	303 (92.1)	312 (92.0)	615 (92.1)		
	Total	329	339	668		
6 weeks visit	Yes	147 (44.5)	137 (41.3)	284 (42.9)	0.39	1.14 (0.83-1.57)
	No	183 (55.5)	195 (58.7)	378 (57.1)		
	Total	330	332	662		
4 months visit	Yes	168 (52.8)	163 (51.7)	331 (52.3)	0.79	1.04 (0.76-1.44)
	No	150 (47.2)	152 (48.2)	302 (47.7)		
	Total	318	315	633		
8 months visit	Yes	151 (49.2)	142 (47.3)	293 (48.3)	0.65	1.08 (0.77-1.50)
	No	156 (50.8)	157 (50.7)	314 (51.7)		
	Total	307	300	607		
1 year visit	Yes	140 (47.0)	125 (43.1)	265 (45.1)	0.35	1.17 (0.83-1 64)
	No	158 (53.0)	164 (56.9)	323 (54.9)		
	Total	298	290	588		

* Condoms, oral contraceptives, IUD, diaphragm, spermicide and injection, vasectomy and female sterilization.
** Number of women taking up contraceptives at the month of conception of the current abortion episode.
***Denominator used was the number of women at initial enrollment of the intervention study. Denominator at each visit was the number of the women interviewed at each visit.

Table 4 4 Type of contraceptive method used by women before and after induced abortion by intervention status

Before induced abortion (at the month of conception)

Contraceptive method	Intervention group N 119 (%)	Control group N 135 (%)	Total N 254 (%)
Condom	9 (7 6)	12 (8 9)	21 (8 3)
Oral contraceptives	47 (39 5)	49 (36 3)	96 (37 8)
IUD	0	0	0
Diaphragm	0	1 (0.7)	1 (0.4)
Spermicide	0	0	0
Injectable	10 (8 4)	8 (5 9)	18 (7 1)
Vasectomy	0	0	0
Female sterilzation	0	0	0
Rhythm method	26 (21 8)	33 (24 4)	59 (23 2)
Withdrawal	20 (16 8)	13 (9 6)	33 (13 0)
Other method*	7 (5 9)	19 (14 1)	26 (10 2)

* Traditional methods etc

2 weeks visit

Contraceptive method	Intervention group N=36 (%)	Control group N=42 (%)	Total N=78 (%)
Condom	15 (41.7)	11 (26.2)	26 (33.3)
Oral contraceptives	10 (26 2)	11 (27.8)	21 (26 9)
IUD	0	0	0
Diaphragm	0	0	0
Spermicide	0	0	0
Injectable	1 (2 8)	1 (2.4)	2 (2 6)
Vasectomy	0	0	0
Female sterilzation	0	0	0
Rhythm method	0	0	0
Withdrawal	10 (27 8)	19 (45 2)	29 (37 2)
Other method	0	0	0

6 weeks visit

Contraceptive method	Intervention group N 177 (%)	Control group N 170 (%)	Total N= 347 (%)
Condom	44 (24 9)	28 (16 5)	72 (20 7)
Oral contraceptives	89 (50.3)	98 (57.6)	187 (53 9)
IUD	1 (0.5)	0	1 (0 3)
Diaphragm	0	0	0
Spermicide	0	1 (0 6)	1 (0 3)
Injectable	11 (6 2)	10 (5 9)	21 (6 1)
Vasectomy	0	0	0
Female sterilzation	0	0	0
Rhythm method	2 (1.1)	3 (1.8)	5 (1 4)
Withdrawal	27 (15.3)	29 (17.1)	56 (16 1)
Other method	3 (1 7)	1 (0 6)	4 (1 2)

4 months visit

Contraceptive method	Intervention group N= 203 (%)	Control group N– 202 (%)	Total N= 405(%)
Condom	31 (15.3)	33 (16.3)	64 (15 8)
Oral contraceptives	109 (53.7)	111 (55.0)	220 (54 3)
IUD	2 (1.0)	2 (1.0)	4 (1 0)
Diaphragm	0	0	0
Spermicide	1 (0.5)	0	1 (0.2)
Injectable	19 (9.4)	15 (7.4)	34 (8 4)
Vasectomy	0	0	0
Female sterilzation	1 (0.5)	0	1 (0 2)
Rhythm method	10 (4.9)	11 (5.4)	21 (5 2)
Withdrawal	23 (11 3)	27 (13.4)	50 (12 3)
Other method	7 (3.4)	3 (1.5)	10 (2 5)

8 months visit

Contraceptive method	Intervention group N=176 (%)	Control group N 178 (%)	Total N=354 (%)
Condom	25 (14 2)	25 (14 0)	50 (14 1)
Oral contraceptives	90 (54.1)	91 (54 1)	181 (54.1)
IUD	2 (1.1)	2 (1.1)	2 (1 1)
Diaphragm	0	0	0
Spermicide	0	0	0
Injectable	21 (11 9)	12 (6 7)	33 (9.3)
Vasectomy	0	0	0
Female sterilzation	3 (1.7)	2 (1.1)	5 (1 4)
Rhythm method	3 (1.7)	7 (3.9)	10 (2.8)
Withdrawal	28 (15.9)	37 (20.8)	65 (18 4)
Other method	4 (2.3)	2 (1 1)	6 (1 7)

1 year visit

Contraceptive method	Intervention group N=163 (%)	Control group N 153 (%)	Total N=316 (%)
Condom	21 (12.9)	15 (9.8)	36 (11 4)
Oral contraceptives	84 (51.5)	70 (45 8)	154 (48.7)
IUD	2 (1.2)	4 (2.6)	6 (1.9)
Diaphragm	0	0	0
Spermicide	0	0	0
Injectable	13 (8.0)	17 (11.1)	30 (9.5)
Vasectomy	0	0	0
Female sterilzation	8 (4.9)	10 (6.5)	18 (5.7)
Rhythm method	6 (3.7)	9 (5.9)	15 (4.7)
Withdrawal	25 (15.3)	25 (16 3)	50 (15.8)
Other method	4 (2.5)	3 (2 0)	7 (2 2)

Table 4.5 Number of subsequent pregnancies occuring during the follow-up period.

Timing of pregnancy	Pregnancy	Number of subsequent pregnancy (%)			p value	Odds Ratio (95% C.I.)
		Intervention group	Control group	Total		
between 6 weeks visit and 4 month visit*	Yes	15 (4.7)	10 (3.2)	25 (3.5)	0.32	1.51 (0.63-3.68)
	No	303 (95.3)	305 (96.8)	608 (96.5)		
	Total	318	315	633		
between 4 month visit and 8 month visit*	Yes	39 (12.7)	40 (13.3)	79 (13.0)	0.82	0.95 (0.57-1.56)
	No	268 (87.3)	260 (86.7)	528 (87.0)		
	Total	307	300	607		
between 8 month visit and 1 year visit*	Yes	27 (7.9)	34 (11.7)	61 (10.4)	0.29	0.75 (0.43-1.32)
	No	271 (92.1)	256 (88.3)	527 (89.6)		
	Total	341	290	588		
Total**	Yes	81 (23.5)	84 (24.0)	165 (23.7)	0.87	0.97 (0.67-1.40)
	No	264 (76.5)	266 (76.0)	166 (76.3)		
	Total	345	350	695		

* Denominator used at each point in time was the number of the women interviewed at that visit.
** Denominator used was the number of women at initial enrollment of the intervention study.

Table 4.6 Number of subsequent abortions occuring during the follow-up period.

Timing of abortion	Number of subsequent abortion		
	Intervention group N=345	Control group N=350	Total N=695
between 6 weeks visit and 4 month visit	6	2	8
between 4 month visit and 8 month visit	11	4	15
between 8 month visit and 1 year visit	10	9	19
Total*	27 (7.8%)	15 (4.3%)	42 (6.0%)

* Denominator used was the number of women at initial enrollment of the intervention study.

Fig 4.1 Percentage of Women Using Contraceptive Methods Before and After Induced Abortion

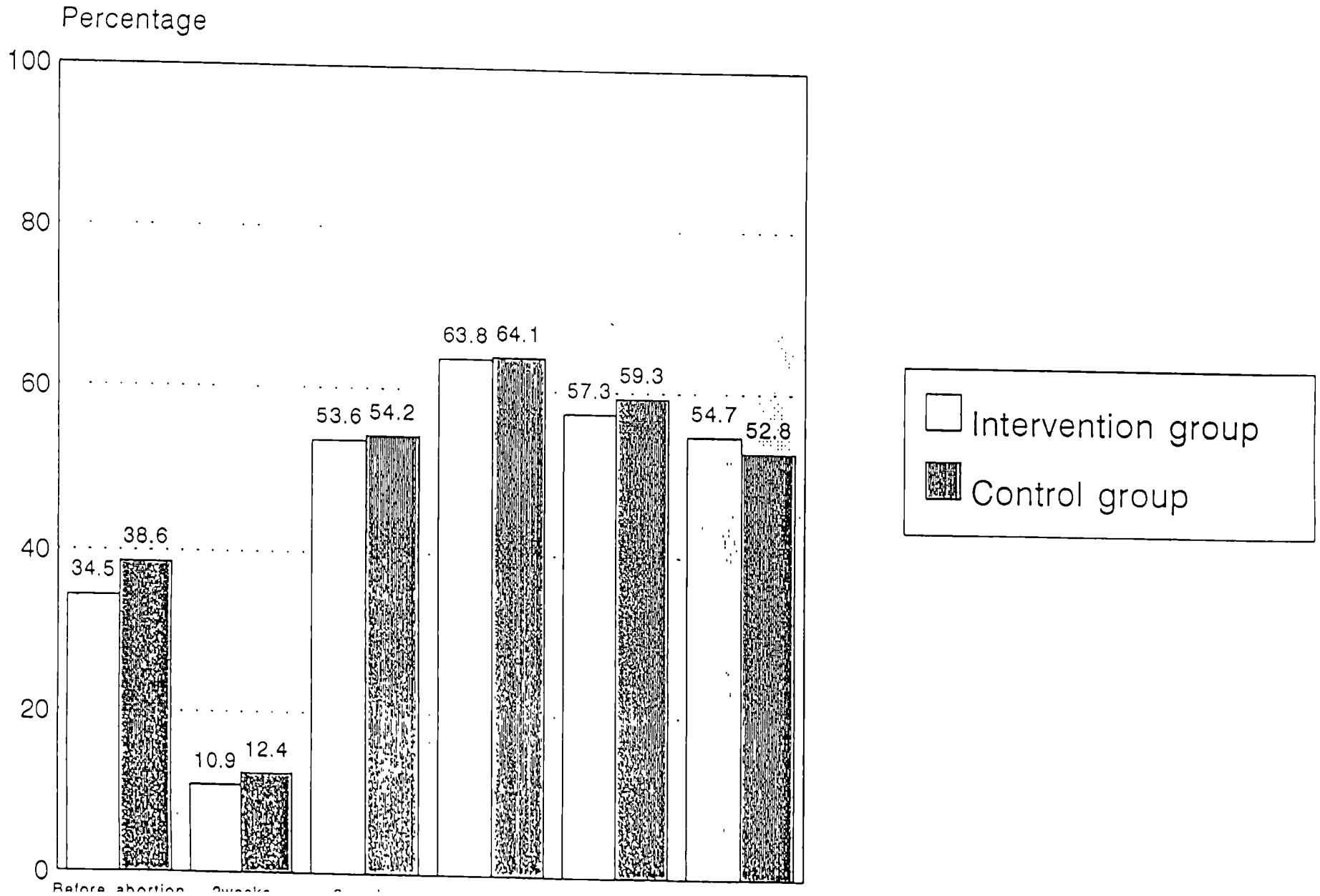


Fig 4.2 Percentage of Women Using Modern Contraceptive Methods Before and After Induced Abortion

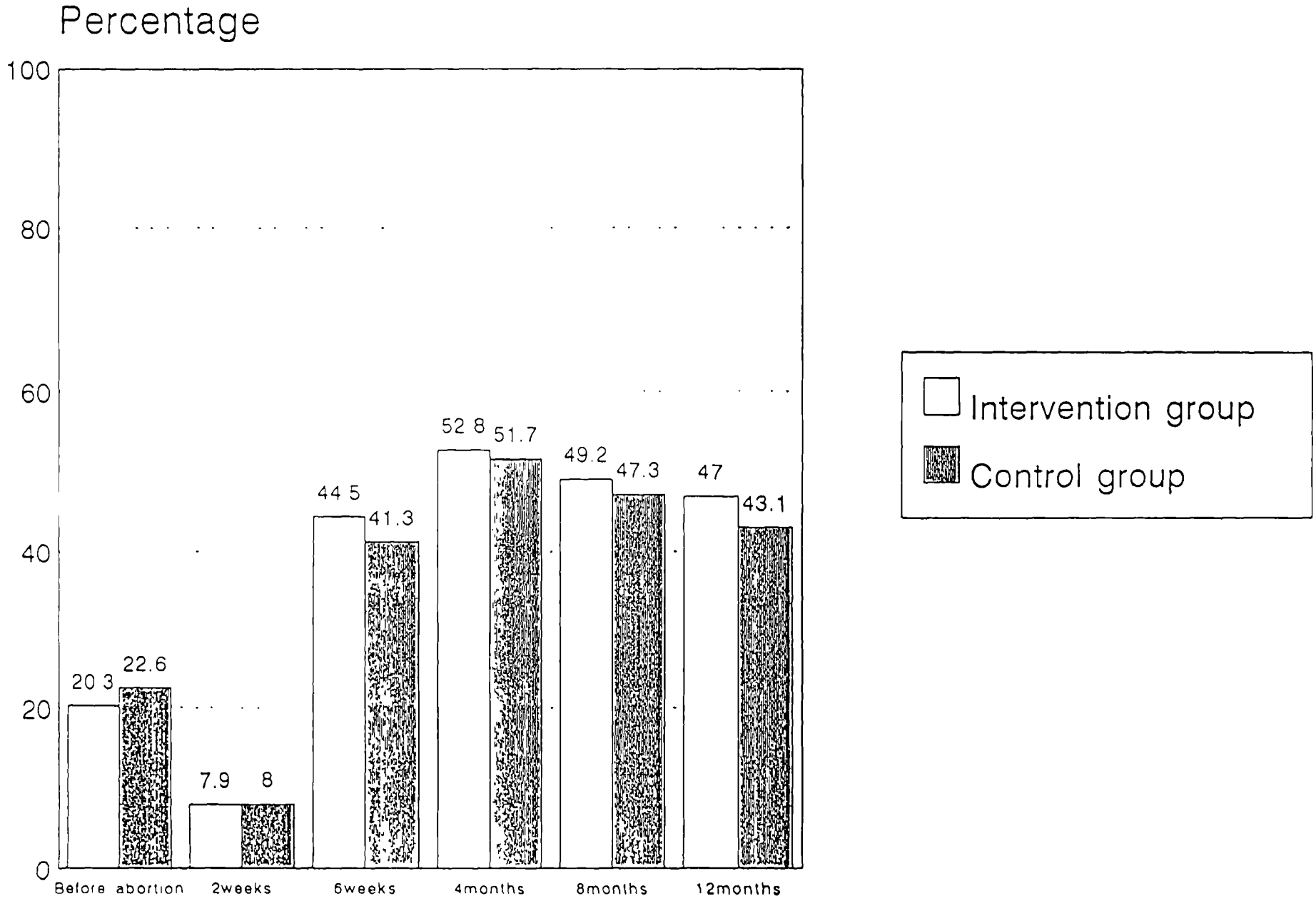


Figure 4.3 Survival Analysis for First Uptake of Modern Contraceptives
(Cumulative probablitities of not taking up contraception, by intervention status)

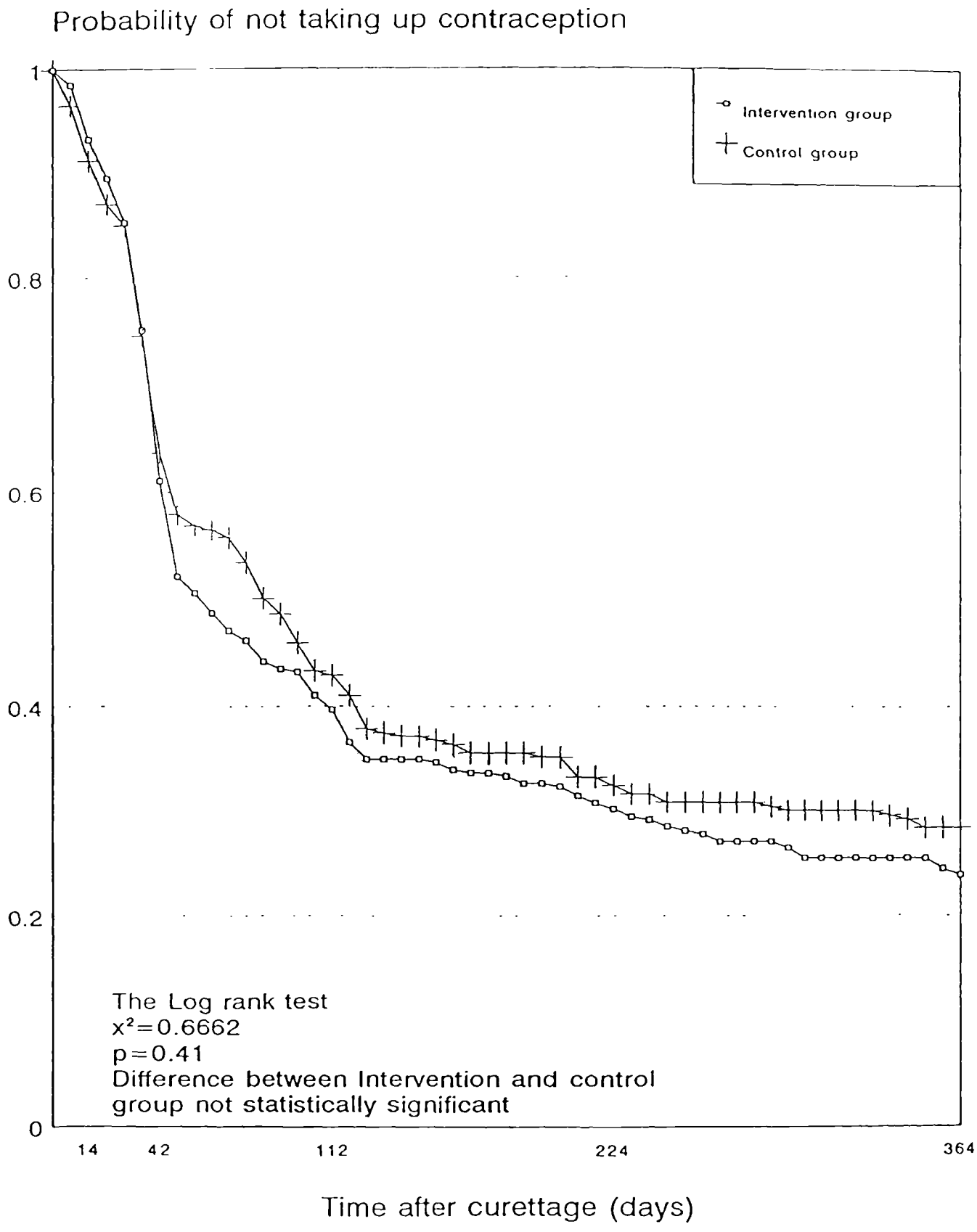


Figure 4.4 Survival Analysis for First Visit to Contraceptive Service

(Cumulative probabilities of not seeking contraceptive service, by intervention status)

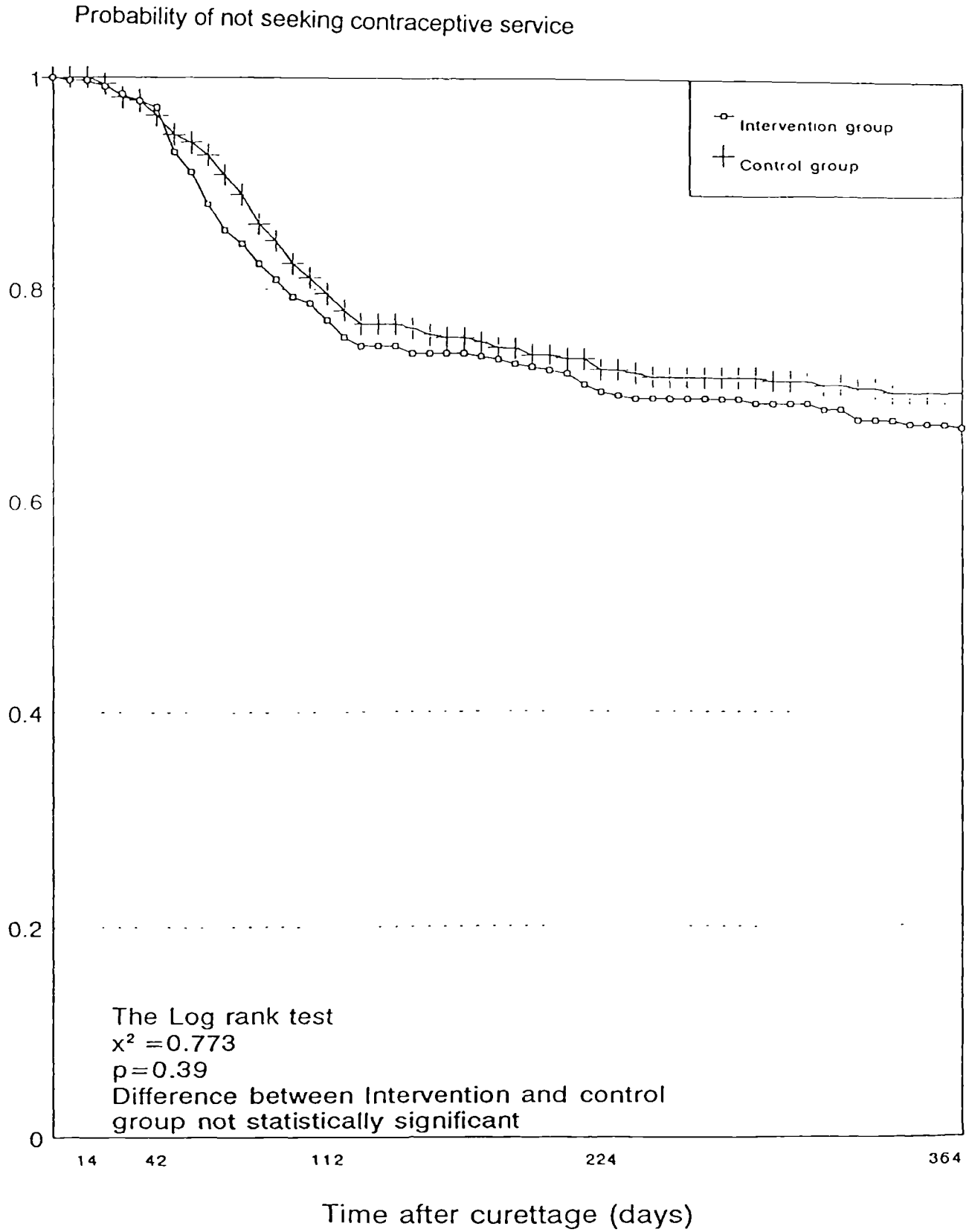


Figure 4.5 Survival Analysis for First Unprotected Sexual Intercourse
(Cumulative probabilities of not having unprotected sexual intercourse)

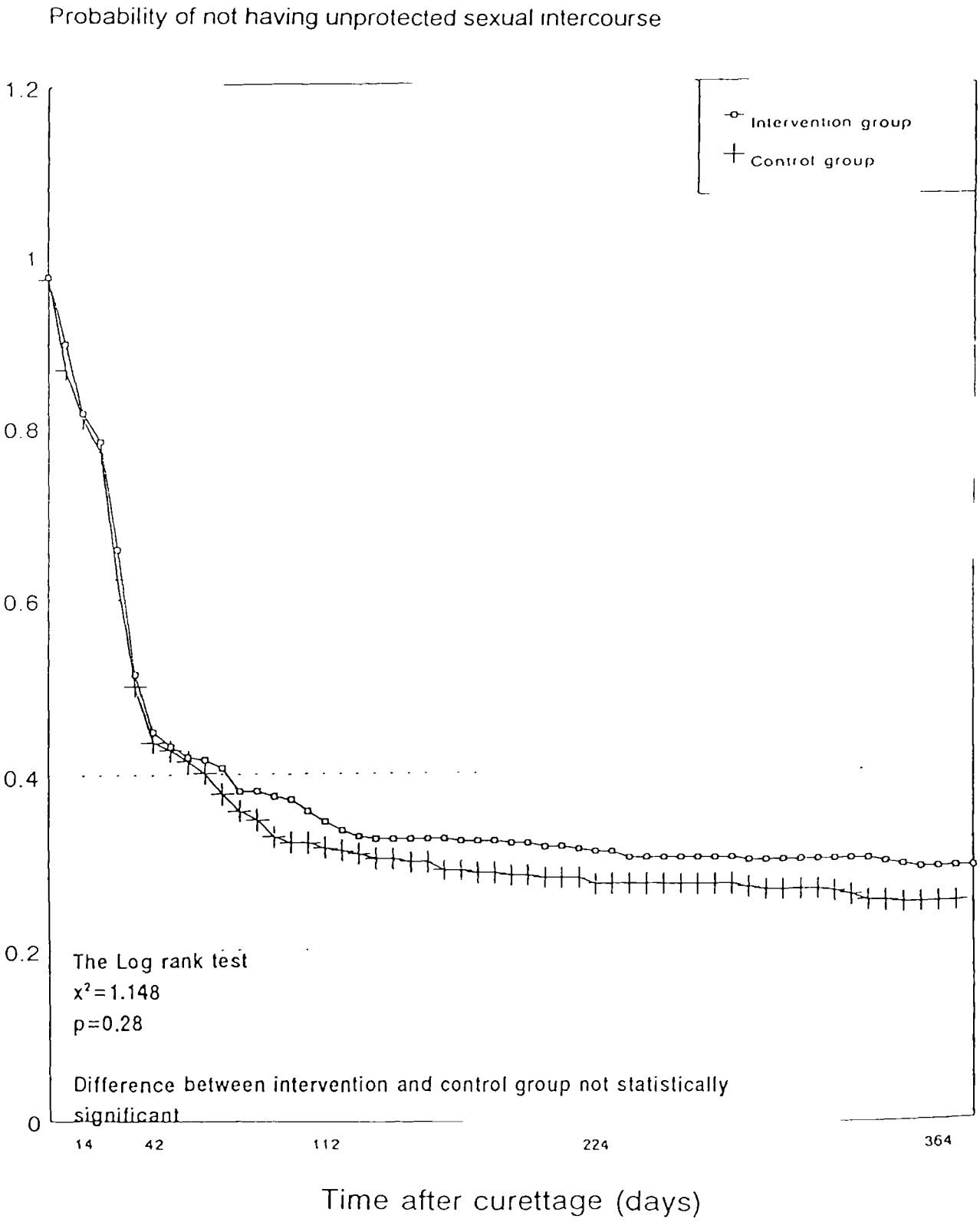
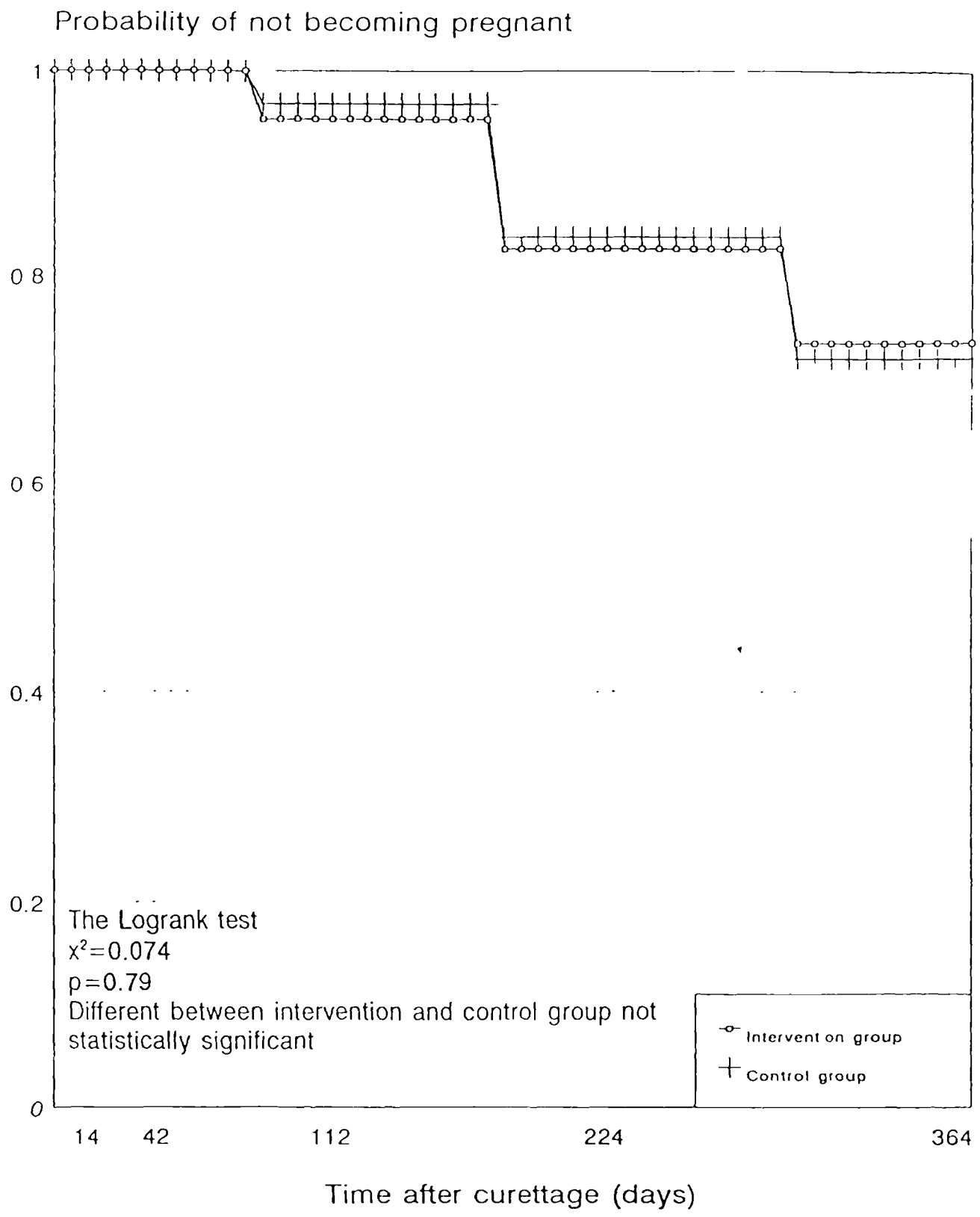


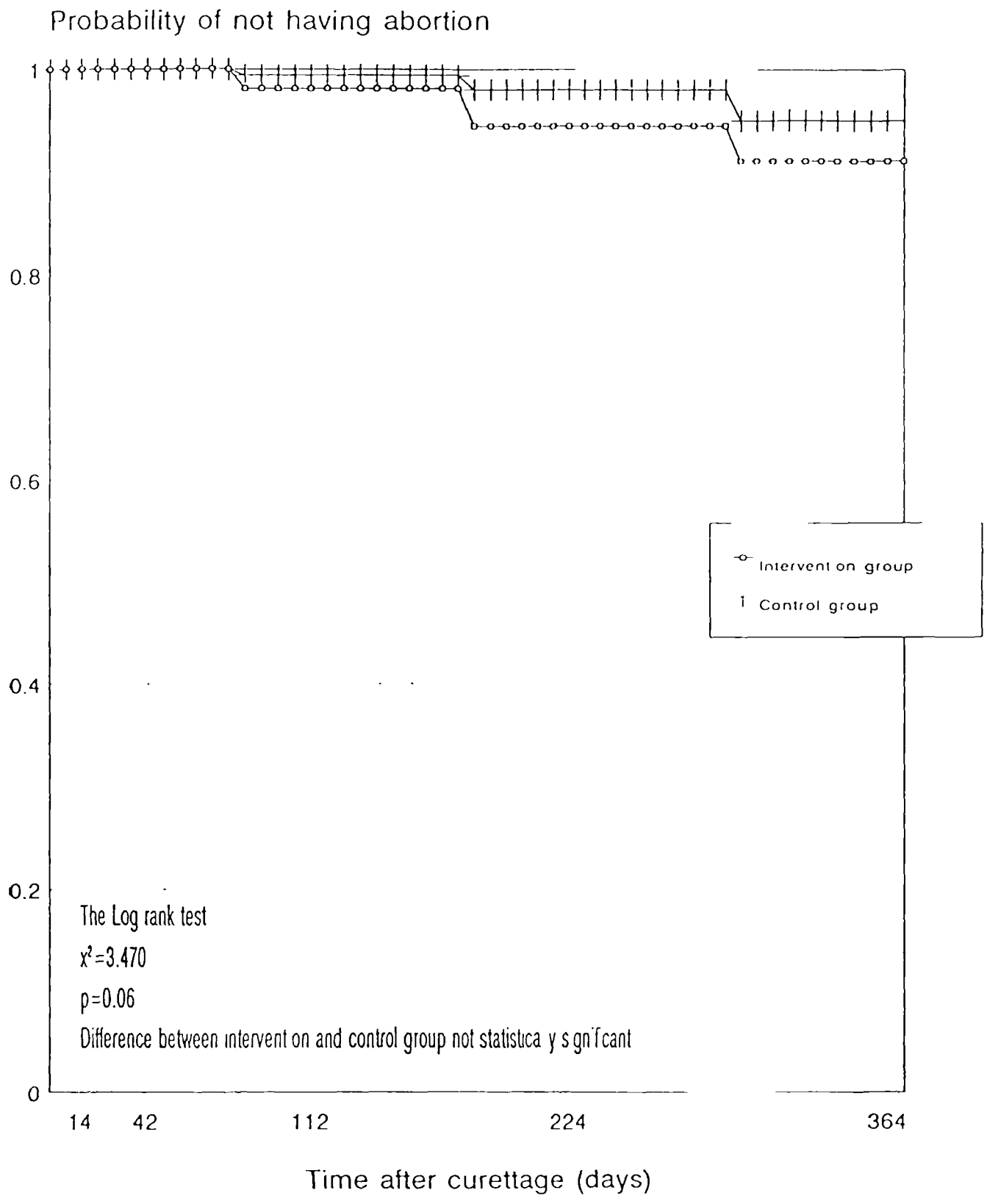
Figure 4.6. Survival Analysis for First Subsequent Pregnancies

(Cumulative probabilities of not becoming pregnant, by intervention status)



igure 4.7 Survival Analysis for First Subsequent Abortions

(Cumulative probabilities of not having abortion, by intervention status)



CHAPTER 5 CONTRACEPTIVE USE

5.1 Determinants of Contraceptive Use

Chapter 4 shows that the post-abortion counselling does not have a significant impact on first uptake of modern contraceptives and on subsequent pregnancy and abortion. At 6 weeks after hospital discharge, 52.4% of the women interviewed were using contraceptive methods; at 4 months, 64% of the women were using contraceptives and nearly the same percentage of women in both groups were using contraceptives at the 1 year follow-up. Who are these women who did not start taking contraceptives at 6 weeks after curettage due to induced abortion? The efforts of health care professionals should be focused on how to approach the women in the sample whose behaviour puts them at continuing risk of unwanted pregnancy.

This chapter compares the characteristics of women using contraceptives and those not using contraceptives at the 6 weeks follow-up and presents findings on the determinants of contraceptive uptake. As there was no difference in contraceptive uptake between the intervention and control groups, data were pooled for all women.

a. Marital status

Table 5.1 shows selected socio-demographic characteristics according to the uptake of contraceptives. There was a higher proportion of women married or in stable union (59.7%) in the contracepting group when compared with women in the non contracepting group (43.8%) and this difference was statistically significant ($p<0.001$). The differences for all the other socio-demographic variables studied including age, marital status, education, occupation and religion were not statistically significant.

b. Previous pregnancy and live birth

The distribution of women according to prior pregnancy outcomes, by contraceptive uptake is shown in Table 5.2. Women in the contracepting group were more likely to report that they had been pregnant before compared with the non-contracepting group (73.3% and 65.0%). The proportion of women who never had a live birth was higher among the non-contracepting group than in the contracepting group (35.0% vs. 26.7%). These differences were statistically significant ($p<0.005$). There were no statistically significant differences in the number of previous induced abortion episodes ($p=0.5$) or spontaneous abortion episodes ($p=0.10$) between the contracepting and non contracepting groups.

c. Previous abortion episode

The abortion episode characteristics of women according to contraceptive uptake are presented in Table 4.3. Women using contraceptives after abortion were more likely to have been using contraceptives before their abortion than women not using contraceptives after abortion (41.2% and 30.9%). This difference was statistically significant ($p<0.01$). There were no differences in abortion classification between the two groups ($p=0.20$).

d. Resumption of menstruation and sexual related characteristics

Table 5.4 presents the resumption of menstruation and sexual activity-related characteristics of women by contraceptive uptake. Resumption of menstruation, presence of sexual desire and resumption of sexual activities appeared to be important determinants for contraceptive uptake. The proportion of women who resumed

menstruation was higher among women in the contracepting group than in the non contracepting group (89.3% vs. 83.3%) and the difference was statistically significant ($p<0.05$). Women who had sexual desire and resumed sexual activities were more likely to use contraceptives and the differences for these variables were highly statistically significant ($p<0.001$).

Table 5.5 presents a multivariate analysis of selected variables to consider the probablity of contraceptive uptake at 6 weeks after the abortion. The only variable that remained significant after controlling for socio-economic, demographic and biological factors was resumption of sexual activities (Odds ratio = 0.02, Confidence interval=0.01, 0.04, $p<0.001$). Women who resumpted sexual activities tend to take contraceptives. This implies that all post-abortion women should receive advice-information since they are all sexually active.

e. Morbidity pattern

The morbidity pattern of women by contraceptive uptake was shown in Table 5.8. The proportion of women who had bleeding was higher among women in the non-contracepting group than in the contracepting group (16.7% vs.10.4%) and the difference between the two groups was statistically significant ($p<0.01$). All the other morbidity variables were not different between the contracepting and non contracepting groups.

5.2 Reasons for Not Using Contraceptives

Reasons for not using contraceptives among women who were not using contraceptive methods before and after abortion are presented as follows.

Interview at hospital

Among 695 women enrolled in the intervention study, most women (63.5%) were not using any contraceptive method at the time of conception of the current abortion episode. The most frequent reasons cited for not using any contraceptive methods were "fear of side effects" (22.9%), "thought not to be at risk of pregnancy" (18.4%), "did not expect to have sexual intercourse (14.1%), and "careless" (8.4%). Lack of availability of contraceptive methods was reported by only 9.8%.

2 Weeks Follow-up

Of the 668 women interviewed at the 2 weeks follow-up, 590 women (88.3%) were not using contraception. Among those 590 women, reasons cited for not using contraceptives were "not having sexual intercourse" (51.9%), "not menstruating" (21.9%), "the method used before was not acceptable because of side effect" (13.9%).

6 Weeks Follow-up

At the 6 weeks follow-up, of the 662 women interviewed, 315 (47.6%) were not using any contraceptive method. Among those 315 women, the most frequent reason cited was still "not having sexual intercourse" (48.6%) followed by "the method used before was not acceptable because of side effect" (14.9%), "did not know which method to use" (3.5%), "health problem" (3.2%).

4 Months Follow-up

Among 633 women interviewed at the 4 months follow-up, 228 women (36.0%) were not using contraception. The reasons cited were "not having sexual intercourse" (42.1%), "being pregnant or thought pregnant" (9.2%), "would like to be pregnant" (4.4%), "health problem" (4.4%), "does not have constant sexual relationship" (3.5%).

8 Months Follow-up

At the 8 month follow-up, of the 607 women interviewed, 253 (41.7%) said they were not using any contraceptive method. Among these 253 women, the reasons cited for not using contraception were "not having sexual intercourse"(41.9%), "being pregnant or thought pregnant" (34.4%), "would like to be pregnant" (4.0%).

1 Year Follow-up

Among 588 women interviewed at the last follow-up, 272 women (46.3%) said they were not using any contraceptive method. The most frequently cited reason was again "having no sexual intercourse" (43.0%). Other cited reasons for not using contraception were "being pregnant or thought pregnant" (34.9%), "would like to be pregnant" (3.7%), "the method used before was not acceptable because of side effects" (3.7%).

5.3 Summary

Compared to contraceptive users, non-users tended to be single or without partner. More non-users reported no previous pregnancy experience than users. The proportion of women who had never had a live birth was higher among non-user group. Women with previous abortion episodes were more likely to use contraceptives after the index abortion. Women with resumption of menstruation, presence of sexual desire and resumption of sexual activities were more likely to be contraceptive users.

"Not having sexual intercourse" was the most frequently cited reason for not using a contraceptive method during all the follow-up period.

Table 5.1 Socio-demographic Characteristics of Women by Contraceptive Uptake at 6 weeks Follow-up after Curettage.

	Taking contraceptive N=345 (%)	Not taking contraceptive N=317 (%)	Total N=662 (%)
Age (years)			
<19	66 (19 1)	62 (19 6)	128 (19 3)
20-24	112 (32.5)	100 (31.5)	212 (32 0)
25-29	98 (28 4)	84 (26 5)	182 (27.5)
30-34	41 (11.9)	35 (11.0)	64 (9 7)
35+	28 (8 1)	36 (11.4)	64 (9.7)
P value			p=0.70
Marital status			
Single	116 (33.6)	147 (46.4)	263 (39 7)
Married/Stable union	206 (59.7)	139 (43.8)	345 (52.1)
Separated/divorced/widow	23 (6.7)	31 (9.8)	54 (8.2)
P value			p<0.001
Education (years)			
No schooling	16 (4.6)	17 (5.4)	33 (5.0)
1-4 years	98 (28.4)	115 (36.3)	213 (32.2)
5-8 years	147 (42.6)	124 (39.1)	271 (40.9)
8+	84 (24.3)	61 (19.2)	145 (21.9)
P value			p=0.12
Occupation			
Housewife	128 (37.1)	116 (36.6)	244 (36.9)
House maid	31 (9.0)	41 (12.9)	72 (10.9)
Other service	50 (14.5)	49 (15.5)	103 (14.8)
Student	25 (7.2)	25 (7.9)	50 (7.6)
Business	38 (11.0)	27 (8.5)	65 (9.8)
Dress maker	22 (6.4)	26 (8.2)	48 (7.3)
Industry/construction	11 (3.2)	13 (4.1)	24 (3.4)
unemployed/dependent	40 (11.6)	20 (6.3)	60 (9.1)
p value			p=0 20
Religion			
Roman catholic	308 (89.3)	289 (91.2)	597 (90.2)
Others	15 (4.3)	13 (4.1)	28 (4.2)
None	22 (6 4)	15 (4 7)	37 (5 6)
p value			p=0 46

Table 5.2 Prior Pregnancy Outcomes of Women by Contraceptive Uptake at 6 weeks Follow-up After Curettage.

	Taking contraceptive N=345 (%)	Not taking contraceptive N=317 (%)	Total N=662 (%)
Ever pregnant before			
Yes	253 (73.3)	206 (65.0)	459 (69.3)
No	92 (26.7)	111 (35.0)	203 (30.7)
p-value			p< 0.05
Live birth			
0	92 (26.7)	111 (35.0)	203 (30.7)
1	82 (23.8)	70 (22.1)	152 (23.0)
2-4	140 (40.6)	99 (31.2)	239 (36.1)
5+	31 (9.0)	37 (11.7)	68 (10.3)
p-value			p<0.05
Induced abortion			
0	279 (81.2)	263 (83.0)	542 (81.9)
1	48 (13.9)	35 (11.0)	83 (12.5)
2+	18 (5.2)	19 (6.0)	37 (5.6)
p-value			p=0.51
Spontaneous abortion			
0	280 (81.2)	273 (86.1)	553 (83.5)
1	54 (15.7)	32 (10.1)	86 (13.0)
2+	11 (3.2)	12 (3.8)	23 (3.5)
p-value			p=0.10

Table 5.3. Abortion Episode Characteristics of Women by Contraceptive Uptake at 6 weeks Follow-up after Curettage.

	Taking contraceptive N=345 (%)	Not taking contraceptive N=317 (%)	Total N= 662 (%)
Mean gestational age in weeks (mean+S.D)	11.2+4.2	11.9+4.1	11.5+4.2
Contraceptive use at the month of conception			
yes	142 (41.2)	98 (30.9)	240 (36.3)
no	203 (58.8)	219 (69.1)	422 (63.7)
p-value			p< 0.01
Abortion classification			
"Certainly" induced	191 (55.4)	191 (60.3)	382 (57.7)
"Possibly" induced	154 (44.6)	126 (39.7)	280 (42.3)
p-value			p= 0.20
Use of Cytotec			
yes	129 (37.4)	113 (35.6)	242 (36.6)
no	216 (62.6)	204 (64.4)	420 (63.4)
p-value			p=0.64

Table 5.4. Resumption of Menstruation- and Sexual Activity-Related Characteristics of Women by Contraceptive Uptake at 6 weeks Follow-up.

	Taking contraceptive N=345 (%)	Not taking contraceptive N=317 (%)	Total N=662 (%)
Resumption of menstruation			
Yes	308 (89.3)	264 (83.3)	572 (86.4)
No	37 (10.7)	53 (16.7)	90 (13.6)
p-value			p<0.05
Presence of sexual desire			
Yes	296 (85.8)	205 (64.7)	501 (75.7)
No	49 (14.2)	112 (35.3)	161 (24.3)
p-value			P<0.001
Resumption of sexual activity			
Yes	333 (96.5)	121 (38.2)	454 (68.6)
No	12 (3.5)	196 (61.8)	208 (31.4)
p-value			p<0.001

Table 5.5 Unadjusted and adjusted (multivariate) odds ratios of contraceptive uptake at 6 weeks

Variables	Number (%) of women taking up contraceptives (controls)	N	Unadjusted Odds ratio (95% C I)	Adjusted* P-value	Adjusted* Odds ratio (95% C I)
Age					
30+	49.3	(140)	1.00		1 00
25-29	53.8	(182)	1.20 (0 77-1 87)	p=0 68	1.13 (0 63-2 02)
20-24	52.8	(212)	1.15 (0.75-1.77)	p=0.97	1.01 (0 56-1 84)
<19	51.6	(128)	1.10 (0 68-1.77)	p=0 78	0 90 (0 44-1 85)
LRT**(3df)			p=0.07		
(trend 1df)			p=0.76		
Marital status					
Married/stable union	59.7	(345)	1.00		1.00
Single/Separated/divorced/ widow	43.8	(317)	0.53 (0.38-0.72)	p=0 48	1.18 (0.74-1.89)
LRT (2df)			p<0.001		
Education (years)					
5+	55.5	(416)	1.00		1.00
1-4 years	46.0	(213)	0.68 (0.49-0.95)	P=0.18	0.73 (0.47-1.15)
No schooling	48.5	(33)	0.75 (0.37-1.53)	P=0.30	0.62 (0.26-1.52)
LRT (2df)			p=0.07		
(trend 1df)			p=0.04		
Number of living children					
0	50.2	(243)	1.00		1.00
1	53.5	(198)	1.14 (0.78-1.67)	P=0.99	1.00 (0.58-1.72)
2+	52.9	(221)	1.12 (0.77-1.61)	P=0.68	0.88 (0.49-1.60)
LRT (2df)			p=0.75		
(trend 1df)			p=0.55		
Contraceptive use at the month of conception of index abortion					
Yes					
No	59.2	(240)	1.00	P=0.30	1.00
	48.1	(422)	0.64 (0.46-0.88)		0.66 (0.42-1.00)
LRT (1df)			p=0.06		
Counselling status					
Yes	53.6	(330)	1.00		1.00
No	50.6	(332)	0.89 (0.65-1.20)	P=0.63	0.91 (0.61-1.34)
LRT (1df)			p=0.43		
Resumption of menstruation					
Yes	53.8	(572)	1.00		1.00
No	41.1	(90)	0.60 (0.38-0.94)	P=0.30	0.73 (0.40-1.32)
LRT (1df)			p=0 02		
Resumption of sexual desire					
Yes	59.1	(501)	1.00		1.00
No	30.4	(161)	0.30 (0 21-0.44)	P=0.43	0.81 (0.48-1.37)
LRT (1df)			p<0 001		
Resumption of sexual activities					
Yes	73.3	(454)	1 00		1 00
No	5 8	(208)	0 02 (0 01-0 04)	P<0.001	0 02 (0 01-0 04)
LRT (1df)			p<0.001		
Adjusted for each other LRT				p<0 001	

* Adjusted for each other.

**Likelihood ratio test.

Table 5.6 Morbidity Pattern of Women by Contraceptive Uptake at 6 weeks Follow-up after Curettage.

Morbidity in past 2 weeks	Taking contraceptive N=345 (%)	Not taking contraceptive N=317 (%)	Total N 662 (%)	p value
Bleeding	36 (10.4)	53 (16.7)	89 (13.4)	<0.05
Vaginal discharge	156 (45.2)	167 (52.7)	323 (48.8)	0.06
Abdominal pain	117 (33.9)	127 (40.1)	244 (36.9)	0.10
Fever	3 (0.9)	7 (2.2)	10 (1.5)	0.14
Headache	73 (21.2)	76 (24.0)	149 (22.5)	0.39
Weakness	56 (16.2)	56 (17.7)	112 (16.9)	0.62
Nausea	11 (3.2)	13 (4.1)	24 (3.6)	0.53
Anxiety	30 (8.7)	38 (12.0)	68 (10.3)	0.16

CHAPTER 6 DISCUSSION

6.1 Limitation of the Study

Before interpreting and discussing study results it is important to recognise these problems with the study population selected, the study design or the methods employed. Firstly, the representativeness of the sample will be discussed. This will be followed by discussion of the abortion misclassification bias, the randomisation procedure, and the questionnaire information obtained.

6.1.1 Representativeness of Study Population

The study population was a sub-sample of women with complications of induced abortion hospitalised in a public hospital in Fortaleza, Northeast Brazil. In our study population, more than half (59.6%) were 20-29 years old, and 19.9% were less than 20 years old. The mean age was 25 years old. Most women (73.4%) had only primary schooling but very few were illiterate (4.9%). More than half of the women (61.5%) live alone or were not in a stable union. Nearly 30% of them had never been pregnant before. About 36% experienced no previous live births and 29.4% had had one live birth. Almost 30% of women reported two to four prior live births. Compared with the general female reproductive age population in Northeast Brazil, our study population tended to be single, younger and have a higher educational profile (BEMFAM 1992). Furthermore, a household survey carried out in Northeast Brazil found that about 39% of reproductive-aged women reported the use of a contraceptive method, tubal ligation being the most prevalent (63%). The majority (81%) of sterilised women were aged between 25 and 44 years old and had three or more live children (78%) (BEMFAM,

1992). Thus, it is expected that a high proportion of women more than 25-years-old and with high parity are not included in our study population. Thus it is clear that the study sample do not represent general female population.

It is important to examine which population this study sample represents in order to know how far the results of the study be applicable. In particular it is important to understand how much our study population represents women with induced abortion in Ceara, Brazil, and outside the country.

First of all, middle class women who do not look for free public health services are not included in the study sample. In Latin America, it is well known that safe private abortion clinics are available to those who can afford it (Sundstorom 1993). In Fortaleza, it costs approximately US$1,000 for a private obstetrician to perform the operation while the national minimum wage is as little as US$100 per month. However, from a public health point of view, women who can afford to pay for private service are not a major target group women since they are less at risk from unwanted pregnancy and complications of induced abortion.

In interpreting the study results perhaps it is more important to determine the extent to which it represents all induced abortions among poor women in Fortaleza. This depends in part on the proportion of induced abortions which require admission to hospital and on the abortion classification system (See section 6.1.2 below). Both total failures to procure an induced abortion and total success with an abortion attempt might be under-reported in our study population since such women are less likely to seek hospital care. Therefore, this data may not be representative of all poor women having induced abortion in the study area. However, we feel it is represented of hospitalised cases. As shown in table 6.1 and 6.2, the randomisation procedure ensure that the sub-

sample for the intervention study is similar to the total population of women with certainly and possibly induced abortion in two hospitals.

Table 6.3 shows a comparison of the characteristics of women hospitalised with induced abortion complications in Fortaleza and Rio de Janeiro in Brazil (Costa and Vessey, 1993). Rio de Janeiro is situated in the South of Brazil where socio-economic indicators are known to be much higher than those in Northeast Brazil. However, it is also possible that the characteristics of the population living in urban slums could be quite similar regardless of the city in which they live. The two studies' population characteristics are again broadly similar. This implies that our study population could represent the poor, reproductive-aged women living in urban areas in Brazil, using services for treatment of induced abortion complications. This is not surprising since government hospital services are readily available to women of all socio-economic groups in this urban population. Women living in rural areas may have more limited access to public health services.

It is also possible to try to understand the representativeness of the population by looking at its behavioural and biological pattern such as the resumption of menstruation, the resumption of sexual activity and its morbidity. At 6 weeks, post-abortion amenorrhoea rate was approximately 23% in the intervention group and 17% in the control group. By the end of 4 months, almost all the women in the study resumpted their menstruation. It is reported that ovulation occurs on average 1-4 months postpartum in non-lactating women and 6-9 months in those who breast feed (Moran et al., 1994). Most of the women (82%) had their first sexual intercourse after the curettage by 4 months. The study on contraceptive usage during lactation in the United States reported that most women resume sexual activity within one to two months after

their pregnancy ends (Ford and Labbok, 1987). Another study from the Philippines also reported that by the end of 3 months, most postpartum women (75.6%) were sexually active (Ramos et al., 1996). Our study results are consistent with these postpartum studies. There has been no previous studies reviewing the post-abortion sexual activities.

Women reported a very high incidence of health problems after abortion, only 7.6% being free of any problem at the 2 weeks follow-up interview. This figure is higher than that in a recently conducted study on post-natal morbidity which reported 13% being free of complaints (Glazener et al. 1995).

Overall, the proportion of women with health problems declined with time, indicating that their health did improve. However, the incidence of particular problems such as vaginal discharge and abdominal pain did not fall significantly. Having a variety of complaints until 1 year follow-up, each of which had a wide range of causes and effects especially the later phase of follow-up, it is difficult to draw generalised figures.

These findings demonstrate that post-abortion morbidity is an area which needs more attention by researchers and health care professionals. To our knowledge, there have been no previous studies reviewing post-abortion morbidity patterns. Most previous studies have looked at the presence of specific infections such as pelvic inflammatory disease and treatment (Heisterberg, 1988; Decker, 1978; Moberg et al., 1978). This finding is supported by Glazener and colleagues (Glazener et al. 1995). Many health problems after abortion may be relatively minor and could be self-treated, but further research into their severity and impact on women's health is urgently needed.

6.1.2 Misclassification of Abortion Status of Women

A second concern is that, given the limitations of the methodology, and the complex, sensitive nature of the study, a misclassification of women's abortion status may have occurred. For this study, both "certainly induced" abortion and "possibly induced" abortion are used as an index of induced abortion. Approximately 60% of the women (58.3%) in the sampled population are from the "certainly induced" abortion group and 41.7% of the sampled women are from the "possibly induced" abortion group. Since objective of the study was to assess the impact of post-abortion counselling on contraceptive uptake and on preventing subsequent unwanted pregnancy, misclassification of spontaneous abortion into the study population would lead to misguided results since women with spontaneous abortion are unlikely to be receptive to counselling and are a group of women who may try to be pregnant again. Such misclassification would largely affect the amount of contraceptive uptake and would only skew results if one of the two groups contained more women with spontaneous abortion. Randomisation should ensure that such a systematic misclassification does not occur.

An attempt was made to minimise misclassification by using uniform criteria to classify abortion cases. Also important was ensuring good quality interviews by recruiting sympathetic, skilful and trained interviewers to collect sensitive information about abortion (see Methods).

The possibility of women in the certainly induced group having been wrongly classified can be almost ruled out since almost all women in this category (99.8%) have admitted to having an induced abortion. Furthermore, a similar proportion (50%) of certainly induced abortion cases was also reported by a similar study carried out in Rio

de Janeiro which interviewed 1,603 women admitted with abortion-related complications (Costa and Vessey, 1993). Considering that Brazil may be one of the few countries where induced abortion is illegal but, to a certain extent, socially acceptable, and discussed openly (Barreto et al., 1992), careful interviewing, using a sympathetic environment and skilled interviewers, should not be under-evaluated as a means to collect valid data.

There is, however, some evidence to suggest that a certain proportion of spontaneous abortion cases may have been wrongly classified as possibly induced abortion. Of possible relevance in this respect is that cases were classified as possibly induced abortion based solely on women's reporting of unplanned pregnancy. However, not all unplanned pregnancies are unwanted and some unplanned pregnancies may be welcomed (David, 1992). In addition, our finding of only 12% of spontaneous abortion admitted to hospital due to pregnancy-related complications is lower than figures reported in the literature from Latin American studies (Singh and Wulf, 1993).

It is possible that the index abortion group contains a certain number of spontaneous abortions that could have biased our estimates of the impact of induced abortion on subsequent contraceptive uptake downwards. However, it is unlikely that misclassification bias could have seriously affected the study findings on the effects of counselling since the study population characteristics in the intervention and the control groups were extremely similar, particularly with respect to the proportion certainly vs possibly induced.

6.2 Discussion of Main Results : Impact of Post-abortion Counselling

6.2.1 Impact on Knowledge

As reported in the methods section, our counsellors explained contraceptive methods available locally during the post-abortion counselling session (condom, IUD, injection, oral contraceptives, diaphragm and rhythm methods). Vasectomy and female sterilisation were not included in the counselling context. At 2 weeks visit, 44.8% of women had heard of vasectomy. Slightly more women in the intervention group reported knowledge of vasectomy than in the control group (48.2% vs 41.4%) but the difference was not statistically significant. This knowledge of the methods not mentioned during the counselling session was similar in the intervention and the control group. The Demographic and Health Survey carried out in Northeast Brazil showed that 51.6% of the women had heard about vasectomy and 93.2% of them had heard about female sterilisation (BEMFAM 1992). More women in the general reproductive-aged population knew about permanent methods than in women in our population. This may be because the general population includes older women than the study population and more than 20% of women aged more than 30 years-old were sterilised.

Women in the control group did not receive any contraceptive information session and it is assumed that level of contraceptive methods knowledge of this group represents that of women coming to public hospitals for induced abortion complications. This can be compared to knowledge of the general female reproductive-age population. The best known contraceptive method among the women in the control group was oral contraceptive and almost all of them had heard of it (99.7%). The second known method in the control group was condom (95.0%), followed by injection (91.4%) and rhythm

method (85.8%). Since knowledge of most of these methods is almost universal, it was also quite similar in the intervention group.

The above mentioned DHS survey shows that only 47% of women knew about the IUD and 35.8% of them knew about vaginal methods including diaphragm and spermicides. Compared with the other methods, these methods were unfamiliar to the general population. The level of knowledge if the IUD in the control group (71.3%) was higher than the knowledge of general population. However, in the intervention group, almost all the women knew about the IUD (91.2%) and the difference between the intervention and control group was statistically significant. Vaginal methods such as diaphragm and spermicides were only known by a quarter of the women in the control group (24.0% and 27.2% respectively), which is less than the general population. By contrast, more than 80% of women in the intervention group knew these methods, a statistically significant difference, and a level much higher than the general population.

These results show that post-abortion counselling had impact on increasing knowledge of contraceptive methods, particularly those that were unfamiliar to the general population.

This is not surprising since other studies also shows that counselling can increase knowledge (Oakley et al. 1995; Wynendaele et al. 1995; Mbizvo et al. 1997; Gandaho 1993). A methodological review by Oakley et al. (1995) reported that observational evidence suggests that sexual health education may increase young people's knowledge. Wynendaele et al. (1995) reported that counselling increased knowledge of STD/AIDS. A pre-test, post-test control group design was used and among the counselled, improvements in knowledge occurred consistently with the level of 10-20%. Other studies did not specially measure the effect of counselling only, but rather of a whole

health education effort, including counselling, on increased knowledge of contraceptive methods. Mbizvo et al. (1997) showed that in Zimbabwe knowledge of family planning among school pupils increased from 18.8% at baseline to 43.1% at five months following health education intervention. In Benin, after one year of community-based health education intervention using a quasi experimental design, knowledge of modern methods increased by 18% among men and 33% among women (Gandaho, 1993). A multi-centred randomised controlled trail investigated whether reinforcing pregnant women's social network and emotional support, improving knowledge about pregnancy and delivery could improve pregnancy outcome and found significant better knowledge of labour-onset signs and labour-alarm signs in the intervention group (Belizan et al., 1995).

It should be noted that "knowledge" in our study was superficial knowledge of methods, measured by asking whether the woman has ever heard of each method. Although DHS and most of the other studies have used the same definition of knowledge, this does not mean women fully understand the advantages and disadvantages and appropriate use of each method. To understand women's deep knowledge of contraceptive methods requires a different kind of study involving different data collection procedures using more qualitative methods.

6.2.2 Impact on Contraceptive Uptake

The study results show firstly, that the overall contraceptive uptake rate was increased after the index abortion episode. At the month of the conception of the index abortion, 36.5% of women reported using contraceptive methods and only 21.4% of them were using modern contraceptives. At the 6 weeks follow up, almost half of all

women (52.4%) were using contraceptive methods and 42.9% of women were using modern contraceptive methods. This implies that women might not lack of information of contraceptive use and is confirmed by the results of contraceptive knowledge at the 2 weeks visit. The highest usage rate was recorded at the 4 months follow-up. Approximately 64% of the women were using contraceptive methods and 52.3% of them were using modern contraceptive methods. By 1-year follow-up, 18 women (2.6%) had tubal ligation and contracepting rate had come down slightly (53.7% contraceptive methods and 45.1% modern contraceptive methods).

The proportion of women using a contraceptive method increased by a maximum of about 30% after the abortion episode. These study results are consistent with other study results that show that contraceptive use improves after abortion. Many studies reported that contraceptive use improves after abortion regardless of counselling (Table 6.5) because the abortion experience itself can motivate women to take more effective contraceptives. Most of the studies in developing countries show that contraceptive use increases from 30 to 40 % after abortion until 60% of the uptake rate, where in developed countries the uptake rate is as high as 90%. The study confirmed that more women start taking contraceptives after their induced abortion episodes, with a similar magnitude to the other studies.

According to the DHS survey data of Northeast Brazil in 1991, 39% of reproductive-aged women reported the use of a contraceptive method (BEMFAM 1992). Among them, 63% were sterilised. Compared with the general female reproductive-aged population, the study population shows considerably higher use of modern contraceptives other than female sterilisation. Table 6.4 shows the comparison of the percentage of women using each contraceptive method other than female sterilisation in

the general reproductive-aged population and the women who were using contraceptive methods at the 6 weeks visit among the study population. Compared with women in the general reproductive-aged population who were not sterilised, our study population contraceptive users used more condoms and withdrawal. 20.8% of the study population contraceptive users used condoms while only 7.5% of the general population contraceptive users used them. Withdrawal was used by 16.2% of women in the study population users and 11.7% of women in the general population users. This shows that the study population tend to use more temporary method for contraception.

During the first six weeks post-abortion, approximately 70% of women practised abstention. At six weeks, the population appeared to segregate into three groups; the first group which began contracepting and re-initiated sexual intercourse, and the second group which simply re-initiated sexual intercourse and the third group which did not re-initiate sexual intercourse. The efforts of health care professionals should be focused on how to help the second and third non-user groups (approximately 40%) whose behaviour puts them at continuing risk of unwanted pregnancies. Compared to contraceptive users, non-users tended to be single or without a partner (40.3% vs 55.2%). More non-users reported no previous pregnancy experience (65.0%) than users (73.3%). "Not having sexual intercourse" was the most frequently cited reason for not using a contraceptive method during the follow-up period. However, this is a group of women who are already sexual active and the second most frequently cited reason for not using a contraceptive method at the month of conception of the index abortion episode was "did not expect to have sexual intercourse". These are women who do not have a regular sexual relationship, but may engage in a casual sexual relationship.

Among other reasons for not using contraceptives, "fear of side effect", "the method used before was not acceptable because of side effects" appeared as important. This has been shown in the other studies in Brazil (Urdinola et al., 1993; Janowitz et al., 1980). It is reported that although 50% of all 15-49 year-old women have used the pill, only 17% were currently using it in 1986, and the main reason for discontinuation was related to health problems (Singh and Wulf 1994). The pill is generally regarded as an effective but dangerous form of birth control by women of all social classes, and is rarely used for more than 6 to 8 months at a time (Scheper-Hughes 1992). It is also reported that the side effects of the oral contraceptives ("it damages your health") were very often mentioned by the adolescents (Marques 1995).

Kaplan-Meier survival analysis showed that there is no evidence that post-abortion counselling has any effect on uptake of contraception. This is in agreement with findings from two other similar studies though both of them are unpublished (Mati 1993, Andolsek and Pretnar 1982). Both studies used a single-shot, hospital-based counselling session and did not observe any impact on contraceptive uptake behaviour. Reasons why this intervention was not successful are discussed in section 6.3 below.

6.2.3 Impact on Subsequent Pregnancy

By the end of 1-year follow-up, 81 women (23.5%) in the intervention group and 84 women (24.0%) in the control group became pregnant again. The Kaplan Meier Survival analysis in Figure 4-6 shows the pattern of the first subsequent pregnancy during 1-year and there is no statistically significant difference in two groups.

Compared with the other study carried out in developing countries, this study shows a higher rate of subsequent pregnancy during 1-year follow-up. The South-to-

South multi-centred study on post-abortion counselling (Mati 1993) used similar a study design and the results show a lower subsequent pregnancy rate during 1-year follow-up (16.5%). However, this study population included women with spontaneous abortion. Furthermore, the South-to-South study showed that post-abortion counselling was associated with a statistically significant overall reduction in the risk of subsequent pregnancy (11.7% among women with post-abortion counselling, 21.5% among women without post-abortion counselling). This is a strange finding since the same study showed that there was no difference between the two group in uptake of contraception after abortion, which suggests reporting of pregnancy may be a problem, alternative explanations include type of contraceptive used in the intervention and control groups or a different type of sexual activity pattern or age structure. This study has not been published and was criticised for the lack of standardisation of counselling, a low-follow-up rate of about 60% and noncomparability of the study populations (Wolf and Benson 1994). A better designed research methodologies was recommended (Wolf and Benson 1994).

Our study results, with their relatively high pregnancy rate (one in four women who had experienced a previous induced abortion became pregnant again in a year's time) indicates our belief that this issue requires special attention from health planners, although there is no doubt that some of these pregnancies are wanted.

6.2.4 Impact on Subsequent Abortion

Overall, 42 women (6.0%) had another induced abortion by the end of 1-year follow-up. The level of subsequent abortion within one year of an indexed abortion

reported by other studies was 3 to 7 %, and our study results are consistent with these studies (Mati, 1993; Abrams, 1985).

Twenty-seven women (7.8%) in the intervention group and 15 women (4.3%) in the control group had subsequent abortions and the difference in proportion at 1 year is statistically significant (p=0.05). However, Kaplan Meier survival analysis which takes into account censorships showed that the difference in both groups over the whole one year period is of borderline statistical significance (p=0.06). Furthermore, it was shown that there is a significant increase in the proportion of pregnancy ending in abortion in the intervention group (33.3% in the intervention group and 17.9% in the control group). This finding is somewhat puzzling given the similarity in reported pregnancy and contraceptive usage. The results might imply that women in the intervention group were more motivated to undergo another induced abortion by the counselling intervention. This could be a very strange finding unless the counselling make the abortion a less terrible experience. Alternatively, women in the intervention group may feel more comfortable discussing abortion, particularly if the counsellor was non judging about abortion. However, because the statistical association is of borderline significance, it seems pointless to keep elaborating discussion why it happened.

6.3 Why was Counselling Not Successful?

Results from the survival analysis show that there is no evidence of an effect of post-abortion counselling on the first contraceptive uptake experience, the first visit to contraceptive service, the first subsequent pregnancy. The effect on subsequent abortion is of a borderline significance. Roughly 25% of women in both the counselling and control group were pregnant again within a year, and some (6%) had repeat abortions.

Some 40% of the women did not start using contraceptives and post-abortion counselling did not have any effect in changing these women's contracepting behaviours.

Why was counselling not successful? There are two different ways of answering this question. One is that counselling did not work because the programmed counselling was not appropriately administered and our message was not properly delivered to the women (programme failure). The other explanation is that this type of counselling or counselling itself might not have on effect in changing contraceptive uptake behaviour (treatment failure).

6.3.1 Programme Failure

1. Timing

Counselling was given to the women before hospital discharge. This was normally the day after the curettage treatment and most of the women were recuperating both physically and emotionally at the time of counselling. It is possible that this was too difficult a time for women to concentrate fully. Counsellors observed that some women were still upset about their experience and also many of them were eager to leave the hospital as soon as possible. It is suggested that when circumstances make counselling at the time of abortion care inappropriate or impossible, post-abortion family planning counsellors should direct women to other sources of counselling and methods (Wolf and Benson 1994).

2. Setting

Counselling was carried out in a private setting in a separate room. The room chosen for counselling was a changing room for nurses which was, quiet and clean most of the time during office hours, but sometimes counsellors mentioned that counselling was interrupted due to nurses' coming in and out. This was, indeed, not a ideal room, but was the only available room at the hospital. To create space and privacy is often a challenge in the already overcrowded hospitals in Fortaleza, as in many parts of the developing world.

3. Content of counselling session

It has been said that "too much information is as harmful as too little information" (Wolf and Benson 1994). Offering too wide a variety of options might have overwhelmed rather than helped women looking for appropriate contraception. It is reported that very often counselling sessions tend to cover too many issues which may be irrelevant to women's needs. This type of excessive counselling may serve to raise the anxiety levels of the clients rather than giving them confidence in the method (Huezo and Malhotra 1993).

One of the women who was not using any contraceptive method at the 6 weeks follow-up talked about the counselling in the in-depth interview:

> Interviewer: Well, do you remember anything she (counsellor) has shown to you at the hospital?
>
> Respondent: She showed me IUD, she showed me a condom and .. well, you know she showed me so many things, I don't remember.

It is suggested that further research is necessary on the meaning of good counselling and on its impact on proper use of contraceptives. At the same time, operational research is needed to test the hypothesis that quality of counselling is more important than quantity of information given to the clients (Huezo and Malhotra 1993). We tried to tailor our counselling to the individual, but it might have been necessary to prepare more detailed contraceptive protocols based on the assessment of each woman.

4. Quality of counsellor

The counsellors were university trained nurses with experience in family planning services and epidemiological research and with good communication skills. The quality of counselling was constantly supervised and monitored by investigators. It is reported that the dynamics between clients and health-care providers differ among cultures and physicians would be preferred as counsellors in some cultural settings (Wolf and Benson 1994). This could be the case in our study setting.

Overall, however, we believe that the quality of counselling provided in this study was far superior to any routine counselling provided in hospitals such as the study site hospital. We do not believe that the counselling curriculum in hospital (programme failure) settings is the first place to look for improvement.

6.3.2 "Treatment" Failure (Does "Counselling" Have Any Effect in Changing Behaviour?)

Our randomised controlled trial showed that a single-shot type of counselling did not affect the post abortion contraceptive uptake. But does any kind of counselling have an effect in changing behaviour? If so, which kind of counselling works? First of all,

very few well designed studies have been carried out in this area of behavioural change. Reviewing the few previous studies that used randomised controlled design to evaluate the effect of counselling on behavioural change (Table 6.6), there is no clear evidence that counselling has any effect in changing sexually-related behaviour nor do we have a clear answer as to what kind of counselling and in which circumstances counselling might work. Counselling as a behaviour change strategy has come under increasing scrutiny.

In the family planning community, counselling and education are well established obligations for family planning providers (Hatcher et al. 1994). However, what kind of contraceptive counselling should be provided to affect client behaviour in a predicted way has not been well documented. Previous studies have shown that a service-based single session counselling does affect clients' behaviour in accepting a specific method which is unfamiliar such as the IUD, Norplant or sterilisation (Hardy and Goodson 1991, Omu et al. 1988). Hardy and Goodson (1991) compared Norplant users and IUD users and reported that hospital-based counselling was not a determining factor, but it was important to alleviate clients' doubts and to promote acceptance of Norplant. A study in Nigeria showed that women who received individualised counselling sessions on family planning accepted sterilisation four times more than the women who did not receive these sessions (Omu et al., 1989). It is also reported that service-based family planning counselling significantly increased contraceptive use among sexually active adolescents (Berger et al. 1987). On the other hand, some studies did not find that counselling had a positive effect on family planning attitudes and decisions. For example, the results of a study on the effect of counselling on continued use of contraception indicate that the amount of information the counselling provided

did not affect client behaviour (Huezo and Malhotra 1993) and a study in Thailand did not support the argument that counselling services would increase contraceptive acceptance and use of effective methods (Grisanaputi et al. 1986). However, again, none of these studies were well designed in terms of showing that change was due to counselling. Many of the problems are those discussed in Section 1.2 for studies of post-abortion counselling. In particular, none used an randomised controlled trial methodology. Moreover, family planning health education intervention studies tend to include not only counselling session but also the other health education efforts such as leaflets, posters and group sessions in the intervention, making it difficult to isolate the role of counsellor.

The discussion of "Does counselling work in changing behaviour?" has been better developed in the AIDS field, perhaps because behavioural change is one of the few possible interventions for primary prevention of HIV (human immunodeficiency virus) infection. A review of some 50 studies, conducted by Higgins and colleagues (1991), showed mixed results for the impact of counselling and testing on risk behaviours. They concluded that findings of studies on AIDS counselling and testing are still not sufficient to draw definitive conclusions on their impact on to identify the more effective way of counselling (Higgins et al., 1991). Once again, none of the reviewed studies used a well designed randomised control trial. A large scale, multi-site, randomised control trial testing counselling and health education is now being carried out by AIDSCAP (De Zoysa et al., 1995) and the outcome of this study (not yet reported) will contribute to this area of behaviour change interventions.

Overall, a very few well designed studies have been carried out in this area of behavioural change. The few studies that used randomised controlled design to evaluate

the effect of counselling on any type of behavioural change (Table 6.6) suggest there is no evidence that counselling has any effect in changing behaviour. Nor does there do appear to be a clear answer as to what kind of counselling and in which circumstances counselling might work. Three studies used a single-shot counselling session intervention, but none of them had effect on changing behaviour. DiClemente and Wingood (1995) reported that a single-shot counselling on HIV risk-reduction information did not have any impact on promoting consistent condom use, increasing HIV risk-reduction knowledge and improving sexual communication with partners among African-American women in San Francisco. Wenger et al. (1992) also found that a single-shot counselling on HIV did not have any impact on use of condoms, number of sexual partners and communication with sexual partners about the risk of HIV infection among university students. Another study examined an impact of single individualised smoking cessation counselling on smoking behaviour, but did not find any impact (Secker , 1990).

Other studies used different kind of counselling, but results were not consistent. A recently carried out study tested an impact of a four-session, individual, multi-component, cognitive/behavioural intervention based on the AIDS Risk Reduction Model on behaviour change among patients who were seeking care at the STD clinic (Boyer et al., 1997). The study reported the counselling had significant impact on STD and some impact on behaviour in men, but did not find any impact in women. Another study compared simple single-shot advice with strategies which included attitude and behavioural change programmes as well as techniques to aid compliance on smoking behaviour and found significant differences in smoking cessation, but only for self-reported abstinence (Slama et al., 1990). A multi-centred study in Latin America

investigated whether four-six visits providing psychosocial support and education programme could improve pregnancy outcome. The results of the study showed that women in the intervention group showed a statistically significant better knowledge, but the intervention failed to show any benefit upon health-related behaviour (Belizan et al., 1996). A school-based smoking education programme in the 39 schools in Wales and England also failed to show any impact on self-reported smoking behaviour (Nutbeam et al., 1993). Frank et al. (1987) compared impact of a single-shot counselling session on breast feeding with 8 telephone calls by a nurse on breast feeding behaviour among low-income women, but did not find difference in their behaviour.

In summary, it is found that conventional ("cafeteria" approach) counselling can increase knowledge, but may not work for actual behaviour change. This finding is supported by others, who also find impact on knowledge but not on behaviour. Equally, there is no evidence that more individual counselling approach change behaviours in other spheres, although the number of studies are limited. Perhaps is it not surprising that a single-shot, hospital-based counselling session was not effective in changing contraceptive uptake behaviour.

Individual reproductive life will probably never be static but subject to the influence of many factors, such as relationship with partner, family, friends and occasional sexual partner, economic conditions, work conditions and many others. Every woman's reproductive life is different and dependent on her circumstances at a given moment in time. For example, a woman who has undergone an induced abortion may have been experiencing problems with her partner at that time but six months later the relationship has improved and she may wish to have a baby. Alternatively, she may have had the induced abortion because of financial difficulties and, again, wished to have

a child when these have been overcome. Complex negotiation involved in sexual, reproductive life may not be entirely under "rational" control. These examples indicate that perhaps our efforts should not be focused on trying to improve hospital-based counselling to promote more effective contraceptive methods or trying to correct specific behaviours such as having sex without contraceptive methods and going for induced abortion. It is more important to propose an integrated reproductive health care system through various channels at various points in her life to help a woman in her reproductive decision making process. For a health planner, it is recommended that an integrated reproductive health care programme, be developed, which involves a reproductive health specialist who is able to give personal and individual advice for a woman, not just at a particular time of her life, but throughout her reproductive life. Specific recommendations based on the results will be presented in Section 6.5.

6.4 Conclusions

Post-abortion counselling seems to be a logistically feasible way to reach women who most need contraceptive services and who may be at a critical point in their lives to adopt family planning methods. However, none of the published studies used an adequate design to explore the efficacy of post-abortion counselling for contraceptive uptake and pregnancy avoidance (Table 1.1).

This study used a randomised controlled intervention design to examine the impact of post-abortion counselling on contraceptive uptake and on preventing subsequent unwanted pregnancy in Fortaleza, Northeast Brazil. The study population was a sub-sample of women hospitalised with complications of induced abortion which was identified by a larger hospital-based study of mortality and morbidity related to abortion. The intervention was half an hour of contraceptive counselling prior to discharge at the hospital. A total of 695 women were enrolled into the study, 345 in the intervention group and 350 in the control group. They were followed up at 2 weeks, 6 weeks, 4 months, 8 months and 1 year at their own residence or work place. Experienced interviewers were trained to pay special attention to protecting the women's privacy during home visits and tried to establish confidence and rapport with women. Despite the sensitive nature of the study, completeness rates at the last follow-up remained high; 86.4% in the intervention group and 82.9% in the control group. This confirmed that well-trained sympathetic interviewers are the key for successful field work in reproductive health research.

About two-third of the women enrolled lived alone or did not have a stable partner. Most (52.4%) were less than 24-years-old, approximately 20% were teenagers. One in ten of these women had experienced at least one child death before the current

abortion episode. Two in ten of them had experienced at least one previous induced abortion. None had planned the current pregnancy. They had undergone a clandestine abortion experience since induced abortion is illegal and stigmatised in Brazil. They had all had curettage and spent at least one night at the hospital, followed by a high incidence of post abortion morbidity. Overall contraceptive uptake increased by approximately 30% compared with the time of conception of the index abortion and almost 60% of women were contracepting at the 6 weeks follow-up. Within a year, one in four of these women became pregnant again. Almost 6% of them had a second induced abortion within a year of their previous curettage. Our study results show the harsh reproductive life of urban poor women living in Northeast Brazil.

The study results shows that, this particular model of single-shot, hospital-based post-abortion counselling can increase the level of knowledge of contraceptive methods. However, it does not increase uptake of contraception or prevent another unwanted pregnancy and induced abortion. Our efforts now should be focused on how to approach the "40%" of women who do not use contraceptives and whose behaviour thus puts them at continuing risk of unintended pregnancy. These women are more likely to be single or without a partner and "not having sexual intercourse" was the most frequently cited reason for not using a contraceptive method during the follow-up period. Efforts should be made to reach this target group of single women who do not have regular sexual relationship" . There is a need to develop a more effective intervention that might prove more successful in responding to these women's needs for enhanced contraception in Fortaleza.

6.5 Recommendations

Based on the study results, the following actions are recommended for health planners and researchers working in the study area to reduce unwanted pregnancy and induced abortion and to limit their adverse consequences.

1. New interventions should be developed to avoid pregnancy and induced abortion focusing on the target group identified by the study.
2. Efforts to make abortion safe and appropriate treatment for incomplete abortion should be made available to women.

6.5.1 New interventions focusing on the target group

Based on the study results, two different approaches to avoid unwanted pregnancy and induced abortion among the target group (young, single and not having regular sexual relationship) could be taken;

A. Carry out another trial such as improving hospital based counselling or developing community based counselling which takes the behavioural change process into account.

B. Try another type of intervention to avoid unwanted pregnancies and induced abortions.

A. Improve counselling - "Women's Club" intervention

Behavioural scientists report that modification of counselling programmes should involve an understanding of the behaviour change process. Several sessions of individual, group, or couples counselling may have to be provided to achieve substantial behavioural risk reduction. On the whole, it is felt that health education interventions

that rely on social network, group or community based interventions appear more likely to yield change than those which rely on individually focused interventions (Hornik 1990), although these approaches are rarely evaluated vigorously. Hornik has pointed out that for breast feeding, the behaviour of a woman's five best friends is more predictive of her breast feeding decision making than her levels of knowledge or other individual factors. A new counselling intervention could take these factors into account.

As an example, a group intervention using "women's club" could be tried. Instead of a "nurse" counsellor giving individual counselling, group counselling guided by post-abortion women themselves as counsellors would be used. A group of 10-12 women would be recruited immediately post-abortion. Principles of organisation would be similar to those of the breast-feeding support groups established by La Leche League around the world (Countryman and Cahill, 1988). The groups would be led by women who have had abortions, and who would be trained as contraceptive counsellors. The first meeting would take place in the hospital and the first few groups would train each participant to become a group leader for future groups in their own community. The idea is to create a network of ties for each of the participant women who are regularly contracepting or who have found good solutions for maintaining reproductive health.

The actual intervention should be developed using a development communications approach that encompasses formative research among post-abortion women, pretesting of concepts and materials, monitoring of initial groups and continuing refinement and change.

B. Alternative approach to prevent induced abortion - Emergency contraception and promotion of condom use

Our study results show that reasons given for not taking up contraceptives included women not seeking themselves as sexually active and hence in need of contraception. In other words, these women are likely to have further unplanned, and unprotected, sexual intercourse and could well benefit from emergency contraception.

Emergency contraception, sometimes called post-coital or morning-after contraception, consists of methods that women can use after unprotected intercourse to prevent pregnancy. These include combined oral contraceptives given in a higher than normal dose, and the copper intrauterine device (Lancet editorial, 1995). These methods are known to be simple, safe, and effective, and have been used for decades in some countries. However, the full potential of emergency contraception has not been realised in many parts of the word, especially in developing countries (South to South Co-operation for Reproductive Health et al., 1996). Wider use of the approach could reduce the number of induced abortions, and satisfied users may be good targets for subsequent contraceptive counselling.

The qualitative component of the study also indicated that post-coital and menstrual regulation methods were culturally acceptable, and coincided with local concepts of 'delayed' or 'suspended' menstruation (Nations et al. 1996). It is anticipated that a considerable portion of induced abortion in this region could be avoided if emergency contraception were widely available.

At the same time, the continuous effort to make effective contraceptive services available for this population and integrating emergency abortion treatment and family planning services into the reproductive health programme should not be underevaluated.

Condom use is especially important for the prevention of STDs, including AIDS. Demand for condoms has been increasing in the study area and free supply from public health service has not been sufficient (Silveira 1997). The market price for condoms is as high as $1 each and a Federal government policy to condom prices is urgently needed. A new initiative, such as introducing a community-based condom revolving fund system could be as appropriate intervention in the meantime and a pilot study is underway.

6.5.2 Effort to Make Abortion Safe and Appropriate Treatment for Incomplete Abortion Available

Making more effective use of contraceptives is likely to reduce the number of women seeking abortion. However, it is important to remember that even when a 95% contraceptive usage and effectiveness rate is presumed, it is reported that reducing fertility to an average of two births per woman would still require seven out of ten women to have one abortion at some point in their reproductive years (Tietze and Bongaats 1975). Therefore, the effort to make incomplete abortion treatment safe and to make abortion itself safe should not be excluded from the local health policy agenda.

It is a well known fact that making abortion illegal does not stop the practice, but makes it more dangerous (Royston and Armstrong 1989). The legal status of abortion in a country is the most important determinant of the quality of abortion related services. Though much effort to legalise abortion in Brazil has been made by active women's groups, it is not yet politically appropriate. The following efforts should be made by local governments while waiting for the Federal government to determine the legal status.

A. Introduction of legal abortion service

In Brazil, abortion is legal when necessary to save a woman's life or when pregnancy has occurred following rape (Rezende 1981). This means that abortion is not totally prohibited in Brazil, but so far, only one institution in Sao Paulo and another institution in Goiania have a public health service system to perform legal abortion without involving heavy bureaucracy. Every state government in Brazil should make effort to have at least one public health service to meet the needs of women with pregnancy following rape. In the State of Ceara, the Women's Council and the State Women's Health Programme have been working closely to try to initiate this service in the near future.

B. Introduction of Manual Vacuum Aspiration for treatment of incomplete abortion

Treatment of incomplete abortion complications in Brazil normally takes place at secondary or tertiary levels of public health systems since dilatation and curettage (D&C) is the most commonly used technique for treating incomplete abortion. Vacuum aspiration (VA), especially manual vacuum aspiration (MVA), a nonelectric version of VA, has been shown to be a safer and more cost-effective method than D&C for first-trimester uterine evacuation, when an accompanied by other major complications, such as sepsis or uterine perforation (Greenslade 1993). Generally, medical doctors in Brazil have little formal training on abortion-related technical management because of legal and religious conditions. Systematic training for management of incomplete abortion should be organised at various levels of health services.

Our hospital-based study data (see Chapter 2.1.1) were important for persuading both the State of Ceara Health Secretariat and the study centre hospitals to introduce

MVA in the study centre hospitals. Both study centre hospitals initiated MVA services at out-patients clinics to treat incomplete abortion in May 1995 with technical assistance from IPAS. Many aspects of the treatment of induced abortion have greatly improved in the two hospitals (Fonseca et al., 1997) and the State Health Secretary is trying to expand MVA service in peripheral municipalities in the State of Ceara.

Post-abortion counselling now constitutes a part of the MVA procedure since the IPAS MVA training course includes post-abortion counselling, but this service has not yet been well structured in the hospitals. Based on our study results, it will be important to have deeper discussions with staff providing MVA at the hospitals to plan operational research and to investigate more effective methods of post-abortion counselling as mentioned in the above section, 6.5.1.

Finally, although the study shows no impact of the single-shot type of counselling on the post-abortion behaviour, this does not rule out the necessity of appropriate dissemination of information on contraceptive methods, through many channels, and media, at various points. Counselling should be supplemented by other means of education an information such as group sessions, posters, leaflets, and videos. Health planners should continue to make efforts to disseminate available information regarding reproductive health in order to increase the knowledge of the general population. Education and knowledge always lead to empowerment, and empowerment of women will be the most important strategy, in the long term, for avoiding unwanted pregnancy.

Table 6.1 Socio-demographic characteristics of all the induced abortion cases ("certainly" or "possibly" induced abortion) identified from the hospital-based study and the sub-sample for the intervention study.

	All the induced abortion cases N=3,844	Sub-sample for the intervention study N=695
Age (years)		
<19	715 (22,6)	138 (19 9)
20-24	1,255 (36.0)	226 (32.5)
25-29	939 (27.7)	188 (27.1)
30-34	506 (11.6)	79 (11 4)
35+	429 (6.1)	64 (9 2)
		P=0 23
Education (years)		
No schooling	228 (5.9)	34 (4.9)
1-4 years	1,154 (30.0)	228 (32.8)
5-8 years	1,616 (42.1)	282 (40.6)
9+	846 (22.0)	151 (21.7)
		P=0.40
Marital status		
Single	1,480 (38.5)	279 (40.1)
Married/Stable union	2,084 (54.2)	354 (51.0)
Separated/divorced/widow	280 (7.3)	62 (8.9)
		P=0.16
Religion		
Catholic	3,498 (91.0)	624 (89.8)
None	190 (4.9)	31 (4.5)
Other	156 (4.1)	40 (5.8)
		P=0.12
Occupation		
Housewife	1,533 (39.9)	252 (36.3)
House maid	488 (12.7)	81 (11.7)
Other service	497 (12.9)	103 (14.8)
Student	272 (7.1)	52 (7.5)
Business	310 (8.1)	68 (9 8)
Dress maker	299 (7.8)	50 (7.2)
Agriculture/industry	116 (3.0)	24 (3.4)
Unemployed/dependent	329 (8.5)	65 (9.4)
		P=0 40

Table 6.2 Reproductive factors of all the induced abortion cases ("certainly" or "possibly" induced abortion) identified from the hospital-based study and the sub-sample for the intervention study.

	All the induced abortion cases N=3,844	Sub-sample for the intervention study N=695
Number of children alive		
0	1,334 (34.7)	249 (35.8)
1	1,130 (29.4)	216 (31.1)
2-4	1,161 (30.2)	196 (28.2)
5+	219 (5.7)	34 (4.9)
		P=0.52
Spontaneous abortion		
0	3,128 (81.4)	580 (83.5)
1+	716 (18.6)	115 (16.6)
		P=0.19
Induced abortion		
0	3,154 (82.0)	567 (81.6)
1+	690 (18.0)	128 (18.4)
	P=0.19	P=0.77

Table 6.3 Characteristics of women hospitalised with induced abortion complication in Fortaleza and Rio de Janeiro

Characteristics	Fortaleza study N=695 (sub-sample for the intervention study)	Rio de Janeiro study* N=803
Age (years)		
<18	92 (13)	159 (20)
19-24	272 (39)	307 (38)
25-29	188 (27)	188 (23)
30-34	79 (11)	101 (13)
35-39	40 (6)	40 (5)
40+	24 (4)	8 (1)
Marital status		
Single (living alone)	341 (51)	447 (56)
Married/Stable union	354 (49)	356 (44)
Educational status		
No schooling	34 (5)	42 (5)
1-4 years	228 (33)	250 (31)
5-8 years	282 (40)	330 (41)
8+	151 (22)	181 (23)
Parity		
0	253 (36)	230 (29)
1-4	404 (58)	525 (65)
5+	38 (6)	48 (6)

* Costa and Vessey 1993

Table 6.4 Comparison of percentage of women using contraceptive methods other than sterilisation among reproductive-aged women in Northeast Brazil and women at 6 weeks follow-up in the study.

	Reproductive-aged women in Northeast Brazil (DHS survey)* N=6,222	Women at 6 weeks follow-up in the study N=662
Percentage of women using contraceptive methods including sterilisation	39.1	52.4
Percentage of women using contraceptive methods other than sterilisation	14.6	52.4
Contraceptive method used		
Oral contraceptives	61.6	53.9
Condom	7.5	20.7
IUD	2.0	0.3
Vaginal methods	0	0.3
Injectable	4.8	6.1
Rhythm method	11.0	1.4
Withdrawal	11.7	16.1
Vasectomy	0.7	0
Others	0.7	1.2
Total	100	100

*BEMFAM 1992

Table 6 5 Comparison of the results of previous studies on post-abortion family planning counselling

Citation	Country, year of research	Pre-abortion contraceptive prevalence	Post-abortion contraceptive prevalence	Increased contraceptive uptake after abortion	Intervention impact on contraceptive uptake	Intervention impact on subsequent pregnancy	Intervention impact on subsequent abortion
RCT							
Current study	Fortaleza, Brazil 1993-1994	Intervention 35% Control 38%	At 6 weeks Intervention 54% Control 54% At 4months Intervention 64% Control 64%	Yes	No	No (Within the 1-year follow-up, 24% in both group became pregnant)	No (Within the 1-year follow-up, 7.8% in the intervention group and 4.3% in the control group had another induced abortion)
Andolsek L and Pretnar A 1982 (Unpublished)	Slajmerjeva, Yugoslavia 1981	Contraceptive choice Pill 42% in the intervention group and 39% in the control group	No information	N A	No (impact on contraceptive choice and continuation)	N/A	N A
Mati JK, 1993 (Unpublished	Nairobi, Kenya Harare, Zimbabwe Lusaka, Zambia Mexico City, Mexico Lagos, Nigeria 1987-90	All women 25% Teenagers 13%	All women 63% Teenagers 59%	Yes	No	Yes (Within the 1-year follow-up, 11.7% in the intervention group and 21.5% among control group became pregnant)	No (Within the 1-year follow-up, 3.2% of all women had another induced abortion)
Other studies							
Abrams M, 1985	Boston, USA	No information	At 1-year follow up 77% At 2-years follow up 79%	N A	N A	N/A	N A (Subsequent abortion rate at 1-year follow-up.7%, 2-years·11%)
Balat A, 1984	Cubuk, Turkey 1977- 978	8% in the intervention group 7% in the control routine family planning education only) group	Intervention 66% Control 43%	Yes	No	N A	N A

Citation	Country, year of research	Pre-abortion contraceptive prevalence	Post-abortion contraceptive prevalence	Increased contraceptive uptake after abortion	Intervention impact on contraceptive uptake	Intervention impact on subsequent pregnancy	Intervention impact on subsequent abortion
Chhabra S, Gupte N, Mehta A and Shende A 1988.	Savagram, India 1976-1987	No information	88 2% (Acceptance of contraception)	N A	N/A	N/A	N/A
Hammerslough CR and Irizarry Mora J, 1990	Ohio, USA 1981 and 1986	35%	No information	N A	N A	N/A	N A
Hardy E and Herud K , 1975	Santiago, Chile 1969	No information	Intervention 67% Control 55% (Acceptance of contraception)	N/A	N/A	N/A	N A
Harlow E, 1996	7 provinces in Turkey 1994	[illegible]	No information	N A	N/A	N/A	N A
Huntington D, Hassan ES, Attalah N, Toubia N, Naguib M and Nawar L, 1995	Cairo Minia, Egypt 1994	33°	increase of 30%	Yes	N A	N/A	N A
Mackenzie P, 1975	Ontario, Canada 1973	50° o	82 9%	Yes	N/A	N/A	N A
Margolis A, Rindfuss R, Coghlan P and Rochat R, 1974	Washington D C USA 1972	No information	91% (Choice 93° o)	N A	N A	N/A	N A
Pandey DN, Singh M, Chaurasiya AK, Gupta K, 1989	Agra India 1976-1985	No information	53° o	N A	N A	N/A	N/A
Rushwan HE, Ferguson JG and Bernard RP, 1978	Khartoum, Sudan 1974-1975	[illegible]	46 3%	[illegible]	N A	N A	N A
Su IH and Chow LP, 1976,	Taoyuan, Taiwan 1971-1972	33 3° o	46 3%	Yes	N/A	N/A	N A

Citation	Country	Study population	Intervention	Was intervention single shot counselling?	Outcome measure	Intervention effective (behaviour changed?)
Slama K, Redman S, Perkins J, Reid AL and Sanson-Fisher RW 1990	Australia	Smokers	Compare a simple single shot advice with strategies which included attitude and behavioural change programmes as well as techniques to aid compliance.	No (control group was with a single shot counselling)	Self reports of smoking cessation with validation by measurement of salivary cotinine concentrations	Yes. Significant differences at the one month follow up, but only for self reported abstinence.
Belizan JM, Barros F, Langer A, Farnot U, Victora C and Villar J 1995.	Rosario, Argentine Pelotas, Brazil Havana Cuba Mexico City, Mexico	Pregnant women at risk	Four -six visits providing psychosocial support and education about health-related habits, alarm signs, hospital facilities, anti-smoking and anti-alcohol programs, and a reinforcement of adequate health service utilisation.	No	Knowledge of alarm signs and labour-onset signs, improvement on diet, cigarette and alcohol consumption, maternal physical strain, lactation at forty days postpartum and facility use.	No (Impact on knowledge)
Nutbeam D, Macaskill P, Smith C, Simpson JM and Catford J 1993	UK	First year pupils in the 39 schools in Wales and England	School based smoking education	No	Self reported smoking behaviour, change in relevant health knowledge, beliefs and values	No
Frank DA, Wirtz SJ, Sorenson JR and Heeren T 1987		A multiethnic sample of low-income urban breastfeeding women	Compare the routine hospital breast feeding counselling by nurse with 8 telephone during the 1st 3 months of infant life	No	Breastfeeding rate by 4 months post partum	No (though intervention group delayed the 1st introduction of solid foods to the infant's diet)

Table 6 6 Summary of randomised controlled trial evaluating the effect of counselling on behavioural change

Citation	Country	Study population	Intervention	Was intervention single shot counselling?	Outcome measure	Intervention effective (behaviour changed?)
DiClemente RJ and Wingood GM 1995	San Francisco, USA	Sexually active, hetero-sexual, African -American women in an economically disadvantaged communities	Compare 1)women with social skills intervention consists of five sessions that emphasise ethnic and gender pride 2)women with a single shot counselling on HIV risk-reduction information 3)women with the delayed HIV education session (receive a single shot counselling when follow-up interviews were completed)	Yes	Consistent condom use, HIV risk-reduction knowledge, sexual self-control, sexual assertiveness, sexual communication and partner norms supportive of consistent condom use	Yes/No (Women in the social skills group had an impact.)
Wenger NS, Greenberg JM, Hilborne LH, Kusseling F, Mangotich M and Shapiro MF 1992	USA	Heterosexual university students attending the student health clinic for medical care	Compare 1)subjects who received education alone 2)subjects who received education plus HIV test 3)control group	Yes	The number of sexual partners, use of condoms, communication with sexual partners about the risk for HIV infection	No
Secker Walker RH, Flynn BS, Solomon LJ Vacek PM and Bron n DL 1990	USA	Smoker	Individualised smoking cessation counselling delivered by smoking cessation counsellor	Yes	Self-report of not smoking at 6 and 18 months and attempts to quit	No
Boyer CB, Barrett DC Peterman TA and B an G 1997	San Francisco, USA	Patients who were seeking care at the STD clinic	A four-session, individ multi-component, cognitive/behavioural intervention based on the AIDS Risk-Reduction Mode	No control group was with a single shot counselling)	STD diagnosis at 3 months and 5 months and number of risky sexual activities at 3 months and 5 months	Yes/No (Some impact on behaviour in Men, but not in women Significant impact on STD)

REFERENCES

Abrams M. 1985. Birth control use by teenagers: one and two years post-abortion. Journal of Adolescent Health Care 6(3):196-200.

Aggarwal VP and Mati JKG. 1980. Review of abortions at Kenyatta National Hospital. The East African Medical Journal 57(2):138-143.

Ahkter HH and Rider RV. 1984a. Continuation of contraception following menstrual regulation - A Bangladesh experience. Journal of Biosociological Science. 16:137-151.

Akhter HH and Rider RV. 1984b. Menstrual regulation and contraception in Bangladesh: Competing or complementary? International Journal of Gynaecology and obstetrics. 22:137-143.

Andolsek L and Pretnar A. 1982. Influence of counselling in post-abortal contraception. Presented at the Reproductive Health Care International Symposium, Maui, Hawaii. October 10-15.

Armitage P and Berry G. 1994. Statistical Methods in Medical Research. Oxford: Blackwell Science Ltd.

Asser I. 1993. Family planning issues in abortion care. Unpublished report. Dar Es Salaam.

Bailey PE, Saavedra LL, Kushner L, Welsh M and Janowitz B. 1988. A hospital study of illegal abortion in Bolivia. PAHO Bulletin 22(1) 27-41.

Barreto T, Campbell OMR, Davis L, Fauveau V, Filippi VGA, Graham WJ, Mamdani M, Rooney CIF and Toubia NF. 1992. Investigating induced abortion in developing counties: methods and problems. Studies in Family Planning 23 (3):159-170.

Belizan JM, Barros F, Langer A, farnot U, Victora C and Villar J. 1995. Impact of health education during pregnancy on behavior and utilization of health resources. American Journal of Obstetrics and Gynecology 173 (3 Pt 1):894-899.

BEMFAM. 1992. Pesquisa sobre Saude Familiar no Nordeste Brasil, 1991 (DHS survey in Northeast Brazil). Rio de Janeiro: Sociedade Civil Bem-Estar Familiar no Brasil-BEMFAM.

Benson J, Leonard AH, Winkler J, Wolf M and McLaurin KE. 1992. Meeting women's needs for post-abortion family planning: framing the questions.
Issues in Abortion Care 2. Carrboro, NC:IPAS.

Berger DK, Perez G, Kyman W, Perez L, garson J, Menendez M, Bistrits J, Branchard H and Dombrowski C. 1987. Influence of family planning counselling in an adolescent clinic on sexual activity and contraceptive use. Journal of Adolescent Health Care 8(5):436-440.

Boyer CB, Barrett DC, Peterman TA and Bolan G. 1997. Sexually transmitted disease (STD) and HIV risk in heterosexual adults attending a public STD clinic: evaluation of a randomized controlled behavioral risk-reduction intervention trial. AIDS **11**(3):359-367.

Bradley J, Sikazwe N, Healy J. 1991. Improving abortion care in Zambia. Studies in Family Planning **22**(6):391-394.

Bulut A. 1984. Acceptance of effective contraceptive methods after induced abortion. Studies in Family Planning **15**(6):281-284.

Chhabra S, Gupte N, Mehta A and Shende A. 1988. Medical termination of pregnancy and concurrent contraceptive adoption in rural India. Studies in Family Planning **19**(4):244-247.

Coelho LLH, Misago C, Fonseca WVC, Sousa DSC and Araujo JML. 1991. Selling abortifacients over the counter in pharmacies in Fortaleza, Brazil. Lancet **338**:247.

Costa SH and Vessey MP. 1993. Misoprostol and illegal abortion in Rio de Janeiro, Brazil. Lancet **341**:1258-1261.

Countryman BA and Cahill M. 1988. La leche League: its origin, programmes, and development. In Programmes to promote breastfeeding. DB Jelliffe and EFP Jelliffe (ed). Oxford, England: Oxford University Press.

David HP. 1992. Born unwanted: long-term developmental effects of denied abortion. Journal of Social Issues **48**(3):163-81.

Darze E and de Codes J. 1984. The postpartum hospital clinic approach -- Brazil. In Edmunds M, Paxman JM. Early pregnancy and childbearing in Guatemala, Brazil, Nigeria and Indonesia: addressing the consequences. Pathfinder Fund, Chestnut Hill, Massachusetts.

De Zoysa I, Phillilps KA, Kamenga MC, O' Reilly KR, Sweat MD, White RA, Grinstead OA and Coates TJ. 1995. Role of HIV counseling and testing in changing risk behavior in developing countries. AIDS **9**(Suppl A):S95-S101.

Decker K. 1978. [Post-abortion Infections]. Gynakologe **11**(4):201-205.

Dervisoglu A and Bakirci G. 1989. The Turkish experience of abortion. Unpublished report. Ankara, Turkey: Cubuk Research and Training Hospital.

Dhall SB and Harvey PD. 1984. Characteristics of first trimester abortion patients at an urban Indian clinic. Studies in Family Planning **15**(2):93-97.

DiClemente RF and Wingood GM. 1995. A randomized controlled trial of an HIV sexual risk-reduction intervention for young African-American women. JAMA **274** (16):1271-1276.

Ekwempu F, Adidu V and Ekwempu CC. 1993. Report of PATH meeting African Women's Reproductive Health Needs" Nigeria research component. Zaria site. Unpublished report.

Family Health International. 1982. Patients treated for pregnancy wastage at Kilimanjaro Christian Medical Centre, Moshi, Tanzania, Research Triangle Park, North Carolina: Family Health International.

Fatalla MF. 1989. Preface. International Journal of Obstetrics and Gynaecology Suppl.3:ix-x.

Fonseca W, Alencar AJC, Pereira RMM, Misago C. 1992. Congenital malformation of the scalp and cranium after failed first trimester abortion attempt with misoprostol. Clinical Dysmorphology 2:76-80.

Fonseca W, Misago C, Correia L, Parente JAM, Chagas Oliveira F. 1996. Determinantes do aborto provodcado entre mulheres admitidas em hospitais em localidade da regiao Nordeste do Brasil. (Determinants of induced abortion among poor women admitted to hospitals in locality of the region Northeast Brazil.) Revista Saude Publica 30(1):13-18.

Fonseca W, Misago C, Fernandes L, Correia L and Silveira D. 1997. Uso da aspiracao manual a vacuo na reducao do custo e duracao de internamentos por aborto incompleto em Fortaleza, CE, Brasil. (Adoption of manual vacuum aspiration for treatment of incomplete abortion reduced costs and duration of patients' hospital stay in an urban area of Northeastern Brazil.) Revista Saude Publica 31(5):472-8.

Ford K and Labbok M. 1987. Contraceptive usage during lactation in the United States: An update. American Journal of Public Health 77:79-81.

Frank DA, Wirtz SJ, Sorensen JR and Geeren T. 1987. Commercial discharge packs and breast-feeding counseling: effects on infant-feeding practices in a randomized trial. Pediatrics 80(6):845-54.

Gandaho T. 1993. Changing contraceptive knowledge, attitudes and practices in rural Benin: elements of success in a community-based family planning intervention. Unpublished PhD thesis. London: London School of Hygiene and Tropical Medicine.

Glazener CM, Abdalla M, Stroud P, Naji S, Templeton A, Russell IT. 1995. Postnatal maternal morbidity: extent, causes, prevention and treatment. British Journal of Obstetrics and Gynaecology 102(4): 282-287.

Greenslade FG. 1993. Manual vacuum aspiration: a summary of clinical and programmatic experience worldwide. IPAS: Carrboro, North Carolina.

Grisanaputi W, Samart M, Panpruk W, Pruksamathanum T and Phosri P. 1986. The implementation of contraceptive counselling services as a strategy to induce contraceptive use. Report to USAID contract No. DPE-0632-00-1029. Washington.

Hatcher RA, Trussell J, Stewart F, StewartGK, Kowal D, Guest F, Cates W Jr, Policar MS. 1994. Contraceptive technology. 16th revised edition. New York: Irvington Publishers.

Hammerslough CR and Irizarry Mora J. 1986. Contraceptive use and counselling before and after an abortion in Ohio, 1981 and 1986. Ohio Medicine 86(9):671-7.

Hardy E. and Herud K. 1975. Effectiveness of a contraceptive education program for post-abortion patients in Chile. Studies in Family Planning 6(7):188-191.

Hardy E. and Goodson P. 1991. Association between contraceptive method accepted and perception of information received: comparison of Norplant and IUD acceptors. Contraception 43(2):121-128.

Harlow E. 1996. Post-abortion contraceptive services scarce in Turkey. AVSC News 34(3)5.

Heisterberg L. 1988. Pelvic inflammatory disease following induced first-trimester abortion. Risk groups, prophylaxis and sequelae. Danish Medical Bulletin 35(1):64-75.

Henshaw SK and Morrow E. 1990. Induced Abortion: A World Review, 1990 Supplement. New York: Guttmacher Institute.

Higgins DL, Galavotti C, O' Reilly KR, Schenell DJ, Moore M, Rugg DL and Johnson R. 1991. Evidence for the effects of HIV antibody counseling and testing on risk behaviors. JAMA 226: 2419-2429.

Hornik R. 1990. Alternative models of behavior change, Wotking Paper No.131, Center for International Health and Development Communications, Annenberg School of Communications, Philadelphia.

HRP/WHO. 1987. Protocol for hospital-based descriptive studies of mortality and morbidity related to induced abortion. Geneva: Special Programme of Research, Development and Research Training in Human Reproduction, World Health Organisation.

Huezo C and Malhotra U. 1993. Choice and Use-continuation of Methods of Contraception. London:IPPF.

Huntington D, Hassan EO, Toubia N, Kafifi S, Elwan A, Attallah N, Naguib M, El-Heine M, El-Shoubary AA and Nawar L. 1994. Improving the counselling and medical care of post abortion patients in Egypt: preliminary results from an operations research study. Unpublished report presented at the 122nd Annual Meeting of the American Public Health Association. Washington, D.C., October 30-November 3, 1994.

Ickis J. 1987. Structural Issues Related to Delivery System. In Lapham RJ and Simmons GB. eds. Organising for Effective Family Planning Programs. Washington, DC: National Academy Press.

Janowitz B, Kane TT, Arruda JM, Covington DL and Morris L. 1980. Side effects and discontinuation of oral contraceptive use in southern Brazil. Journal of Biosocial Science **18**(3):261-71.

Kirkwood BR. 1988. Essentials of Medical Statistics. Oxford:Blackwell Scientific Publications.

Koetsawang S, Saha A and Pachauri S. 1978. Study of "spontaneous" abortion in Thailand. International Journal of Gynaecology and Obstetrics 15:361-368.

Kulcjuscki A, Potts M and Rosenfield A. 1996. Abortion and fertility regulation. Lancet **347**(9016):1663-8.

Lancet editorial. 1995. After the morning after and the morning after that. Lancet **345**:1381-1382.

Liskin LS. 1980. Complications of abortion in developing countries. Population Reports Series F. No.7.

Loevinsohn BP. 1990. Health education interventions in developing countries: a methodological review of published articles. International Journal of Epidemiology **19**:788-794.

Mackenzie P. 1975. Before and after therapeutic abortion. Canadian Medical Association Journal **111**(7): 667-669.

Mahomed K, Healy J, Tandon S, Munestsi S, Bradley J and Leonard A. 1992. Improved treatment of abortion complications and post-abortion family planning in Zimbabwe. Unpublished report presented at the 120th Annual Meeting of the American Public Health Association, Washington D.C., November 8-12, 1992.

Margolis A, Rindfuss R, Coghlan P and Rochat R. 1974. Contraception after abortion. Family Planning Perspectives **6**(1): 56-60.

Marques N. 1995. Motivational determinants of teen-age pregnancy in Recife, Brazil. Unpublished PhD theses. London: London School of Hygiene and Tropical Medicine.

Mati JK. 1993. Research findings on post-abortion counselling and family planning: lessons learnt from the South-to-South multicentre study. Unpublished report prepared for the Technical Working Group Meeting on Post-Abortion Family Planning, Bellagio Study and Conference Centre, February 1-5.

Mbizvo MT, Kasule J, Gupta V, Rusakaniko S, Kinoti SN, Mpanju-Shumbushu W, Sebina-Zziwa AJ, Mwateba R and Padayachy J. 1997. Effects of a randomised health education intervention on aspects of reproductive health knowledge and reported behaviour among adolescents in Zimbabwe. Social Science and Medicine **44**(5):573-7.

McAuliffe J, Correia LL and Grangeiro GP. 1995. PESMIC 3 (Terceira pesquisa de saúde materno infantil do Ceará - 1994). Fortaleza, Brazil: Secretaria da Saúde do Estado do Ceará.

McLaurin KE, Hord CE and Wolf M. 1991. Health systems' role in abortion care: the need for a pro-active approach. Carrboro, NC:IPAS.

McLaurin KE, Senanayake P, Toubia N and Ladipo OA. 1993. Post-abortion family planning: reversing a legacy of neglect. The Lancet **342**:1099-1100.

McLaurin KE. 1994. Foreword to "Meeting women's needs for post-abortion family planning report of a Bellagio Technical Working Group". International Journal of Gynaecology and Obstetrics **45**(Suppl.):S1-S2.

McLaurin KE, Senanayake P, Toubia N and Ladipo OA. 1995. Post-abortion family planning. World Health Forum **16**(1):52-5.

Mehta S. 1994. Contraception and women's health. International Journal of Gynaecology and Obstetrics **46**:165-171.

Misago C, Fonseca W, Correia L, Fernandes M and Campbell O. 1998. Determinants and medical characteristics of abortion among 4,359 women admitted to hospitals in Fortaleza, North Eastern Brazil. International Journal of Epidemiology in press.

Moberg PJ, Eneroth P, Harlin J, Ljung A and Nord CE. Preoperative cervical microbial flora and post-abortion infection. Acta Obstetrica et Gynecologica Scandinavica **57**(5):415-419.

Moran C, Alcazar LS, Carranza Lira S, Merino G and Bailon R. 1994. Recovery of ovarian function after childbirth, lactation and sexual activity with relation to age of women.

Nations MK, Misago C, Fonseca W, Correia L and Campbell OMR. 1997. Women's hidden transcripts about abortion in Brazil. Social Science and Medicine **44**(12):1833-1845.

Nutbeam D, Macaskill P, Smith C, Simpson JM and Catford J. 1993. Evaluation of two school smoking education programmes under normal classroom conditions. British Medical Journal **306**: 102-107.

Oakely A, Fullerton D, Holland J, Arnold S, France-Dawson M, Kelly P and McGrellis S. 1995. Sexual health education interventions for young people: a methodological review. British Medical Journal **310**:158-62.

Omu AE, Weir S, Janowitz B, Covington DS and Lamptey PR. 1988. The effect of counselling on the acceptance of female sterilisation among grandmultiparae in Benin, Nigeria. Final report. Research Triangle Park, North Carolina: Family Health International.

Pandey DN, Singh M, Chaurasiya AK and Gupta K. 1989. Contraceptive coverage after medical termination of pregnancy. Indian Journal of Hospital Pharmacy **26**(5):154-7.

Pathfinder Fund. 1985. Contraceptives distributed to postpartum clients: quarterly reporting forms (Recife, Brazil). Unpublished report. Chestnut Hill, Massachusetts.

Paxman JM, Rizo A, Brown L and Benson J. 1993. The clandestine epidemic: the practice of unsafe abortion in Latin America. Studies in Family Planning **24** (4):205-226.

Profamilia and Instituto Peruano del Seguro Social. 1990. Immediate post-partum and post-abortion family planning program. New York: The Population Council.

Ragab ME. 1973. Elective versus emergency abortions at Ain Shams University Medical Centre in Cairo. Paper presented at the Second Indonesian Congress of Obstetrics and Gynaecology. Surabaya, Indonesia, August 1973.

Ramos R, Kennedy KI and Visness CM. 1996. Effectiveness of lactational amenorrhoea in prevention of pregnancy in Manila, the Philippines: non-comparative prospective trial. BMJ (Clinical Research Ed.) **313**(7062):909-912.

Rezende F. 1981. Aspectos medico - legais da obstetricia. Obstetrica Fundemental 990-998. Rio de Janeiro: Ed. Guanabara Koogan.

Ross JA et al. 1989. Management Strategies for Family Planning Programs. New York: Center for Population and Family Health, School of Public Health, Columbia University.

Royston E and Armstrong S. 1989. Preventing maternal deaths. WHO, Geneva.

Rushwan HE, Ferguson JG and Bernard RP. 1978. Hospital counselling in Khartoum: a study of factors affecting contraceptive acceptance after abortion. International Journal of Gynaecology and Obstetrics **15**:440-443.

Sa HL and Maia NC. 1990. Morte materna e aborto - estudo retrospectivo (1981-90) na MEAC-UFC. Unpublished dissertation. Fortaleza, Brazil:Federal University of Ceara.

Scheper-Hughes N. 1992. Death without weeping: the violence of everyday life in Brazil. Berkeley, California: University of California press.

Schmidt-Rahmer B. 1990. Ceara, Northeast Brazil: giving priority to the child at the state level. In: The Unicef Brazil Country Programme Reader. Brasilia: UNICEF.

Secker Walker RH, Flynn BS, Solomn LJ, Vacek PM and Bronson DL. 1990. Predictors of smoking behavior change 6 and 18 months after individual counselling during periodic health examinations. British Journal of Addiction **87**: 63-72.

Secretaria da Saúde do Estado do Ceará. 1996. Perfil de adoecer e morrer do povo Cearence em 1995. Fortaleza, Brazil.

Silveira DM. 1997. Personal communication. Director, "Viva Mulher" , The State of the Ceara Women' s Health Programme.

Singh S and Wulf D. 1993. The likelihood of induced abortion among women hospitalised for abortion complications in four Latin American countries. International Family Planning Perspectives **19**(4):134-41.

Singh S and Wulf D. 1994. Estimated levels of induced abortion in six Latin American countries. International Family Planning Perspectives **20**:4-13.

Slama K, Redman S, Perkins J, Reid AL and Sanson Fisher RW. 1990. The effectiveness of two smoking cessation programmes for use in general practice: a randomised clinical trial. British Medical Journal **300**: 1707-1709.

South to South Cooperation in Reproductive Health, International Planned Parenthood Federation, Family Health International, The Population Council and the World Health Organization. 1995. Consensus statement on emergency contraception. Bellagio, Italy.

Su IH and Chow LP. 1976. Induced abortion and contraceptive practice: an experience in Taiwan. Studies in Family Planning **7**(8):224-230.

Sundstorom K. 1993. A reproductive health issue: background paper on women's health and abortion. Washington: World Bank.

Tietze C and Bongaats J. 1975. Fertility rates and abortion rates, simulations of family limitations. Studies in Family Planning **6**:114.

UNICEF. 1992. The State of the World's Children. New York: UNICEF.

Urdinola J, Guitars A and Londono D. 1993. [Oral contraceptives in Latin America]. Advances in Contraception Supple. **1**:3-12.

Verme CS, Bolton PL and Girvin S. 1996. Integrating post-abortion care (PAC) into other health services: constraints and opportunities during a period of funding and political uncertainty. Unpublished report presented at the 124th Annual Meeting of the American Public Health Association, New York, New York, November18-21.

Viel B. 1982. Illegal abortion in Latin America. IPPF Medical Bulletin **16**(4):1-2.

Wachuku KS. 1993. Quality of care and women's perspective and needs for post-abortion family planning services: a Sierra Leone experience. Unpublished report prepared for Meeting Women's Needs for Post-Abortion Family Planning, Bellagio Conference and Study Centre, February 1-5, 1993.

Wenger NS, Greenberg JM, Hilborne LH, Kusseling F, Mangotich M and Shapiro MF. 1992. Effect of HIV antibody testing and AIDS education on communication about HIV risk and sexual behaviour. A rondomised controlled trial in college students. Annals of Internal Medicine **117** (11):905-911.

Wilson A. 1994. Prepared remarks. Unpublished report presented at the Conference on Unsafe Abortion and Post Abortion Family Planning in Africa. Mauritius, March 24-29.

Wolf M and Benson J. 1994. Meeting women's needs for post-abortion family planning: Report of a Bellagio technical working group. International Journal of Gynaecology and obstetrics **45** (Suppl.):S3-23.

Wynendaele B, Bomba W, M'Manga W, Bhart S and Fransen L. 1995. Impact of counselling on safer sax and STD occurrence among STD patients in Malawi. International Journal of STD and AIDS 6(2):105-9.

SECRETARIA DE SAÚDE DO ESTADO DO CEARÁ-SSE
HOSPITAL GERAL DR. CÉSAR CALS-SSE
UNIVERSIDADE FEDERAL DO CEARÁ UFC
MATERNIDADE-ESCOLA ASSIS CHATEAUBRIAND-MEAC/UFC
ORGANIZACAO MUNDIAL DA SAÚDE-OMS

ESTUDO DE MORBI-MORTALIDADE RELACIONADA A ABORTOS

SEÇÃO I: ESTADO DA PACIENTE NA ADMISSÃO

IDENTIFICAÇÃO

a) Hospital: (1) MEAC (2) HGCC | hosp
b) Número do prontuário: __ __ __ __ __ | pron
c) Iniciais da paciente: _____
d) Número identificação: __ __ __ __ | identi

01. Data da admissão: __ __/__ __/__ __ | admi / /

02. Data da coleta dos dados: __ / / | cole /

03. Data da última menstruação: __ __/__ / | mens /

04. Duração da gestacão: ___ ___ semanas | gest

05. Na admissão o aborto era clinicamente: | (
(1) completo (2) incompleto
(3) ameaça(nao iniciado) (4) inevitável
(9) ignorado

06. Sangramento vaginal na admissão: | sang
(1) nenhum (2) ≤ a menstruação
(3) > a menstruação (4) sangramento intenso
(9) ignorado

07. Evidência de trauma na vagina, cervix, útero ou intestino: | eviden
(1) nenhuma (2) lesão vaginal
(3) laceração cervical (4) perfuração uterina
(5) perf. da bexiga (6) lesão/perf.intestinal
(7) perf. reto-vaginal (9) ignorado

08. Evidência de corpo estranho na vagina, cervix ou útero: | (
(1) nenhuma (2) vagina
(3) cervix (4) útero
(9) ignorado
Se corpo estranho, especifique:

9. Sinais clínicos de infecção na admissão: | infe
(1) nenhum (2) endometrite
(3) salpingo-ooforite (4) peritonite generalizada
(5) septicemia (6) choque septicêmico
(7) tétano (8) outro. Especifique:
(9) ignorado _____

0. Temperatura corporal na admissão: ___ ___. °C | tempe

1. Sinais clínicos de falência sistêmica ou de órgão na admissão: | s
falê

12. Procedimentos cirúrgicos dentro das primeiras 24hs de admissão: | proced
(01) nenhum (02) sucção a vácuo
(03) curetagem (04) histerotomia vaginal
(05) histerotomia abdominal
(06) histerectomia abdominal
(07) cirurgia associada. Qual: _____
(08) outro (09) ignorado
Especifique: _____

13. Informações acima obtidas (Q1-Q12): | checa
(1) de ficha preenchida
(2) do prontuário, checadas c/ médico

Médico: _____ | med

Revisor do prontuário: _____ Ass: _____ | rev

SEÇÃO II: ENTREVISTA DA PACIENTE

IDENTIFICAÇÃO

a) Hospital: (1) MEAC (2) HGCC | hospi
b) Número do prontuário: __
c) Iniciais da paciente: _____
d) Número de identificação: | iden

14. Data da entrevista: / / __ __ | entrev

15. Local da entrevista: | local
(1) hospital (2) casa
(3) outro _____

16. Respondente: | respon
(1) paciente (2) familiar
(3) outro Especifique: _____
Especifique: _____

17. Qual a data do seu nascimento? __/__ / | nasci / /

18. Quantos anos a Sra. tem? ____ anos. | anos

19. Qual a idade do seu marido/companheiro? _____anos | idcomp

20. Grupo étnico: | etnic
(1) branco (2) misto: (3) preto

21. Qual a sua religião? | relig
(1) católica (2) protestante
(3) nenhuma (4) outra. Especifique:
(9) ignorado _____

22. Onde a Sra. mora? | mora
(1) Fortaleza (2) regiao Metropolitana
(3) interior urbano (4) interior rural
(5) outra. (9) ignorado
Especifique: _____

24.A Sra. estudou na escola? Até que série completou? | estud
___série ___ grau (0-0, não estudou)

25.Seu marido estudou na escola? Até que série? | estmar
___série ___ grau (0-0, não estudou)

26.Qual sua ocupação? _____ | ocup __

27.Qual a ocupação do seu marido? _____ | ocupmar

28.Sua mãe estudou na escola? Até que série completou? | estmae
___série ___ grau (0 0, não estudou)

29.Seu pai estudou na escola? Até que série completou? | estpai
___série ___ grau (0-0, não estudou)

30.Qual a ocupação de sua mãe? _____ | o

31.Qual a ocupação de seu pai? _____ | oc

HISTORIA REPRODUTIVA

32.A Sra. já esteve grávida antes? | :
(1) não > Q38 (2) sim (3) não

33 Qual foi o resultado da ultima gravid
antes deste aborto?
(1) nascido vivo (2) natimorto
(3) aborto espontâneo (4) aborto
(5) gravidez ectópica (6) outro. Especifique:
_____

34.Quando esta gravidez terminou? / / | te / /

35.Quantas vezes a Sra. esteve grávida antes
deste aborto? __ __ | geste
a) nº de nascidos vivos: __ | viv
b) nº de natimortos: | nati
c) nº de abortos espontâneos: | esp
d) nº de abortos induzidos: | ind
e) nº de gravidezes ectópicas: | ect
f) outro: __ | abo
Especifique:

36.De todos os seus filhos que nasceram viv ant
estão vivos? E quantos morreram?
__ vivos __ __ mortos | fi fi

37.Qual a idade da criança viva mais nova
___ ___ anos meses | i im

HISTÓRIA CONTRACEPTIVA

38.Qual o método anticonceptivo que mais
frequentemente, ou por mais tempo, a Sra. usou
nos últimos 12 meses? *
(01) nenhum *(02) contraceptivos orais | metfreq

39.Se a Sra. não usou nenhum método, qual a razão? ** | nenhumet
(01) desconhecimento (02) marido se opõe
(03) métodos caros (04) problemas de saúde
(05) difícil de obter (06) religião
(07) inconveniência (08) outros se opoem
(09) pensou ser infértil (10) pensou estar grávida
(11) não aceita planejamento familiar
(12) outro.Especifique:_____

** PASSE PARA Q41.

40.Qual o método que a Sra. estava usando durante o mês que engravidou? | metod
(01) contraceptivos orais (02) injetáveis
(03) implantes (04) DIU
(05) condom (06) diafragma
(07) espermaticidas (08) tabela
(09) coito interrompido (10) amamentação
(11) nenhum (99) ignorado
(12) outro. Especifique:_____

41. A Sra. acha que você e seu parceiro irão usar algum método no futuro para evitar filhos? | parceir
(1) não -->Q43 (2) sim (3) não sabe >Q43

42. Se sim, qual método a Sra. gostaria de usar. *** | qual
(01) contraceptivos orais (02) injetáveis
(03) implantes (04) DIU
(05) condom (06) diafragma
(07) espermaticidas (08) tabela
(09) coito interrompido (10) amamentação
(11) outro. (99) ignorado
Especifique: _____

** PASSE PARA Q44.

43. Se não ou não sabe (Q41), porque a Sra.não planeja usar nenhum método? | naousar
(01) desconhecimento (02) marido se opõe
(03) métodos caros (04) problemas de saude
(05) difícil de obter (06) religião
(07) inconveniência (08) outros se opoem
(09) pensou ser infértil (10) pensou estar grávida
(11) não aceita planejamento familiar
(12) outro. Especifique:

44.Qual a razão para a Sra. vir ao hospital? |
(1) sangramento vaginal (1 não, 2 sim | sangra
(2) corrimento vaginal | corr
(3) aborto __ | abort
(4) complicações na gravidez __ | complic
(5) dor abdominal __ | dor
(6) febre __ | febre
(7) fadiga __ | fadig
(8) outro __ Especifique:_____ | outr __

45. Qual a data do início da última menstruação?

48.A gravidez era desejada? | desej
(1) nao (2) sim (3) nao sabe

49.Se a gravidez não era planejada, e/ou não era desejada, e não usava nenhum método contraceptivo, porque a Sra. não estava usando nenhum método para evitar gravidez? | razao
(1) oposição do marido/companheiro
(2) medo de efeitos colaterais
(3) pensou ser infértil
(4) contraceptivos nao disponíveis/caros
(5) outra. Especifique:_____
(8) não se aplica

50.Como terminou esta gravidez? Espontaneamente ou a Sra. provocou o aborto? | termino
(1) espontâneo (2) induzido
(3) não sabe, não respondeu

51.Alguem aconselhou a Sra. a fazer um aborto? Quem? | aconse
(1) ela mesma/ninguém (2) marido
(3) parente (4) amigo/outros
(5) profissional de saúde (6) nao sabe/nao respondeu
Especifique: _____

52.Se induzido, que metodos foram usados para indução? (1-não, 2 sim)
(01) instilacao intra-uterina através da vagina __ | instil
(02) inserção de bastão através da vagina __ | inserc
(03) injeção __ | injec
(04) ingestão de medicamento nativo/caseiro | mednatv
(05) uso vaginal de medicamento nativo/caseiro | vagnatv
(06) ingestão remédio não nativo/caseiro __ | ingest
(07) uso vaginal de remédio não nativo/caseiro | vagrem
(08) pressão sobre o estômago | prestom
(09) pressão através da vagina | presvag
(10) aspiração a vácuo __ | aspivac
(11) dilatação e curetagem | d&c
(12) outro Especifique: | outrmet

53.Quem a Sra. procurou para terminar a gravidez?
(1) medico (1 na , 2 sim) | med
(2) enfermeira | enferm
(3) parteira | parteir
(4) curandeiro tradicional | curand
(5) farmacêutico/balconista | farm
(6) não consultei ninguém, fiz isso eu mesma | ning __
(7) outro __ Especifique:_____ | outermin

54.Qual a data da primeira tentativa? __ __/__ /__ __ | 1tent / /

55.Se a Sra. fez mais de uma tentativa, qual a data da última? __ __/__ __/__ __ | ultent__ __/__ /

(8) outro __ Especifique:_____ | outerm

57.A Sra. teve que pagar alguém para fazer o aborto? | pagou
(1) não (2) sim, quanto? | quantU$
Cr$_____ US$.___

58.A Sra. recebeu algum remédio (incluindo caseiro) de quem fez o aborto? | receb
(1) não (2) sim. Qual? _____ | qualrec

59.A Sra.tomou (ou introduziu na vagina) este ou outros remédios, incluindo caseiros, para abortar? | intro
(1) não (2) sim

60.Quais remédios a Sra. tomou para abortar?
(1) Misoprostol (CYTOTEC): __ (1 não, 2 sim) | cyto
a) quantos comprimidos tomou? __ __ | quantom
b) quantos comprimidos pôs na vagina? __ | quantvag
c) quando tomou/introduziu a 1ª vez? __/__/__ | tomo1 / /
d) quando tomou/introduziu a últ. vez? __/__/__ | tomo2 / /
e) quanto gastou? Cr$ _____ US$. | qtgastou

(2) Outro abortivo: (1-não, 2 sim) | outro
a) qual? _____ | qu...
b) tomou oralmente? | ...
c) aplicou na vagina? | at...
d) usou ele injetavel? | in...
e) quando tomou? 1ª vez / / | ...
últ. vez / / | qt...
f) quanto gastou? Cr$ _____ US$. | qtoutab

(3) Antibióticos: __ (1-não, 2-sim) | antibi
a) qual? _____ | qualant
b) quando tomou? __ __/__ __/__ __ | qdtom / /
c) quanto tomou? __ __ __ mg | qtomou
d) quanto gastou? Cr$ _____ US$ _____. | qtgast

(4) Outra droga: (1-não, 2 sim) | droga
a) qual?_____ | qualdro
b) quando tomou? 1ª vez / / | qtmo1 /
últ.vez / / | qtm2 / /
c) quanto gastou? Cr$ _____ US$. | qtdrog

(5) Remédio caseiro: (1-não, 2 sim) | caseir
a) quais? 1) _____ | ca...1
2) | ca...2
b) quando tomou? 1ª vez / / | qtm1
últ.vez / / | qtm2 /
c) quanto gastou? Cr$ US$. | qtrem

61.Quais sintomas a Sra. apresentou desde o inicio do aborto?
1)_____ | sintoma1
2)_____ | sintoma2
3)_____ | sintoma3

62.Quando a Sra. começou a apresentar estes sintomas?
(1) __ __/__ __/__ __ . | qsin1__ /__ /.
qsin2 / /

64.Quem recomendou que a Sra. viesse ao hospital? | quemavis
(1) ninguém (ela mesma) (2) marido
(3) parente (4) amigo
(5) profissional de saúde. Qual?_____
(6) outro._____
(8) não se aplica (9) ignorado

Entrevistador:_____ | entrev1 __

SECAO III:ALTA HOSPITALAR

IDENTIFICACÃO

a) Hospital: (1) MEAC (2) HGCC | hospit
b) Número do prontuário: __ __ __ __ __
c) Iniciais da paciente: _____
d) Número de identificação: __ __ | iden

65.Data da alta: __ __/__ __/__ __ | dalt / /

66.Data da coleta dos dados: __ /__ / | dcol / /

67.Paciente recebeu alta: | pacalta
(1) viva (2) morta

68.Diagnostico quando da alta:_____ | CID

69.Procedimentos cirúrgicos: | procir
(1) não (2) sim
Se sim, especifique:
1)_____ (ICPM:) | ICPM1 __
a) Achados da cirurgia: (1-não, 2-sim)
(1) massa tubo-ovariana __ | massatb1
(2) útero perfurado __ | utperf1
(3) pus na cavidade peritoneal __ | puscav1
(4) pus no Saco de Douglas | pusaco1
(5) outros Quais? _____ | outcir1
b) Data: __/__ __/ __ | dat1 /

2) _____ (ICPM:) | ICPM2
a) Achados da cirurgia: (1-não, 2 sim)
(1) massa tubovariana | massatb2
(2) útero perfurado __ | utperf2
(3) pus na cavidade peritonial | puscav2
(4) pus no Saco de Douglas | pusaco2
(5) outros __ Quais? | outcir2
b) Data: __/__ __/ | dat2 / /

70.Número de unidades de sangue total transfundidos:
_____ unidades | sangtot

71.Número de unidades de elementos sanguíneos transfundidos:
a) plasma: _____ unidades | plasma __
b) concentrados de plaquetas: _____ unidades | concplac

73. Medicação dada:

a) Antibióticos

NOME	QT DEU/VEZ	QT VZ/DIA	QTOS DIAS

anome1 __
adeu1 __ __
avez1 __ adia1 __
anome2 __ __
adeu2 __ __
avez2 __ adia2
anome3
adeu3
avez3 adia3

b) Outras medicações relevantes

NOME	QT DEU/VEZ	QT VZ /DIA	QTOS DIAS

bnome1
bdeu1 __
bvez1 bdia1
bnome2
bdeu2
bvez2 bdia2
bnome3
bdeu3
bvez3 bdia3

Revisor do prontuario: _____

SECAO IV-REAVALIACAO DO TIPO DE ABORTO

(1) nenhuma complicação gravídica relatada
(2) continuação da gravidez
(3) aborto espontâneo
(4) possivelmente aborto induzido
(5) provavelmente aborto induzido
(6) certamente aborto induzido
(7) aborto induzido legalmente(terapeutico)

reaval

Investigador: _____ Ass:

investig

SECRETARIA DE SAUDE DO ESTADO DO CEARA-SSE
UNIVERSIDADE FEDERAL DO CEARA-UFC
LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE-LSHTM

QUESTIONÁRIO SOBRE A SAÚDE DA MULHER

NOME: _____

ENDEREÇO: _____

(1) CASO (2) CONTROLE — caso ___

IDENTIFICAÇÃO ANTERIOR: __ __ __ __ — idenante ___

IDENTIFICAÇÃO ATUAL: __ __ __ — identif1

ORDEM DA VISITA: (1) 15d (2) 45d (3) 4m (4) 6m (5) 1 ano — visita

DATA DA ENTREVISTA: ____/____/____ — dataen / /

01. Apareceu algum problema de saúde, nas últimas duas semanas, que a Sra. acha ser devido à curetagem/aborto?
(1) sim (2) não — problem1
QUAIS:

1.1 SANGRAMENTO VAGINAL

HOJE (1) sim (2) não (9) ign — sanghoje

Se SIM, HOJE, descreva o sangramento: — tiposan1
1 < menstruação 2. = menstruação
3. > menstruação 4. sangramento intenso 8 n/a

ULTIMAS 2 SEMANAS (1) sim (2) não (9) ign — sangul2

Se SIM, NAS 2 ÚLTIMAS SEMANAS, por quantos dias? — diasan2

Esse sangramento foi: — tiposa2
1. < menstruação 2. = menstruação
3. > menstruação 4. sangramento intenso 8. n/a

1.2 CORRIMENTO VAGINAL

HOJE (1) sim (2) não (9) ign — corrhoje

Se SIM, HOJE, descreva o corrimento:
QUANTIDADE.
1. discreto 2. moderado 3. intenso 8. n/a — quanto1

COR:
1. esbranquiçado 2. amarelado 3. amarronzado — cor1
4. outro: _____ 8. n/a

CHEIRO:
1. normal 2. fétido 3. outro: _____ 8 n/a — cheiro1

ULTIMAS 2 SEMANAS (1) sim (2) não (9) ign — corrul2

Se SIM, TEVE CORRIMENTO NAS 2 ÚLTIMAS SEMANAS por quantos dias? — diacor2

QUANTIDADE:
1. discreto 2. moderado 3 intenso 8 n/a — quant2

COR:
1. esbranquiçado 2. amarelado 3. amarronzado — cor2
4. outro: _____ 8. n/a

CHEIRO:
1. normal 2. fétido 3. outro: _____ 8. n/a — cheiro2

1.3 DOR ABDOMINAL/PÉLVICA

HOJE (1) sim (2) não (9) ign — dorhoje

Se SIM, HOJE, descreva a dor:

FREQUENCIA 1. contínua 2. intermitente 3. outra: _____ 8. n/a	frequen1
ULTIMAS 2 SEMANAS (1) sim (2) não (9) ign	dorulti __
Se SIM, NAS DUAS ÚLTIMAS SEMANAS por quantos dias? _____	diasdor __
LOCALIZAÇÃO: 1. pélvica localizada 2. pélvica irradiada 3. outra: _____ 8. n/a	localiz2
INTENSIDADE: 1. discreta 2. moderada 3. intensa 8. n/a	intensi2
TIPO: 1. cólica 2. pontada 3. quando estimulada 4. outra _____ 8. n/a	tipo2 __
FREQUENCIA 1. contínua 2. intermitente 3.outra: 8 n/a	frequen2
1.4 FEBRE	
HOJE (1) sim (2) não (9) ign	febrehoj
ULTIMAS 2 SEMANAS (1) sim (2) não (9) ign Se SIM, nas duas últimas semanas por dias	febreult diafebre
1.5 DOR DE CABEÇA	
HOJE (1) sim (2) nao (9) ign	cabehoje
ULTIMAS 2 SEMANAS (1) sim (2) não (9) ign Se SIM, nas duas ultimas semanas por dias	cabeulti diascab
1.6 FRAQUEZA	
HOJE (1) sim (2) na (9) ign	fraqhoj
ULTIMAS 2 SEMANAS (1) sim (2) não (9) ign Se SIM, nas duas ultimas semanas por dias	fraqulti diafraq
1.7 NAUSEA/VÔMITO	
HOJE (1) sim (2) não (9) ign	naushoje
ULTIMAS 2 SEMANAS (1) sim (2) não (9) ign Se SIM, nas duas últimas semanas por dias	nausulti dianaus
1.8 ANGÚSTIA/ANSIEDADE/NERVOSISMO	
HOJE (1) sim (2) nao (9) ign Se SIM, descreva.	anguhoje angudes1
ULTIMAS 2 SEMANAS (1) sim (2) nao (9) ign Se SIM, nas duas ultimas semanas por dias Se SIM, descreva.	anguulti diaangu angudes2
1.9 OUTRO	
HOJE (1) sim (2) nao (9) ign Se SIM, HOJE descreva	outrhoje outrdes1
ULTIMAS 2 SEMANAS (1) sim (2) não (9) ign Se SIM, nas duas últimas semanas descreva:	outrulti outrdes2 __
Se SIM, nas duas ultimas semanas por _____ dias	diaoutr __ _
2.A Sra procurou algum serviço de saúde nas últimas duas semanas? (1) sim (2) não > Q04	servico __

problema(s) de saúde nas ultimas duas semanas?
(1) sim. Qual(is)? (2) não ---> Q06 | medicame
a) _____ | medi1 __ __ __ __
b) _____ | medi2 __ __ __ __
c) _____ | medi3 __ __ __ __

.Se sim, quem receitou/recomendou este(s) medicamento(s)/tratamento(s)? (1-sim, 2-não, 8-n/a)
(1) médico ___ | medmedi __
(2) enfermeira ___ | medenfe
(3) agente de saúde ___ | medagent __
(4) balconista/farmacêutico ___ | medbalco __
(5) parteira ___ | medparte __
(6) parente ___. Quem? _____ | medparen __
(7) amigo ___ | medamigo __
(8) ela mesma ___ | medningu __
(9) outro___. Quem? _____ | medoutro __

.A Sra. tomou/usou algum remédio caseiro para seu(s) problema(s) de saúde nas duas últimas semanas?
(1) sim. Qual(is)? (2) não --->Q08 | remedio
a) _____ | reme1
b) _____ | reme2
c) _____ | reme3 _

.Se sim, quem recomendou este(s) remédio(s) caseiro(s)? (1-sim, 2-não, 8-n/a)
(1) médico ___ | remmedi
(2) enfermeira ___ | remenfe
(3) agente de saúde | remagent
(4) balconista ___ | rembalco
(5) parteira ___ | remparte
(6) parente ___. Quem? _____ | remparei.
(7) amigo ___ | remamig
(8) ela mesma ___ | remningu
(9) outro ___ Quem? _____ | remoutr

A Sra voltou para a "revisao de curetagem" no Hospital Geral Césa: Cals? | revisa
(1) sim em __ / / > Q10 (2) nao | revgua

SE NÃO voltou, explique porque: | revna
(1) não foi informada que deveria voltar para a revisao
(2) não teve tempo
(3) não quis voltar ao Hospital
(4) não achava que fosse importante fazer a revisão
(5) outro. Explique: _____
_____
(8) n/a

A Sra. já voltou a ter menstruação? | voltamen
(1) sim. Quando? ___/___/___ (2) não | menqua / /

A Sra. voltou a ter relações sexuais? | voltasex
(1) sim. Quando? ___/ /___ (2) não ->Q13 | sexqua / /

A Sra. voltou a ter relações sexuais com o mesmo parceiro da gravidez anterior? | sexparce
(1) sim (2) não, com outro (8) n/a (9) ignorado

A Sra. sente dor/ardor nas relações sexuais? | sexdor
(1) sim (2) nao (8) n/a (9) ignorado

A Sra. tem sangramento nas relações sexuais? | sexsang
(1) sim (2) nao (8) n/a (9) ign rado

A Sra. tem desejo de ter relações sexuais? | libid
(1) sim (2) nao (8) n/a (9) ignorado

A Sra. engravidou depois da curetagem? | gravida
(1) não -- >Q27 (2) sim, está grávida
(3) sim, mas abortou (4) não sabe
(9) ignorado

A Sra. queria ter ficado grávida? | querogra
(1) sim (2) não (8) n/a

SE ABORTO CONTINUA COM QUESTAO 18
SE GRÁVIDA OU SE NÃO SABE, PASSE PARA QUESTÃO 27.

.Quem a Sra. procurou para terminar a gravidez?
(1) médico __ (1-não, 2-sim, 8-n/a) | med2 __
(2) enfermeira __ | enferm2 __
(3) parteira __ | parteir2 __
(4) curandeiro tradicional __ | curand2 __
(5) farmacêutico/balconista __ | farm2 __
(6) não consultei ninguém, fiz isso eu mesma __ | ning2 __
(7) outro __ Especifique:_____ | out2 __

.Se provocado, o que a Sra. usou/tomou para provocar o aborto?
(1-sim, 2-não, 8-n/a)
(01) instilacao intra-uterina através da vagina __ | instil2 __
(02) inserção de bastão através da vagina __ | inserc2 __
(03) injeção __ | injec2 __
(04) ingestão de medicamento nativo/caseiro __ | mednat2 __
(05) uso vaginal de medicamento nativo/caseiro __ | vagnat2 __
(06) ingestão remédio não nativo/caseiro __ | ingest2 __
(07) uso vaginal de remédio não nativo/caseiro | vagrem2 __
(08) pressão sobre o estômago __ | prestom2
(09) pressão através da vagina | presvag2
(10) aspiração a vácuo __ | aspivac2
(11) dilatação e curetagem __ | d&c2 __
(12) outro __ Especifique:_____ | outrmet2

Qual a data da primeira tentativa? __ __/__ __/ | 1tent2 / /

Se a Sra. fez mais de uma tentativa, qual a data da última? __ __/__ __/__ __ | ulten2 / /

Quais as razões para a Sra. decidir terminar a gravidez?
(1-sim, 2-não, 8-n/a)
(1) não quer nenhuma criança/ou criança a mais | nencri2
(2) marido/parceiro não quer nenhuma criança, ou nenhuma a mais | marnao2
(3) não pode sustentar crianças, ou outra criança | sustcri2
(4) usava contraceptivos mas engravidou | contren2
(5) medo de criança mal formada | malform
(6) problemas de saúde __ Qual? | saud2
(7) não sabe/não respondeu | Ns2
(8) outro Especifique | outerr.

A Sra. gastou para fazer o aborto?
(1) não (2) sim (8) n/a | pagou2
quanto? Cr$ _____ US$ ____. | quant2

Quais remédios a Sra. tomou para abortar? | abortrem
(1) Misoprostol(cytotec) somente
(2) Misoprostol(cytotec) e outro:_____
_____
(3) Outros: _____
_____
(8) n/a

Quais destes problemas de saúde a Sra tem/teve?
(01) pressão alta (1 sim, 2 nao, 9 ign) | altapres
(02) diabetes ___ | diabe
(03) tuberculose ___ | tuber
(04) epilepsia/ataques ___ | epilep
(05) cirurgias ___ . Qual? | cirurgia
(06) pré-eclâmpsia/eclâmpsia | eclamp
(07) varizes | varize
(08) hepatite | hepati
(09) anemia | anemia
(10) outro __. Qual? | saudeout

Desde a última visita / / até duas semanas antes desta visita, apareceu algum problema de saúde devido a curetagem que a Sra. gostaria de falar?
(1) sim (2) nao
Se sim, explique:
_____

Entrevistadora:_____ | entre

SECRETARIA DE SAUDE DO ESTADO DO CEARA-SSE
UNIVERSIDADE FEDERAL DO CEARA-UFC
LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE-LSHTM

QUESTIONÁRIO SOBRE ANTICONCEPÇÃO

NOME: _____ |

DATA DA ENTREVISTA: __ __/__ __/__ __ | data __ __/__ __/__

IDENTIFICAÇÃO ANTERIOR: ___ ___ ___ ___ | idenante __ __ __

IDENTIFICAÇÃO ATUAL: ___ ___ ___ | identifi __ __

(1) CASO (2) CONTROLE | caso __

ORDEM DA VISITA: (1) 15d (2) 45d (3) 6m (4) 1 ano | visita

01.Que métodos para evitar gravidez a Sra. ja ouviu falar?
(01) camisinha __ (1-sim, 2-não) | camisi __
(02) pílula __ Qual? _____ | pilula __
(03) DIU __ | DIU __
(04) diafragma __ | diafrag
(05) espermicidas (geleias, cremes, espumas) __ | esperm __
(06) injeção __ Qual? _____ | injecao
(07) tabela/ritmo | tabela
(08) "jogando fora"/coito interrompido | coito
(09) vasectomia __ | vasec
(10) esterilização (ligacao de trompas) __ | esteri
(11) outro método __ Qual? _____ | metoout
| metoqual

02.A Sra. esta usando alguma coisa para evitar gravidez | anti :
(1) sim (2) nao - >Q15

03.Qual método está usando? (1 sim, 2 não)
(01) camisinha | [illegible]
(02) pílula __ Qual? | [illegible]
(03) DIU __ | usad[illegible]
(04) diafragma __ | usafrag
(05) espermicidas (geleias, cremes, espumas) __ | usaspe
(06) injeção __ Qual? _____ | usainj __
(07) tabela/ritmo __ | usatab __
(08) "jogando fora"/coito interrompido __ | usacoito __
(09) vasectomia __ | usavasec __
(10) esterilização (ligacao de trompas)__ | usaest __
(11) outro método __ Qual? _____ | usaout
| usaqual

04. SE CAMISINHA:

4.1 Quando começou a usar [método]? /___/___ | camquand / /

4.2 Quem recomendou [método]? | amrecom
(01) ninguém (ela mesma) (02) médico
(03) enfermeira/parteira (04) farmacêutico/bal onista
(05) agente de saúde (06) parceiro/marido
(07) parente (08) amigo
(09) outro: _____ (88) n/a
(99) ignorado

4.3 Quem receitou? | amre ei
(1)ninguém (2) médico
(3) enfermeira (4) outro:
(8) n/a (9) ignorado

4.4 Onde a Sra. o conseguiu? | cam nse
(1) hospital (2) posto de saúde
(3) farmácia (4) agente de saúde
(5) outro: _____ (8) n/a
(9) ignorado

4.5 Quanto pagou por unidade? Cr$ _____ US$ | campagou

4.6 Como está usando a camisinha? [A camisinha está sendo usada corretamente]? | camcorre
(1) sim (2) não (8) n/a (9) ignorado

(3) marido quer este método ___ | cammari __
(4) é o método mais seguro ___ | camsegur __
(5) é o único método disponível ___ | camdispo __
(6) medo de usar outros métodos ___ | cammedo __
(7) gosta mais deste método ___ | camgost
(8) outro ___. Qual? _____ | camoutr __
_____

05. SE DIAFRAGMA:

5.1 Quando começou a usar [método]? ___/___/___ | fraquand__ __/__ __/__ __

5.2 Quem recomendou [método]? | frarecom __
(01) ninguém (ela mesma) (02) médico
(03) enfermeira/parteira (04) farmacêutico/balconista
(05) agente de saúde (06) parceiro/marido
(07) parente (08) amigo
(09) outro: _____ (88) n/a
(99) ignorado

5.3 Quem receitou? | frarecei
(1) ninguém (2) médico
(3) enfermeira (4) outro: _____
(8) n/a (9) ignorado

5.4 Onde a Sra. o conseguiu? | fraconse
(1) hospital (2) posto de saúde
(3) farmácia (4) agente de saúde
(5) outro: _____ (8) n/a
(9) ignorado

5.5 Quanto pagou por unidade? Cr$ _____ US$ | frapagou

5.6 Como está usando o diafragma? (O diafragma está sendo usado corretamente?) | fracorre
(1) sim (2) não (8) n/a (9) ignorado

5.7 O diafragma esta sendo usado a cada relação sexual? | frasex
(1) sim (2) não (8) n/a (9) ignorado

5.8 A Sra. tem algum problema com o uso do [método]? | fraprob
(1) sim. Qual? _____ | fraqual
_____
(2) não (8) n/a

5.9 Porque a Sra. está usando [método] e não outro? | fraconhe
(1) só conhece este método ___ (1-sim, 2-não, 8 n/a) | frabara __
(2) é o método mais barato ___ | framari
(3) marido quer este método ___ | frasegur
(4) é o método mais seguro ___ | fradispo
(5) é o único método disponível ___ | framedo __
(6) medo de usar outros métodos | fragost
(7) gosta mais deste método | fraoutr
(8) outro ___. Qual? _____
_____

06. SE ESPERMICIDA:

6.1 Quando começou a usar [método]? / / | spequand / /

6.2 Quem recomendou [método]? | sperecom
(01) ninguém (ela mesma) (2) médico
(03) enfermeira/parteira (04) farmacêutico/balconista
(05) agente de saúde (06) parceiro/marido
(07) parente (08) amigo
(09) outro: (88) n/a
(99) ignorado

6.3 Quem receitou? | sperecei
(1) ninguém (2) médico
(3) enfermeira (4) outro: _____
(8) n/a (9) ignorado

6.4 Onde a Sra. o conseguiu? | speconse
(1) hospital (2) posto de saúde
(3) farmácia (4) agente de saúde
(5) outro: _____ (8) n/a

6.8 A Sra. tem algum problema com o uso do [método]? speprob __
(1) sim. Qual? _____ spequal __
_____
(2) não (8) n/a

6.9 Porque a Sra. está usando [método] e não outro?
(1) só conhece este método ___ (1- sim, 2-não, 8-n/a) speconhe __
(2) é o método mais barato ___ spebara __
(3) marido quer este método ___ spemari __
(4) é o método mais seguro ___ spesegur __
(5) é o único método disponível ___ spedispo __
(6) medo de usar outros métodos ___ spemedo __
(7) gosta mais deste método ___ spegost __
(8) outro ___. Qual? _____ speoutr __
_____

07. SE CONTRACEPTIVOS ORAIS:

7.1 Quando começou a usar [método]? /___/ pilquand / __/__

7.2 Quem recomendou [método]? pilrecom __
(01) ninguém (ela mesma) (02) médico
(03) enfermeira/parteira (04) farmacêutico/balconista
(05) agente de saúde (06) parceiro/marido
(07) parente (08) amigo
(09) outro: _____ (88) n/a
(99) ignorado

7.3 Quem receitou? pilrecei
(1) ninguém (2) médico
(3) enfermeira (4) outro: _____
(8) n/a (9) ignorado

7.4 Quanto pagou por caixa? Cr$ US$ pilpago

7.5 Como esta usando a pilula? [A pilula esta sendo usada corretamente?] pilcorr
(1) sim (2) não (8) n/a (9) ignorado

7.6 Se não, como está usando? pilcomo
(1) toma cada vez que tem relacoes sexuais
(2) toma dia sim, dia nao
(3) outro: _____
(8) n/a (9) ignorado

7.7 A Sra. tem algum problema com o uso do [metodo]? pilprob __
(1) sim. Qual? _____ pilqual __
_____
(2) não (8) n/a

7.8 Porque a Sra. está usando [método] e não outro? pilconhe __
(1) só conhece este método ___ (1 sim, 2 nao, 8 n/a)
(2) é o método mais barato pilbara
(3) marido quer este método pilmari
(4) é o método mais seguro pilsegur
(5) é o único método disponível pildispo
(6) medo de usar outros métodos pilmedo
(7) gosta mais deste método pilgost
(8) outro . Qual? piloutr

08. SE DIU:

8.1 Quando começou a usar [método]? / / diuquand / /

8.2 Quem recomendou [método]? diurecom
(01) ninguém (ela mesma) (02) médico
(03) enfermeira/parteira (04) farmacêutico/balconista
(05) agente de saúde (06) parceiro/marido
(07) parente (08) amigo
(09) outro: (88) n/a
(99) ignorado

8.3 Quem receitou? diurecei __
(1) ninguém (2) médico
(3) enfermeira (4) outro: _____
(8) n/a (9) ignorado

8.7 A Sra. tem algum problema com o uso do [método]? | diuprob __
(1) sim. Qual? _____ | diuqual __
_____
(2) não (8) n/a

8.8 Porque a Sra. está usando [método] e não outro?
(1) só conhece este método ___ (1-sim, 2-não, 8-n/a) | diuconhe
(2) é o método mais barato ___ | diubara __
(3) marido quer este método ___ | diumari __
(4) é o método mais seguro ___ | diusegur __
(5) é o único método disponível ___ | diudispo __
(6) medo de usar outros métodos ___ | diumedo __
(7) gosta mais deste método ___ | diugost __
(8) outro ___. Qual? _____ | diuoutr __
_____

09.SE INJEÇÃO:

9.1 Quando começou a usar [método]? ___/___/___ | injquand / /

9.2 Quem recomendou [método]? | injrecom
(01) ninguém (ela mesma) (02) médico
(03) enfermeira/parteira (04) farmacêutico/balconista
(05) agente de saúde (06) parceiro/marido
(07) parente (08) amigo
(09) outro: _____ (88) n/a
(99) ignorado

9.3 Quem receitou? | injre...
(1) ninguém (2) médico
(3) enfermeira (4) outro: _____
(8) n/a (9) ignorado

9.4 Em que lugar a Sra. foi para tomar a injeção? | ...
(1) hospital (2) posto de saúde
(3) farmácia (4) outro: _____
(8) n/a (9) ignorado

9.5 Quanto pagou pela injeção? Cr$ _____ US$ | ...

9.6 A Sra. tem algum problema com o uso do [método]? | injprob
(1) sim. Qual? _____ | injqual
_____
(2) não (8) n/a

9.7 Porque a Sra. está usando [método] e não outro?
(1) só conhece este método ___ (1-sim, 2-não, 8 n/a) | injconhe
(2) é o método mais barato ___ | injbara
(3) marido quer este método ___ | injmari
(4) é o método mais seguro ___ | injsegur
(5) é o único método disponível ___ | injdispo
(6) medo de usar outros métodos ___ | injmedo
(7) gosta mais deste método ___ | injgost
(8) outro . Qual? _____ | injoutr
_____

10.SE TABELA/RITMO:

10.1 Quando começou a usar [método]? ___/ / | tabquand / /

10.2 Quem recomendou [método]? | tabrecom
(01) ninguém (ela mesma) (02) médico
(03) enfermeira/parteira (04) farmacêutico/balconista
(05) agente de saúde (06) parceiro/marido
(07) parente (08) amigo
(09) outro: _____ (88) n/a
(99) ignorado

10.3 A Sra. tem algum problema com o uso do [método]? | tabprob
(1) sim. Qual? _____ | tabqual
_____
(2) não (8) n/a

10.4 Porque a Sra. está usando [método] e não outro? | tabcódigo

11.SE COITO INTERROMPIDO:

11.1 Quando começou a usar (método)? ___/___/___ — coiquand__ __/__ __/__ __

11.2 Quem recomendou (método)? — coirecom __
(01) ninguém (ela mesma) (02) médico
(03) enfermeira/parteira (04) farmacêutico/balconista
(05) agente de saúde (06) parceiro/marido
(07) parente (08) amigo
(09) outro: _____ (88) n/a
(99) ignorado

11.3 A Sra. sente algum problema com o uso do (método)? — coiprob __
(1) sim. Qual? _____ coiqual __
_____
(2) não (8) n/a

11.4 Porque a Sra. está usando (método) e não outro?
(1) só conhece este método ___ (1-sim, 2 não, 8-n/a) — coiconhe
(2) é o método mais barato ___ — coibara
(3) marido quer este método ___ — coimari __
(4) é o método mais seguro ___ — coisegur __
(5) é o único método disponível — coidispo __
(6) medo de usar outros métodos ___ — coimedo
(7) gosta mais deste método ___ — coigost __
(8) outro ___. Qual? _____ — coioutr __
_____

12.SE VASECTOMIA:

12.1 Quando seu marido/companheiro foi operado? __ /__/ — vasquand /

12.2 Quem recomendou (método)? — vasrecom
(01) ninguém (ela mesma) (02) médico
(03) enfermeira/parteira (04) farmacêutico/balconista
(05) agente de saúde (06) parceiro/marido
(07) parente (08) amigo
(09) outro: __ (88) n/a
(99) ignorado

12.3 Quem receitou? — vasrecei
(1) ninguém (2) médico
(3) enfermeira (4) outro: _____
(8) n/a (9) ignorado

12.4 A Sra. tem algum problema com o uso do (método)? — vasprob __
(1) sim. Qual? _____ vasqual __
_____
(2) não (8) n/a

12.5 Porque a Sra. está usando (método) e não outro?
(1) só conhece este método ___ (1 sim, 2 nao, 8 n/a) — vasconhe __
(2) é o método mais barato — vasbara
(3) marido quer este método — vasmari
(4) é o método mais seguro ___ — vassegur
(5) é o único método disponível — vasdispo
(6) medo de usar outros métodos — vasmedo
(7) gosta mais deste método ___ — vasgost
(8) outro . Qual? — vasoutr
_____

13.SE ESTERILIZAÇÃO:

13.1 Quando a Sra. foi operada? / / — estquand / /

13.2 Quem recomendou (método)? — estrecom
(01) ninguém (ela mesma) (02) médico
(03) enfermeira/parteira (04) farmacêutico/balconista
(05) agente de saúde (06) parceiro/marido
(07) parente (08) amigo
(09) outro: _____ (88) n/a
(99) ignorado

13.3 Quem receitou? — estrecei __
(1) ninguém (2) médico
(3) enfermeira (4) outro: _____
(8) n/a (9) ignorado

(5) é o único método disponível ___ estdispo __
(6) medo de usar outros métodos ___ estmedo __
(7) gosta mais deste método ___ estgosta __
(8) outro ___. Qual? _____ estoutr __
_____

14. SE OUTRO MÉTODO:

14.1 Quando começou a usar [método]? ___/___/___ outquand__ __/__ __/__ __

14.2 Quem recomendou [método]? outrecom__ __
(01) ninguém (ela mesma) (02) médico
(03) enfermeira/parteira (04) farmacêutico/balconista
(05) agente de saúde (06) parceiro/marido
(07) parente (08) amigo
(09) outro: _____ (88) n/a
(99) ignorado

14.3 Quem receitou? outrecei __
(1) ninguém (2) médico
(3) enfermeira (4) outro: _____
(8) n/a (9) ignorado

14.4 A Sra. tem algum problema com o uso do [método]? outprob __
(1) sim. Qual? _____ outqual __
_____
(2) não (8) n/a

14.5 Porque a Sra. está usando [método] e não outro? outconhe __
(1) só conhece este método ___ (1-sim, 2-não, 8-n/a) outbara __
(2) é o método mais barato ___ outmari __
(3) marido quer este método ___ outsegu: __
(4) é o método mais seguro ___ outdispo __
(5) é o único método disponível ___ outmedo __
(6) medo de usar outros métodos ___ outgost __
(7) gosta mais deste método ___ outoutr __
(8) outro ___. Qual? _____
_____

SE NÃO USA NENHUM MÉTODO:

15. Qual o motivo principal de não estar usando nenhum método? motinao __
(01) não está tendo relação sexual __ motimens __
(02) não tem menstruação __ motidesc __
(03) desconhecimento __ motimari __
(04) marido se opõe __ moticaro __
(05) métodos caros __ motisaud __
(06) problemas de saúde __ motiinco __
(07) inconveniencia __ motiopoe __
(08) outros se opoem __ motiinfe __
(09) pensou ser infértil __ motigrav __
(10) pensou estar grávida __ motiacei __
(11) não aceita planejamento familiar __ motiquer __
(12) quer engravidar __ motioutr __
(13) outro. Qual? _____ motiqual __

Entrevistadora: _____ entrev __