Disability and mental health among Syrian refugees in Sultanbeyli, Istanbul

2019 Survey Report

Mixed-methods assessment of physical rehabilitation and MHPSS needs

Disability and mental health among Syrian refugees in Sultanbeyli, Istanbul

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Acronyms

AP	Assistive product
aOR	Adjusted odds ratio
CES-DC	Center for Epidemiologic Studies Depression Scale - Child
CI	Confidence interval
CRIES	Children’s Revised Impact of Event Scale
CYRM	Child and Youth Resilience Measure
ESSN	Emergency social safety net
IASC	Inter-Agency Standing Committee
ICED	International Centre for Evidence in Disability
ICF	International Classification of Functioning, Disability and Health
LSHTM	London School of Hygiene & Tropical Medicine
MHC	Migrant health centre
MHPSS	Mental health and Psychological Support
MSI	Musculoskeletal impairment
ODK	Open Data Kit
OR	Odds ratio
PTSD	Post-traumatic stress disorder
QoL	Quality of Life
SCARED	Screen for Child Anxiety Related Disorders
SES	Socio-economic status
UNCRPD	United Nations Convention on the Rights of Persons with Disabilities
WASH	Water, sanitation and hygiene
WG	Washington Group
WHO	World Health Organization

1. Executive Summary

1.1. Background

Evidence suggests that refugee populations are at an increased risk of disability, especially mental health issues. There is, however, insufficient data regarding the prevalence and lived experience of Syrian refugees with disabilities in Istanbul. This study aims to provide reliable data on disability and mental health, with which to inform service provision, policy, and advocacy.

1.2. Study objectives

1. To estimate the prevalence of disability (all ages) and mental health disorders (children) among Syrians living in Sultanbeyli.
2. To estimate the need for physical rehabilitation and mental health and psycho-social support (MHPSS) among Syrian refugees living in Sultanbeyli.
3. To assess the impact of disability on key life areas, such as education, livelihoods, social inclusion, and Quality of Life.
4. Among Syrian refugees with disabilities and/or mental health disorders, explore priority needs, challenges, coping mechanisms, and barriers/facilitators to accessing MHPSS and rehabilitation services.
5. To explore community attitudes towards disability and mental health disorders.
6. To explore MHPSS and rehabilitation service capacity and service delivery at primary, secondary and tertiary health care.

1.3. Methods

The study comprised of three components:

1. A **population-based survey** to estimate the prevalence of disability (all ages), musculoskeletal impairment (all ages) and specific mental health issues (children)
2. A **nested case-control study** comparing people with and without disabilities across key life areas
3. A **qualitative component**, exploring the priority needs of people with disabilities and/or mental health issues

1.3.1. Population-based survey

80 clusters ('street') of 50 people were selected through random sampling methods (total sample size: 4,000). In each cluster, all eligible survey participants (aged 2+) were interviewed for self-reported disability using the Washington Group Short Set 'Enhanced' and Child Functioning Module..

Participants were also screened for Musculoskeletal impairment (MSI). Those screening positive underwent an in-depth standardised assessment with a trained physiotherapist to determine severity, diagnosis and service needs.

In addition, all children aged 8-17 were interviewed for self-reported symptoms of common mental health disorders. Children scoring at or above the cut-off score for significant symptoms of mental ill-health were considered to be at risk of a mental health disorder.

For the purposes of this study, disability was thereby defined as:

- Participants self-reporting "a lot of difficulty" or "cannot do" in any Washington Group functional domain
- Adults reporting daily experiences of depression and/or anxiety, with feeling described as "a lot"

- Children scoring at or above the cut-off score for significant symptoms of mental ill-health
- Participants identified as having moderate/severe MSI

1.3.2. Nested case-control study

A case-control study compared people with a disability ("cases") with members of the same community without a disability ("controls").

All participants aged 5+ screening positive for self-reported disability ("cases") were invited to participate in the nested case-control study. For each case, we selected one "control" of the same age and sex.

People with and without disabilities were asked questions about key life areas, such as poverty, employment, healthcare, education, social participation, and their experiences of the war in Syria. People with disabilities were also asked questions on their access to, and awareness of, specialised rehabilitation, MHPSS, and assistive devices.

1.3.3. Qualitative component

In-depth interviews were held with 36 people with disabilities, exploring topics on key life areas, as well as their priority needs, coping strategies, help-seeking behaviours, and access to services.

Interview respondents were purposively selected to represent a diverse group across age, gender, and impairment type.

Focus-group discussions were also held with community members and service providers to explore perceptions and attitudes towards disability and mental health.

1.3.4. Situational analysis

In addition, a situational analysis, assessed the availability and capacity of physical rehabilitation and MHPSS services, detailing specific activities, personnel, and funding cycles.

1.4. Key findings

3,084 (response rate 77%) people were included in the survey. In line with the refugee registration database, the study population was relatively young; 50% were under 20 years and only 3% were aged 60+ years.

1.4.1. Prevalence of disability

Disability was common among Syrian refugees. The overall prevalence of disability, according to the study definition, was 24.3% (95% CI: 21.8-26.9).

When comparing people with and without disabilities from the survey, findings show that adults with disabilities were significantly less likely to be in paid work, and more likely to be divorced/separated or single.

Overall, 60% of the study households included at least one member with a disability, according to the study definition. These households were on average significantly larger, had an older average age, a higher dependency ratio, and a lower proportion of working age (18-65) adults in paid work. In addition, households containing at least one person with a disability were significantly more likely to be in receipt of food or cash assistance. However, overall access to two of these social protection schemes was relatively low.

1.4.2. Reported functional limitations

Results from the Washington Group/Child Functioning Module Questions only (thereby excluding mental health in children) report an overall prevalence of 14.7% (12.8-16.9), ranging from 7.5% in children to 39.2% in adults aged 50+ years. The most frequently reported functional difficulties among adults were anxiety (10%), walking (9.3%), and depression

(5.6%). Among children aged 5-17 years the most frequently reported difficulties were related to making friends (2.5%), walking (2.3%), and controlling behaviour (2.2%). For children aged 2-4 years difficulties controlling behaviour (5.3%) and communication (2.1%) were most commonly reported.

1.4.3. Self-reported causes of disability

Overall, 42% of people with self-reported functional limitations reported cause to be related to the war in Syria. Among people with mental health issues, 73% attributed elevated symptoms to violence/injury/trauma in Syria (40%) or Turkey (33%). Illness/disease was the most commonly reported reason for vision (49%), hearing (38%), and mobility (52%) difficulties.

1.4.4. Specialised service need and use

People with mental health issues and cognitive difficulties were least likely to report needing related support/services (50% and 60%, respectively), whilst this figure was over 80% for people with vision, hearing, and mobility difficulties. Qualitative interviews revealed varying conceptualisations about mental health and service utilisation, with many feeling support is only suitable to those with severe conditions. Moreover, mental health attracts stigma, and many expressed hesitation to reveal feelings of distress.

Unmet service need (i.e. the proportion of people who felt they need services/support and have not received, compared to those who have a need and have accessed them) was highest for mental health (73%) and cognitive functioning (63%) followed by hearing (28%), vision (25%), and mobility (15%).

1.4.5. Musculoskeletal impairment (all ages)

The overall prevalence of any MSI (according to standardised assessment by a physiotherapist) was 12.24% (95% CI: 10.8-13.7); prevalence increased by age ($p<0.001$) and was slightly higher among females. The prevalence of moderate or severe impairment was 8.6% (7.5-9.8). The war in Syria was identified as the direct cause for 8% of people with MSI.
Unmet need for services related to MSI (as assessed by a physiotherapist) was relatively high; 83% of people with MSI who could benefit from physiotherapy had not received this, 38% for information/exercises, 37% for medication, 20% for surgery, and 14% for other rehabilitation. The most common reasons for not seeking services were ‘need not felt’, lack of awareness of services, lack of service availability, and financial barriers.

1.4.6. Mental health in children (aged 7-17)

Mental health issues were common, with 23.4% (95% CI: 19.9-27.2) of children aged 7-17 years meeting criteria for elevated symptoms of anxiety (8.9%), depression (12.4%), and/or PTSD (11.5%). Just over one-fifth of households included a child with symptoms of anxiety, depression or PTSD. Children with symptoms of depression had significantly poorer resilience scores

Symptoms of mental health conditions were significantly more common among girls, although this difference was only significant for anxiety.

> *“I will advise him, support him, and stand by him. I would tell him that we are struggling here. Actually, I would say this for all Syrians who are living here in Sultanbeyli, we are in this together. [...] I would tell this friend and the others to have strong faith in Allah, and Inshallah, tomorrow you will return back home to your family, to your country and things will get better.”*
>
> ***(Male, 70s, mental health issue)***

Qualitative interviews revealed faith and family as key coping strategies for mental health issues, particularly important to refugees, as social support structures have largely broken down.

1.4.7. Case-control study

Work

Adults with disabilities were significantly less likely to have engaged in paid work in the past week compared to peers without disabilities (aOR 0.5, 95% CI: 0.3-0.9). Disaggregated by sex: men with disabilities were far less likely to have worked in the past week (31%) than men without disabilities (69%). Working in the past week was not common among women (<10%) and there was no significant difference by disability status.

Adults with disabilities were significantly more likely to report poor physical health/disability and mental health as the reason for not working (p<0.001).

People with disabilities, men in particular, unable to work reported feelings of stress and pressure, as they struggle to provide for their family. Inflexible working hours also meant they were likely to miss support sessions with health care providers.

Although people with disabilities are undoubtedly facing additional challenges, qualitative data suggests that all Syrians are struggling with work, and it remains top priority for many.

Children and school

Children with disabilities were significantly less likely to be currently attending school (aOR: 0.6, 95% CI: 0.3-1.0). Among those attending school, children with disabilities were less likely to report always receiving support from teachers (aOR: 0.5, 95% CI: 0.3-1.0); having friends to play with at breaktimes (aOR: 0.3, 95% CI: 0.2-0.7); or having friends look to them as a leader (aOR: 0.2, 95% CI: 0.2-0.7).

Children with disabilities were more likely to cite disability/health as a reason for non-attendance (19% vs 6%, p<0.01). Other common reasons for non-attendance included lack of interest and financial barriers.

The qualitative data suggests many children, both with and without disabilities, faced challenges with integration into schools, largely as a result of language barriers, stigma, and discrimination. These challenges were exacerbated for children with disabilities, who often couldn’t express their needs and requirements to teachers and classmates.

> *“When I registered at the school they thought I was Turkish. The kids were playing with me normally. When they found out I am Syrian, they just stopped playing with me. They started saying ‘go back to Syria, what are you doing here in our country?’”*
>
> ***(Male, 12 years, mental health issue)***

Access to health services

People with disabilities were 4.5 times more likely than people without disabilities to report having a serious health problem in the past year.

Of those reporting a serious health problem in the past year, the majority (>93%), both with and without disabilities, reported seeking treatment. The majority (>83%) of people with and without disabilities who had health care in the past year reported feeling respected. However, 6% of people with disabilities reported an experience in which they felt disrespected, while not one person without a disability reported this.

In addition, qualitative interview respondents reported experiences of mistreatment from medical professionals and support staff (translators etc.). For people with disabilities, being turned away from services, and asked to come another day, resulted in additional costs and difficulties that are difficult to overcome.

Social participation, attitudes, quality of life

There was evidence of social exclusion. People with disabilities were significantly more likely to report participating less often than their peers, and less than they would want to across all domains asked (visiting others, moving around at home/in the community, major social events, social activities, and community affairs; aOR between 2.1-3.1, p<0.01).

They were also significantly less likely to feel they received same level of respect in the community (aOR: 0.3, 95% CI: 0.2-0.7) or in family discussions (aOR: 0.5, 95% CI: 0.4-0.8).

Interview respondents, both with and without disabilities, experienced isolation, having been separated from friends and family. There were frequent references to life before the war.

> *"With whom will I speak? Turkey has changed people, no one is there for anyone anymore, I don't even tell my mother about what I am dealing with, I cried a lot yesterday as well."*
>
> ***(Caregiver of female, 20s, cognition, mobility, self-care)***

Moreover, the findings suggest evidence of negative attitudes towards people with disabilities. People with disabilities were more likely to report never/rarely feeling accepted (aOR: 4.7, 95% CI: 2.1-10.4) and respected (aOR: 2.4, 95% CI: 1.1-4.9), as well as problems getting involved in society due to the attitudes of others (aOR: 3.1, 95% CI: 1.8-5.3).

Quality of life scores, asked of adults (18+) only, were significantly lower (p<0.001) among adults with disabilities compared to adults without disabilities.

Environmental barriers

People with disabilities were significantly more likely to report that factors in their environment limited their activities and participation (including social engagement in the community, places of worship, work and education, and transport; aOR between 2.2 and 3.8, p<0.01). Difficulties accessing information was also more commonly reported by people with disabilities (aOR: 4.1, 95% CI: 2.0-8.5).

1.5. Recommendations

1. Given the high prevalence of disability, it is vital that inclusive practices and policies are implemented for refugee populations, across all sectors, including health, education, and social protection.
2. Mental health issues are common among children and adults. Increased service provision is needed, alongside awareness campaigns to reduce stigma towards mental health and increase uptake of services.
3. Barriers to health and rehabilitation access need to be addressed, including financial and attitudinal factors.
4. Support needs to go beyond rehabilitation and healthcare assistance and needs to address inclusion in broader key life areas, such as community integration, livelihoods, and social participation.
5. People with disabilities, including those with mental health issues, should be meaningfully involved in planning and implementation of service provision for displaced populations.
6. Further multi-sectorial needs assessment are required among refugees in different locations across Turkey to explore the needs of those in different circumstances.

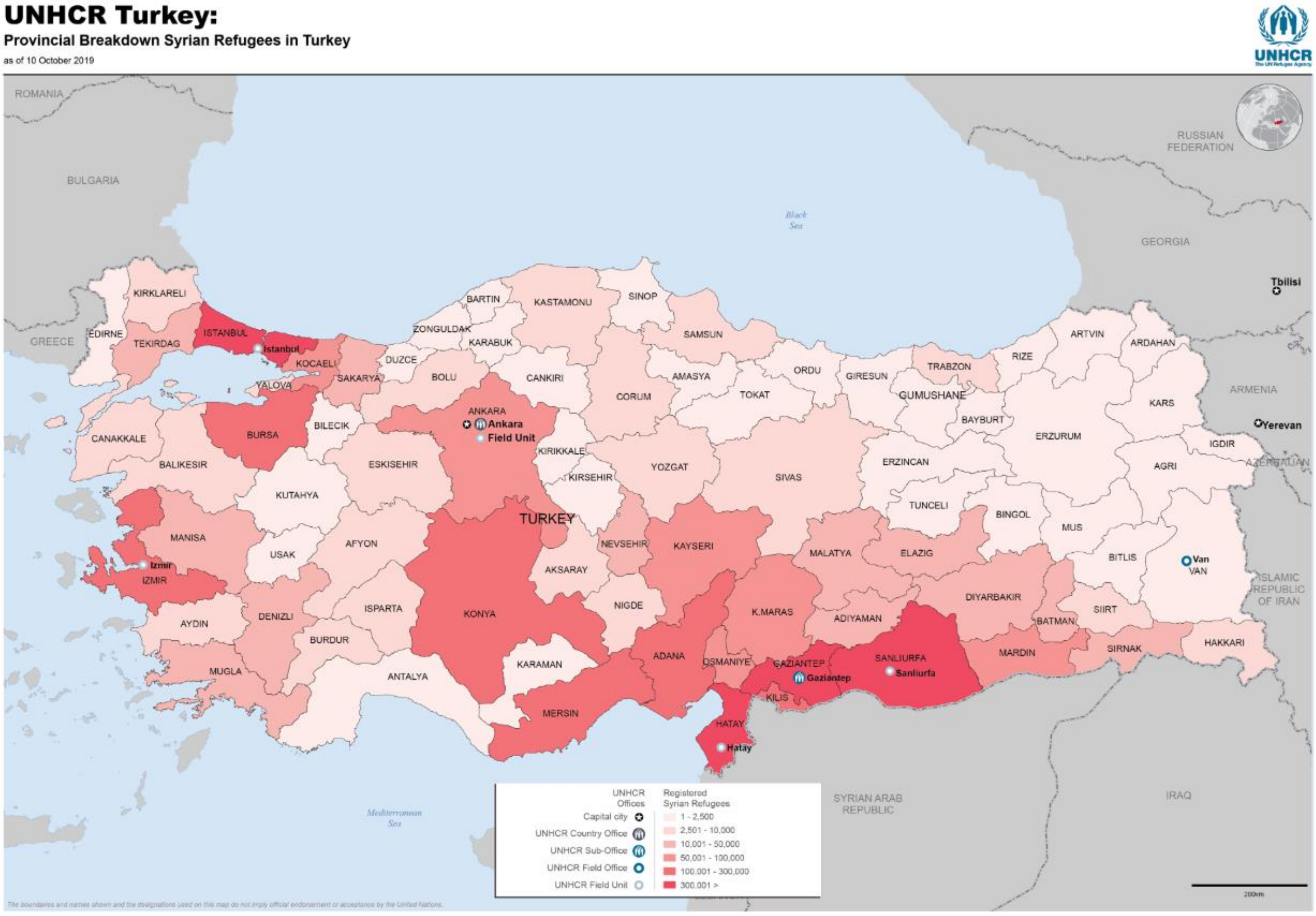

Figure 1: Provincial breakdown of refugees in Turkey

2. Introduction

Since inception in 2011, the war in Syria has resulted in one of the most notable and protracted refugee crises of the modern age. Approximately 13.1 million people require humanitarian assistance in Syria, of whom 6.6 million are internally displaced.[1] 5.4 million have been forced to flee the country, with the majority seeking asylum in the neighbouring countries of Turkey, Lebanon, and Jordan.

Turkey currently hosts 64% of all Syrian refugees, totalling more than 3.6 million (55% male, 45% female). Evidence suggests that this figure may be closer to 5 million, when including refugees without registered status.[2] Of this population, half are children under the age of 18.

Unique in humanitarian settings, 96% of Syrian refugees are living amongst the host population in urban, peri-urban, and rural communities,[3] with large numbers in South-Eastern provinces, such as Şanlıurfa, Hatay, and Gaziantep (Figure 1).[4] As well as these provinces, many Syrians have re-located to Istanbul, Turkey’s largest city. An estimated 16% of Syrian refugees in Turkey currently live in Istanbul; a total of 545,000.[5]

Displaced populations, and especially those from conflict-affected regions, are at risk of exposure to a particular array of negative experiences and stressors.[6] As well as losing their homes, livelihoods, and social community, refugees can be exposed to traumatic life

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events, such as torture, rape, and the loss of family members.

As a result of these stressors, refugees (including children and adolescents) are at an elevated risk of common mental health disorders, such as depression, anxiety, and posttraumatic stress disorder (PTSD).[7-10]

There is also evidence to suggest that refugees may be at a higher risk of other types of disability, as a result of conflict-related injuries, poverty, and barriers to accessing healthcare and other support services. The loss or damage of assistive devices and breakdown in infrastructure and social structures, all common in situations of displacement, can also cause and/or exacerbate the experience of disability.[11]

People with disabilities, which includes those with mental health disorders, are among the most marginalised and socially excluded in society; they are, on average, more likely to be poor than peers without disabilities, and face restrictions to participation in society, which may include reduced access to education and health care services.[12] However, there is limited data on the experiences of people with disabilities among displaced populations and humanitarian contexts.

Disability disaggregated population data, as well as information on living situations and access to services, is needed to inform and motivate evidence-based advocacy, policy, and service planning. As detailed in the following literature review of this report, there is a dearth of reliable data on disability prevalence among Syrian refugees in Turkey and this study set out to collect this data using internationally recognised methods of disability and mental health assessment.

2.1. Understanding disability

As recognised by the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), people with disabilities include those who have “long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others”.[13]

Historically, there have existed two prevailing conceptual models of disability.

The medical model of disability viewed disability as a feature and impairment of an individual’s body function or structure, often caused by a health condition or trauma.

The social model of disability, on the other hand, views disability as a result of the external cultural, physical, social, and economic restrictions placed on people with impairments by society.

In response to inadequacies in each of these models, and an understanding of disability as a complex phenomena, the most widespread conceptualisation of disability is currently the International Classification of Functioning, Disability and Health (ICF), developed by the World Health Organization (WHO). This is the framework adopted throughout this study (Figure 2).

This framework aims to synthesis the social and medical models, incorporating health conditions and contextual factors. Specifically, the ICF defines disability as the interaction between:

- Health conditions and/or impairments in body function and structure
- Activity limitations
- Participation restrictions

The relationship between these components is mediated by contextual factors related to both the environment and the individual, such as economic means and social support.

For example, spina bifida (a congenital health condition) may result in weakness of the leg muscles (body function and structure) limiting a child’s ability walk (activities). The child may therefore be unable to attend school (participation restrictions) because of environmental factors (e.g. inaccessible school) or personal factors (e.g. self-esteem).

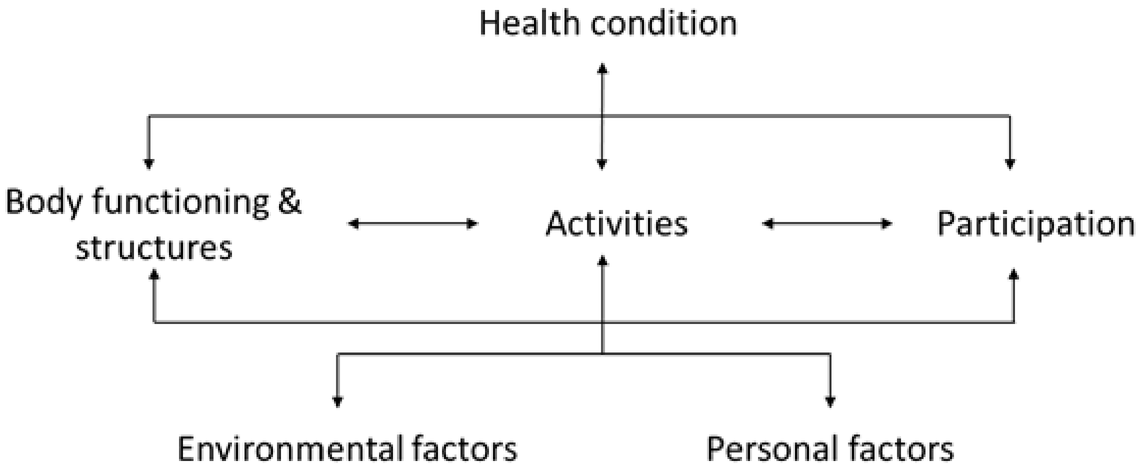

Figure 2: ICF model

Inherently, the concept of disability as recognised UNCRPD and the ICF this includes people with mental health disorders/issues. As a reflection of the funder's requirements and ongoing service provision for Syrian refugees, this report has delved in-depth into mental health and musculoskeletal impairment, and often references each independently. However, when reference is made to 'people with disabilities', this includes people with mental health issues and musculoskeletal impairment, as well as the other impairments referenced by the UNCRPD.

3. Literature Review

At project inception, a literature review was conducted to capture existing evidence (and possible gaps) on disability among Syrian refugees in Turkey.

This scoping review sought to provide a comprehensive overview of available evidence, through detailed searches of bibliographic databases and grey literature. In several cases, a snowball approach was used to determine additional research.

3.1. Evidence on disability among refugee populations

According to the World Health Organization (WHO), 1 billion people or 15% of the world's population live with a disability.[12]

In addition to the same general health care needs as the rest of the population, people with disabilities often require specialised support and health services (such as physiotherapy and assistive technology) related to their health condition or impairment.

However, for displaced populations, these services are often insufficient to meet demand and access may be further limited by physical (no entrance ramp, limited lighting), informational (no braille or sign language), attitudinal (stigma, discrimination), or financial (cost of transport, treatment) barriers.[12]

Despite increasing recognition of, and commitment to disability inclusion in humanitarian contexts, reliable data on disability among refugee populations is relatively scarce.

3.1.1. Disability among Syrian refugees

Surveys among Syrian refugees in Lebanon and Jordan estimated an all-age disability prevalence of 22.9%, higher than that of the WHO estimates.[14] Prevalence increased significantly with age (consistent with the majority of disability research) and more than 60% of people aged 65+ were identified as having a disability. Of all households surveyed, 60% contained at least one disabled member. Among adults the most common functional difficulties were walking (14.4%), anxiety (11.4%), and fatigue (10.9%). Persons with disabilities reported challenges in accessing health care and specialised services, employment, and education. Identified barriers included a lack of available services, limited knowledge of those available, and the distance to schools or services.[14, 15]

Similar evidence among Syrian refugees in Turkey, is, unfortunately, limited.[16]

The Disaster and Emergency Management Authority estimates disability prevalence among Syrian refugees living inside and outside of camps in nine cities across Turkey (Adana, Adıyaman, Gaziantep, Hatay, K. Maraş, Kilis, Malatya, Mardin, and Şanlıurfa) to be 3.1%. 1.2% are reported to have a physical disability, 0.5% a visual impairment, 0.5% hearing loss, and 0.9% an intellectual disability.[17] Similar findings were reported in Nizip camp (near Gaziantep city) with prevalence estimated at 1.3%.[18]

These figures are substantially lower than global estimates and evidence from other refugee populations. However, the methodology used for assessing disability status is not clear and variation in prevalence estimates depending on methodological approach is well established.[19] These estimates may, for example, be derived from people who are registered as disabled for the purposes of Emergency Social Safety Net (ESSN) cash assistance, which is likely to be an underestimate.

There is clearly a need for reliable data on disability among Syrian refugees in Turkey, collected using internationally recognised methods of disability assessment, for comparability across populations. Data of this kind is needed to inform disability inclusive policies and services.

3.2. Evidence on mental health among refugee populations

Recent WHO estimates place the age-standardised prevalence of mental health disorders among conflict-affected populations at 10.8% for depression, 15.3% for PTSD, and 21.7% for anxiety.[20]

Similar figures are seen among young refugees (under 18 years) displaced to European countries, with prevalence figures for depression estimated between 10.3-32.8%, for PTSD 19-52.7%, and for anxiety 8.7-31.6%.[9]

These figures among refugees are considerably higher than WHO estimates of common mental health disorders among the general global population, at 4.4% for depression and 3.6% for anxiety disorders (including PTSD).[21]

3.2.1. Mental health among Syrian refugees

These elevated levels of common mental disorders are apparent among Syrian refugees displaced to neighbouring countries and European countries. For example, 40.2% of Syrian refugees (aged 18-64) living in Sweden showed elevated levels of depression, 31.8% anxiety, and 29.9% PTSD.[22] In Germany, 14.5% of Syrian refugees (aged 18+) demonstrated moderate to severe depression, 13.5% were reported to have severe anxiety, and 11.4% demonstrated symptoms of PTSD.[23]

Notable research has also identified coping strategies for psychological distress exhibited by Syrian refugees, finding approaches that are both negative and positive. Positive strategies include seeking social support from friends and family, praying, or thinking of good times. Negative strategies include withdrawal behaviours and smoking. Others report more passive coping tendencies, and take little action, often when they don't know how to address feelings of distress or are unaware of the support services available.[24]

As pertinent to this report, research comparing the mental health of Syrian refugees resettled in Turkey, with those internally displaced in Syria, found higher levels of major depressive disorder among those in Turkey (70.5% vs 58.8%). In contrast, levels of PTSD (29.9% vs 58.6%) and generalised anxiety disorder (38.8% vs 50.8%) were higher in Syrians internally displaced, although it is important to note that both groups exhibited a high prevalence, when compared to figures found in the general population.[25]

Although the majority of Syrian refugees in Turkey are living among the host populations, there are over 100,000 individuals living within refugee camps. In a recent survey, 83.4% of adult Syrian refugees living in a refugee camp near the Syria border reached the cut-off for probable PTSD and over a third (37.4%) were determined to have probable depression.

Figures also suggested that women are at a greater risk of PTSD and depression compared to men.[26]

Similarly, 33.5% of Syrian refugees in a camp near Gaziantep city received a diagnosis of PTSD, via diagnostic psychiatric interview, the gold standard methodology. As is to be expected, the risk of PTSD increased with an increasing number of traumatic experiences. Congruent with the survey above, a diagnosis of PTSD was more common among women.[27]

Evidence also indicates that mental health issues are common among Syrian children living in Turkey. Among children living in Islahiye camp near the Syria border, 74.2% of children had experienced a family member dying and 57.9% of children experienced a stressful life event in which they believed their life was in danger. Of the children surveyed, 59.6% reported seeing someone kicked, shot at, or physically hurt, and 29.6% reported experiencing these situations themselves.

Overall, nearly 45% of the Syrian children were assessed to have PTSD and 44% of children reported levels of depression that affect their participation in everyday activities with friends and family (20% were determined to have a depressive disorder). Echoing findings from adult surveys, mental health symptoms were significantly more common among girls than boys (54% vs 26%).[28]

Of particular relevance to this study is a 2018 survey conducted in Sultanbeyli, in which researchers at LSHTM and Istanbul Sehir University conducted the first nationally representative survey of mental health and mental health and psychosocial support (MHPSS) needs, access, and barriers among Syrian adult refugees in Turkey. 19.6% of adults screened positive for PTSD, 34.7% depression, and 36.1% anxiety.[29] The treatment gap (i.e. the proportion of people who don't receive care out of the total number of people who need care) was 89% for PTSD, 90% for anxiety, and 88% for depression. A number of structural and attitudinal barriers for not seeking care were reported.

3.3. Evidence on healthcare

In order to meet the needs of the growing refugee population in Turkey, the government instigated the 'Temporary Protection Regulation' for all registered refugees from Syria, residing in camps or among the host population. Under this legislation, Syrian refugees have the right to access primary and secondary health services, as well as Turkey's general health insurance scheme (meaning services are free at the point of service use).

In addition, and in order to meet the needs of this population, the Government established 'Migrant Health Centres' (MHC) in 13 provinces across Turkey, with teams of translators and social workers, working alongside general healthcare personnel. Approximately 99 of the 180 planned MHCs have been opened, 42 of which provide specialized services normally unavailable at primary health care.[30]

Disability and disability inclusion for Syrian refugees is scarcely mentioned by the Turkish Government in these legislations and policies, although mental health is often listed as a priority. This may partially explain the lack of available data on disability, compared to a higher number of studies on mental health specifically.

In support of new legislations, 42 national and 14 international NGOs now work to support Syrian refugees in Turkey. Other initiatives include the provision of training to over 1000 Syrian doctors and nurses in the Turkish health system and MHCs.[31]

However, despite these health system initiatives and provision of additional refugee centres, capacity within the healthcare system is stretched. Evidence suggests that the number of rehabilitation and MHPSS services and personnel is limited and cannot meet demand, resulting in a significant treatment gap.[32]

For example, Turkey holds 1.64 psychiatrists and 2.54 psychologists per 100,000 of the population. This is markedly lower that many high-income countries such as the USA (10.54 psychiatrists and 29.86 psychologists per 100,000) and Denmark (13.20 psychiatrists and 49.55 psychologists per 100,000). Turkey's figures are, however, similar to those of Lebanon and Jordan, countries also hosting a high number of Syrian refugees.

Turkey does, however, contain a large number of mental health nurses (150.25 per 100,000).[33] It is interesting to note that in the same report from 2011, when the Syria refugee crisis was in its infancy, Turkey reported just 2.22 mental health nurses per 100,000. This is a significant increase over the past eight years, although with data alone, we cannot infer if this increase is in response to the influx of Syrian refugees.[34]

When looking at other disability related specialised health professionals, data displays that Turkey has 45 ophthalmologists per 1 million of the population, compared with 178 and 103 in the neighbouring countries of Greece and Armenia, respectively. Although it should be noted that this is a similar figure to many high-income countries, such as the UK, with 49 ophthalmologists per 1 million. In contrast, Turkey has approximately 8,000 practising physical therapists, compared to 45,000 in the UK.[35]

Overall, there is insufficient data on the provision and capacity of physical rehabilitation and MHPSS services in Turkey and Istanbul with which to inform policy and service provision.

3.3.1. Access to healthcare

Evidence consistently highlights that refugee populations can face a number of challenges to accessing MHPSS, rehabilitation, and other healthcare services, often stemming from communication and language barriers, limited information on available services, and in some cases, complex legal entitlement.[36] These issues are particularly important for people with disabilities, who can face additional barriers to healthcare access, including physical barriers, informational barriers, attitudinal barriers, and financial barriers.[37]

In a recent survey of female Syrian refugees in Istanbul, half of women interviewed did not know about their right to free healthcare access, and 58% relied on a friend of family member to relay this information. Interestingly, 28.2% used social media to learn more about their right to healthcare access. Despite the increased provision of translators in healthcare services, the most common barrier reported by those interviewed were language and communication difficulties, which can make it difficult to complete necessary paperwork and understand health results. Many reported friction with Turkish professionals as a result of these challenges in communication. As a result, many of the women interviewed have sought healthcare at illegal Syrian clinics.[38]

Similar qualitative research cited a lack of psychosocial support services and few female psychiatrists, especially Syrian female psychiatrists, important for many female patients. Others reported that to seek mental health treatment was culturally inappropriate and there was, in general, a lack of

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understanding surrounding the types of treatment on offer and where to access these.[39]

3.4. Conclusion

While there is increasing evidence demonstrating the high prevalence of common mental health disorders among adult Syrian refugees in Turkey, reliable epidemiological data on disability (all-ages) and mental health disorders (in children) is lacking.

This study aims to address these evidence gaps, to inform evidence-based advocacy, policies, and service planning for Syrian refugees in Turkey.

4. Research Aims

4.1. Aim

To complete a population-based study among Syrian refugees living in Sultanbeyli District in Istanbul, to estimate the prevalence of disability in all ages and needs for MHPSS and physical rehabilitation.

4.2. Objectives

1. To estimate the prevalence of disability (all ages) and specifically musculoskeletal impairment (all ages) and mental health disorders (children) among Syrian refugees living in Sultanbeyli.

2. To estimate the need for physical rehabilitation and MHPSS among Syrian refugees living in Sultanbeyli.

3. To assess the impact of disability on key life areas, such as education, livelihoods, social inclusion, and Quality of Life.

4. To explore priority needs, challenges, coping mechanisms, and barriers/facilitators to accessing MHPSS and rehabilitation services for people with disabilities.

5. To explore community attitudes towards disability and mental health disorders.
6. To explore MHPSS and rehabilitation service capacity and service delivery at secondary and tertiary health care.

5. Methods

5.1. Study setting

The study was conducted in the district of Sultanbeyli (Figure 3), a sub-urban area on the outskirts of Istanbul. The district is host to approximately 20,000 Syrian refugees, representing the largest number in a single district on the Anatolian side of the city.[40]

According to a survey conducted in 2015, 53% of Syrian refugees in Sultanbeyli are male, 47% are female. Families typically live in two to three bedroom apartments, with an average of 6.5 people per apartment. 20% of the adult refugee population are illiterate, with 50% having graduated primary school, 16% from middle-school, and just 4% from high-school. Only 3% of the sample held a university degree or higher qualification.[40]

5.2. Overview of methodology

The study comprised of three components:

1. A **population-based survey**, in which to estimate the prevalence of disability (all ages), musculoskeletal impairment (all ages), and common mental health disorders (children).
2. A **nested case-control study**, comparing people with and without disabilities across key life areas, such as socio-economic status, education, employment, and healthcare access.
3. A **qualitative component**, exploring the priority needs, coping strategies, and help-seeking behaviours of people with disabilities.

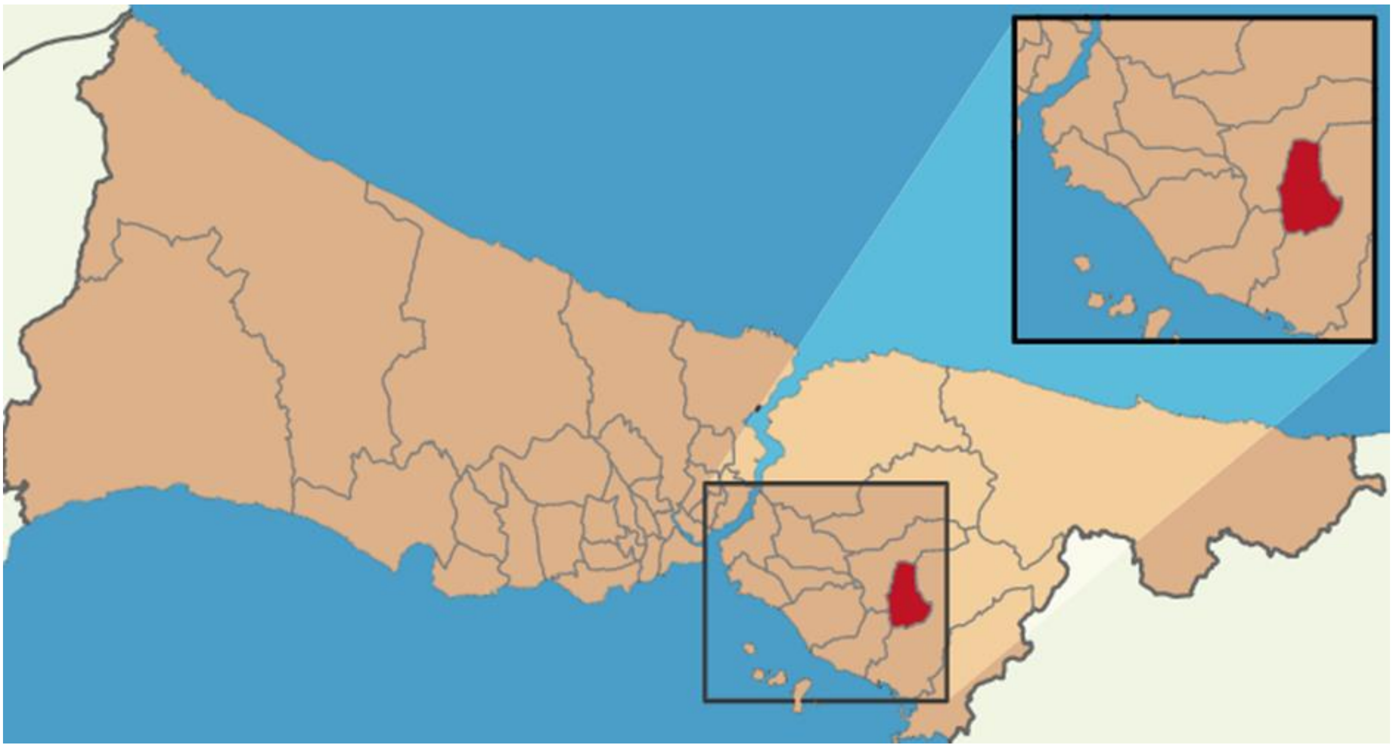

Figure 3: Istanbul and Sultanbeyli district

5.2.1. Population-based survey

80 clusters of 50 people were selected through random sampling methods. In each cluster, all eligible survey participants (aged 2+) were interviewed for self-reported disability using the Washington Group Questions. Proxy response was obtained for children aged 2-10.

Participants were also screened for musculoskeletal impairment (MSI). Those screening positive completed an in-depth assessment with a trained physiotherapist to determine cause and severity.

As opposed to an assessment of mental health through the Washington Group Questions, children aged 8-17 were interviewed for self-reported symptoms of common mental health disorders using separate screening tools, giving a more accurate prevalence estimate.

For the purposes of this study, disability was therefore defined as:

- Participants self-reporting “a lot” of difficulty or “cannot do” in any functional domain
- Adults reporting daily experiences of depression and anxiety, with feelings described as “a lot”
- Children scoring at or above the cut-off score for significant symptoms of mental ill-health
- Moderate/severe musculoskeletal impairment

5.2.2. Nested case-control study

A case-control study refers to a method in which participants with the outcome of interest (“cases”) are compared with participants who do not have the outcome of interest (“controls”).

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In this study, the outcome of interest is disability, including symptoms of mental ill-health. “Cases” are thereby defined as those participants identified to have a disability during the population-based survey. “Controls” are members of the same community without a disability.

All participants aged 5+ screening positive for self-reported disability (“cases”) were invited to participate in the nested case-control study. For each case, we selected one “control” of the same age and sex. Cases and controls were asked questions about key life areas, such as poverty, employment, healthcare, education, social participation, water, sanitation and hygiene (WASH), and their experiences of the war in Syria. Cases were also asked questions on their access to, and awareness of, specialised rehabilitation and MHPSS and assistive devices.

5.2.3. Qualitative component

36 in-depth interviews were conducted with people with disabilities, exploring topics apparent in the case-control study, as well as their priority needs, coping strategies, and help-seeking behaviours. Barriers and facilitators to MHPSS and physical rehabilitation services were also discussed.

Interview respondents were purposively selected to represent a diverse group across age, gender, and impairment type.

Additional focus-group discussions were held with community members and service providers, to explore perceptions and attitudes towards disability and mental health.

5.2.4. Situational analysis

In which the availability and capacity of physical rehabilitation and MHPSS services, was assessed to inform analysis of unmet need.

6. Detailed Methodology

Key messages from population-based survey:

- 80 clusters of 50 participants (n = 4,000) were selected
- Household roster completed at each house, before screening participants for disability; with a specific focus on musculoskeletal impairment and mental health issues
- Any participant reporting significant functional limitation ("a lot of difficulty" or "cannot do") in any functional domain was considered to have a disability
- Any participant identified to have at least a moderate musculoskeletal impairment was included within disability prevalence estimates
- Any participant reporting symptoms of mental ill-health at or above the clinical cut-off score was considered to have a mental health issue
- Enumerators were trained to refer participants with severe mental health distress, unsafe living conditions or child protection concerns to Mülteciler Derneği for immediate action

6.1. Population-based Survey

6.1.1. Enumeration teams

The study team included 17 enumerators, two qualitative interviewers, and three physiotherapists recruited based on prior survey experience, disability knowledge and experience, and fluency in Arabic. The majority of team members were Syrian.

Before starting data collection, the survey team completed a ten-day training programme which included:

- Purpose and overview of the survey
- Ethical considerations and responsibilities
- Disability and mental health sensitisation
- Household eligibility
- Interview techniques and quality standards
- Understanding questions and available response options
- Data entry procedures
- Practice interviews with the target population
- Practice data collection within a pilot cluster

The physiotherapists completed elements of this training programme alongside enumerators, as well as an in-depth training of the standardised assessment included within the Rapid Assessment of Musculoskeletal Impairment (discussed in the next section).

6.1.2. Pilot testing

All measurement tools underwent a process of forward and back translation into Arabic to assess for accuracy and conceptual equivalence. The tools were subsequently pilot tested with members of the target population at Mülteciler Derneği's centre (sample size 20, split across different sexes and age groups). Technical experts in the field of disability and mental health (native Syrian Arabic speakers) conducted the pilot interviews and shared recommendations for culturally appropriate amendments, as well as translation corrections.

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6.1.3. Sampling strategy

Based on previous surveys, an all-age disability prevalence was conservatively estimated to be 5%. The prevalence of mental health disorders among children was estimated to be 15%.[9] Thus, a sample size of 4,000 aged 2+, incorporating precision of 20% around the estimates, 95% confidence, 20% non-response, and a design effect (to account for cluster sampling) of 1.8, was calculated.

Multi-stage cluster randomised sampling was subsequently used to select study participants for inclusion in the survey. A sample of 4,000 participants equates to 80 clusters, of 50 participants in each. Mülteciler Derneği provided access to a database of Syrian refugees registered in Sultanbeyli as the basis of the sampling frame. Anonymised elements of the database were provided for 20,000 individuals, detailing their address, age, sex, phone, and unique household ID.

A "cluster" was defined as a street within Sultanbeyli and 80 clusters were randomly selected using probability proportionate to size sampling. Within each cluster, households were randomly selected until at least 50 participants were included. When a street did not contain 50 people, connecting and adjacent streets were randomly selected until the target number was achieved.

For the purposes of this survey, all Syrians within selected households were included in the survey, regardless of 'Temporary Protection' status.

6.1.4. Data collection

The enumeration team (17 enumerators) was split into four teams. Each team was tasked with interviewing one cluster (50 participants) each day. As households had been selected from the registration database, enumeration teams were provided exact addresses and could visit each house in turn, until 50 people had been included within the cluster. Should the total of 50 participants per cluster be reached within one household, all members of that household were included in the survey, and as such, some clusters include more than 50 people.

In order to maximize the response rate, enumeration teams telephoned households in advance (when an up-to-date number was available) to verbally inform them of the survey purpose and arrange a suitable time to visit.

For each consenting household, enumerators conducted:

1. Household roster

The household roster was completed for each household member (aged 2+), compiling individual demographic data, such as name, age, sex, education, work status, marital status, and date of arrival in Sultanbeyli. Information on self-reported household socio-economic indicators (type of accommodation, rooms in the household, source of heating, source of water, ownership of assets, and aid received) was also collected from the self-identified head of each household.

2. Disability measurement (all ages)

Disability status was assessed for each household member aged 2+ using the Washington Group Questions.

For adults (aged 18+) the Washington Group Modified Extended Set 'Light' was used. The UNICEF/Washington Group Child Functioning Module was adopted for children aged 2-17 (Appendix 1). These are internationally recognised instruments widely used across similar surveys (including among refugee populations) to provide internationally comparable estimates on disability. Children below the age of 2 were not included, as there are very few compatible survey tools to assess disability in this age group.

The tools used ask participants to self-report on difficulties in functioning across various domains (seeing, hearing, mobility, cognition, etc.). Each question has four response options: (1) no difficulty; (2) some difficulty; (3) a lot of difficulty; (4) cannot do at al.

The questions are designed to identify people at risk of participation restrictions, and are considered to be socially and culturally bias-free, allowing for comparable global data. The non-technical nature of the Washington Group Questions minimises assumptions about the situation of persons with disabilities, reducing the risk of inaccuracies and misguided data. By focusing on functional limitations, without mention of disability, the Washington Group Questions support the identification of 'hidden' at risk groups that may have difficulty performing activities of daily living or participation restrictions, but do not identify as being a person with disability.

For the purposes of this study, disability was defined as self-reported "significant" functional limitations (it is important to note that participants could report difficulties across more than one domain):

Adults:

- Reporting a "a lot of difficulty" or "cannot do" in seeing, hearing, walking, fine motor dexterity, upper body strength, self-care, communication (understanding and being understood), cognition (remembering and concentrating)
- Reporting an experience of anxiety or depression "daily", with severity of "a lot"

<table>
<tr><th colspan="2">Child Functioning Module</th><th>Modified Extended Set</th></tr>
<tr><th>Age 2 to 4</th><th>Age 5 to 17</th><th>Age 18+</th></tr>
<tr><td colspan="3">Seeing</td></tr>
<tr><td colspan="3">Hearing</td></tr>
<tr><td colspan="3">Walking</td></tr>
<tr><td colspan="3">Communication</td></tr>
<tr><td></td><td colspan="2">Self-care</td></tr>
<tr><td colspan="2">Learning</td><td></td></tr>
<tr><td colspan="2">Controlling behaviour</td><td></td></tr>
<tr><td></td><td>Remembering</td><td rowspan="2">Cognition (Remembering or Concentrating</td></tr>
<tr><td></td><td>Concentrating</td></tr>
<tr><td></td><td></td><td>Anxiety</td></tr>
<tr><td></td><td></td><td>Depression</td></tr>
<tr><td>Playing</td><td>Making friends</td><td>Upper body</td></tr>
<tr><td>Fine motor</td><td>Accepting change</td><td></td></tr>
</table>

Figure 4: Washington Group Question domains, by age group

Children:

- Aged 2-4: reporting “a lot of difficulty” or “cannot do” in seeing, hearing, walking, fine motor dexterity, understanding, being understood, learning, playing, controlling behaviour
- Aged 5-17: reporting “a lot of difficulty” or “cannot do” in seeing, hearing, walking, fine motor dexterity, understanding, being understood, learning, remembering, concentrating, accepting change, controlling behaviour. See ‘Section 4’ for mental health

A proxy response was provided by a primary caregiver for children under 10 years of age (in the presence of the child, where possible).

Children aged 10-17 were interviewed directly, in the presence of an adult caregiver. Adults aged 18+ were interviewed directly. A proxy response was provided by an adult caregiver for any participant aged 10+ who was unable to communicate independently,

3. Disability measurement: Musculoskeletal impairment (all ages)

In order to assess need for physical rehabilitation service needs, we used the Rapid Assessment of Musculoskeletal Impairment tool, developed and validated by ICED.[55] The assessment is a two-stage process:

1. Six screening questions, with a simple yes/no response. Questions focus on difficulty of use or pain throughout the body (Appendix 2). Participants screen positive if they report “yes” to any of the questions, with duration marked as “longer than one month” or “permanent”.
2. Those screening positive undergo a standardised assessment by a physiotherapist, including a physical examination and observation of activities to assess cause, severity of impairment, and service needs/unmet needs.

As with the Washington Group Questions, the Rapid Assessment of Musculoskeletal Impairment was asked of all participants, with answers provided by an adult caregiver for children under the age of 10, or for those unable to communicate.

The assessment by a physiotherapist was scheduled for the day after initial screening, or a later date if not possible for the participant.

For the purposes of this study, participants assessed to have a moderate or severe musculoskeletal impairment have been included within overall disability prevalence estimates.

4. Mental health measurement (aged 8-17)

Although possible to assess in children through the Washington Group Questions, a more in-depth assessment of mental health amongst children was conducted, in order to determine a more accurate prevalence estimate, comparable to recent research among Syrian adults in Sultanbeyli.[29]

Depression, anxiety, and post-traumatic stress disorder (PTSD) are among the most common mental health disorders reported among refugee populations, and were selected as the outcomes of interest.

Symptoms of these common mental health disorders were assessed using standardised self-report tools, validated for children aged 8-17 and Arabic speaking populations. Each tool asks participants to report on their experience of mental health symptomology within a recent timeframe; usually 1-4 weeks. Answers are assigned a score, against which a total score can be calculated. This score can be compared with a clinical ‘cut-off’, which are developed and validated against results from a clinical interview to ensure their psychometric properties.

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It is important to note that these screening tools are not designed as diagnostic instruments, and results do not determine a clinical diagnosis of a mental health disorder. Instead, they measure symptomology and thus symptom severity. The instruments result in a total score for the participant, based on their responses. Higher scores (above the pre-defined cut-off score) can be interpreted as a person at high risk of a mental health disorder. A clinical diagnostic interview with a certified psychiatrist or psychologist would be the preferred 'gold standard' methodology, but given time limitations, as well as the necessary human costs, close to all mental health surveys use these screening tools.

The following tools were used in this study:

Depression: Center for Epidemiologic Studies Depression Scale (CES-DC)

The full 20-item version has been widely used, including among refugee populations. Instead of the 20-item version, an abbreviated 10-item version was used, to adjust for time constraints and participant research fatigue. The abbreviated version was developed and validated for use with Syrian children by a consortium of researchers, currently conducting a longitudinal study among Syrian refugees in Lebanon (publication forthcoming).

Anxiety: Screen for Child Anxiety Related Disorders (SCARED)

Another tool used previously with refugee populations, including Syrian children settled in a southern region of Turkey.[41] As with the CES-DC an abbreviated 18-item version was used, as opposed to the full 41-item. As above, the abbreviated version was developed by a consortium of researchers. Details of these research institutions are found in the acknowledgements at the beginning of this report.

PTSD: Child Revised Impact of Event Scale (CRIES)

This 8-item tool has good psychometric properties in war-affected populations and has previously been used with Syrian refugees.[42, 43] The tool measures both the intrusion and avoidance of unwanted thoughts, feelings, and memories.

Resilience: Child Youth and Resilience Measure (CYRM)

In addition to an assessment of common mental health disorders, children aged 12-17 were also asked questions related to resilience, a personal protective factor against the onset of mental distress. A modified 12-item version of the CYRM, previously validated for use with Syrian children, was used.[44] These figures are not included in the prevalence estimates for mental health issues, but are instead included within additional analyses.

6.1.5. Non-respondents and refusals

Should randomly selected households or household members have been unavailable for screening at first visit, the enumeration team attempted at least two repeat visits. Where possible, these revisits were scheduled over the phone. Enumeration teams worked on evenings and weekends in order to minimise non-response.

Eligible participants who were not available after two repeat visits to the household were recorded as non-responders. Individual participants and entire households that refused to participate were recorded as refusals.

Given the current political climate in Istanbul and indeed the reliance on Mülteciler Derneği's database, which may hold out-of-date entries, the enumeration team encountered a number of households at which the Syrian family had recently moved away from Sultanbeyli. Overall,

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40-50% of households in the original sample had left Sultanbeyli. For households that had moved, replacement households were randomly selected from the same cluster, using the same procedure as described in Section 6.1.3.

It is also worth noting that the political situation in Istanbul created a sense of fear amongst households, especially as enumerators represented the local Municipality, and this likely contributed to a number of refusals.

6.2. Nested case-control study

In Public Health Research, a Case-Control study refers to a method in which participants with an outcome of interest ("cases") are compared with participants who do not have the outcome of interest ("controls"). In this study, the outcome of interest is disability and mental health, and "cases" are therefore those participants screening positive for a disability.

For practical purposes, participants with moderate/severe MSI were not included in the

Key messages from case-control study:

- The nested case-control study compared people with disabilities ("cases"), identified through disability and mental health screening, with age and sex matched community members without disabilities ("controls")
- "Cases" and "controls" were interviewed about key life areas, such as employment, education, water and sanitation, social participation, environment, Quality of Life and healthcare access
- "Cases" were asked additional questions about specialised healthcare and assistive products

case-control study, unless they also screened positive in another functional domain. This was the adopted procedure as physiotherapist assessments were carried out on a separate day to the screening interviews.

For the purposes of the nested case-control study, “cases” are therefore:

- Participants self-reporting “a lot” of difficulty or “cannot do” in any functional domain
- Adults reporting daily experiences of depression and anxiety, with feelings described as “a lot”
- Children scoring at or above the cut-off score for significant symptoms of mental ill-health

Thus, in line with similar studies, the “case” definition differed to that used for the prevalence estimates.[19, 45]

Additionally, it should also be noted that a higher cut-off score was used for the depression and anxiety mental health screening tools (aged 7-17) when determining “cases” during data collection for inclusion in the case-control study (compared to that used in the prevalence estimates). This was for feasibility purposes, considering the expected high prevalence. Therefore only children with more severe depression and anxiety are represented in the case-control study.

“Controls” were defined as members of the same community matched to each “case” based on their sex and age-range.

For each “case” one age and sex matched “control” who did not fulfil the screening criteria was selected. Controls were matched by sex and by age within +/- 5 years for adults (18+) and +/- 2 years for children. Only participants aged 5+ were included within the case-control study.

6.2.1. Case-control questionnaire

The case-control questionnaire was adapted from previous ICED survey questionnaires, as well as the WHO Model Disability Survey (MDS),[46] and Van Brakel et al’s participation questionnaire.[47] Questions covered the following areas:

Both cases and controls

- Employment
- Education
- Water and sanitation
- Social participation
- Environment
- Community attitudes
- Healthcare access
- Quality of Life (using WHO QOL-BREF)
- Experiences of Syrian War

Cases only

- Cause of functional difficulty or mental health issue
- Specialised healthcare utilisation
- Assistive devices

Interview procedures followed those of the screening tools, with adults and children over the age of 10 reporting answers directly. A proxy response was required for children under the age of 10 and those who could not communicate.

Where possible, case-control interviews were conducted on the same day as the initial disability screening.

6.3. Data management

Survey data (disability screening, the Rapid Assessment of Musculoskeletal Impairment, mental health assessment, and the case-control questionnaire) was collected on android tablets using LSHTM’s Open Data Kit (ODK) software.

This mobile data entry system minimises the risk of error from enumerators, through automatic consistency checks and skip patterns. It also has the benefit of immediate data entry and an immediate, secure data upload, reducing the time and cost associated with manual data entry. This provided the opportunity to regularly monitor data quality throughout data collection.

Data on each tablet was encrypted and uploaded at the end of each day via Wi-Fi to a secure, password-protected, cloud based server.

6.4. Quantitative data analysis

Data analysis was completed using the statistical analysis software STATA. Disability prevalence estimates (with 95% confidence intervals) were calculated as disaggregated by age, sex, and socio-economic status. The 'svy' and 'vce' commans in STATA were used to account for the cluster sampling methods.

6.4.1. Useful technical terms

- **Prevalence:** proportion of a population with the condition of interest at a particular point in time
- **Response rate:** proportion of participants that have completed the survey, out of the total study population selected
- **Confounding:** distortion in the measure of an association between two variables, caused by a third, independent variable
- **Logistic regression:** statistical method with which to assess the association between two variables, allowing adjustment for confounding
- **Statistical significance:** results that are highly likely at a pre-set level of confidence (95% confidence in this study) not to have resulted from chance
- **P-value:** probability that the result is significant
- **Odds ratio (OR):** measure of the association between an exposure and outcome
- **Adjusted odds ratio (aOR):** odds ratio that controls for other predictor variables

6.4.2. Notes on household level data

A score of socio-economic status (SES) was constructed using principal component analysis of household asset ownership, heating source, and type of residence. This SES score was divided into quartiles, from poorest to least poor.

6.4.3. Notes on case-control data

Quality of Life was measured using the WHO Quality of Life-BREF, which comprised 26 items, measuring four domains: physical health, psychological health, social relationships, and environment. Questions are measured across a five-point Likert scale:

Sub-scale scores have been converted to provide a total score out of 100, with higher scores denoting a greater Quality of Life.

6.4.4. Analysis methodology

Multivariable logistic regression analysis was used to identify differences between a) households with and without people with disabilities in demographic and socio-economic characteristics and b) people with and without disabilities, including children, in the domains of education, work, water and sanitation, health, and participation and activities.

These analyses were adjusted for age, sex, and SES, as potential confounding factors. We conducted logistic regression to generate Odds Ratios and 95% Confidence Intervals (explained below).

Linear regression analyses were generated to compare the Quality of Life scores of people with disability to children without disability adjusted for age, sex, and SES.

Understanding Odds Ratios, Confidence Intervals and Confounders

An odds ratio (OR) is a measure of the strength of an association between one characteristic (e.g. poverty) and another variable (e.g. disability). It is calculated by measuring the likelihood of an outcome occurring in a group that has the characteristic of interest compared with its likelihood in a group that does not have the characteristic.

For example, if we give an odds ratio of 4.3 (95% CI: 4.0-4.6) when comparing poverty between people with and without disabilities, this means that people with disabilities are 4.3 times as likely as people without disabilities to be living in poverty.

Confidence intervals show the range of values around the sample’s estimate that are likely, within a given level of certainty (usually set to 95%), to contain the true value. If the confidence interval does not include 1, then the OR is statistically significant. Confidence intervals are also shown around estimates of prevalence, indicating the range within which we can be 95% confident that the true population estimate exists.

A confounder is a factor that is independently associated with both of the variables of interest under study. For example, in the relationship between work status and disability, older people are more likely to have a disability and older people are less likely to be working. Therefore, age is a potential confounding factor in the association between work status and disability. It is important to adjust for confounders to give a more accurate estimate of the association between the exposure and outcome of interest.

We also used regression analysis to explore, among people with disabilities, the association between indicators of inclusion (school attendance, work status, quality of sanitation access, use of health services, participation, and Quality of Life) and socio-demographic characteristics (age, sex, SES, education, marital status) and type of significant functional limitations.

6.5. Qualitative study

Qualitative research methods were adopted to explore topics apparent in the case-control study (employment, education, social participation, etc.) amongst people with disabilities, as well as their priority needs, coping strategies, and help-seeking behaviours. Qualitative methods also sought to explore the barriers and facilitators to physical rehabilitation and MHPSS services for people with disabilities.

Qualitative research methods comprised of two components: (1) in-depth interviews with people with disabilities; and (2) focus group discussions with community members (without disabilities) and service providers.

6.5.1. Sample

Interview respondents were purposively selected across pre-defined criteria, including age group, gender, and impairment type. This purposive sampling approach did not seek to provide a representative sample of the target population, but rather sought to provide a greater understanding of key topics by collecting data from a diverse group.[48]

In line with study objectives, respondents with mental health issues and MSI were over-sampled. In response to the low number of participants aged 60+ in the quantitative survey (detailed in ‘Results’ section of this report), interview respondents in this age group are under-represented, and were replaced with MSI cases to better explore access to rehabilitation services.

Qualitative data was collected from 36 people with disabilities (Table 1), of which 27 were direct interviews with individuals with disabilities, and 12 were proxy interviews with caregivers. For six of these proxy interviews, both the caregiver and person with a disability were interviewed together, with each answering targeted questions one after the other, as relevant. For the remaining six proxy interviews, the person with a disability was a child or elderly individual; they were present during the interview and offered responses when possible.

Characteristics of the 36 interview respondents are provided in Table 1. Respondents comprised of 18 males and 18 females across three age groups; 2-17 years, 18-59 years, and 60+ years.

Key messages from qualitative study:

- In-depth interviews conducted with 36 people with disabilities, exploring the impact of disability on access to services, social inclusion, education, employment, and Quality of Life
- Interviews also sought to explore priority needs, coping mechanisms, and barriers/facilitators to health care access
- Interviews were conducted with a diverse group of participants, across different age groups, gender, and impairment type
- Three focus group discussions were held with community members without disabilities and service providers perceive people with disabilities and their need for services

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In addition to in-depth interviews, three focus group discussions were conducted. One with female community members (n=6), another with male community members (n=4), and a third with service providers in the region (n=5). Focus groups explored community attitudes to disability, mental health, and the need for specialised services for people with disabilities.

6.5.2. Qualitative data collection

Data collection for the in-depth interviews was aided by interview guides to standardise the information collected across respondents.

Interview guides were designed to capture data relevant to the objectives of the qualitative component, which included:

1. Assessing the impact of disability on access to services, humanitarian assistance, social inclusion, education/ work opportunities, and Quality of Life.
2. Exploring priority needs, challenges, coping mechanisms and barriers/facilitators for refugees with disabilities in accessing MHPSS and rehabilitation services.

Focus group discussions were conducted with the use of topic guides, similar to the interview guides, but with a greater focus on how people without disabilities (community members and service providers) perceived people with disabilities, and their need and access for specialised services.

Both the interview and topic guides were revised iteratively, following back-translations and pilot testing.

Two trained qualitative research assistants conducted the interviews; one as interviewer, the second as scribe, as audio recording was not permitted by the ethics board.

Table 1: Qualitative interview respondents; NB participants may have more than one impairment type

		Gender		**Total**
		Female	Male	
Impairment type	Vision	4	2	6
	Hearing	1	2	3
	Mobility / MSI	11	6	17
	Cognition	5	2	7
	Self-care	4	1	5
	Mental health	7	9	16
Age group	Aged 2-17 years	6	6	12
	Aged 18-59 years	8	9	17
	Aged 60+ years	4	3	7
	Total	18	18	36

All interviews took place in respondents' homes, were conducted in Arabic, and only with those who had given written informed consent. Similarly, focus group discussions were facilitated by one interviewer, whilst the other acted as scribe. The two interviewers switched roles between interviews, as appropriate.

Note-takers transcribed interviews and focus group discussions verbatim as much as possible and in Arabic, to minimise loss through translation. Interviewers were trained to self-evaluate the quality of notes (e.g. 'some important parts may have been missed' or 'can be improved through discussion with interviewer') and to provide reasons why omissions may have been made (e.g. respondent talked fast).

Notes were then translated into English and reviewed by the interviewer for completion and accuracy. Any phrases not adequately captured in English were provided in Arabic for expert translation as needed. Each transcript included contextual details (e.g. children pass by), actions (e.g. respondent starts crying), and other details that may have affected the data (e.g. respondent was in a hurry).

6.6. Qualitative data analysis

Transcripts were first organised by broad categories, such as demographic details (age group, gender), interview respondent type (case or caregiver), and by impairment type (mental health, musculoskeletal, mobility, vision, hearing, cognition, communication, and multiple). These categories represent early analytical decisions made during data collection to capture and represent as much variety as possible. Transcripts were read and re-read to allow familiarisation with the data. Codes were generated, expanded, refined, and grouped into themes in an iterative process.

Qualitative data was analysed using thematic analysis, a technique well suited for exploring how a given group of people conceptualise the phenomenon under study.[49]

Three points are worth emphasising to frame the findings presented in this report. Firstly, the analysis is predominantly focused on what was said during each interview, although some latent content (those that require interpretation of underlying meaning) was explored for respondents' understanding of disability and coping mechanisms.

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Second, unlike content analysis, thematic analysis does not emphasise counting and frequency of occurrences; i.e. less importance is given to the number of people who expressed a concern.[48, 50] Instead, salience is drawn from patterns, interlinkages, and context, and areas of consensus and divergence are highlighted.[49]

Finally, as with most qualitative work, an epistemological assumption underpinning this analysis is the emphasis on experience and perceptions, rather than pursuing 'truth' or 'reality' of the situation.[49] For example, respondents' perceptions regarding difficulties in accessing services have not been evaluated against a 'reality' in which the process may be clearly defined.

Qualitative findings are represented in this report alongside quantitative data to aid interpretation of results

6.7. Situational analysis

In addition to quantitative and qualitative data collection, this study sought to expand upon Mülteciler Derneği's existing service mapping through an in-depth situational analysis, to better understand the services providing physical rehabilitation and MHPSS, the types of activities provided, and the personnel available.

In order to assess the availability and capacity of physical rehabilitation and MHPSS services, a data collection form was developed as based on the WHO Systematic Assessment of Rehabilitation Situation tool and the "4Ws" (Who is Where, When, doing What) mapping tool for MHPSS services (Appendix 3).

6.7.1. Identifying service providers

Service providers were selected from Mülteciler Derneği's monthly service mapping report, as of October 2019. The report provided information from 150 service providers, noting the service provided, target beneficiaries, and location.

Filters were first applied to the database, identifying those service providers that provide rehabilitation and/or MHPSS for refugees or migrants. Just 12 providers in Sultanbeyli met the eligibility criteria and the selection was subsequently expanded to include service providers across all of Istanbul. In total, 20 service providers met eligibility criteria and were contacted about data collection.

Each were sent information about the study and two data collection forms; the first related to MHPSS activities and the second related to physical rehabilitation. Each service provider that consented to take part in the study completed the information as relevant and returned electronic copies for review.

6.8. Ethics

Ethical approval for the study was provided by: London School of Hygiene & Tropical Medicine Observational Ethics Committee; Istanbul Sehir University Research Ethics Committee; and Republic of Turkey Ministry of Interior: Directorate General of Migration Management

Ethical procedures were diligently followed throughout the survey. This included obtaining informed consent (written or oral to account for illiteracy) and guarantees of confidentiality and anonymity. The rights of participants, including the right to withdraw from the study at any time, were emphasised to all participants.

Informed written consent was sought from the self-identified head of each household prior to completion of the ‘Household Roster’. Informed consent was subsequently sought of all participants taking part in the population-based survey and nested case-control study (Appendix 4). For participants under the age of 18, or for adults unable to communicate, written consent was sought from a parent or caregiver. Verbal assent was also sought from these using a simplified information sheet (Appendix 4). Any individual who did not wish to participate was excluded from the study without pressure.

Participants identified in the survey as having immediate MHPSS or physical rehabilitation needs were referred to Mülteciler Derneği. Enumerators also referred any instances of suspected abuse or unsafe living conditions. In addition, enumerators themselves were offered counselling by Mülteciler Derneği, given the risk of emergent distress, as they interviewed fellow Syrians about potentially traumatic and upsetting experiences.

No recording equipment was permitted for use in the qualitative interviews, and all interview notes were written verbatim. All transcriptions have since been coded to remove details of the participant, location, and other identifying characteristics. Any names or places detailed in this report have been changed from the original.

7. Results

Key findings:

- 3,084 people participated in the survey (response rate = 77%)
- Age and sex distribution of the sample closely matched to the registered refugees in Sultanbeyli
- All age disability prevalence of 24.3% (95% CI: 21.8-26.9); prevalence increased with age and was higher for women compared to men
- All age prevalence of any MSI of 12.2% (95% CI: 10.8-13.7); and moderate/severe MSI of 8.6% (95% CI: 7.5-9.8)
- Prevalence of elevated mental health symptoms in children aged 7-17 of 23.4% (95% CI: 19.9-27.2)
    - Coping mechanisms include religion and family
- 60% of households had at least one household member with a disability
    - Households including a person with a disability had a higher dependency ratio and a lower proportion of adults in employment
- Comparing people with and without disabilities:
    - Adults, particularly men, with disabilities were significantly less likely to have engaged in paid work in the past week (aOR 0.5, 95% CI: 0.3-0.9)
    - Children with disabilities were significantly less likely to be currently attending school (aOR: 0.6, 95% CI: 0.3-1.0)
    - People with disabilities were 4.5 times more likely than people without disabilities to report having a serious health problem in the past year
    - People with disabilities were significantly more likely to report participating in activities less often than their peers, and less than they would want to in home, leisure and community activities ($p<0.01$)
    - People with disabilities were significantly more likely to report that factors in their environment limited their activities and participation ($p<0.05$) and difficulties accessing information (aOR: 4.1, 95% CI: 2.0-8.5)

7.1. Study population

Of 4,025 eligible participants, 3,084 participated in the survey, a response rate of 77%. Of those that did not participate, 8% refused and 15% were unavailable.

As shown in Table 2, the age and sex distribution of the study population was similar to that of the full population of registered refugees living in Sultanbeyli, based on the registration database available from Mülteciler Derneği. As can be seen, half of the sample population were <19 years and only 3% of participants were aged 60 years and above.

Only 6% of participants had lived in Sultanbeyli for fewer than two years (Table 3). On average, participants had lived in the district for approximately four years, meaning arrival for many was four years into the Syrian war.

Table 2: Age demographics of study population, compared to registration database

	Total				Males				Females			
	Registration database		Study sample		Registration database		Study sample		Registration database		Study sample	
Age (years)	N	%	N	%	N	%	N	%	N	%	N	%
2-9	4,793	26%	877	28%	2,497	26%	443	31%	2,296	26%	433	26%
10-19	4,440	24%	773	25%	2,316	24%	372	26%	2,124	24%	401	24%
20-29	3,558	19%	507	16%	1,735	18%	198	14%	1,823	20%	309	19%
30-39	2,844	15%	446	14%	1,574	16%	207	14%	1,270	14%	239	15%
40-49	1,545	8%	239	8%	795	8%	107	7%	750	8%	132	8%
50-59	935	5%	161	5%	484	5%	78	5%	451	5%	83	5%
60+	547	3%	81	3%	267	3%	38	3%	280	3%	43	3%

Table 3: Sample demographics

	Total	
	N	%
Age (years)		
2-17	1532	50%
18-34	869	28%
35-59	602	20%
60+	81	3%
Mean (95% CI)	21.8 (21.2-22.4)	
Sex		
Male	1443	47%
Female	1640	53%
Years since leaving Syria		
<2 years	179	6%
2-3 years	786	26%
4-5 years	1560	51%
6-8 years	539	18%
Mean (95% CI)	4.1 (4.0-4.2)	

7.2. Prevalence of disability (all ages)

For the purposes of this study, disability has been defined as any person with significant functional difficulties. This includes:

- Any person reporting “a lot of difficulty” or “cannot do” in any functional domain of the Washington Group Questions
- Adults reporting “daily” experience of severe depression or anxiety
- Children aged 7-17 screening positive for elevated symptoms of depression, anxiety, or PTSD
- Any person assessed to have moderate/severe musculoskeletal impairment.

In total, 802 people were defined as having a disability; a prevalence of 24.3% (95% CI: 21.8-26.9) (Table 4).

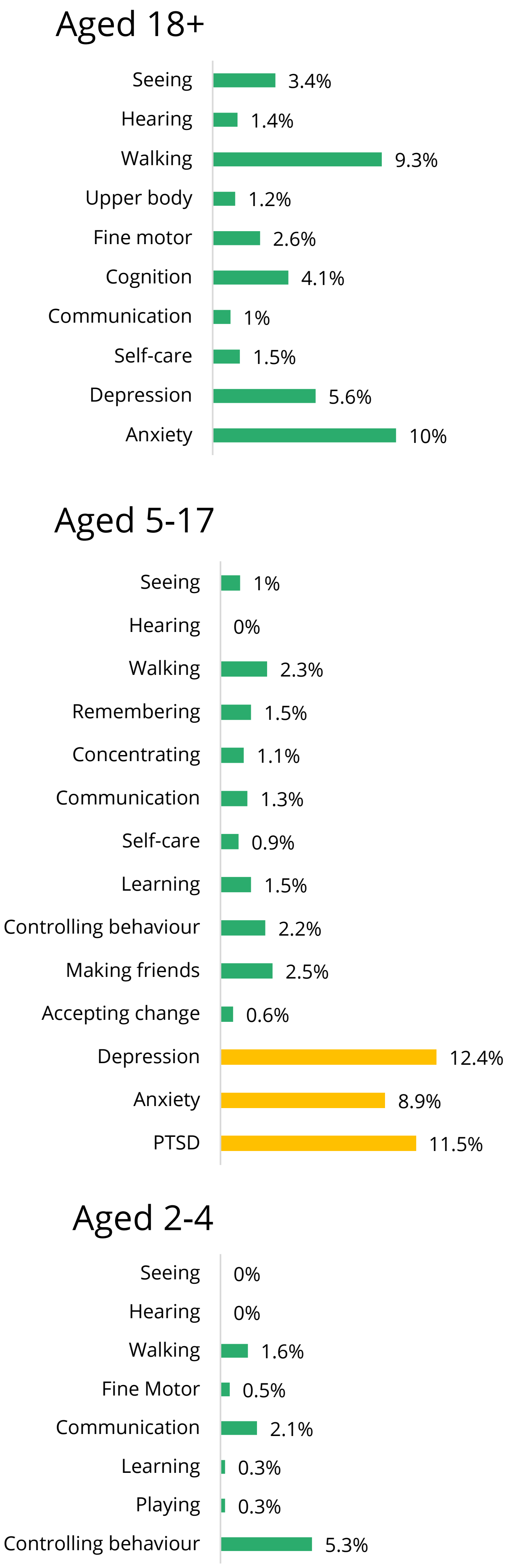

Figure 5: Disability domains, by age

Close to one quarter of children under 18 years (23.4%, 95% CI: 20.6-27.7) and adults aged 18-49 (24.0% 95% CI: 20.9-26.3) had a disability. As expected, prevalence increased significantly with age, with 50.6% (95%CI 44.5-56.7) of adults aged 50+ defined as having a disability.

When looking at results from the Washington Group Questions only, (i.e. without including mental health issues in children or MSI), the all-age prevalence of reported functional limitations was 14.7%. Again, prevalence increased significantly with age.

Overall, 8.6% (95% CI: 7.5-9.8) of the survey population were assessed to have a moderate/severe MSI by a physiotherapist. Prevalence increased significantly with age; from 3.2% in children to 34.9% in adults aged 50+ years.

The prevalence of disability was consistently higher among females than males across age groups (although not always statistically significant), with the exception of MSI in adults aged 18-49, where the prevalence was higher among males (14.5%, 95% CI: 11.4-18.3) than females (10.8%, 95% CI: 9.0-12.9).

7.2.1. Disability domains

Figure 5 shows the prevalence of functional limitations across different domains. Mental health in children (depression, anxiety, and PTSD) was assessed using tools other than the Washington Group Questions, and as such, results from these tools are represented in a different colour to the light green of the results from the Washington Group Questions.

Among adults aged 18+, the most common functional limitations were anxiety (10%) and walking (9.3%). Children aged 5-17 demonstrated high levels of mental ill-health, although measurement tools differed to other domains. Children aged 2-4 were reported to have difficulties controlling behaviour (5.3%).

Table 4: Disability prevalence by age group and measurement tool

	2-17 years		18-49 years		50+ years		All ages	
	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)
All disability*								
Male (n = 1443)	136	17.4% (14.3-20.9)	136	23.8% (19.7-28.4)	52	44.3% (35.4-53.7)	324	22.1% (19.4-24.9)
Female (n = 1640)	179	23.2% (20.0-26.8)	181	24.2% (20.1-28.8)	71	56.3% (49.2-63.3)	431	26.2% (23.1-29.5)
All (n = 3084)	315	20.3% (17.7-23.1)	317	24.0% (20.6-27.7)	123	50.6% (44.5-56.7)	755	24.3% (21.8-26.9)
WG only**								
Male (n = 1437)	56	7.1% (5.3-9.5)	92	16.5% (12.9-20.7)	32	33.3% (24.8-43.1)	187	12.9% (10.9-15.2)
Female (n = 1639)	62	8.1% (6.1-10.8)	150	20.0% (16.4-24.3)	56	44.4% (36.5-52.7)	268	16.3% (13.9-19.1)
All (n = 3077)	118	7.6% (6.1-9.5)	242	18.5% (15.4-22.0)	95	39.2% (32.8-45.9)	455	14.7% (12.8-16.9)
Moderate/severe MSI only								
Male (n = 1410)	17	2.3% (1.4-3.8)	81	14.5% (11.4-18.3)	30	26.8% (19.3-35.9)	128	8.9% (7.4-10.7)
Female (n = 1612)	32	4.2% (2.9-6.1)	59	8.0% (5.9-10.8)	43	34.9% (27.1-43.7)	134	8.3% (6.7-10.2)
All (n = 3022)	49	3.2% (2.4-4.3)	140	10.8% (9.0-12.9)	73	31.1% (25.5-37.2)	262	8.6% (7.5-9.8)
Symptoms of mental health disorders only								
Male (n = 413)	79	18.8% (14.9-23.5)						
Female (n = 439)	123	27.7% (22.7-33.3)						
All (n = 852)	202	23.4% (19.9-27.2)						

* Includes assessment through Washington Group Questions; depression, anxiety and PTSD screening tools (children 7-17 years); and musculoskeletal impairment assessment

** Washington Group mental health questions asked of adults only, not children

7.2.2. Comparing people with and without disabilities

Appendix 5 presents data comparing people with and without disabilities in the full survey population. As seen, adults with disabilities were significantly less likely to be in paid work (aOR: 0.6, 95% CI: 0.4-0.8). Adults with disabilities were also more likely to be divorced/separated and single (aOR:1.5, 95% CI:1.0-2.4) compared to adults without disabilities, although this was of borderline significance.

People with disabilities were more likely to live in households that received socio-economic support (aOR: 2.3, 95% CI: 1.4-3.7) and food aid (aOR:1.5, 95% CI: 1.2-1.9). There were no differences in highest level of education, number of years since leaving Syria, socio-economic status, accommodation type, or rental amount between people with and without disabilities.

7.2.3. Household level data

In total, 689 households were included in the survey, of which 60% had at least one household member with a disability according to the study definition (i.e. reporting a lot of difficulty/cannot do in any WG domain, moderate/severe MSI, and/or symptoms of anxiety, depression or PTSD in children).

Based on the Washington Group Questions only, 43% households include at least one person who reported “a lot of difficulty” or “cannot do” in one or more domain. Just over one fifth of households (22%) included a child with elevated symptoms of anxiety, depression

Table 5: Household characteristics with and without a member with a disability

	Households without members with a disability (n = 259)	Households with members with a disability (n = 430)	p-value
	Mean (95% CI)	**Mean (95% CI)**	**p-value**[a]
Household size	4.8 (4.6-5.0)	5.7 (5.5-6.0)	<0.001
Proportion female	0.49 (0.47-0.51)	0.50 (4.79-0.52)	0.56
No. dependents	2.0 (1.9-2.2)	2.6 (2.4-2.7)	<0.001
Dependency ratio	0.86 (0.78-0.95)	1.01 (0.93-1.09)	0.01
SES index score	0.14 (-0.07-0.34)	-0.08 (-0.25-0.09)	0.11
Average household rent	686.6 (610.9-762.4)	648.2 (633.4-663.2)	0.24
Proportion working among working age	**Median (SD)***	**Median (SD)**	**p-value**[b]
	0.4 (0.23)	0.3 (0.26)	<0.001
Female headed household	**N (%)**	**N (%)**	**p-value**[c]
	43 (16%)	94 (22%)	0.024
Social protection/humanitarian assistance			
HH receives ESSN cash	119 (43%)	242 (59%)	<0.001
HH receives SED	5 (2%)	26 (6%)	0.005
HH receives food aid	58 (21%)	150 (36%)	<0.001

[a] p-value from student t-test, [b] p-value from Mann-Whitney test, [c] p-value using chi^2 test

[a] Dependency ratio: ratio of dependents (<15 years and >65 years) living in the household

* Standard deviation

or PTSD, and 30% of households included at least one person with a moderate/severe MSI.

The number of members in a household ranged from 2-16 people, with an average of 5.3 people (95% CI: 5.2-5.5). 20% of households had a self-identified female head of household.

Households including a person with a disability were on average significantly larger than households without a person with a disability, had an older average age of household members, more dependents, a higher dependency ratio, and a lower proportion of working age (18-65) adults in paid work (p<0.001) (Table 5). There were no significant differences in SES index score or average household rent.

In terms of social protection/humanitarian assistance, households with a person with a disability were significantly more likely to receive Emergency Social Safety Net (ESSN) cash assistance (69% versus 43%, p<0.001) and food aid (36% versus 21%, p<0.001). Relatively fewer households received Social and Economic Support (SED) but this remained more common among households with a member with a disability (6% versus 2%).

7.3. Mental health (children)

Among children aged 8-17, the estimated prevalence of symptoms of depression, anxiety, and PTSD were 12.4%, 8.9% and 11.5%, respectively (Appendix 6). Overall, 23.4% (95% CI: 19.9-27.2) had symptoms of one or more of these common mental disorders. As previously discussed, these figures are derived from cut-off scores applied to each of the screening tools. Scores at or above the cut-off suggest elevated levels of symptoms and an individual at high risk of a mental health disorder.

Elevated symptoms of depression and PTSD were significantly more common among children aged 14-17, compared to younger children aged 7-10. In contrast, anxiety prevalence did not vary significantly by age.

Symptoms of depression, anxiety, and PTSD were more common in females compared to males, although this difference was only significant for anxiety.

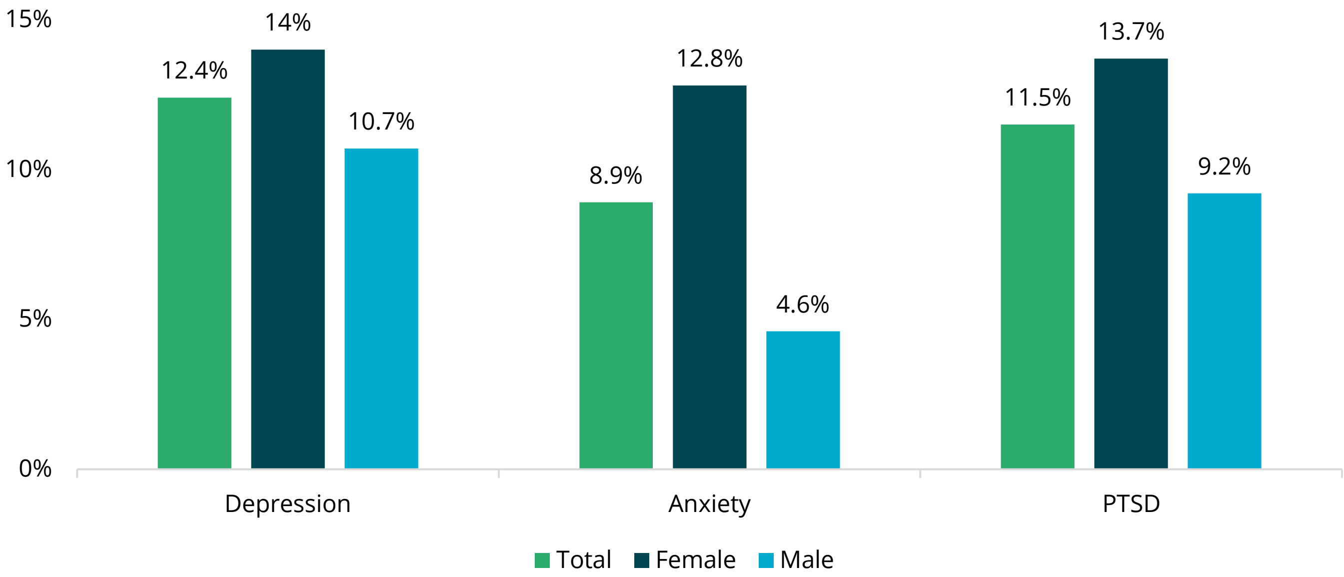

Figure 6: Mental health prevalence, by gender

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Depression was slightly more common among children who lived in the poorest households (aOR: 2.0, 95% CI: 1.0-3.5), however SES was not associated with either PTSD or anxiety (Appendix 7).

To complement the findings on these mental health issues, resilience was assessed among children aged 12-17 years. Children with elevated symptoms of depression had significantly lower mean resilience scores compared to children without symptoms of depression. Average resilience scores were not associated with the presence of anxiety or PTSD symptoms.

7.3.1. Coping mechanisms

In addition to quantitative data on mental health among both adults (Washington Group Questions) and children (individual screening tools), the qualitative analyses explored coping mechanisms among people with mental health issues and MHPSS needs. When discussing their mental health distress, most respondents tended to minimise their condition to avoid stigma and being labelled.

In order to address this and allow respondents some emotional distance, the interview guide included hypothetical scenarios; respondents were asked to consider a hypothetical person of the same age and gender, dealing with the same problem as themselves. They were asked to reflect on potential challenges, advice on how best to address their needs and coping mechanisms. Three strategies were common across nearly all respondents.

First, it was evident that faith played a significant role in coping with mental health distress. Many respondents reiterated the need for patience and strengthened belief, particularly because they believed there was little else to do, as they had little control over many aspects of their lives (e.g. lack of employment opportunities, inability to choose place of living, language difficulties, attitude from others).

> *"I will advise him, support him, and stand by him. I would tell him that we are struggling here. Actually, I would say this for all Syrians who are living here in Sultanbeyli, we are in this together. [...] I would tell this friend and the others to have strong faith in Allah, and Inshallah, tomorrow you will return back home to your family, to your country and things will get better."*
>
> ***(Male, 70s, mental health issue)***

The respondents' narratives suggest a strong reliance on family for support, and reported benefits of talking to them about problems affecting their mental health. It was also evident from the interviews that respondents who reported the likelihood of many people in similar situations of mental distress seemed to demonstrate better Quality of Life than those who felt they were alone in experiencing this.

7.4. Musculoskeletal impairment

Out of the 531 people who screened positive for MSI, 470 (89%) underwent MSI assessment. 47 (9%) were unavailable, 13 refused (2%) and 1 (<1%) was unable to participate.

Based on standardised assessment by a physiotherapist, a total of 373 people were identified as having an MSI (12.24%, 95% CI: 10.8-13.7). The prevalence increased by age from 3.9% in children (2-17 years) to 43.8% among adults aged 50+ years (p<0.001). In terms of severity, 30% of MSI cases were mild, 51% moderate, and 19% severe. The overall prevalence of moderate or severe impairment was 8.6% (95% CI: 7.5-9.8).

As shown in Table 6, trauma (16%) was the most common identified cause of MSI. Specifically, the war in Syria was the attributed cause for 8% of people. Developmental or nutritional causes were assigned as the cause for 11% of people with MSI. For over 25% of people the cause could not be identified.

Table 6: Causes of MSI

	Any MSI[1]	
	N	%
Family history	7	2%
Congenital	31	8%
Perinatal hypoxia	11	3%
Road traffic accident	13	4%
Trauma[2]	61	16%
War in Syria	28	8%
Other war	2	0.5%
Deliberate self-harm	1	0.3%
Other accidents	30	8%
Developmental / nutritional	42	11%
Infection	22	6%
Neoplasm	4	1%
Latrogenic	2	0.5%
Unknown	96	26%.
Other[3]	132	35%

[1] Some participants had two causes of MSI, hence 421 causes for 373 people

[2] Breakdown by type of 'Trauma'

[3] Breakdown by 'Other' provided for herniated nucleus pulposus only

Table 7: Prevalence of MSI by age, gender and impairment severity

	Total		2-17		18-34		35-49		50+ years		Male		Female	
	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)
Any MSI	373	12.2% (10.8-13.7)	60	3.9% (3.0-5.1)	100	11.5% (9.0-14.6)	110	26.0% (21.8-30.6)	103	43.8% (37.0-50.9)	163	11.4% (9.7-13.3)	210	13.0% (11-15.2)
Mild	111	3.7% (2.8-4.7)	11	0.7% (0.4-1.4)	37	4.4% (3.0-6.4)	33	7.7% (5.5-10.6)	30	12.8% (8.9-18.1)	35	2.5% (1.7-3.6)	76	4.7% (3.5-6.2)
Moderate	191	6.2% (5.3-7.3)	30	1.9% (1.3-2.8)	43	4.9% (3.5-6.7)	62	14.7% (11.4-18.6)	56	23.8% (18.8-29.7)	90	6.2% (5.0-7.7)	101	6.2% (4.9-7.9)
Severe	71	2.3% (1.8-3.0)	19	1.3% (0.8-2.0)	20	2.3% (1.4-3.6)	15	3.6% (2.2-5.9)	17	7.2% (4.4-11.8)	38	2.6% (1.9-3.6)	33	2.1% (1.4-2.9)

Table 8: Age, sex, and year lived in Sultanbeyli among people with and without disabilities

	People without disabilities (n = 359)		**People with disabilities (n = 476)**		P-value
	N	%	N	%	
Age (years)					
2-17	137	38%	174	35%	<0.001
18-34	120	33%	104	23%	
35-59	95	27%	164	35%	
60+	7	7%	34	7%	
Mean age (years)	25.6 (95% CI: 24.0-27.2)		30.7 (95% CI: 29.2-32.5)		
Sex					
Male	125	35%	182	40%	0.6
Female	234	65%	284	60%	
Years lived in Sultanbeyli					
<=2 years	31	9%	49	11%	0.14
2-3 years	51	14%	55	12%	
3-4 years	89	25%	91	19%	
4-5 years	92	25%	121	25%	
>5 years	96	27%	160	34%	

7.5. Nested case-control study

7.5.1. Study population

A total of 476 people with disabilities ("cases") and 359 people without disabilities ("controls") were included in the case-control study. The total number of controls was lower than the number of cases due to the high prevalence of disability, which limited the availability of eligible controls in some clusters.

As seen in Table 8, people with and without disabilities were well matched on sex and years lived in Sultanbeyli, although there was a mismatch across age groups, with cases slightly over-represented in the older age category (35-59). To account for imperfect matching, all case/control comparative analyses were adjusted for age and sex.

Table 9: Distribution of functional limitations among people with disabilities in the case-control study

	Children (5-17) (n = 175)		**Adults (18+ years) (n = 307)**		**Total (n = 482)**	
	N	%	N	%	N	%
Vision	12	7%	52	17%	64	13%
Hearing	8	5%	19	6%	27	6%
Mobility	36	21%	196	64%	232	48%
Cognition	50	29%	53	17%	99	20%
Depression/anxiety/PTSD	105	60%	117	38%	221	46%
Communication	12	7%	10	3%	22	5%
Self-care	8	5%	20	7%	28	6%
Multiple domains	37	21%	109	36%	146	30%

Table 10: Socio-economic characteristics of people with and without disabilities

	People without disabilities (n = 359)		**People with disabilities (n = 476)**		Age and Sex adjusted OR (95% CI)
	N	%	N	%	
Socio-economic status					
1 (poorest)	93	26%	108	23%	Reference
2	89	25%	116	25%	1.2 (0.8-1.7)
3	84	24%	138	29%	1.5 (1.0-2.3)
4 (least poor)	89	25%	110	23%	1.1 (0.7-1.6)
Marital Status (aged 18+)					
Married/living together	197	89%	232	77%	Reference
Divorced/separated	4	2%	14	5%	3.5 (1.1-10.3)
Widowed	8	4%	28	9%	2.1 (0.8-5.1)
Single	12	5%	26	9%	3.1 (1.2-8.2)
Highest level education completed (aged 18+)					
Never attended	20	9%	44	14%	Reference
Primary	94	42%	135	45%	0.8 (0.5-1.5)
Middle/Secondary	90	42%	104	35%	0.7 (0.3-1.5)
Post-Secondary	17	8%	17	6%	0.7 (0.3-1.5)
Literacy (aged 18+)					
Can read well	156	71%	179	59%	Reference
Can read a little	37	17%	52	17%	1.1 (0.7-1.7)
Cannot read	28	13%	71	23%	1.8 (1.1-3.1)

Of the functional limitations reported by participants in the case-control study, mobility impairment was the most common (48%), followed by mental health problems (46% all ages; 60% children).

As a reminder, this case-control study adopted purposively sampling methodology, and as such, the percentages presented throughout this analysis do not constitute prevalence estimates.

7.5.2. Socio-economic characteristics

There were no differences in socio-economic status (SES) level or highest education level between people with and without disabilities (Table 10). However, adults with disabilities were more likely to report being unable to read compared to people without disabilities (aOR: 1.8, 95% CI: 1.1-3.1). Adults with disabilities were also significantly more likely to be divorced/separated (aOR: 3.5, 95% CI: 1.1-10.3) or single (aOR: 3.1, 95% CI: 1.2-8.2).

Table 11: Working in past week and past year among adults with and without disabilities aged 18+

	Adults without disabilities (n = 222)		**Adults with disabilities (n = 302)**		OR adjusted for age, sex and time in Turkey (95% CI)
	N	%	N	%	
Work in past week					
All adults	54	24%	51	17%	0.5 (0.3-0.9)
Males	47	69%	37	31%	0.1 (0.1-0.5)
Females	7	5%	14	8%	1.8 (0.7-4.6)
Work in past year					
All adults	66	30%	82	27%	0.8 (0.5-1.3)
Males	50	75%	58	50%	0.4 (0.2-0.9)
Females	14	9%	23	13%	1.7 (0.8-3.4)

7.5.3. Work (adults aged 18+)

As seen in Table 11, adults with disabilities were significantly less likely to have worked in the past week compared to peers without disabilities (aOR 0.5, 95% CI: 0.3-0.9). When disaggregated by sex, results show that men with disabilities were far less likely to have worked in the past week (31%) than men without disabilities (69%) (OR: 0.1, 95% CI: 0.1-0.5). Having working in the past week was not common among women (<10%) and there was no significant difference by disability status. Figure 7 shows the type of work undertaken in the past week.

A similar pattern was observed when participants were asked about working in the past year, although for the data combined across sex, we no longer see a significant difference by disability status.

For those not working, adults with disabilities were significantly more likely to report poor

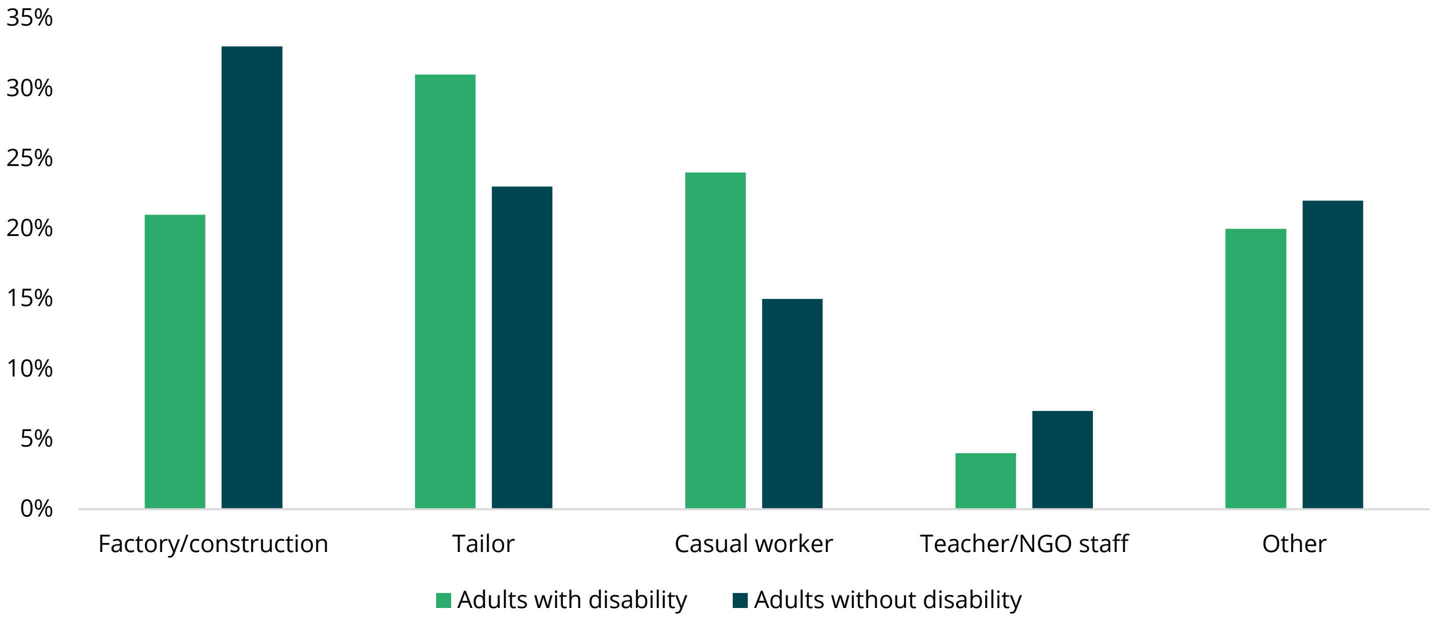

Figure 7: Type of work in the past week among adults with and without disabilities

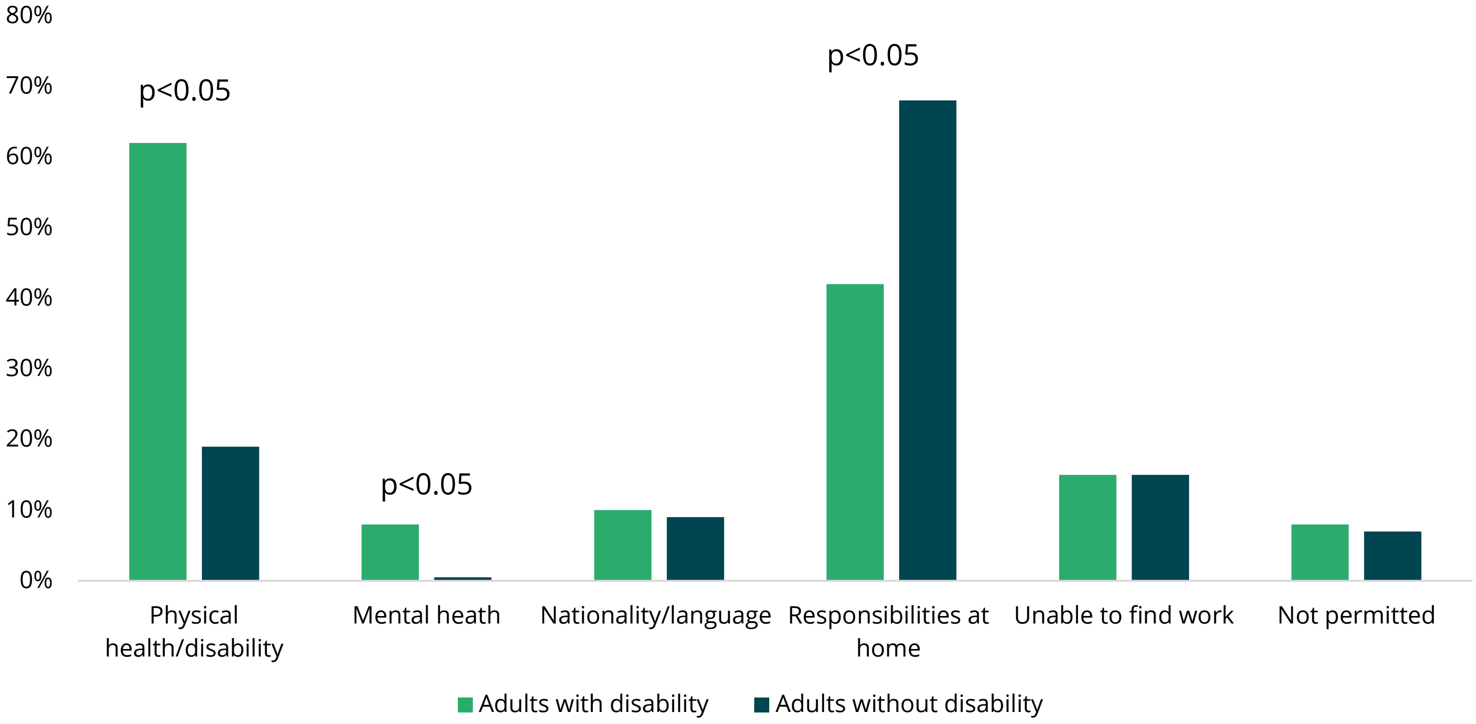

Figure 8: Reasons for not working in the past week

‘physical health/disability’ and ‘mental health’ as the reason why, and significantly less likely to report ‘other responsibility in the home’ as a reason (Figure 8).

Among adults with disabilities, females (aOR: 0.2, 95% CI: 0.1-0.3) were significantly less likely to have engaged in paid work in the past week compared to men. In addition, older adults with disabilities aged 50+ were less likely to have done paid work compared to younger adults with disabilities (aOR: 0.1, 95% CI: 0.03-0.3) (Appendix 8). Marital status, education, SES, and type of functional limitation were not significantly associated with working among adults with disabilities.

Work qualitative findings

The need for decent work was a recurring theme in qualitative interviews among people with disabilities, where ‘decent’ work was described as better pay and better hours of work. The need for better pay was linked to being able to provide the family with better food and other necessities such as beds, heating, and warm clothes for children. Some felt they were unemployable because of their disability, whereas others reported losing their livelihoods as a result of their impairment worsening.

> *“I used to be a barber, I had my own salon, I made good money, and I didn’t need anything from anyone, I was so happy, but now I am just sitting at home, I cannot work or do anything, I might work for one day and sit at home for a whole month, and I have my expenses. It is difficult.”*
>
> ***(Male, 30s, visual impairment)***

There were notable gender differences with regard to employment. Narratives from men with disabilities denoted more pressure to provide for the family than women, despite experiencing difficulties as a result of their

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impairment. It was common for men to report frustration about low (or no) income and the impact on their families, whereas women did not indicate feeling the same level of pressure (although many still expressed a desire to earn).

The qualitative data also indicates that seeking employment is not always straightforward because several factors need to be considered, such as the potential loss of assistance:

> *“This is our situation in Turkey, and it keeps getting worse, now I am forced to register for a work permit, if I do that they will cut off the aid I am receiving. The work permit won’t offer me advantages; my salary will remain the same. How will I manage to survive then?”*
>
> ***(Caregiver of female aged 60s, with MSI, vision, hearing, cognitive, and self-care difficulties)***

Focus group discussions indicate that limited employment opportunities was challenging to people without disabilities as well. The impact of this situation extends beyond adults:

> *Respondent 1: “The main problem in the community is jobs problem, especially for kids who are leaving the school in order to work instead of studying. If there is any kind of income for the families who are in need, the kids will never have to leave school. Also the old people, no one is hiring them because they are slower than the young ones. Also working hours are so long in Turkey, and employers prefer to hire the one who works very fast.”*
>
> *R2: “I agree with her. The children who are working... they working because there is no one to hire their parents. So they had to make their children to go to work because the father could not find a job”*
>
> ***(Focus group participants)***

Table 12: School attendance in children aged <17 years with and without disabilities

	Children without disabilities (n = 114)		**Children with disabilities (n = 160)**		OR adjusted for age, sex and time in Turkey (95% CI)
	N	%	N	%	
Ever attended school					
All Children (<17 years)	103	90%	140	88%	0.5 (0.2-1.2)
Currently attending school					
All Children (<17 years)	84	73%	101	63%	0.6 (0.3-1.0)*
Number school days missed in last month					
None	41	48%	47	36%	Reference
1-4 days	28	33%	39	39%	1.0 (0.5-1.9)
5-9 days	13	15%	9	9%	0.6 (0.2-1.7)
10+ days	2	2%	6	6%	2.7 (0.5-15.4)

* $p<0.05$

7.5.4. Children and school

The majority of children with (88%) and without disabilities (89%) have at one point attended school (Table 12).

However, children with disabilities were significantly less likely to be attending school currently (aOR: 0.6, 95% CI: 0.3-1.0).

There were no significant differences in the number of school days missed in the past month between children with and without disabilities. For those attending school, additional questions were asked about their experiences of participation in school.

As seen in Appendix 9, children with disabilities were less likely to report always receiving support from teachers (aOR: 0.5, 95% CI: 0.3-1.0); friends to play with at breaktimes (aOR: 0.3, 95% CI: 0.2-0.7); or that friends look to them as a leader (aOR: 0.2, 95% CI: 0.2-0.7) compared to children without disabilities.

Experiences of violence from teachers were reported by less than 3% and figures did not differ between children with and without disabilities. There were no significant differences across other items.

Among children with disabilities, younger children (aged 6-8) were less likely to be attending school than children aged 13-17 years (aOR:0.1, 95% CI: 0.03-0.4), although there were no differences in attendance by sex (Appendix 10). Children with significant limitations in physical functioning (aOR: 0.3, 95% CI: 0.1-0.9), cognitive functioning (aOR: 0.2, 95% CI: 0.1-0.6) and those with limitations in multiple domains (aOR: 0.2, 95% CI: 0.1-0.5) were the least likely to be enrolled in school.

Children and school qualitative findings

The qualitative interviews allowed exploration of reasons contributing to school dropouts.

Children with disabilities reported difficulties in school following the closure of a Syrian school, after which they were assigned to Turkish schools. Many struggled with language barriers, as well as experiencing bullying in the new school, which led them to drop out.

Since interviews were not conducted with children without disabilities, it is unclear whether they too faced the same issues.

However, for children with disabilities, the language barriers had direct effects; for example not being able to express discomfort or pain:

> *Interviewer: "Did you feel any pain while you were at school?"*
>
> *R: "Yes"*
>
> *I: "What did you do?"*
>
> *R: "It used to hurt me, but not like these days. I just handle the pain. Even if I want to tell the teacher about my pain, I can't speak Turkish."*
>
> ***(Female, teenager, MSI)***

It was also notable that children with disabilities described more overt mistreatment than many adults with disabilities. This may have contributed to decisions to drop out of schools, particularly those with mental health distress.

> *"When I registered at the school they thought I was Turkish. The kids were playing with me normally. When they found out I am Syrian, they just stopped playing with me. They started saying 'go back to Syria, what are you doing here in our country?'"* ***(Male, 12 years, mental health issue)***

> *"When I go to school, the girls there told me 'you are Syrian, why you are staying in our country? My people are defending your country while you are staying here.' [...]*
>
> *When I play with the girls at school they kick us away. We do really want to play with them, but they don't like to play with us and said because we are Syrians they don't want to play with us. I complained to the teacher, but she doesn't do anything. So I just leave them and go away"*
>
> ***(Female, 12 years, MSI)***

7.5.5. Social participation

When asked about social participation, people with disabilities were significantly more likely to report participating less often than their peers, and less than they would want to across all domains, including: visiting others in the community (aOR: 2.7, 95% CI: 1.6-4.7); moving around at home and in the community (aOR: 3.1, 95% CI: 1.7-5.5); taking part in major festivals (aOR: 2.1, 95% CI: 1.2-3.5); and taking part in social activity, including community affairs (aOR: 2.7, 95% CI: 1.6-4.5).

In addition, people with disabilities were less likely to feel that they received the same level of respect in the community as their peers (aOR: 0.3, 95% CI: 0.2-0.7) or the same respect in family discussions (aOR: 0.5, 95% CI: 0.4-0.8).

In terms of questions relating to attitudes of others, overall, people with disabilities were more likely to report never/rarely participating in family decisions (aOR: 2.7, 95% CI: 1.7-4.3) or feeling accepted (aOR: 4.7, 95% CI: 2.1-10.4) and respected (aOR: 2.4, 95% CI: 1.1-4.9) by others (Table 13). People with disabilities were also more likely to report often experiencing problems with getting involved in society due to the attitudes of others (aOR: 3.1, 95% CI: 1.8-5. 3).

These trends were consistent across adults and children, with the exception that children with and without disabilities reported no differences in getting involved in society due to the attitudes of others.

Table 13: Social participation between people with and without disabilities

	People without disabilities (n = 359)		**People with disabilities (n = 476)**		Age, Sex adjusted Odds Ratio (95% CI)
	N	%	N	%	
Visit other people in the community					
As often as my peers do	300	84%	350	74%	Reference
Less often than peers, but as much as I want	37	10%	60	13%	1.3 (0.9-2.1)
Less often than my peers and less than I want	21	6%	66	14%	2.7 (1.6-4.7) ǂ
Move around at home and in the community					
As often as my peers do	320	89%	388	82%	Reference
Less often than peers, but as much as I want	19	19%	33	7%	1.3 (0.8-2.5)
Less often than my peers and less than I want	19	5%	55	12%	3.1 (1.7-5.5)
Take part in major festivals/ rituals in the community					
As often as my peers do	306	85%	343	72%	Reference
Less often than peers, but as much as I want	27	8%	78	78%	2.5 (1.6-4.1) ǂ
Less often than my peers and less than I want	25	7%	55	12%	2.1 (1.2-3.5) ǂ
Take part in social activity, such as religious/ community affairs					
As often as my peers do	307	86%	371	78%	Reference
Less often than peers, but as much as I want	30	8%	44	9%	1.2 (0.7-2.0)
Less often than my peers and less than I want	21	6%	61	13%	2.7 (1.6-4.5) ǂ
Respect in the community					
Same respect in the community as peers	346	97%	439	92%	0.3 (0.2-0.7) ǂ
Same respect in family discussions	310	87%	391	82%	0.5 (0.4-0.8) ǂ

ǂ p<0.001

Table 14: Experiences of attitudes of others between people with and without disabilities

	Children without disabilities (n = 137)		**Children with disabilities (n = 174)**		Age, Sex adjusted Odds Ratio (95% CI)	**Adults without disabilities (n = 221)**		**Adults with disabilities (n = 302)**		Age, Sex adjusted Odds Ratio (95% CI)	**People without disabilities (n = 359)**		**People with disabilities (n = 476)**		Age, Sex adjusted Odds Ratio (95% CI)
	N	%	N	%		N	%	N	%		N	%	N	%	
Can participate in family decisions															
Never/Rarely	44	32%	76	44%	2.4 (1.3-4.6) ‡	9	4%	28	9%	2.8 (1-26.2)* ‡	53	15	104	22	2.7 (1.7-4.3) ‡
Sometimes	57	42%	57	33%	1.0 (0.5-1.7)	33	15%	62	21%		90	25	119	25	1.5 (1.0-2.2) ‡
Often/Always	36	26%	41	24%	Reference	179	81%	212	70%	Reference	215	60	253	53	Reference
Problems getting involved in society due to attitudes of others															
Never/Rarely	98	72%	117	67%	Reference	191	86%	207	69%	Reference	289	81	324	68	Reference
Sometimes	25	18%	35	20%	1.1 (0.6-2.0)	24	11%	55	18%	2.4 (1.4-4.2) ‡	49	14	90	19	1.8 (1.2-2.6) ‡
Often/Always	14	10%	22	13%	1.3 (0.6-2.8)	6	3%	40	13%	7.5 (1.4-18.9)	20	6	62	13	3.1 (1.8-5.3) ‡
Feel people accept you															
Never/Rarely	6	4%	19	11%	3.9 (1.4-11.2) ‡	2	1%	16	5%	6.8 (1.5-30.5)* ‡	8	2	35	7	4.7 (2.1-10.4) ‡
Sometimes	24	18%	39	22%	1.4 (0.8-2.5)	18	8%	57	19%		42	12	96	20	2.2 (1.5-3.3)‡
Often/Always	107	78%	116	67%	Reference	201	91%	229	76%	Reference	308	86	345	72	Reference
Feel people respect you															
Never/Rarely	10	7%	12	7%	1.4 (0.5-3.7)	1	0%	14	5%	11.5 (1.5-89.1) ‡	11	3	26	5	2.4 (1.1-4.9) ‡
Sometimes	24	18%	51	29%	2.1 (1.2-3.7) ‡	18	8%	43	14%		42	12	94	20	2.2 (1.5-3.3)
Often/Always	103	75%	111	64%	Reference	202	91%	245	81%	Reference	305	85	356	75	Reference

* OR for never/rarely/sometimes has been combined due to small cell size

‡ $p<0.05$

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Social participation qualitative findings

Respondents in the qualitative interviews reported close relationships with family members and noted how much they relied on family for social interaction, because nearly all reported that they did not have friends. Although they did not report feeling excluded, some respondents mentioned declining to participate in events and interactions because of their disability.

> *"When my family wants to go to the lake, they insist I go with them. But I refuse to go. I know it will be so tiring for them to take me with them, so I always decide to stay at home alone. I don't want them to stop enjoying their lives because of me. It's been more than one month since I've been out for enjoyment. If I want to go out it will cost them a lot. They have to bring a car to go and come back."*
>
> ***(Female, 50s, MSI)***

One of the main themes that emerged from the qualitative data is of isolation. Many individuals with mental health distress did not share their concerns with people beyond specific family members, and nearly all families described how they tended to keep to themselves. There were frequent comparisons to their lives before the conflict, and about the loss of support networks.

> *"With whom will I speak? Turkey has changed people, no one is there for anyone anymore, I don't even tell my mother about what I am dealing with, I cried a lot yesterday as well."*
>
> ***(Caregiver of female, 20s, cognition, mobility, self-care)***

"It is difficult here, people aren't like the people in Syria, here no one asks about the other. We cannot do anything in this country, we are guests. We embrace insults and favours. [...] People don't treat me different because of my situation, they treat me differently because we come from different cultures and we both follow different customs and traditions."

(Male, 70s, mobility)

While other Syrians in their communities are described as having their own problems to deal with, there is a prevailing sentiment of feeling unwelcome within Turkish communities. There were some examples of positive relationships with Turkish neighbours, but the majority of respondents described incidents of racism, mistreatment, or violence.

"...We have a problem here when it comes to the racism we face as Syrians. I think they should start some courses for the Turkish people to educate them about us and our situations. They always blame us for not getting along with them."

(Caregiver of female aged 10, mental health issue)

"When I first arrived in Sultanbeyli, everyone was so nice and kind to us, but now things are different, I feel like they hate us. When a glass is broken nothing can fix it and bring it back together as it used to be. They treat us worse now, but I am nice to everyone, I am kind to my neighbour. I feel people started to hate us after the last municipal elections. I think Syrians here have changed as well."

(Male, 70s, cognition and mental health issue)

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Table 15: Environmental accessibility between people with and without disabilities

	People without disabilities (n = 359)		**People with disabilities (n = 476)**		Age, Sex adjusted Odds Ratio (95% CI)
	N	%	N	%	
Places where you socialise/engage in community					
Easy/very easy	267	75%	304	64%	Reference
Neither hard nor easy	61	17%	96	20%	1.4 (0.9-2.0)
Hard/very hard	30	8%	76	16%	2.2 (1.4-3.5) ‡
Workplace/educational institution					
Easy/very easy	181	59%	196	48%	Reference
Neither hard nor easy	95	31%	126	31%	1.1 (0.8-1.6)
Hard/very hard	32	10%	83	20%	2.3 (1.4-3.6) ‡
Regular places of worship					
Easy/very easy	280	78%	329	69%	Reference
Neither hard nor easy	63	18%	77	16%	1.1 (0.7-1.6)
Hard/very hard	15	4%	70	15%	3.8 (2.1-6.9) ‡
Transportation					
Easy/very easy	252	70%	261	55%	Reference
Neither hard nor easy	54	15%	82	17%	1.6 (1.0-2.4) ‡
Hard/very hard	52	15%	133	28%	2.5 (1.7-3.7) ‡
Getting help from family member					
Easy/very easy	285	80%	365	77%	Reference
Neither hard nor easy	46	13%	51	11%	0.9 (0.6-1.4)
Hard/very hard	27	8%	60	13%	1.6 (1.0-2.7) ‡
Getting help from friends					
Easy/very easy	175	49%	182	38%	Reference
Neither hard nor easy	99	28%	118	25%	1.2 (0.8-1.7)
Hard/very hard	84	23%	176	37%	2.1 (1.5-2.9) ‡
Getting help from neighbour					
Easy/very easy	136	38%	144	30%	Reference
Neither hard nor easy	105	29%	111	23%	1.0 (0.7-1.4)
Hard/very hard	117	33%	221	46%	1.7 (1.2-2.4) ‡
Accessing information					
Easy/very easy	329	92%	391	82%	Reference
Neither hard nor easy	19	5%	41	9%	2.0 (1.1-3.7) ‡
Hard/very hard	10	3%	44	9%	4.1 (2.0-8.5) ‡

‡ p<0.001

7.5.6. Environment

When asked about factors in their environment that hinder or facilitate their participation, people with disabilities reported that each made it hard for them to participate, including: the places at which they socialised and engaged with the community (aOR: 2.2, 95% CI: 1..4-3.5); places of work and education (aOR: 2.3, 95% CI: 1.4-3.6); regular places of worship (aOR: 3.8, 95% CI: 2.1-6.9); and their local transportation (aOR: 2.5, 95% CI: 1.7-3.7).

In addition, people with disabilities found it hard to: get help from family members (aOR: 1.6, 95% CI: 1.0-2.7); get help from friends (aOR: 2.1, 95% CI: 1.5-2.9); and get help from a neighbour (aOR: 1.7, 95% CI: 1.2-2.4).

People with disabilities also find it significantly harder than people without disabilities to access information, whether that be about local aid available or news of events within Syria, and were 4 times more likely to report finding this hard/very hard (aOR: 4.1, 95% CI: 2.0-8.5).

7.5.7. Quality of Life

Quality of Life scores, asked of adults (18+) only, were significantly lower among adults with disabilities than adults without disabilities. This difference was observed for the overall Quality of Life and health ratings, as well as each of the four sub-scales (physical health, psychological wellbeing, social relationships, and environment).

These differences were observed across sex and age groups.

Quality of Life qualitative findings

Qualitative data provides further insight in the self-reported poor Quality of Life among people with disabilities. For some, it stems from their inability to work and support their families, as a result of their impairments.

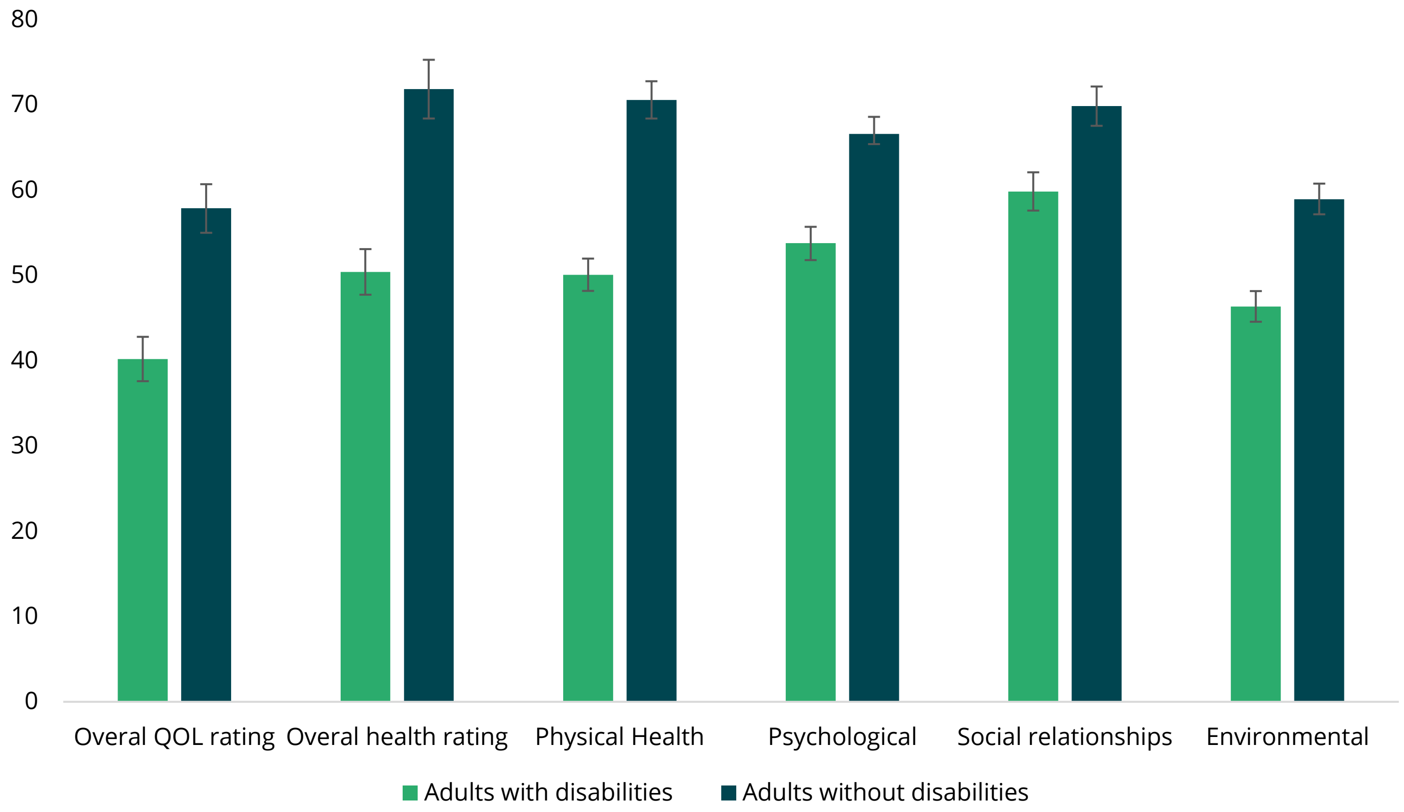

Figure 8: Quality of Life scores among adults with and without disabilities; NB lower score denotes poorer Quality of Life

> *"I feel desperate, and in pain, sometimes I tell myself that death is better than being in this amount of pain [...]. It makes me feel like my life is meaningless because I cannot provide for my family. A man should be doing that. I feel useless because I cannot earn money or help my family in any other way. In Syria, my life was better, I was healthy, I had money, now my son is providing for me. Life is just horrible. No dignity, no rest."*
>
> ***(Male, 40s, MSI)***

For others, dependency on others and recurring pain prevents activities from which they derive strength and comfort, such as praying.

> *"Our life is hard ((brokenly crying)) but there is God. [...] I ask God ((cries)) I say 'please kill me'... at night even when I turn on the bed I am hurting"*
>
> ***(Female, 60s, visual impairment, MSI)***

Regarding psychological domains, it was common to find expressions of helplessness in narratives from persons with disabilities.

> *"I have lived here for 5 years without anything. Back in Syria, I had a decent life, and money. But here, I have nothing, it is like one hand is reaching for what's behind me, and the other hand is reaching for what's in front of me, I am helpless. [...]. I feel like I should stab myself with a knife [...]. What's my value here? Why do I even exist in this life?"*
>
> ***(Male, 30s, mental health condition)***

7.5.8. Access to general health services

People with disabilities were 4.5 times more likely than people without disabilities to report having a serious health problem in the past year (aOR: 4.5, 95%CI: 2.9-6.8).

Of those reporting a serious health problem in the past year, the majority (>93%), both with and without disabilities, reported seeking treatment. The type of health facilities sought were similar across people with and without disabilities; the most common facility visited was that of a government hospital (76% of people with disabilities and 72% of people without disabilities), followed by government primary health care centre (9% and 11%, respectively) and migrant health centres (13% and 8%, respectively) (Appendix 11).

The majority of people who had health care in the past year reported feeling respected and there was no significant difference between people with (87%) and without (94%) disabilities (p=0.47). However, of note, 6% of people with disabilities reported an experience in which they felt disrespected, while not one person without a disability reported this.

There were no significant differences by disability status in the proportion of people reporting difficulties being understood by a health provider (aOR: 1.1, 95% CI: 0.5-2.6) or understanding the information given (aOR: 1.2, 95% CI: 0.5-2.6). The majority of people, with and without disabilities, who faced difficulties in understanding or being understood attributed this to language.

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Access to health services qualitative findings

It was common for interview respondents to describe negative experiences in accessing health services. These experiences range from being disrespected by medical professionals and translators, to longer waiting times than others seeking the same service.

Focus groups discussions with non-disabled community members concentrated on the low quality of services, and it is unclear whether people without disabilities also encounter similar experiences.

However, the effect of these negative experiences could potentially have a different impact on people with disabilities. For example, some respondents report being turned away for reasons they perceive to be minor (e.g. being late by 5-10 minutes). The repercussions of this would be to return another day, which might incur additional transport costs and difficulties for people with disabilities. In addition, these experiences act as a deterrent to seeking further help, which could contribute to an impairment worsening.

> *“My experience with the doctor was horrible, I don’t speak Turkish and she kept yelling at me, and I had a fight with her. It took me a long time to go for the operation, they kept delaying my turn. Back then, I didn’t know there were translators working in the hospital. I don’t hear well, her behavior with me was horrible.”*
>
> ***(Male, 40s, hearing impairment)***

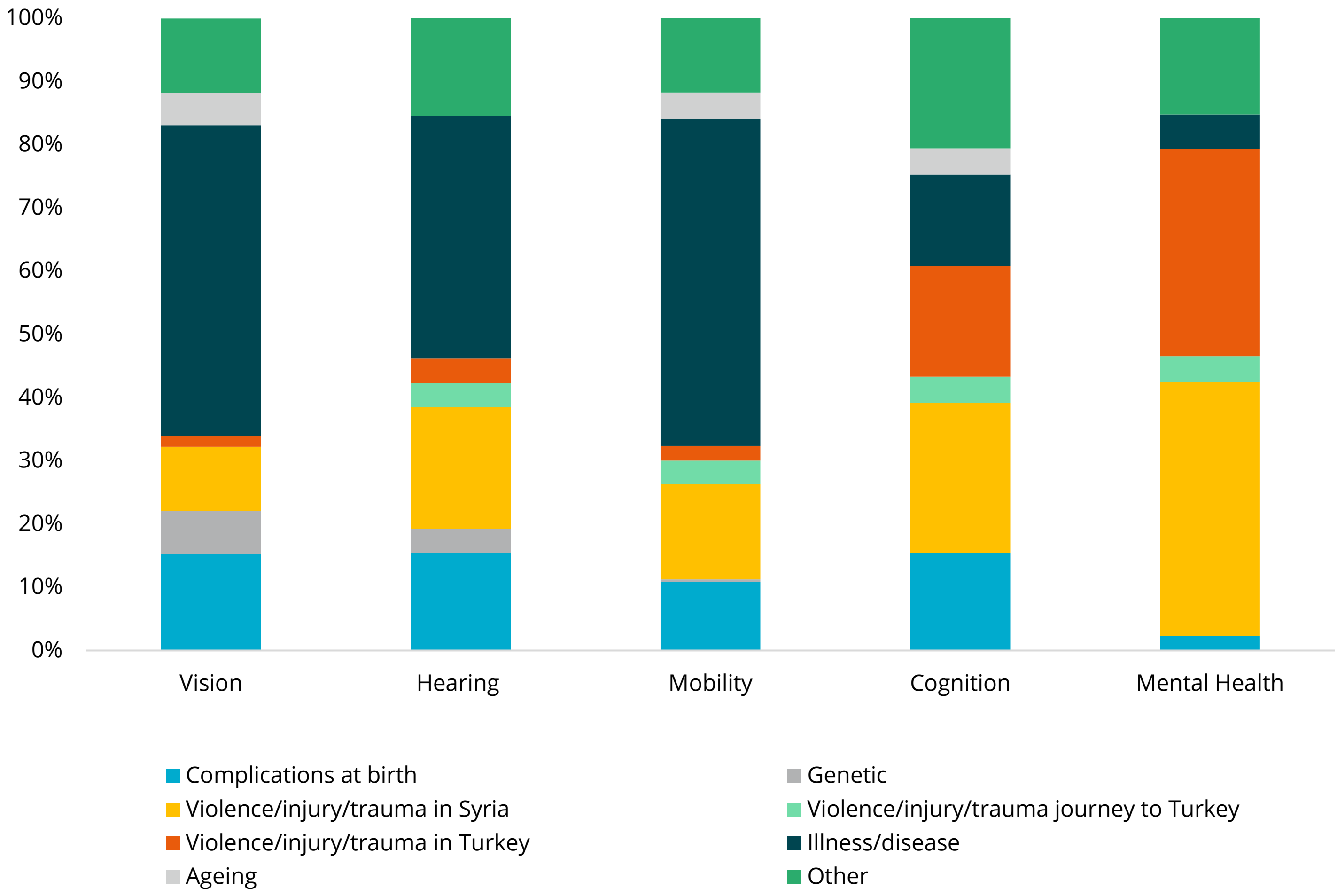

Figure 9: Self-reported causes of disability

7.5.9. MHPSS and rehabilitation services (people with disabilities only)

People with disabilities included in the case-control study were asked to self-report on the cause of their impairment and/or mental health issue. Across vision (49%), hearing (38%), and mobility (52%), illness or disease represented the most common reported cause. For cognition, no clear cause was reported to be the most common, although interestingly, genetic abnormalities were not reported by any participants, despite a number of genetic conditions associated with cognitive impairments.

When reporting on mental health issues, 40% of people reported violence/injury/trauma in Syria as the presiding cause, and 33% felt the cause was related to violence/injury/trauma in Turkey. In total 73% of mental health issues were attributed to violence/injury/trauma.

Of significant importance to this population is that, across all impairment types, 42% of people reported the cause to be related to the war in Syria.

Note: Only five domains are represented in the graphs within this section, as there is likely overlap between self-care/communication and the other domains. For example, 46% of people with difficulties in self-care felt that this was attributed to issues with mobility.

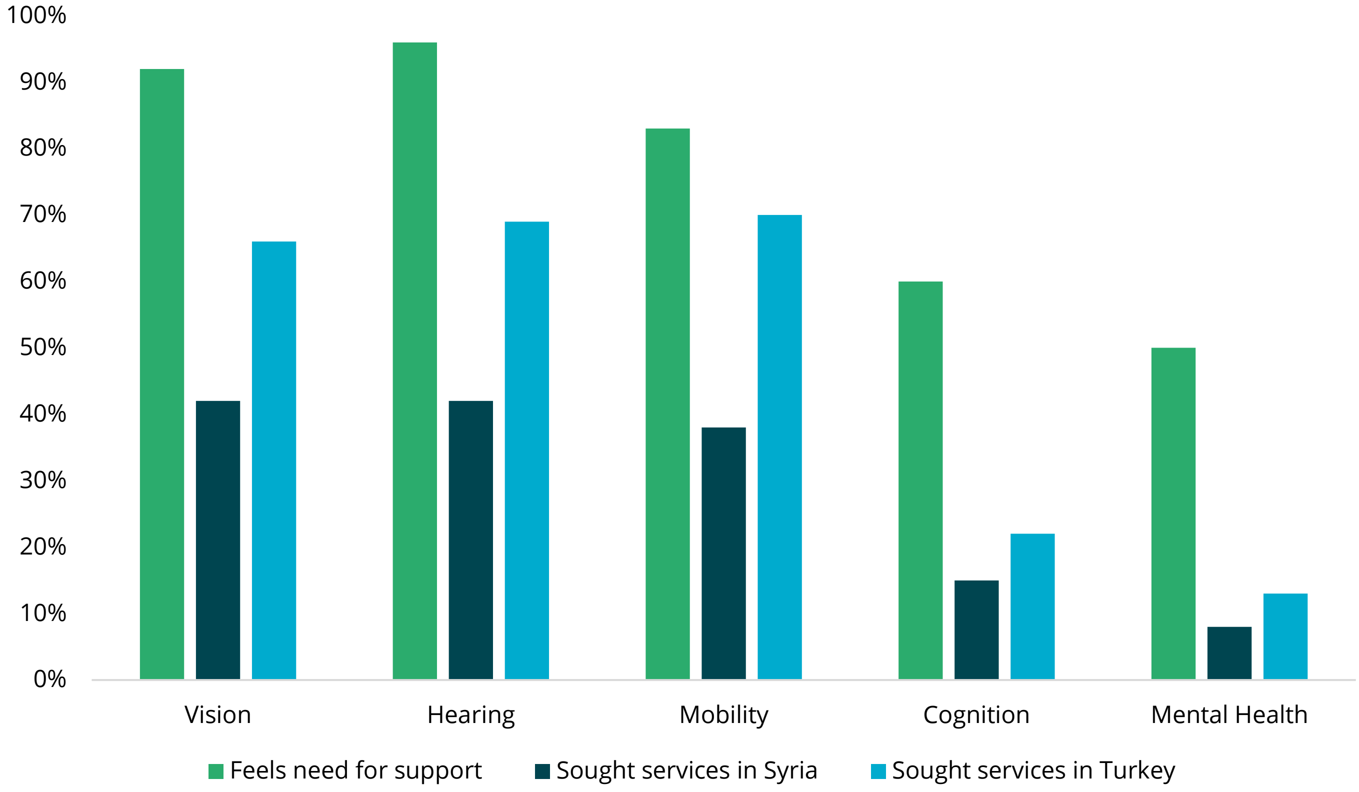

Figure 10: Service utilisation, by impairment type

Service utilisation

When reporting on service utilisation related to their functional limitation, just 50% of people with mental health issues and 60% of people with difficulties with cognitive functioning felt need for support, in contrast to those with difficulties seeing (92%), hearing (96%), and mobility (83%). In total, 69% of people with disabilities felt they needed health and other support related to their functional limitations.

Unmet service need (i.e. the proportion of those people who reported needing services/support compared to those who have accessed them) was highest for mental health (73%) and cognitive functioning (63%). It was lower for vision (25%), hearing (28%) and mobility (15%). Interestingly, people reported seeking services in Turkey more commonly than having sought them in Syria (42% vs 25%).

The type of services sought in Turkey are shown in Table 16, disaggregated across functioning domain.

Overall, 60% of people seeking services sought care at Government hospitals. 30% sought help at specialist services, such as audiology, optometry, and rehabilitation.

In contrast to this trend, 69% of people with mental health issues seeking services sought specialist support, and only 10% attended a Government hospital. Only 17% of people sought services at migrant health centres. Not one person with a mental health issue reported seeking support at a migrant health centre.

Appendix 12 provides a breakdown of the type of support received, disaggregated by impairment type.

For those that did not seek services, the reason for not doing so are shown in Table 18 on page 69.

Over one quarter of people with visual (25%) and mobility impairments (27%) did not seek services as they could not afford to do so.

Nearly two-thirds of people with mental health issues (62%) and 49% of those with difficulties with cognitive functioning reported that the reason they had not previously sought services was that they did not feel a need. 25% of people with mental health issues and 8% of people with difficulties in cognitive functioning thought that the problem would get better by itself. In total, 50% of people did not seek services because they did not feel a need.

Service and AP utilisation: people with MSI

In addition to the self-reported data on service utilisation among participants in the case-control study, physiotherapists also assessed service use for people who were identified as having any MSI.

As seen in Appendix 13, the most commonly received services, among people with MSI, were medication (49%), physiotherapy (20%), and surgery (17%). Specifically in Turkey, 44% of people with MSI had received medication, 16% physiotherapy, and 8% surgery.

Government hospitals were the most commonly accessed service for medication (33% of those who had accessed services for medication) and surgery (100%). Migrant

Table 16: Specialised services sought by cases in Turkey

	Vision		**Hearing**		**Mobility**		**Cognition**		**Mental Health**	
	N	%	N	%	N	%	N	%	N	%
Specialist service*	16	41%	9	50%	31	21%	2	10%	20	69%
General practitioner	0	0%	2	11%	7	5%	0	0%	7	24%
Government primary health	1	3%	3	17%	15	10%	2	10%	0	0%
Government hospital	24	62%	1	6%	112	75%	12	57%	3	10%
Pharmacy	2	5%	15	83%	13	9%	1	5%	4	14%
NGO clinic	0	0%	0	0%	17	11%	5	24%	4	14%
Private hospital	2	5%	3	17%	6	4%	1	5%	0	0%
Migrant support services**	8	21%	1	6%	29	19%	5	24%	0	0%
Private clinic	2	5%	1	6%	6	4%	1	5%	0	0%
Informal clinic	1	3%	0	0%	1	1%	0	0%	1	3%
Other	0	0%	0	0%	0	0%	1	5%	3	10%
Total	39		18		150		21		29	

* Vision: optometrist, ophthalmologist; Hearing: audiologist, ENT specialist; Mobility: physiotherapist; Cognition: rehabilitation centre; Mental health: pharmacy, neurologist, psychologist, social worker
** Migrant support services include Migrant Health Centres and Mülteciler Derneği

NB: participants could select more than one service and totals therefore do not add up to 100%

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support services were most commonly used service for physiotherapy (79%), information/exercise (80%), and environmental modification (50%).

Based on the Physiotherapist's assessment, the majority (83%) of people with MSI could benefit from but were not receiving physiotherapy, followed by 38% for information/exercises, 37% for medication, and 19% for surgery. Total unmet need (calculated as; need but not receiving service / need but not receiving service + currently receiving service) was 53% for medication and >90% for all other services.

Findings suggest that, overall, 10% of Syrian refugees living in Sultanbeyli need, but are not receiving physiotherapy, for information/exercises 4.7%, and for surgery 2.4%

The reasons for not seeking services, varied between service type, however, the most common reasons given were 'need not felt', lack of awareness of services, lack of service availability, and financial barriers.

Current assistive product use was relatively rare for people identified as having MSI: 11 participants (3.8%) used a stick/cane, six (1.6%) used a wheelchair, and four used a toilet/shower chair (1%). For other APs either one or no participants were currently using.

Unmet AP need was high: 31% of people who needed a stick/cane were not using one, 57% for wheelchairs, 66% for lower limb prosthesis, 56% for walking frame, 77% toilet/shower chair, 89% for rollator, and 100% for crutches, quad/tri stick upper prosthesis, protective footwear, and grab bars.

Assistive products (self-reported need)

Reported use of assistive products was also asked to cases reporting a lot of difficulty in vision, hearing, or mobility, given the common and effective use of assistive products with these groups.

As seen in Figure 11, 78% of people with visual impairments report a need for assistive products, although the unmet need (i.e. the proportion who feel a need but do not currently use any product) was 50%. Among those using an assistive product, glasses were the most commonly reported device used (91%).

Similarly, 73% of people with hearing loss report a need for assistive products, yet 79% of

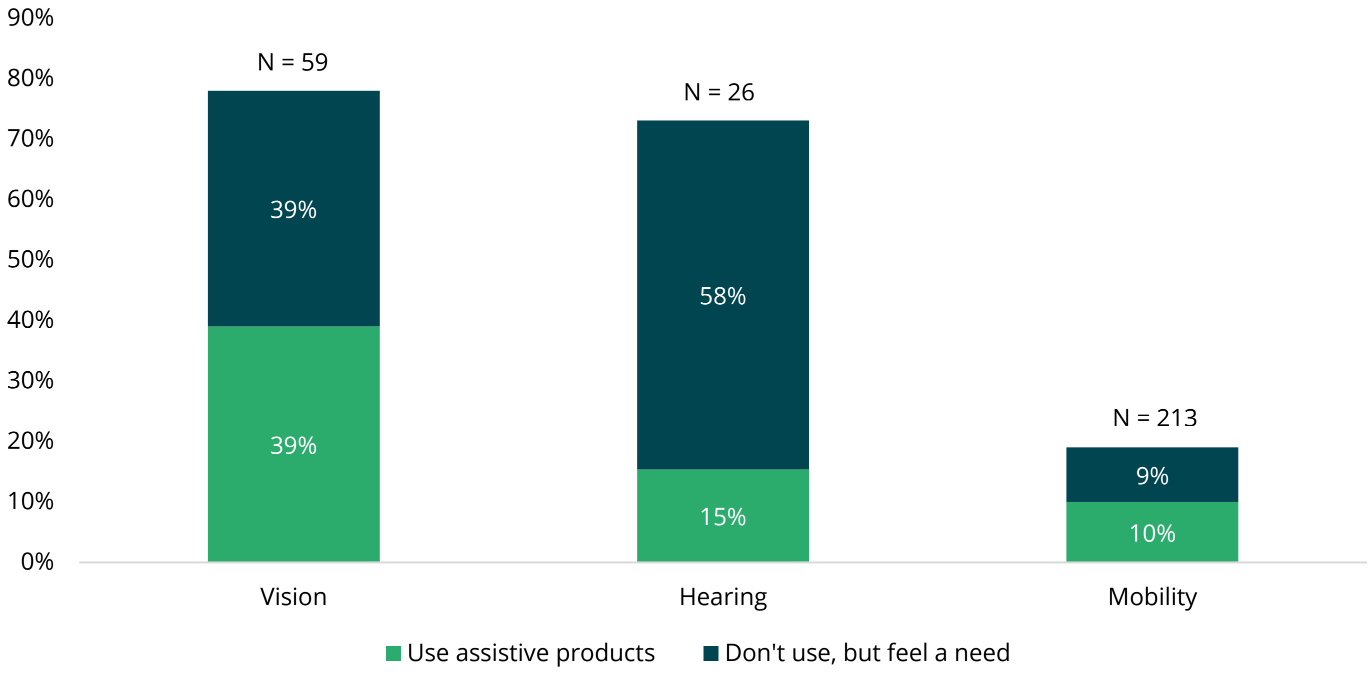

Figure 11: Unmet need for assistive products

these do not use any. Hearing aids were the most commonly reported device used (75%).

Of those with mobility impairments, just 19% reported a need for an assistive product (although it is important to consider the larger total number of people reporting). Of those, 46% do not currently use an assistive product. Among those using an assistive product, the most commonly used devices were canes/stick/crutch (59%), wheelchairs (27%), orthosis (18%), and walking frames (14%).

As demonstrated in Table 17, the most common reason for not using an assistive product is the financial burden, reported by 70%. A lack of awareness of available assistive products was also reported by more than a quarter of people with disabilities (28%).

Table 17: Reasons for not using assistive product when need is felt

	Vision		**Hearing**		**Mobility**	
	N	%	N	%	N	%
Not aware of the assistive product	6	26%	5	33%	5	26%
Product left behind when leaving Syria	2	9%	0	0%	1	5%
Product damaged/lost leaving Syria	1	4%	0	0%	0	0%
Product not available locally	2	9%	1	7%	1	5%
Financial burden	15	65%	11	73%	14	74%
Don't like product appearance	0	0%	0	0%	2	11%
Would be treated differently if had product	0	0%	0	0%	2	11%
Other	7	30%	2	13%	1	5%
Total	15		23		19	

NB: Participants could choose more than one option and percentages do not therefore amount to 100%

Table 18: Reasons for not seeking rehabilitation or MHPSS services in Turkey

	Vision		**Hearing**		**Mobility**		**Cognition**		**Mental Health**	
	N	%	N	%	N	%	N	%	N	%
Not felt need	3	15%	2	25%	18	29%	37	49%	117	62%
Could not afford health service/medication	5	25%	1	13%	17	27%	6	8%	12	6%
Medication not available	0	0%	0	0%	3	5%	3	4%	1	1%
I don't like taking medication	1	5%	0	0%	3	5%	2	3%	1	1%
Transport too expensive	3	15%	0	0%	6	10%	3	4%	4	2%
Services too far away	3	15%	0	0%	5	8%	3	4%	8	4%
Thought problem would get better by itself	0	0%	0	0%	5	8%	19	25%	33	18%
It would embarrass me/my family	0	0%	0	0%	1	2%	1	1%	11	6%
Poor understanding of health care providers	1	5%	0	0%	5	8%	2	3%	8	4%
Poor quality health services	2	10%	1	13%	6	10%	4	5%	5	3%
Not aware of services	3	15%	1	13%	10	16%	7	9%	19	10%
I did not think treatment would help	0	0%	0	0%	3	5%	3	4%	13	7%
No time/other commitments	4	20%	0	0%	6	10%	7	9%	19	10%
No translator (e.g. Arabic) available	3	15%	1	13%	10	16%	5	7%	12	6%
I received some information but could not read/understand due to disability	0	0%	0	0%	1	2%	0	0%	1	1%
Services not available	0	0%	0	0%	3	5%	2	3%	5	3%
Not permitted by other family members	0	0%	0	0%	0	0%	0	0%	6	3%
No one to accompany me	0	0%	0	0%	2	3%	3	4%	5	3%
Other	2	10%	2	25%	6	10%	10	13%	11	6%
Total	20		8		63		76		188	

NB: Participants could choose more than one option and percentages do not therefore amount to 100%

MHPSS and rehabilitation services qualitative findings

The qualitative interviews and FGDs explored access to MHPSS and rehabilitation services in terms of awareness, experience of enrolment, benefits, as well as barriers and facilitators.

Most respondents were aware of the services, and would commonly cite Mülteciler Derneği as a source of information. However, despite many people knowing about services, few people had sought it. This was particularly the case for MHPSS, though this may be linked to perceived benefit of such services.

There was considerable variation in respondents' understanding of mental health concerns and the need for MHPSS. Many respondents, both with and without disabilities, described the stigma associated with mental health concerns, and how it is commonly understood as an extreme condition.

> *"No, no one suggested me that I should seek help for mental health or something, I am not crazy. All the doctors I saw didn't recommend such a thing to me. [...] I don't have any problems like this, I don't have any psychological illness or something."*
>
> ***(Male, 40s, mental health issue)***

Narratives from FGDs with non-disabled community members also suggest that while they understand that their experiences with conflict and as refugees could lead to mental health distress, their community will still stigmatise those who reveal it. Because of this, many respondents confirm, it is and should only be discussed with close family members. Moreover, since MHPSS is conceptualised only as talking, many people do not see the benefit of revealing their distress to strangers and risk this stigma.

> *"I don't need psychological help, what would this support do for me? Take things off my chest? I can do that with Allah. This person, no matter who he or she is, won't help me or be beneficial to me. I need a doctor to help me with my back pain, I don't know if physical therapy would be helpful either, but I am willing to try it out."*
>
> ***(Female, 30s, mental health issue)***

As the quote above shows, physical rehabilitation is considered more beneficial, and most respondents expressed readiness to seek these services. There were frequent reports of long waiting periods for appointments, and a perception that one had to know people within these facilities to be successful in getting an appointment. Among those who had received such services, there were few who expressed concern that their impairment was underestimated, and that this had made them ineligible to certain social assistance.

Some were aware of others they perceive to be less severely impaired but assessed higher, and thus went on to experience great improvements in their functioning and Quality of Life. Even if these are not accurate, perceptions such as these create mistrust in the system and service providers, as well as between other persons with disabilities.

Other common barriers to accessing MHPSS and rehabilitation services were transportation being difficult and costly, not having enough money, not having enough time after other commitments (e.g. work, childcare), and inability to take time off work.

> *I: "Do you think you are eligible to receive [these services]?" [...]*
>
> *R: "Yes, but I don't have time; also I don't like going there because of the favoritism. If I don't go for one day to work, I cannot feed my children. I get paid for the number of days I work."*
>
> ***(Male, 30s, mental health issue)***

The qualitative data indicates that facilitators that could improve access to MHPSS and rehabilitation services include help with transportation and associated cost, having translators, and also having help in making the appointments. Many who expressed satisfaction with services were ones who had been called and visited to help facilitate appointments. Home visits as part of the rehabilitative services were described with a lot of appreciation that a service provider had come to observe their living conditions, as it helped them feel seen, and their struggle acknowledged.

Priority needs and challenges

In order to better address barriers to MHPSS and rehabilitation services, it is important to contextualise these needs among other priority needs and challenges faced by the target group. These included fear of deportation and having to relocate, fear of having the family split up, need for necessities such as food, clothes for children, and heating, especially for winter. The most commonly recurring concern was the need for decent work, as described earlier.

In contrast to physical rehabilitation, seeking MHPSS is not prioritised over these other pressing concerns; this is instead linked to perceived benefit of such services. There were slight gender differences in experience and prioritising, though both led to the same inaction.

> *"I want to take her mental health support, but I don't have time to take her and bring her back home. We don't have someone to relay on, where can she go alone? She doesn't know. Everything is difficult for her, transportation, communicating [...]. What will she benefit from it? Sometimes you go to the clinic and no one would even look at you. They don't know how to examine correctly. It's not like Syria. Sometimes she goes alone, sometimes with the translator, sometimes I go with her. They don't give us pictures or explain what they do, what fault did I do?"*
>
> ***(Caregiver of female in her 20s, with mobility, cognition, and self-care difficulties)***

Most women anticipated that men had more freedom to be outside and have more space to calm their thoughts. However, men felt they had more pressure to show strength, stability and support the family, and did not want to seem weak by seeking MHPSS. On the other hand, women had more pressure to be caregivers, which meant that many women with mental health distress were already taking care of others with severe disabilities, and did not have the luxury of prioritising MHPSS.

Many expressed readiness to speak to and help others in similar situations, but emphasised the need for privacy and confidentiality if discussing mental health concerns.

> *"I would feel sad for him, especially if he doesn't have anyone to support him, it is difficult when you are alone and there is no one around you to help you. I would encourage him, and try to make him feel better. I wouldn't feel surprised [that he does not want anyone to know] as I am doing the same thing. There is no benefit in telling people about your issues, I can tell my wife, yes, but why other people? So they pity me and offer me 15 Liras?"*
>
> ***(Male, 40s, MSI)***

However, the inverse is also relevant. Most respondents believed that there are many others in the same situation, and for some, this meant that only the extreme cases should have the right to seek services.

> *"Going to a psychiatrist is not something you do unless you have to. Only someone who is sick should visit such place. For example, there are 3 million Syrian refugees in this country, all of them are stressed out. The bombing and killing we saw back then is not something normal. All of these people need this help because of their previous circumstances. Immigration wasn't easy either. All of these problems need a psychologist"*
>
> ***(Caregiver of female aged 10 with mental health issue)***

Lastly, it is particularly notable that many recommended seeking professional help, even if they themselves have not. Common messages of advice included recommending seeking help sooner than later, before their condition worsened. Other recommendations included paying whatever cost is needed to seek help from service providers that had treated them with respect and empathy.

> *"I wouldn't advise him to go to a public hospital, I would advise him to see a private doctor if he had money. [...] A private doctor would be better maybe, but I would encourage him to speak to someone who knows, who might have the solution, or someone who can advise what kind of doctor to consult. I personally don't speak to people because I am tired of them pitying me."*
>
> ***(Male, 30s, visual impairment)***

7.6. Situational analysis

Of the 20 service providers contacted, we received nine forms (45%). Of the remaining 11, three (15%) expressed their interest in participating, but they did not have capacity, given the needs of their service towards the end of the year. Seven (35%) of the service providers could not be reached or did not return forms, and were thus counted as non-responders. Just one (5%) service provider, a hospital, refused to participate.

Of non-responders and refusals, 73% provided psychological support, 27% rehabilitation, and 18% focused on other social support.

Of the nine respondents, eight (88%) provided MHPSS, and just one (12%) provided physical rehabilitation.

7.6.1. Mental health and psychosocial support (MHPSS)

Eight organisations reported delivering MHPSS services, programmes, and activities for refugees in Istanbul (Appendix 14). Three of the eight (38%) are situated in Sultanbeyli. The mapping captured 61 individual activities provided by these organisations, all of which are reported to be free for service users.

MHPSS activity overview

Of these 61 activities, 49% represent “case-focused” interventions, which include person-focused psychosocial work, psychological intervention, and clinical management of mental health disorders by specialised and non-specialised personnel.

46% of activities are “community-focused”, and include information dissemination, community mobilisation and integration, community and family support, safe spaces for vulnerable groups, psychosocial support in education, and psychosocial considerations in other sectors.

The remaining 5% of reported activities represent “general activities to support MHPSS”, which may include situational analyses, training, clinical supervision, psychosocial support for staff, and research.

Of the eight service providers listed, three (38%) provide activities across all three major categories. Three (38%) provide activities that are only community-focused and two (25%) provide activities that are solely case-focused.

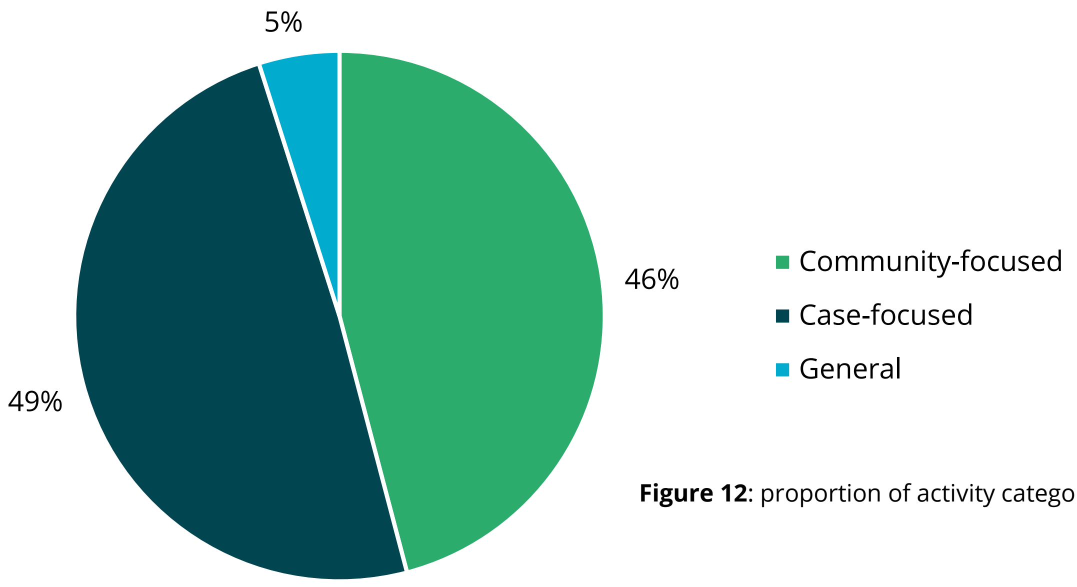

Figure 12: proportion of activity categories

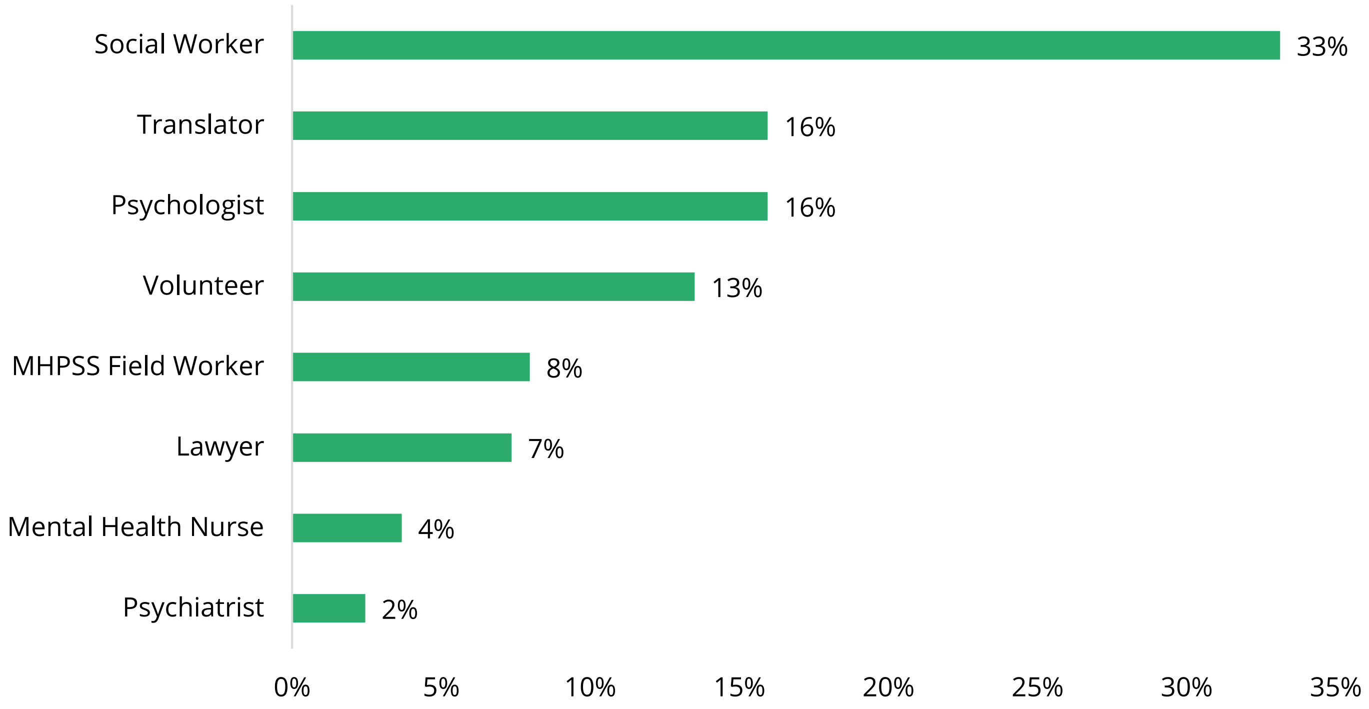

Figure 13: proportion of personnel involved in MHPSS activities

MHPSS workforce

Across the eight organisations, 163 MHPSS personnel provide the 61 activities.

The majority of MHPSS personnel are social workers (33%), which includes youth workers and community outreach workers. Only 18% of personnel would be classed as specialised personnel, trained to deliver specialised interventions (i.e. psychologist or psychiatrist).

Of reported activities, 67% had at least one psychologist involved in service delivery. Just 15% of activities were delivered by a psychiatrist, and all of these were provided by one organisation; Sultanbeyli Public Mental Health Center. 41% of activities included at least one translator, although data is not available on need for such across other activities.

Types of MHPSS activities

The Inter-Agency Standing Committee (IASC) have a developed a model, or a “pyramid”, of services provided in humanitarian emergencies. Although Syrians living in Istanbul are not situated within a setting of immediate humanitarian emergency, the IASC pyramid model is a useful tool with which to conceptualise services for refugee populations.

According to the IASC pyramid, there exist four levels of MHPSS service: (1) Level 1 – basic services and security; (2) Level 2 – community and family support; (3) focused, non-specialised support, provided by non-specialised professionals; (4) specialised support provided by specialised MHPSS personnel.

Of the reported activities, the majority correspond with Level 3 of the model (52%). 7% fall under Level 1, 28% Level 2, and 13% Level 4.

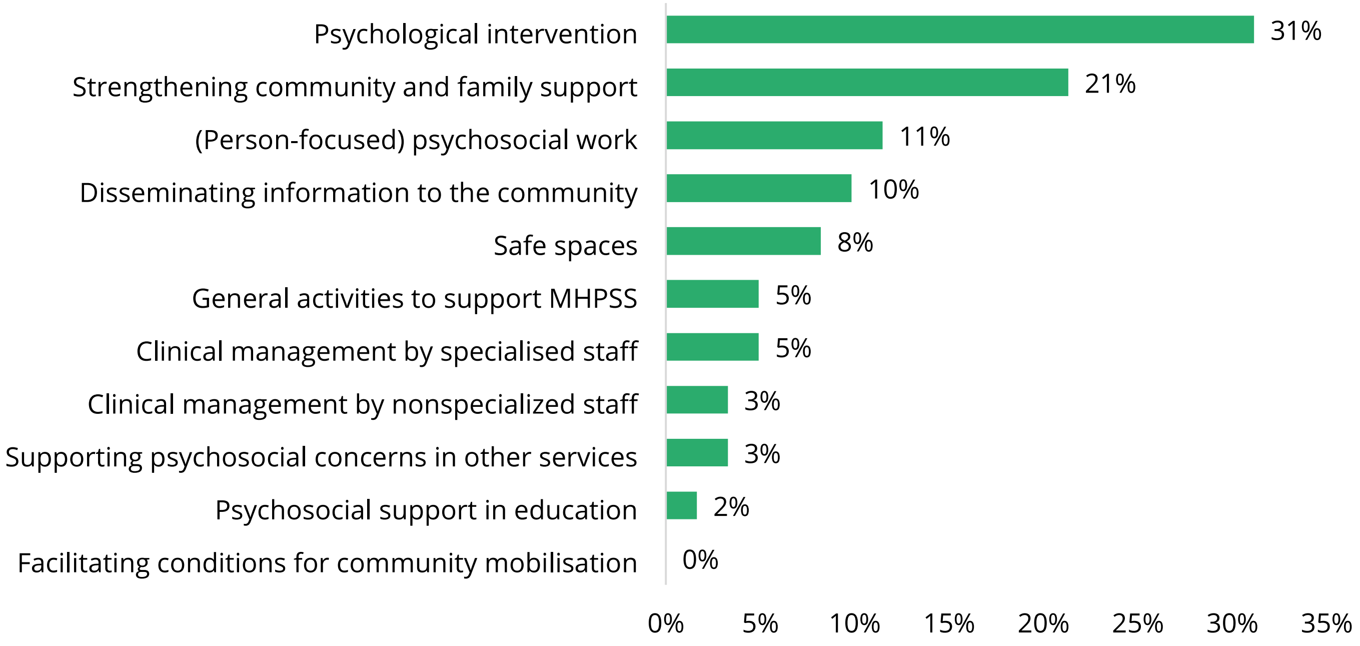

Figure 14: proportion of activities, by activity code

Across these four Levels, service providers reported activities across 11 main activity types. The most frequently reported are those involving 'Psychological intervention' (31%) and 'Strengthening community and family support' (21%). The least frequently reported activities include 'Facilitating conditions for community mobilisation' (0%), 'Psychosocial support in education' (2%), and 'Supporting psychosocial concerns in other services' (3%).

Just 8% of activities involve the 'Clinical Management', either by non-specialised (3%) or specialised staff (5%). These clinical services are only provided by one provider; Sultanbeyli Public Mental Health Center. Their offered clinical activities include a mix of therapeutic and pharmacological interventions for adults (18+).

Target beneficiaries

Indeed, when looking at targeted beneficiaries of all reported activities, just 16% provide services exclusively for children between the ages of 0-18. 38% of the activities target both adults and children, whilst 46% are available to adults only.

Consistent with these findings, just 3% of activities take place within schools, with 13% within a beneficiary's home. 84% take place in centralised community centres or an organisation's head office.

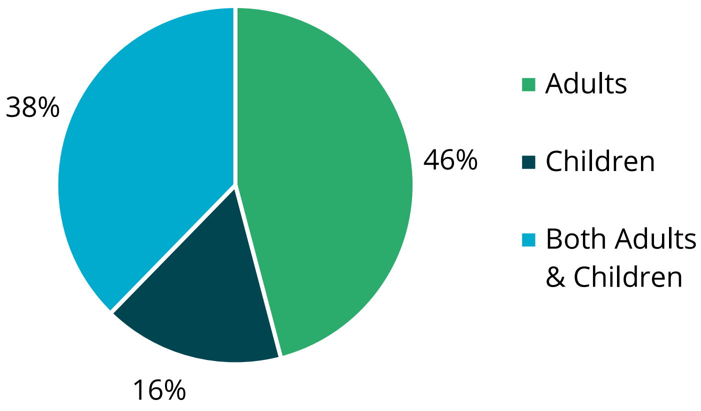

Figure 15: proportion of target beneficiaries

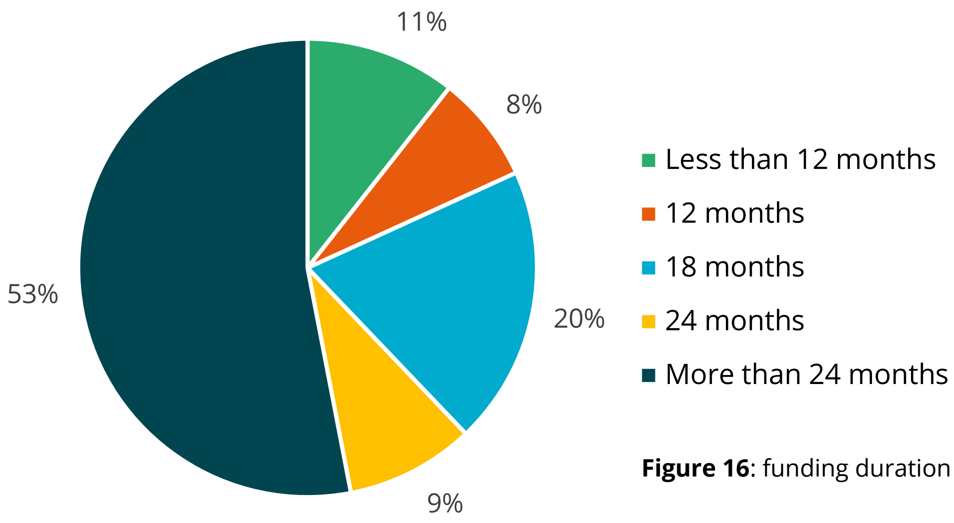

Figure 16: funding duration of MHPSS activities

MHPSS funding

Close to all of the reported activities (94%) are currently funded and currently implemented. 6% are planned, but currently sit unfunded and not yet implemented.

Of those funded and implemented, 53% have funding for at least two years (the majority are currently operating within this funding cycle). In total, 90% of ongoing MHPSS service activities have funding for 12 months or more.

7.6.2. Physical rehabilitation

Just one organisation, AAR Japan, reported on rehabilitation service provision for refugees. AAR Japan provide 100% of their services within a beneficiary's home, and focus activities for all patients with disabilities who have physical rehabilitation needs, including those with physical impairments, visual impairments, hearing loss, developmental disabilities, intellectual disabilities, and mental health issues.

Services are provided for all age groups, with specific activities targeted at older people and refugees. Beneficiaries are not charged for the services provided. As well as physical rehabilitation, services include community outreach programmes.

A number of assistive products are made available through the organisation, including manual/electric wheelchairs, rollators, walking frames, crutches, prostheses and orthoses, pressure relieving mattresses and cushions, spectacles, magnifiers, braille writing equipment, white canes, and hearing aids.

On staff, the organisation has two physiotherapists, but no other rehabilitation personnel.

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8. Discussion

8.1. Disability prevalence

For the purposes of this study, disability has been defined as:

- Self-reported functional limitation using the Washington Group Questions, through a rating of “a lot of difficulty” or “cannot do” in any functional domain (all ages)
- Self-reported daily experience of severe depression or anxiety using the Washington Group Questions, with feelings reported to be “a lot” (adults 18+)
- Screening positive for elevated symptoms of depression, anxiety, or PTSD (children aged 7-17)
- Moderate/severe musculoskeletal impairment, as assessed by a physiotherapist

Across this criteria, the estimated all-age prevalence of disability was 24.3%.

Close to one quarter of participants aged 2-17 (20.3%) and 18-49 (24%) have a disability. This high estimate was driven partly by the high prevalence of common mental disorders in children (23.4%) in this setting. As expected, prevalence rose with age so that half of people aged 50+ had a disability (50.6%), although due to the small sample size in this age group, some caution is warranted in the interpretation of these findings.

The overall prevalence estimate is considerably higher than other studies conducted by ICED, including those from Guatemala (10.2%), India (12.2%), and Cameroon (10.5%),[19, 51] and the WHO’s global estimate of 15%. However, the prevalence was similar to results among Syrian refugees living in Jordan and Lebanon, estimated at 22.9%,[14] supporting the hypothesis that the risk of disability, including mental ill-health, is higher for displaced/conflict affected populations.

Given the different methodologies across these studies (namely the inclusion of detailed mental health assessment in children and the clinical assessment of MSI in this study), and the diverse study populations, comparisons between studies are interpreted with caution.

It is also important to also note the relatively young age of this population in interpreting these prevalence estimates as disability is most common among older adults. Just 3% of the sample were aged 60+ years. This age distribution supports previous research suggesting that older people are more likely to be left behind in situations of humanitarian crises.[17]

In terms of the Washington Group questions, the most frequently reported functional difficulties among adults were anxiety (10%), walking (9.3%), and depression (5.6%). In children, the most common (aside from mental health issues) were related to making friends (2.5%), walking (2.3%), and controlling behaviour (2.2%). For children aged 2-4, these were controlling behaviour (5.3%) and communication (2.1%). These results are broadly similar to findings from displaced Syrian populations in Jordan and Lebanon.

Overall, 60% of households interviewed in the study included at least one household member with a disability. This figure is similar to recent findings among Syrian households in Jordan/Lebanon (62%), and it is much higher than another estimates from Jordan (7%).[52] However, the latter lower figure was derived from a simple yes/no question, and the disparity in findings highlights the importance of using standardised methods of disability assessment.

Households with a disabled household member had a higher dependency ratio and a lower proportion of adults in paid work, suggesting increased vulnerability of households including people with disabilities.

These factors contribute to the “cycle of poverty”, whereby people and households with disabilities are generally poorer than those without disabilities, which can result from the opportunity cost associated with caregiving when support isn’t available.[53]

8.2. MSI prevalence

Musculoskeletal impairment was estimated to be 12.2%, with a notable increase in prevalence in older adults (50+ - 43.8%). These findings are similar to results from Cameroon (11.6%) over double the 5.2% found in Rwanda.[54,55] The prevalence was slightly lower than a study in India (19.6%), although the India study included an additional screening question on back-pain which may have contributed to the higher estimate. [45]

Of note is that the prevalence of moderate/severe MSI among Syrian refugees (8.6%) was consistently higher than these three studies (India 3.5%, Cameroon 3.4%, Rwanda 2.8%), despite the relatively young age of the study population. This may reflect direct (e.g. injury) or indirect (e.g. challenges in accessing services prior to/during displacement) impact of the Syrian war.

Unmet physical rehabilitation need among people with MSI was high; more than half of participants who could benefit from medication were not receiving this while unmet need was >90% for surgery, physiotherapy, environmental modification, and other related services. Overall, 83% of people with MSI, and approximately 10% of the overall survey population were identified as needing physiotherapy but having not received this support. Participants reported limited service

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availability and a lack of information of those available.

These findings suggest that people were more ready to seek physical rehabilitation services compared to MHPSS, where stigma and attitudinal barriers are apparent. However, other factors were identified that need to be addressed to reduce this treatment gap, including lack of perceived need and awareness of services, transportation being difficult and costly, and competing time demands (e.g. work and childcare). It also highlighted the potential benefit of home visits to improve access to services, as well as instilling a feeling of value (aligned with previous research among people with disabilities in humanitarian contexts).[17]

Greater information sharing among target groups may be needed to increase uptake. Physical rehabilitation services should also be equipped to deal with a complete range of service needs, including surgical and post-operative care, physiotherapy, medication, and provision of assistive products. Capacity for continued follow-up and sustained care is paramount.

The situational analysis reported on just one organisation (other than Mülteciler Derneği) providing physical rehabilitation services. Collaboration and referral systems between the two services will likely improve access, quality of care, and patient outcomes.

Collaboration is, however, not an easy task, and clear communication is a must. Himmelman’s framework of collaboration between healthcare services is a useful tool with which to establish expectations and roles between two organisations looking to work more closely together.[56]

8.3. Mental health prevalence

In order to compliment the work of project partners, as well as existing research in Sultanbeyli among adults,[29] mental health in children (aged 7-17) was assessed through specialised screening tools, rather than the Washington Group Questions.

Nearly a quarter (23.4%) of sampled children meet the criteria for symptomatic depression, anxiety, or PTSD. 12.4% of children demonstrated elevated symptoms of depression, 8.9% anxiety, and 11.5% PTSD. This is considerably higher than is expected in the general population, but similar to previous estimates from other refugee populations.[9]

The prevalence of common mental health disorders among children was lower than findings from 2018 among Syrian adults in the same district (depression, 34.7%; anxiety, 36.1%; PTSD 19.6%).[29]

As indicated in the qualitative research, higher levels of anxiety amongst adults may result from the stressors associated with refugee status (fear of deportation, fear of having the family split up, need for necessities such as food, clothing, and heating), which may be more overt for adult refugees, compared to children.

Children with depression were more likely to come from poorer households and have lived in Turkey for longer, suggesting a possible impact of long-term disruption and displacement on children. Depression symptoms were also higher in children with lower resilience scores. Given the importance of this personal protective factor to overall wellbeing, it is likely important to identify strategies that can promote and enhance resilience among refugee youth. Interventions may include parenting and school-based interventions.[57]

An understanding of protective factors was further explored through qualitative interviews, in which coping strategies were discussed with Syrians with disabilities. Participants consistently reported both family and religion to be pillars of strength for them through this period of trauma, displacement, and disruption. These findings are consistent with reports from other Syrian populations,[24] and may indicate an important focus of intervention development.

Important to also consider is the higher prevalence of mental health issues in girls (27.7%) compared to boys (18.8%). This is consistent with research from across refugee and general populations, in which girls are reported to have a much higher prevalence of depression and suicidal ideation/attempts than boys.[58, 59] Gender differences in anxiety and PTSD are less well defined, but apparent in many studies.[60]

Evidence suggests that girls are more likely to exhibit 'internationalising' (withdrawal, self-consciousness, hypersensitivity) behaviours, as opposed to 'externalising' (aggression, noncompliance, impaired self-regulation) behaviours in boys, particularly in adolescence.[61]

Gender differences may be particularly pertinent for this population, with research indicating unique vulnerabilities to mental health issues, outside of the stressors associated with refugee status. Girls and young women are often expected to leave school in preparation for family life, and with that comes stresses related to raising and caring for a family. Refugee boys on the other hand, may be expected to supplement family income by working themselves from a young age, and in many instances among Syrian refugees, take on a senior role in the family, if the father is dead or absent.[62] These experiences of childhood work were confirmed to occur within Sultanbeyli in the focus group discussions.

Mental health promotion, prevention, and intervention must be adapted and appropriate for each gender, as research indicates differences between males and females in terms of vulnerabilities, help-seeking, coping strategies, and preferences for treatment.[63] Culture, context, and concept conceptualisation are also important considerations in intervention development and service planning.

Findings in this study, aligning with previous research, suggest that many mental health issues (73%) may be attributed to violence and trauma related to the war in Syria and a new life in Turkey. An understanding of displacement and the lived experiences of conflict-affected populations will therefore need to be a key component of intervention development and personnel training, ensuring sensitive, appropriate care is provided, especially in non-specialist settings with no prior experience with this population.

Although much of the analysis within this report is focused on the mental health of children, it is important to note elevated levels of depression (5.6%) and anxiety (10%) among adults. These findings are consistent with results from Jordan/Lebanon (depression: 5.9%, anxiety: 11.4%), also measured through the Washington Group Questions. However, these estimates are considerably lower than findings from the recent survey of adult mental health among refugees in Sultanbeyli (depression: 34%, anxiety 36%), highlighting the limitations of the Washington Group Questions as an assessment of mental health.

As well as negative effects associated with mental health issues (including poorer physical

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health, lack of self-care, and limited social functioning), it is worth considering the broader impact of elevated mental health issues among adults. For instance, parental depression is associated with disengaged parenting behaviours, which can have a negative impact on a child's ongoing development.[64, 65]

An understanding of additional burdens attributed to mental ill health can help advocate with partners working across other sectors, such as early childhood development and employment services.

7.3.1. MHPSS

There is clearly a need for strong MHPSS services and systems, with mental health issues common among Syrian refugees in Sultanbeyli.

However, people with mental health issues face high levels of unmet need for MHPSS (73%). This aligns with the high unmet need (80-90%) estimated from the recent survey of mental health in adults in this population.[29]

As apparent in the quantitative and qualitative data, many Syrians with mental health issues did not feel a need for support, believing MHPSS is only relevant to individuals with severe symptoms. Stigma also played an integral role, with people feeling ashamed at their feelings of mental distress. This speaks to a wider issue within the community and a possible lack of mental health literacy, important for early identification and intervention.

Similar attitudes and barriers have been evidenced among refugees and asylum seeking across Europe, with including language, stigma, and low awareness common reasons for not seeking MHPSS.[66] Although MHPSS may be available, refugees are not seeking these services and intervention provision needs to be coupled with community engagement, mobilisation, sensitisation, and information sharing.

Mass media campaigns have been used effectively in the past to increase uptake of public health services, given wide reach at relatively low cost. For example, refugees in Sierra Leone were encouraged to listen to an ongoing radio programme to combat negative attitudes towards mental health issues.[67]

Having service providers engage with parents and key community stakeholders to build trusting relationships can also help facilitate the uptake of services. Participatory workshops for intervention development can help ensure care is appropriate to the needs of target beneficiaries.

The unmet needs seen in Sultanbeyli are not unique to this district; the mental health treatment gap is apparent across much of the world, and great shifts in practice are taking place,[68] although positive action is taking place within the field of 'Global Mental Health', with new innovations and funding being made available.

One such innovation that may be appropriate to service providers in Sultanbeyli and Istanbul is that of task shifting.[69] Task shifting centres on the training of non-specialist personnel to deliver low-intensity psychological interventions, and is proven to be an effective method of service provision when specialist personnel are not available to meet demand.

An example of this in practice is the new multi-lateral collaboration, the 'STRENGTHS' programme (Strengthening mental health care systems for Syrian refugees in Europe and the Middle East). This programme adopts Problem Management Plus (PM+) to be delivered by lay, non-professional people, who have no specialised mental health training.[70]

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With limited MHPSS activities available for refugees in Istanbul, it is important for service providers, such as Mülteciler Derneği and Relief International, to adopt innovative methods, as they have the potential to develop sustainable interventions when resources are constrained.

8.4. Key life areas

8.4.1. Work

Adults with disabilities, and in particular men with disabilities (31%), were far less likely to be working than those without disabilities (69%). Although it is important to note that difficulties obtaining employment were apparent across all Syrians, with and without disabilities, given the limited opportunities and systemic barriers in Turkey.

Adults with disabilities were much more likely to report disability as the reason for not working, and many reported stress resulting from feelings of pressure to provide for their family. Many women expressed interest in paid work and helping provide for the family, but they did not feel the same pressure as men.

Livelihood programmes are clearly a priority for all Syrian refugees and it is important that programmes are inclusive of people with disabilities.

8.4.2. Children and school

Children with disabilities were far less likely to currently be attending school, with over one-third (37%) currently absent.

Although communication and language barriers were present amongst all children, children with disabilities reported further layers of discrimination, which made it difficult to communicate their needs. As a result, school drop-out appears to be common among children with disabilities.

Children with disabilities were also less likely to report consistent support from teachers and fewer meaningful friendships. In interviews, participants discussed that stigma was apparent with regards to their impairment, as well as their nationality and refugee status, and children were often ostracized or bullied.

Social isolation is a well-recognised risk factor for mental health issues, and importantly, the inverse, social inclusion, is a strong protective factor.[71] Moreover, social exclusion can inhibit a child's ability to develop important social skills and can hinder future employment opportunities and overall Quality of Life.

Sensitisation programmes may be required within schools, for both students and teachers, in order to facilitate the inclusion of refugee children with and without disabilities.

Successful programmes among other refugee populations include language support, teacher training and professional development, flexible learning options, and inclusive extra-curricular activities.[72]

It is also important that schools adopt policies and practices related to the early identification of functional difficulties, so a child can receive early intervention services and maximise their developmental outcomes.

Education is a child's fundamental right, and children with disabilities cannot be left behind.

8.4.3. Social participation

Overall, people with disabilities reported higher levels of participation restriction compared to people without disabilities.

They were, for instance, less likely to visit others in the community and engage in major social events. In addition, people with disabilities were less likely to report feelings of respect from others in the community.

That being said, in the in-depth interviews, a strong connection to their family was frequently reported, especially in a situation where social support networks have been unsettled. Programmes to support improved family strength and resilience will offer a strong protective factor for overall wellbeing.

Inclusive, community-based programmes are increasingly recognised as important for individual and community wellbeing, especially among displaced populations, as actors look to go beyond intervention healthcare towards a focus on community wellbeing.

As well as including single family groups, effective interventions often include multiple-family groups together at one time, developing a sense of community and cohesion.[73]

8.4.4. Quality of Life

Considering the breadth of findings in this study on the exclusions and barriers faced by people with disabilities in terms of education, employment, health, participation, and their environment, the finding that people with disabilities are more likely to report a poorer Quality of Life is not altogether surprising.

Addressing inclusive policies and services Syrian refugees will help alleviate barriers and contribute to the needs of people with disabilities.

People with disabilities have the right to dignified and safe access to services and opportunities - health care, education, livelihoods, social participation - on an equal basis with others. Policy makers, donors, health and other service providers care professionals must recognise this and ensure that services are accessible and inclusive for all. "Nothing about us without us" is at the heart of the international disability movement. People with disabilities have unique insight into the barriers they face and how these barriers could be overcome. They should be meaningfully involved in planning and implementation of service provision for displaced populations. Engaging with local Disabled People's Organisations (DPOs), and having people with disabilities working as health and humanitarian workers in leadership roles have previously been found to improve disability inclusion.

8.5. Strengths and limitations

Strengths

This study addresses an evidence gap on disability among Syrian refugees. The study used standardised sampling methods and internationally recognised and standardised tools for assessing disability.

In-depth assessment of MSI and mental health in children provides project partners focused, reliable data upon which to plan service provision and advocacy campaigns. An assessment of mental health in children within in Sultanbeyli, using internationally recognised screening tools, compliments recent findings from among adults.

Adopting a mixed-methods approach of quantitative and qualitative methodologies provides a richer picture of disability among Syrians in Sultanbeyli, much more so than had either been used in isolation.

Limitations

As with all studies, there are limitations to acknowledge.

The sample was selected from Sultanbeyli Municipality's refugee registration database and therefore unregistered or undocumented refugees were not included.

The response rate was slightly lower than 80%, although age and sex distribution was congruent with Mülteciler Derneği's registration database. However, it is possible that those participants who were unavailable (away from the home at time of visit) may be less likely to have a disability which may have led to over-estimation of disability prevalence.

This lower response rate was due, in part, to the difficulties associated with surveys in urban settings (e.g. adults and children unavailable due to work/school).

In addition, many households selected from the refugee registration database and had moved away from the area, often as a result of new relocation policies for Syrians living in Istanbul. Disability specific information is not known for households that have moved and therefore it is unknown how this may have influenced findings.

Although numbers were small, it is also worth noting that Syrian families that did not speak Arabic (apparent in groups from certain regions of the country) were not included in the study, and findings may therefore not be generalizable to their service needs.

Fewer controls than cases were included in the study, we adjusted for age and sex to account for the imperfect matching.

Classifying the severity of MSI relied in-part on the clinician's judgement and therefore some subjectivity in this assessment is unavoidable. This aligns with the methodology used in previous studies of MSI and we aimed to standardise this as much as possible with thorough training of the physiotherapists. The fact that MSI assessment was conducted by physiotherapists may have led to some bias in assigning need for services; this may have resulted in an over-estimation of need for physiotherapy and under-estimation of other services they have less experience in.

While all efforts were made to interview participants in private, this was not always possible, as interviews were conducted in the home. This is particularly the case for children, where it was often requested that an adult be present. This may have led to some response bias, especially for more sensitive questions on mental health. Arguably given the evident stigma attached to mental health, this might be expected to under rather than over estimate mental health issues.

Finally, an understanding of the mental health screening tools is necessary when interpreting results. As previously mentioned, a clinical diagnostic interview would have been the preferred method of assessment, for more precise prevalence figures, however practicalities were not feasible. Self-report mental health screening tools can result in overestimated prevalence figures,[74] although this is an issue apparent to nearly all research, not just this study.

The tools used to assess depression and anxiety were abbreviated versions, with a reduced number of items, compared to the standard tools. Cut-offs for these abbreviated versions have been validated with Syrian children living in refugee camps in Jordan (publication forthcoming), as opposed to children living amongst a host population, as is the case in Sultanbeyli. These validated cut-offs may be higher than needed for children in Sultanbeyli, as children living in camps may be more likely to endorse certain items, given more challenging living conditions. As such, our estimates for depression and anxiety in children may represent an under-estimate.

8.6. Recommendations

1. 24.3% of Syrians living in Sultanbeyi have a disability, with 60% of households including at least one person with a disability. Disability inclusive practices and policies are vital within local public policies and service provision, across all sectors, including health, education, and social protection.
2. Mental health issues are common among children, and evidence from this study and others in the literature indicate similarly high rates among adults. Increased service provision, in tandem with community awareness training campaigns and health promotion interventions, are needed to raise awareness and address negative attitudes, whilst increasing demand and uptake of services.
3. There was high unmet need for some physical rehabilitation services and further consultations with target patient groups may help to develop appropriate intervention strategies and improve uptake.
4. Barriers to healthcare access, including attitudinal and financial, need to be alleviated, so people with disabilities can access the rehabilitation services they need.
5. Support needs to go beyond rehabilitation and healthcare assistance. Other factors that contribute to one's Quality of Life need to be in focus, such as community integration, livelihoods, and social participation.
6. Policies of positive active discrimination and affirmative action can help break the cycle of poverty that many Syrians with disabilities find themselves in.
7. Build capacity of humanitarian organisations and service providers to collect, analyse, and use data on disability. This should include looking in detail at gender differences and including data on mental health.
8. People with disabilities, and particularly those with mental health issues, should be meaningfully involved in planning and implementation of service provision for displaced populations.

References

1. UNHCR. Syria Emergency. 2019. Available from: https://wwwunhcrorg/uk/syria-emergencyhtml.
2. UNHCR. Syria Regional Refugee Response – Turkey. 2019. Available from: https://data2unhcrorg/en/situations/syria/location/113.
3. UNHCR. Provincial Breakdown All Refugees and Asylum-Seekers in Turkey - October 2019. 2019. Available from: https://data2unhcrorg/en/documents/details/69481.
4. UNHCR. 3RP Country Chapter 2019/2020 – Turkey. 2019. Available from: https://data2unhcrorg/en/documents/download/68618.
5. Ministry of Interior DGoMM. Migration Statistics on Temporary Protection. 2019. Available from: https://wwwgocgovtr/icerik6/temporary-protection_915_1024_4748_icerik.
6. Dow HD. An Overview of Stressors Faced by Immigrants and Refugees: A Guide for Mental Health Practitioners. Home Health Care Management & Practice. 2011;23(3):210-7.
7. Giacco D, Laxhman N, Priebe S. Prevalence of and risk factors for mental disorders in refugees. Seminars in Cell & Developmental Biology. 2018;77:144-52.
8. Fazel M, Wheeler J, Danesh J. Prevalence of serious mental disorder in 7000 refugees resettled in western countries: a systematic review. The Lancet. 2005;365(9467):1309-14.
9. Kien C, Sommer I, Faustmann A, Gibson L, Schneider M, Krczal E, et al. Prevalence of mental disorders in young refugees and asylum seekers in European Countries: a systematic review. European Child & Adolescent Psychiatry. 2019;28(10):1295-310.
10. Turrini G, Purgato M, Ballette F, Nosè M, Ostuzzi G, Barbui C. Common mental disorders in asylum seekers and refugees: umbrella review of prevalence and intervention studies. International Journal of Mental Health Systems. 2017;11(1):51.
11. International H. Disability in humanitarian contexts: Views from affected people and field organisations. 2015. Available from: https://www.un.org/disabilities/documents/WHS/Disability-in-humanitarian-contexts-HI.pdf.
12. World Health Organization. World report on disability. Geneva: World Health Organization; 2011.
13. UN General Assembly. Convention on the Rights of Persons with Disabilities. 2007. Available from: https://wwwunorg/development/desa/disabilities/convention-on-the-rights-of-persons-with-disabilitieshtml.
14. iMMAP AA, Humanity Inclusion. Disability Assessment among Syrian Refugees in Jordan and Lebanon. Available from: https://apppowerbicom/view?r=eyJrIjoiYjZiOGRkNWUtMzQyYi00ZGFjLTg1ZTAtMzUwNWQwMThjMGViIiwidCI6ImY2ZjcwZjFiLTJhMmQtNGYzMC04NTJhLTY0YjhjZTBjMTlkNyIsImMiOjF9.
15. iMMAP HaIa. Removing Barriers: The Path towards Inclusive Access. 2018. Available from: https://reliefweb.int/sites/reliefweb.int/files/resources/65892.pdf.
16. B R. Syrian refugee women, girls, and people with disabilities in Turkey. Brighton, UK: Institute of Development Studies; 2018.
17. Başkanlığı AvADY. Türkiye'deki Suriyelilerin Demografik Görünümü, Yaşam Koşulları ve Gelecek Beklentilerine Yönelik Saha Araştırması. 2017. Available from: https://wwwafadgovtr/upload/Node/24384/xfiles/17a-Turkiye_deki_Suriyelilerin_Demografik_Gorunumu_Yasam_Kosullari_ve_Gelecek_Beklentilerine_Yonelik_Saha_Arastirmasi_2017pdf.

18. Crock M SB, McCallum R, Smith-Khan L, Çorabatır M. Syrian refugees with disabilities in Jordan and Turkey2015. Available from: https://www.researchgate.net/profile/Laura_Smith-Khan/publication/281853465_Syrian_refugees_with_disabilities_in_Jordan_and_Turkey/links/55fb8ba508ae07629e07bdec/Syrian-refugees-with-disabilities-in-Jordan-and-Turkey.pdf?origin=publication_detail.
19. Mactaggart I, Kuper H, Murthy GVS, Oye J, Polack S. Measuring Disability in Population Based Surveys: The Interrelationship between Clinical Impairments and Reported Functional Limitations in Cameroon and India. PLOS ONE. 2016;11(10):e0164470.
20. Charlson F, van Ommeren M, Flaxman A, Cornett J, Whiteford H, Saxena S. New WHO prevalence estimates of mental disorders in conflict settings: a systematic review and meta-analysis. The Lancet. 2019;394(10194):240-8.
21. World Health Organization. Depression and Other Common Mental Disorders: Global Health Estimates. 2017. Available from: https://apps.who.int/iris/bitstream/handle/10665/254610/WHO-MSD-MER-2017.2-eng.pdf.
22. Tinghög P, Malm A, Arwidson C, Sigvardsdotter E, Lundin A, Saboonchi F. Prevalence of mental ill health, traumas and postmigration stress among refugees from Syria resettled in Sweden after 2011: a population-based survey. BMJ Open. 2017;7(12):e018899.
23. Georgiadou E, Zbidat A, Schmitt GM, Erim Y. Prevalence of Mental Distress Among Syrian Refugees With Residence Permission in Germany: A Registry-Based Study. Frontiers in Psychiatry. 2018;9(393).
24. Hassan G KL, Mekki-Berrada A, Quosh C, el Chammay R, Deville-Stoetzel JB, et al. Culture, Context and the Mental Health and Psychosocial Wellbeing of Syrians: A Review for Mental Health and Psychosocial Support staff working with Syrians Affected by Armed Conflict2015. Available from: https://www.unhcr.org/55f6b90f9.pdf.
25. Tekeli-Yesil S, Isik E, Unal Y, Almossa FA, Unlu HK, Aker AT. Determinants of Mental Disorders in Syrian Refugees in Turkey Versus Internally Displaced Persons in Syria. American Journal of Public Health. 2018;108(7):938-45.
26. Acarturk C, Cetinkaya M, Senay I, Gulen B, Aker T, Hinton D. Prevalence and Predictors of Posttraumatic Stress and Depression Symptoms Among Syrian Refugees in a Refugee Camp. The Journal of Nervous and Mental Disease. 2018;206(1):40-5.
27. Alpak G, Unal A, Bulbul F, Sagaltici E, Bez Y, Altindag A, et al. Post-traumatic stress disorder among Syrian refugees in Turkey: A cross-sectional study. International Journal of Psychiatry in Clinical Practice. 2015;19(1):45-50.
28. Ozer S SS, Oppedal B. Bahçeşehir Study of Syrian Refugee Children in Turkey. 2013. Available from: https://www.fhi.no/globalassets/dokumenterfiler/studier/ungkul/bahcesehir-study-report.pdf.
29. Fuhr DC, Ataturk C, McGrath M, Ilkkursun Z, Woodward A, Sondorp E, et al. Treatment gap and mental health service use among Syrian refugees in Turkey. European Journal of Public Health. 2019;29(Supplement_4).
30. 3RP. Regional Refugee and Resilience Plan 2017-2018 in Response to the Syria Crisis: Turkey. 2017.
31. GD T. Tu¨rkiye'de Suriyeli mu¨ltecilere yo¨nelik sivil toplum kurulus¸larının faaliyetlerine ilis¸kin bir degˇerlendirme (A review of the role of NGOs working for Syrian refugees in Turkey). Marmara J Commun. 2016;25(1):145-57.
32. Assi R, Özger-İlhan S, İlhan MN. Health needs and access to health care: the case of Syrian refugees in Turkey. Public Health. 2019;172:146-52.
33. World Health Organization. Mental Health Atlas – 2017 country profiles. Available from: https://www.who.int/mental_health/evidence/atlas/profiles-2017/en/#G
34. World Health Organization. Mental Health Atlas – 2011 Turkey country profile. Available from: https://www.who.int/mental_health/evidence/atlas/profiles/tur_mh_profile.pdf?ua=1.

35. International Council of Ophthalmology. Number of Ophthalmologists in Practice and Training Worldwide. Available from: http://www.icoph.org/ophthalmologists-worldwide.html
36. Bradby H HR, Newall D, Phillimore J. Public health aspects of migrant health: a review of the evidence on health status for refugees and asylum seekers in the European Region. Copenhagen: WHO Regional Office for Europe; 2015.
37. Shakespeare T, Bright T, Kuper H. Access to health for persons with disabilities. 2018. Available from:https://www.ohchr.org/Documents/Issues/Disability/StandardHealth/BackgroundDoc_EGM_Righttohealth.docx.
38. Torun P, Mücaz Karaaslan M, Sandıklı B, Acar C, Shurtleff E, Dhrolia S, et al. Health and health care access for Syrian refugees living in İstanbul. International Journal of Public Health. 2018;63(5):601-8.
39. Cloeters G OS. Healthcare Access for Syrian Refugees in Istanbul: A Gender-Sensitive Perspective. 2019. Available from: http://ipc.sabanciuniv.edu/wp-content/uploads/2019/02/SouadOsseiran_GabrieleCloeters.pdf.
40. Balcioglu Z. Sultanbeyli, Istanbul, Turkey: A Case Study of Refugees in Towns. Available from: https://reliefwebint/sites/reliefwebint/files/resources/Tufts%2BRIT%2BSultanbeyli%2C%2BIstanbul%2C%2BTurkeypdf. 2018.
41. Kandemir H, Karataş H, Çeri V, Solmaz F, Kandemir SB, Solmaz A. Prevalence of war-related adverse events, depression and anxiety among Syrian refugee children settled in Turkey. European Child & Adolescent Psychiatry. 2018;27(11):1513-7.
42. Perkins JD, Ajeeb M, Fadel L, Saleh G. Mental health in Syrian children with a focus on post-traumatic stress: a cross-sectional study from Syrian schools. Soc Psychiatry Psychiatr Epidemiol. 2018;53(11):1231-9.
43. Eruyar S, Maltby J, Vostanis P. Mental health problems of Syrian refugee children: the role of parental factors. European Child & Adolescent Psychiatry. 2018;27(4):401-9.
44. Panter-Brick C, Hadfield K, Dajani R, Eggerman M, Ager A, Ungar M. Resilience in Context: A Brief and Culturally Grounded Measure for Syrian Refugee and Jordanian Host-Community Adolescents. Child Development. 2018;89(5):1803-20.
45. Smythe T, Mactaggart I, Kuper H, Murthy G, Lavy C, Polack S. Prevalence and causes of musculoskeletal impairment in Mahabubnagar District, Telangana State, India: results of a population-based survey. Transactions of The Royal Society of Tropical Medicine and Hygiene. 2018;111(11):512-9.
46. World Health Organization. Model Disability Survey. Available from: https://www.who.int/disabilities/data/mds/en/ [
47. Van Brakel WH, Anderson AM, Mutatkar RK, Bakirtzief Z, Nicholls PG, Raju MS, et al. The Participation Scale: Measuring a key concept in public health. Disability and Rehabilitation. 2006;28(4):193-203.
48. Crowe M, Inder M, Porter R. Conducting qualitative research in mental health: Thematic and content analyses. Australian & New Zealand Journal of Psychiatry. 2015;49(7):616-23.
49. Thematic Analysis. Qualitative Research Methods in Mental Health and Psychotherapy. p. 209-23.
50. Vaismoradi M, Turunen H, Bondas T. Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. Nursing & Health Sciences. 2013;15(3):398-405.
51. International Centre for Evidence in Disability. Guatemala National Disability Study (ENDIS 2016) Survey Report. London: London School of Hygiene & Tropical Medicine; 2017.

52. Bassam Abu Hamad NJ, Fiona Samuels, Ingrid Gercama, Elizabeth Presler-Marshall and Georgia Plank, Aida Essaid, Said Ebbini, Kifah Bani Odeh, Deya'eddin Bazadough, Hala Abu Taleb, Hadeel Al Amayreh and Jude Sadji. A promise of tomorrow. The effects of UNHCR and UNICEF cash assistance on Syrian refugees in Jordan. 2017. Available from: https://www.odi.org/sites/odi.org.uk/files/resource-documents/11877.pdf.
53. Disability, Poverty, and Schooling in Developing Countries. World Bank Economic Review. 2008;22(1):141-63.
54. Smythe T, Mactaggart I, Kuper H, Oye J, Sieyen NC, Lavy C, et al. Prevalence and causes of musculoskeletal impairment in Fundong District, North-West Cameroon: results of a population-based survey. Tropical Medicine & International Health. 2017;22(11):1385-93.
55. Atijosan O, Rischewski D, Simms V, Kuper H, Linganwa B, Nuhi A, et al. A National Survey of Musculoskeletal Impairment in Rwanda: Prevalence, Causes and Service Implications. PLOS ONE. 2008;3(7):e2851.
56. Himmelman AT. On Coalitions and the Transformation of Power Relations: Collaborative Betterment and Collaborative Empowerment. American Journal of Community Psychology. 2001;29(2):277-84.
57. Fazel M, Betancourt TS. Preventive mental health interventions for refugee children and adolescents in high-income settings. The Lancet Child & Adolescent Health. 2018;2(2):121-32.
58. Mohwinkel L-M, Nowak AC, Kasper A, Razum O. Gender differences in the mental health of unaccompanied refugee minors in Europe: a systematic review. BMJ Open. 2018;8(7):e022389.
59. M A. Gender differences in mental health. Singapore Med J. 2007;48(5):385-91.
60. Van Droogenbroeck F, Spruyt B, Keppens G. Gender differences in mental health problems among adolescents and the role of social support: results from the Belgian health interview surveys 2008 and 2013. BMC Psychiatry. 2018;18(1):6.
61. Liu J, Chen X, Lewis G. Childhood internalizing behaviour: analysis and implications. J Psychiatr Ment Health Nurs. 2011;18(10):884-94.
62. Kisilu A, Darras L. Highlighting the gender disparities in mental health among Syrian refugees in Jordan. Intervention. 2018;16(2):140-6.
63. Liddon L, Kingerlee R, Barry JA. Gender differences in preferences for psychological treatment, coping strategies, and triggers to help-seeking. British Journal of Clinical Psychology. 2018;57(1):42-58.
64. Bagner DM, Pettit JW, Lewinsohn PM, Seeley JR. Effect of Maternal Depression on Child Behavior: A Sensitive Period? Journal of the American Academy of Child & Adolescent Psychiatry. 2010;49(7):699-707.
65. Herba CM. Maternal depression and child behavioural outcomes. The Lancet Psychiatry. 2014;1(6):408-9.
66. Satinsky E, Fuhr DC, Woodward A, Sondorp E, Roberts B. Mental health care utilisation and access among refugees and asylum seekers in Europe: A systematic review. Health Policy. 2019;123(9):851-63.
67. Dickson K, Bangpan M. What are the barriers to, and facilitators of, implementing and receiving MHPSS programmes delivered to populations affected by humanitarian emergencies? A qualitative evidence synthesis. Glob Ment Health (Camb). 2018;5:e21-e.
68. Patel V, Prince M. Global Mental Health: A New Global Health Field Comes of Age. JAMA. 2010;303(19):1976-7.
69. Petersen I, Lund C, Bhana A, Flisher AJ, Health tM, Consortium PRP. A task shifting approach to primary mental health care for adults in South Africa: human resource requirements and costs for rural settings. Health Policy and Planning. 2011;27(1):42-51.

70. Marit S, et al. Strengthening mental health care systems for Syrian refugees in Europe and the Middle East: integrating scalable psychological interventions in eight countries. European journal of psychotraumatology. 2017;8(sup2).
71. Wang J, Lloyd-Evans B, Giacco D, Forsyth R, Nebo C, Mann F, et al. Social isolation in mental health: a conceptual and methodological review. Soc Psychiatry Psychiatr Epidemiol. 2017;52(12):1451-61.
72. Cerna L. Refugee Education: Integration Models And Practices In Oecd Countries. 2019. Available from:http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP(2019)11&docLanguage=En.
73. Weine S. Family roles in refugee youth resettlement from a prevention perspective. Child Adolesc Psychiatr Clin N Am. 2008;17(3):515-viii.
74. Thombs BD, Kwakkenbos L, Levis AW, Benedetti A. Addressing overestimation of the prevalence of depression based on self-report screening questionnaires. CMAJ. 2018;190(2):E44-E9.

9. Appendices

9.1. Appendix 1: Washington Group Questions

CHILD FUNCTIONING (AGE 2-4)		
CF1. I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT DIFFICULTIES YOUR CHILD MAY HAVE. DOES (*name*) WEAR GLASSES?	Yes.. 1 No 2	2⇨CF3
CF2. WHEN WEARING HIS/HER GLASSES, DOES (*name*) HAVE DIFFICULTY SEEING? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all........................... 4	1⇨CF4 2⇨CF4 3⇨CF4 4⇨CF4
CF3. DOES (*name*) HAVE DIFFICULTY SEEING? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all........................... 4	
CF4. DOES (*name*) USE A HEARING AID?	Yes.. 1 No 2	2⇨CF6
CF5. WHEN USING HIS/HER HEARING AID, DOES (*name*) HAVE DIFFICULTY HEARING SOUNDS LIKE PEOPLES' VOICES OR MUSIC? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all........................... 4	1⇨CF7 2⇨CF7 3⇨CF7 4⇨CF7
CF6. DOES (*name*) HAVE DIFFICULTY HEARING SOUNDS LIKE PEOPLES' VOICES OR MUSIC? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all........................... 4	
CF7. DOES (*name*) USE ANY EQUIPMENT OR RECEIVE ASSISTANCE FOR WALKING?	Yes.. 1 No 2	2⇨CF10
CF8. WITHOUT HIS/HER EQUIPMENT OR ASSISTANCE, DOES (*name*) HAVE DIFFICULTY WALKING? WOULD YOU SAY (*name*) HAS: SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all........................... 4	
CF9. WITH HIS/HER EQUIPMENT OR ASSISTANCE, DOES (*name*) HAVE DIFFICULTY WALKING? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all........................... 4	1⇨CF11 2⇨CF11 3⇨CF11 4⇨CF11

CF10. COMPARED WITH CHILDREN OF THE SAME AGE, DOES (*name*) HAVE DIFFICULTY WALKING? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all 4	
CF11. COMPARED WITH CHILDREN OF THE SAME AGE, DOES (*name*) HAVE DIFFICULTY PICKING UP SMALL OBJECTS WITH HIS/HER HAND? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all 4	
CF12. DOES (*name*) HAVE DIFFICULTY UNDERSTANDING YOU? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all 4	
CF13. WHEN (*name*) SPEAKS, DO YOU HAVE DIFFICULTY UNDERSTANDING HIM/HER? WOULD YOU SAY YOU HAVE: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all 4	
CF14. COMPARED WITH CHILDREN OF THE SAME AGE, DOES (*name*) HAVE DIFFICULTY LEARNING THINGS? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all 4	
CF15. COMPARED WITH CHILDREN OF THE SAME AGE, DOES (*name*) HAVE DIFFICULTY PLAYING? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all 4	
CF16. COMPARED WITH CHILDREN OF THE SAME AGE, HOW MUCH DOES (*name*) KICK, BITE OR HIT OTHER CHILDREN OR ADULTS? WOULD YOU SAY: NOT AT ALL, THE SAME OR LESS, MORE OR A LOT MORE?	Not at all....................................... 1 The same or less .... 2 More .... 3 A lot more 4	

CHILD FUNCTIONING (AGE 5-17)		
CF1. I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT DIFFICULTIES YOUR CHILD MAY HAVE. DOES (*name*) WEAR GLASSES OR CONTACT LENSES?	Yes ....1 No 2	2⇨CF3
CF2. WHEN WEARING HIS/HER GLASSES OR CONTACT LENSES, DOES (*name*) HAVE DIFFICULTY SEEING? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty....................1 Some difficulty....................2 A lot of difficulty ....3 Cannot do at all 4	1⇨CF4 2⇨CF4 3⇨CF4 4⇨CF4
CF3. DOES (*name*) HAVE DIFFICULTY SEEING? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty....................1 Some difficulty....................2 A lot of difficulty ....3 Cannot do at all 4	
CF4. DOES (*name*) USE A HEARING AID?	Yes ....1 No 2	2⇨CF6
CF5. WHEN USING HIS/HER HEARING AID, DOES (*name*) HAVE DIFFICULTY HEARING SOUNDS LIKE PEOPLES' VOICES OR MUSIC? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty....................1 Some difficulty....................2 A lot of difficulty ....3 Cannot do at all 4	1⇨CF7 2⇨CF7 3⇨CF7 4⇨CF7
CF6. DOES (*name*) HAVE DIFFICULTY HEARING SOUNDS LIKE PEOPLES' VOICES OR MUSIC? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty....................1 Some difficulty....................2 A lot of difficulty ....3 Cannot do at all 4	
CF7. DOES (*name*) USE ANY EQUIPMENT OR RECEIVE ASSISTANCE FOR WALKING?	Yes ....1 No 2	2⇨CF12
CF8. WITHOUT HIS/HER EQUIPMENT OR ASSISTANCE, DOES (*name*) HAVE DIFFICULTY WALKING 100 YARDS/METERS ON LEVEL GROUND? THAT WOULD BE ABOUT THE LENGTH OF 1 FOOTBALL FIELD. [OR INSERT COUNTRY SPECIFIC EXAMPLE]. WOULD YOU SAY (*name*) HAS: SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	Some difficulty....................2 A lot of difficulty ....3 Cannot do at all 4	3⇨CF10 4⇨CF10

CF9. WITHOUT HIS/HER EQUIPMENT OR ASSISTANCE, DOES (*name*) HAVE DIFFICULTY WALKING 500 YARDS/METERS ON LEVEL GROUND? THAT WOULD BE ABOUT THE LENGTH OF 5 FOOTBALL FIELDS. [OR INSERT COUNTRY SPECIFIC EXAMPLE]. WOULD YOU SAY (*name*) HAS: SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	Some difficulty..2 A lot of difficulty ....3 Cannot do at all 4	
CF10. WITH HIS/HER EQUIPMENT OR ASSISTANCE, DOES (*name*) HAVE DIFFICULTY WALKING 100 YARDS/METERS ON LEVEL GROUND? THAT WOULD BE ABOUT THE LENGTH OF 1 FOOTBALL FIELD. [OR INSERT COUNTRY SPECIFIC EXAMPLE]. WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty...1 Some difficulty..2 A lot of difficulty ....3 Cannot do at all 4	3⇨CF14 4⇨CF14
CF11. WITH HIS/HER EQUIPMENT OR ASSISTANCE, DOES (*name*) HAVE DIFFICULTY WALKING 500 YARDS/METERS ON LEVEL GROUND? THAT WOULD BE ABOUT THE LENGTH OF 5 FOOTBALL FIELDS. [OR INSERT COUNTRY SPECIFIC EXAMPLE]. WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty...1 Some difficulty..2 A lot of difficulty ....3 Cannot do at all 4	1⇨CF14 2⇨CF14 3⇨CF14 4⇨CF14
CF12. COMPARED WITH CHILDREN OF THE SAME AGE, DOES (*name*) HAVE DIFFICULTY WALKING 100 YARDS/METERS ON LEVEL GROUND? THAT WOULD BE ABOUT THE LENGTH OF 1 FOOTBALL FIELD. [OR INSERT COUNTRY SPECIFIC EXAMPLE]. WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty...1 Some difficulty..2 A lot of difficulty ....3 Cannot do at all 4	3⇨CF14 4⇨CF14
CF13. COMPARED WITH CHILDREN OF THE SAME AGE, DOES (*name*) HAVE DIFFICULTY WALKING 500 YARDS/METERS ON LEVEL GROUND? THAT WOULD BE ABOUT THE LENGTH OF 5 FOOTBALL FIELDS. [OR INSERT COUNTRY SPECIFIC EXAMPLE]. WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty...1 Some difficulty..2 A lot of difficulty ....3 Cannot do at all 4	

CF14. DOES (*name*) HAVE DIFFICULTY WITH SELF-CARE SUCH AS FEEDING OR DRESSING HIM/HERSELF? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all 4	
CF15. WHEN (*name*) SPEAKS, DOES HE/SHE HAVE DIFFICULTY BEING UNDERSTOOD BY PEOPLE INSIDE OF THIS HOUSEHOLD? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all 4	
CF16. WHEN (*name*) SPEAKS, DOES HE/SHE HAVE DIFFICULTY BEING UNDERSTOOD BY PEOPLE OUTSIDE OF THIS HOUSEHOLD? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all 4	
CF17. COMPARED WITH CHILDREN OF THE SAME AGE, DOES (*name*) HAVE DIFFICULTY LEARNING THINGS? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all 4	
CF18. COMPARED WITH CHILDREN OF THE SAME AGE, DOES (*name*) HAVE DIFFICULTY REMEMBERING THINGS? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all 4	
CF19. DOES (*name*) HAVE DIFFICULTY CONCENTRATING ON AN ACTIVITY THAT HE/SHE ENJOYS DOING? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all 4	
CF20. DOES (*name*) HAVE DIFFICULTY ACCEPTING CHANGES IN HIS/HER ROUTINE? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty .... 1 Some difficulty .... 2 A lot of difficulty .... 3 Cannot do at all 4	

CF21. COMPARED WITH CHILDREN OF THE SAME AGE, DOES (*name*) HAVE DIFFICULTY CONTROLLING HIS/HER BEHAVIOUR? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty..1 Some difficulty...2 A lot of difficulty ....3 Cannot do at all 4	
CF22. DOES (*name*) HAVE DIFFICULTY MAKING FRIENDS? WOULD YOU SAY (*name*) HAS: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty..1 Some difficulty...2 A lot of difficulty ....3 Cannot do at all 4	
CF23. HOW OFTEN DOES (*name*) SEEM VERY ANXIOUS, NERVOUS OR WORRIED? WOULD YOU SAY: DAILY, WEEKLY, MONTHLY, A FEW TIMES A YEAR OR NEVER?	Daily ....1 Weekly ....2 Monthly...3 A few times a year...4 Never...5	
CF24. HOW OFTEN DOES (*name*) SEEM VERY SAD OR DEPRESSED? WOULD YOU SAY: DAILY, WEEKLY, MONTHLY, A FEW TIMES A YEAR OR NEVER?	Daily ....1 Weekly ....2 Monthly...3 A few times a year...4 Never...5	

MODIFIED EXTENDED SET 'LIGHT' (AGE 18+)		
MS1. I WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT DIFFICULTIES YOU MAY HAVE. DO YOU WEAR GLASSES OR CONTACT LENSES?	Yes ....1 No 2	2⇨MS3
MS2. WHEN WEARING YOUR GLASSES OR CONTACT LENSES, DO YOU HAVE DIFFICULTY SEEING? WOULD YOU SAY YOU HAVE: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty............1 Some difficulty............2 A lot of difficulty ....3 Cannot do at all 4	1⇨MS4 2⇨MS4 3⇨MS4 4⇨MS4
MS3. DO YOU HAVE DIFFICULTY SEEING? WOULD YOU SAY YOU HAVE: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty............1 Some difficulty............2 A lot of difficulty ....3 Cannot do at all 4	
MS4. DO YOU USE A HEARING AID?	Yes ....1 No 2	2⇨MS6
MS5. WHEN USING YOUR HEARING AID, DO YOU HAVE DIFFICULTY HEARING? WOULD YOU SAY YOU HAVE: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty............1 Some difficulty............2 A lot of difficulty ....3 Cannot do at all 4	1⇨MS7 2⇨MS7 3⇨MS7 4⇨MS7
MS6. DOES (*name*) HAVE DIFFICULTY HEARING ? WOULD YOU SAY YOU HAVE: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty............1 Some difficulty............2 A lot of difficulty ....3 Cannot do at all 4	
MS7. DO YOU HAVE DIFFICULTY WALKING OR CLIMBING STEPS WOULD YOU SAY YOU HAVE: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty............1 Some difficulty............2 A lot of difficulty ....3 Cannot do at all 4	
MS8. DO YOU HAVE DIFFICULTY REMEMBERING OR CONCENTRATING? WOULD YOU SAY YOU HAVE: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty............1 Some difficulty............2 A lot of difficulty ....3 Cannot do at all 4	
MS9. DO YOU HAVE DIFFICULTY (WITH SELF-CARE SUCH AS) WASHING ALL OVER OR DRESSING? WOULD YOU HAVE: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty............1 Some difficulty............2 A lot of difficulty ....3 Cannot do at all 4	

MS10. USING YOUR (CUSTOMARY) LANGUAGE, DO YOU HAVE DIFFICULTY COMMUNICATING, FOR EXAMPLE UNDERSTANDING OR BEING UNDERSTOOD? WOULD YOU SAY YOU HAVE: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty....................1 Some difficulty....................2 A lot of difficulty ....3 Cannot do at all 4	
MS11. DO YOU HAVE DIFFICULTY RAISING A 2 LITRE BOTTLE OF WATER OR SODA FROM WAIST TO EYE LEVEL WOULD YOU SAY YOU HAVE: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty....................1 Some difficulty....................2 A lot of difficulty ....3 Cannot do at all 4	
MS12. DO YOU HAVE DIFFICULTY USING YOUR HANDS AND FINGERS, SUCH AS PICKING UP SMALL OBJECTS (FOR EXAMPLE A BUTTON OR PENCIL), OR OPENING OR CLOSING CONTAINERS OR BOTTLES? WOULD YOU SAY YOU HAVE: NO DIFFICULTY, SOME DIFFICULTY, A LOT OF DIFFICULTY OR CANNOT DO AT ALL?	No difficulty....................1 Some difficulty....................2 A lot of difficulty ....3 Cannot do at all 4	
MS13. HOW OFTEN DO YOU FEEL WORRIED, NERVOUS OR ANXIOUS? WOULD YOU SAY: DAILY, WEEKLY, MONTHLY, A FEW TIMES A YEAR, NEVER?	Daily ....1 Weekly ....2 Monthly....................3 A few times a year....................4 Never.................... 5	1⇨MS13.1 2⇨MS13.1 3⇨MS13.1 4⇨MS13.1
MS13.1. THINKING ABOUT THE LAST TIME YOU FELT WORRIED, NERVOUS OR ANXIOUS, HOW WOULD YOU DESCRIBE THE LEVEL OF THOSE FEELINGS? WOULD YOU SAY: A LITTLE, A LOT, SOMEWHERE IN BETWEEN A LITTLE AND A LOT	A little....................1 A lot....................2 In between a little and a lot 3	
MS14. HOW OFTEN DO YOU FEEL DEPRESSED? WOULD YOU SAY: DAILY, WEEKLY, MONTHLY, A FEW TIMES A YEAR, NEVER?	Daily ....1 Weekly ....2 Monthly....................3 A few times a year....................4 Never.................... 5	1⇨MS14.1 2⇨MS14.1 3⇨MS14.1 4⇨MS14.1
MS14.1. THINKING ABOUT THE LAST TIME YOU FELT WORRIED, NERVOUS OR ANXIOUS, HOW WOULD YOU DESCRIBE THE LEVEL OF THOSE FEELINGS? WOULD YOU SAY: A LITTLE, A LOT, SOMEWHERE IN BETWEEN A LITTLE AND A LOT	A little....................1 A lot....................2 In between a little and a lot 3	

Appendix 2: Rapid Assessment of Musculoskeletal Impairment

1. Is any part of your body missing or misshapen?	Yes............................1 No.............................2
2. Do you have any difficulty or pain using your arms?	Yes............................1 No.............................2
3. Do you have any difficulty or pain using your legs?	Yes............................1 No.............................2
4. Do you have any difficulty or pain using any other part of your body?	Yes............................1 No.............................2
5. Do you need a mobility aid or prosthesis?	Yes............................1 No.............................2
6. Do you have convulsions, involuntary movement, rigidity or loss of consciousness?	Yes............................1 No.............................2
7. Has it lasted for longer than one month?	Yes............................1 No.............................2
8. Is it permanent?	Yes............................1 No.............................2

Appendix 3: Situational analysis data collection tools

Form A: For Rehabilitation Service Providers	
Date of interview	
Name of implementing agency	
Name(s) of other organization(s) with whom this activity is done (in case of a joint activity)	
Name of focal point	
Telephone number of the focal point	
Email address of the focal point	
Region / district where the activity occurs	
Town/ neighborhood where the activity occurs	
Role of person being interviewed	☐ Manager ☐ Administrator ☐ Rehabilitation worker ☐ Other, specify
Rehabilitation activities/services provided	
Type of facility/setting where rehabilitation services are offered	☐ Community based/focused ☐ Long term day care facilities (e.g. day centre/ community centre) ☐ Primary health care facility ☐ Secondary health care facility ☐ Tertiary health care facility ☐ Rehabilitation centre/ward ☐ Refugee Centre ☐ Other, specify
Facility provider	☐ Government/public sector ☐ Private providers ☐ NGO/international organisations ☐ Other, specify
Patient focus, where relevant (tick all that apply)	☐ Physical impairments ☐ Vision impairments ☐ Hearing impairments ☐ Developmental disabilities (children) ☐ Mental health ☐ Intellectual disability ☐ Other
Specific target health conditions, where relevant:	
Target population groups (e.g. age, refugee) where relevant	☐ Children ☐ Adults ☐ Older people ☐ Refugee ☐ Other, specify

Are refugees/persons under temporary protection eligible to access these services?	☐ Yes ☐ No
How are services paid for by users?	☐ No payment ☐ Insurance ☐ Payment by charity ☐ Out of pocket payment ☐ Other, specify
For community delivered rehabilitation services: types of services provided	☐ Community outreach ☐ Mobile clinics ☐ Community based rehabilitation ☐ Day centres ☐ Community centres ☐ School visits ☐ Health clubs ☐ Other, specify
For secondary/tertiary hospitals: Are inpatient/out-patient rehabilitation services provided?	☐ Inpatient ☐ Outpatient/day programme ☐ Both
Number and type of rehabilitation worker	☐ Physiotherapists : ___ ___ ☐ Occupational therapists : ___ ___ ☐ Speech and language therapists : ___ ___ ☐ Audiologists: ___ ___ ☐ Audiology assistants: ___ ___ ☐ Prosthetists and orthotists: ___ ___ ☐ Physical and rehabilitation doctors: ___ ___ ☐ Psychologists: ___ ___ ☐ Other rehabilitation cadre(s) specify : ___ __
Assistive products available	☐ Manual wheelchairs ☐ Electric/powered wheelchairs ☐ Rollators ☐ Walking frames ☐ Crutches ☐ Tripod/quadripod sticks ☐ Chairs for bath/shower/toilet ☐ Lower limb prostheses and orthoses ☐ Upper limb prostheses orthoses ☐ Club foot braces ☐ Pressure relieving[1] mattresses ☐ Pressure relieving cushions ☐ Spectacles ☐ Magnifiers, optical ☐ Braille writing equipment/braillers ☐ White canes ☐ Hearing aids ☐ Communication boards/books/cards ☐ Audio players with DAISY capability[2] ☐ Continence products ☐ Pill organizers

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[1] In this context, pressure relieving products include those made from air or high-profile foam that are specifically designed for pressure relief.

[2] DAISY (Digital Accessible Information System) is a software that enables text to be converted to audio and is typically used by people with a visual and/or cognitive impairment that limits the ability to read.

Form A: For MHPSS Service Providers			
MHPSS Services provided: For this, refer to attached table, and obtain details for each activity. If more than three activities, use the next page			
	Activity 1	**Activity 2**	**Activity 3**
MHPSS activity code Please choose the most suitable number from Column A in Table 1 (leave blank if unsure)			
MHPSS activity subcode Please choose the most suitable number from Column B in Table 1 (leave blank if unsure)			
Description of the activity in one sentence			
Target group(s): (specify age group where relevant)			
Number of people in target group directly supported in previous 30 days			
This activity is [please choose one] (1) currently being implemented, (2) funded but not yet implemented, or (3) unfunded and not yet implemented			
Start date for implementing the activity (for current activities, provide actual start date, not the originally proposed start date)			
End date (specify on what date committed funding for the activity ends)			
Personnel for each activity			
Number and type of MHPSS workers who do this activity (e.g., 2 community volunteers, 2 psychologists, 2 nurses)			
Topic and length of non-university **training** on MHPSS (e.g. nurses received 1 day on psychological first aid)			
Availability of the activity (e.g. child friendly space or clinic is 40 hours/week open)			
Where is this service provided? (E.g. homes, clinic, public spaces etc.)			

	Column A: MHPSS activity code (4Ws)	**Column B: Examples of interventions with sub-codes. Record all that apply.**
COMMUNITY-FOCUSED	1. Information dissemination to the community at large	1.1. Information on the current situation, relief efforts or available services 1.2. Messages on positive coping 1.3. Other (describe in the relevant box in data entry sheet)
	2. Facilitation of conditions for community mobilization, community organization, community ownership or community control over emergency relief in general	2.1. Support for emergency relief that is initiated by the community 2.2. Support for communal spaces/meetings to discuss, problem-solve and plan action by community members to respond to the emergency 2.3. Other (describe in Column C of the Data entry sheet)
	3. Strengthening of community and family support	3.1. Support for social support activities that are initiated by the community 3.2. Strengthening of parenting/family supports 3.3. Facilitation of community supports to vulnerable persons 3.4. Structured social activities (e.g. group activities) 3.5. Structured recreational or creative activities (do not include activities at child friendly spaces that are covered in 4.1) 3.6. Early childhood development (ECD) activities 3.7. Facilitation of conditions for indigenous traditional, spiritual or religious supports, including communal healing practices 3.8. Other (describe in the relevant box in data entry sheet)
	4. Safe spaces	4.1. Child friendly spaces 4.2. Other (describe in the relevant box in data entry sheet)
	5. Psychosocial support in education	5.1. Psychosocial support to teachers / other personnel at schools/learning places 5.2. Psychosocial support to classes/groups of children at schools/learning places 5.3. Other (describe in the relevant box in data entry sheet)
	6. Supporting the inclusion of social/psychosocial considerations in protection, health services, nutrition, food aid, shelter, site planning or water and sanitation	6.1. Orientation of or advocacy with aid workers/agencies on including social/ psychosocial considerations in programming (specify sector in Column C of the Data entry sheet) 6.2. Other (describe in the relevant box in data entry sheet)

CASE-FOCUSED	7. (Case-focused) psychosocial work	7.1. Psychological first aid (PFA) 7.2. Lining vulnerable individuals/families to resources (e.g., health services, livelihoods assistance, community resources etc.) and follow-up to see if support is provided. 7.3. Other (describe in the relevant box in data entry sheet)
	8. Psychological intervention	8.1. Basic counselling for individuals (specify type in Column C of the Data entry sheet) 8.2. Basic counselling for groups or families (specify type in Column C of the Data entry sheet) 8.3. Interventions for alcohol/substance use problems (specify type in Column C of the Data entry sheet) 8.4. Psychotherapy (specify type) 8.5. Individual or group psychological debriefing 8.6. Other (describe in the relevant box in data entry sheet)
	9. Clinical management of mental disorders by nonspecialized health care providers (e.g. PHC, post-surgery wards)	9.1. Non-pharmacological management of mental disorder by nonspecialized health care providers (where possible specify type using categories 7 and 8) 9.2. Pharmacological management of mental disorder by nonspecialized health care providers 9.3. Action by community workers to identify and refer people with mental disorders and to follow-up on them to ensure adherence to clinical treatment 9.4. Other (describe in the relevant box in data entry sheet)
	10. Clinical management of mental disorders by specialized mental health care providers (e.g. psychiatrists, psychiatric nurses and psychologists working at PHC/general health facilities/mental health facilities)	10.1. Non-pharmacological management of mental disorder by specialized mental health care providers (where possible specify type using categories 7 and 8) 10.2. Pharmacological management of mental disorder by specialized health care 10.3. Inpatient mental health care 10.4. Other (describe in the relevant box in data entry sheet)
GENERAL	11. General activities to support MHPSS	11.1. Situation analyses/assessment 11.2. Training / orienting (specify topic in Column C of the Data entry sheet) 11.3. Technical or clinical supervision 11.4. Psychosocial support for staff / volunteers 11.5. Research

Appendix 4: Consent and assent form

Consent Form

Survey of Disability and Mental Health in Sultanbeyli

Participant: (First & Last Name)____________________________________

Participant ID: ____ ____

1. The information sheet concerning this study has been read to me and I understand what is required of me/my child (under 18) if I take part in it
2. I have been given the opportunity to ask questions and a reply was given for all the questions to my satisfaction.
3. I understand that participation is voluntary and that I may withdraw at any time without giving a reason
4. I consent for my responses to be written down and included in the research data without my name in any report
5. I consent for quotations from my responses to be utilized in reports/publications by the research team without my name in any report

Consent for Adult to Participate

Name	Date	Signature/Thumbprint
Witness	Date	Signature

Consent of Parent/Caregiver for Child >18 to Participate.

Relationship to child of person giving consent**:**____________________________________

Name	Date	Signature/Thumbprint
Witness	Date	Signature

Assent form (Simplified)

Survey of Disability and Mental Health in Sultanbeyli

Participant: (First & Last Name)____________________________________

Participant ID: ____ ____

Read out the information sheet with the participant. Show and demonstrate the recorder so they understand how it works.

Do you understand why we are doing the research?	☺	☹
Are you happy to talk to me?	☺	☹
Do you understand that you can stop me at any time and you don't have to answer questions that you don't want to?	☺	☹

[If relevant]:

Are you happy for [guardian's name] to also talk with us	☺	☹

Appendix 5. Characteristics of people with and without disabilities from the full survey sample

	People without disabilities (n = 2329)		**People with disabilities (n = 755)**		Age and sex adjusted Odds Ratios (95% CI)
	N	%	N	%	
Individual level variables					
Age (years)					
2-17	1217	52%	315	42%	Reference
18-49	993	43%	317	42%	1.2 (1.0-1.5) ‡
50+	119	5%	123	16%	4.1 (3.1-5.2) ‡
Sex					
Male	1119	48%	324	43%	Reference
Female	1209	52%	431	57%	1.3 (1.1-1.5) ‡
Years since leaving Syria					
<=2 years	136	6%	43	6%	0.9 (0.5-1.4)
2-3 years	627	27%	159	21%	0.7 (0.5-1.0)
4-5 years	1173	51%	387	52%	0.9 (0.6-1.2)
>5 years	385	16%	154	21%	Reference
Adults (18+ years)					
Highest level education completed					
Never attended	89	8%	59	14%	1.1 (0.7-1.8)
Primary	495	45%	200	46%	Reference
Middle/Secondary	453	41%	152	35%	0.9 (0.7-1.2)
Post-Secondary	72	7%	24	3%	0.9 (0.5-1.5)
Marital Status					
Married/living together	912	82%	340	78%	Reference
Divorced/separated	21	2%	17	4%	2.0 (1.0-4.2)
Widowed	41	4%	38	9%	1.2 (0.8-2.1)
Single	135	12%	39	9%	1.5 (1.0-2.4)
Employment					
Currently in paid work	375	34%	84	19%	0.6 (0.4-0.8) ‡

Household level variables					
Socio-economic status*					
1st quartile (poorest)	625	27%	197	27%	Reference
2nd	604	26%	191	26%	0.9 (0.7-1.3)
3rd	566	24%	197	26%	1.1 (0.8-1.4)
4th (least poor)	526	23%	159	21%	0.9 (0.8-1.3)
Social support					
Receiving Cash assistance*	1427	62%	454	61%	1.0 (0.8-1.3)
Receiving Socio-economic support*	80	3%	55	7%	2.3 (1.4-3.7) ǂ
Receiving Food aid	637	27%	284	38%	1.5 (1.2-1.9) ǂ
Accommodation type					
Flat/apartment	1842	82%	609	82%	Reference
House	399	15%	110	15%	0.9 (0.7-1.1)
Basement	62	2%	18	2%	1.0 (0.5-2.2)
Store/warehouse	16	1%	5	1%	0.7 (0.3-1.9)
Rent (lira/month)					
0-400	85	4%	27	4%	Reference
401-800	2007	87%	639	86%	1.2 (0.7-2.1)
>800	227	10%	76	10%	1.1 (0.6-2.3)

Appendix 6. Mental health symptoms across sample demographics

	Depression % (95% CI)	**Anxiety** % (95% CI)	**PTSD** % (95% CI)
Total (n = 856)	Cut-off (⩾10)*	Cut-off (⩾12)*	Cut-off (⩾17)**
	12.4% (9.8-15.6)	8.9% (6.6-11.8)	11.5% (9.1-14.4)
Age (years)			
8-10	6.6% (4.1-10.1)	8.5% (5.6-12.5)	7.1% (4.8-10.6)
11-13	11.4% (7.8-16.2)	9.2% (5.7-14.5)	10.2% (6.9-14.9)
14-17	20.8% (15.1-27.9) ±	9.0% (5.9-13.4)	18.4% (13.3-24.9) ±
Sex			
Male	10.7% (7.8-14.6)	4.6% (2.9-7.3)	9.2% (6.7-12.5)
Female	14.0% (10.4-18.4)	12.8% (9.3-17.4)±	13.7% (10.4-17.7)

* The cut-off scores for the depression (CES-DC) and anxiety (SCARED) tools have been validated with Syrian refugee children in Jordan

** The cut-off score for the PTSD (CRIES-8) tool has been validated with Arabic-speaking refugee populations and used widely with Syrian children

± P<0.05 comparing prevalence to the youngest age group or male to female

Appendix 7. Relationship between mental health and socio-demographic variables

	Children without depression		**Children with depression**		Age and sex adjusted OR (95% CI)	**Children without anxiety**		**Children with anxiety**		Age and sex adjusted OR (95% CI)	**Children without PTSD**		**Children with PTSD**		Age and sex adjusted OR (95% CI)
	N	%	N	%		N	%	N	%		N	%	N	%	
Age (years)															
8-10	300	40%	22	20%	Reference	295	38%	27	35%	Reference	302	40%	23	23%	Reference
11-13	241	32%	32	30%	1.8 (1.1-3.0)[±]	247	32%	26	33%	0.9 (0.5-1.5)	246	32%	28	29%	1.5 (0.8-2.7)
14-17	204	27%	53	50%	3.7 (2.1-6.8)[±]	232	30%	25	32%	0.9 (0.5-1.5)	210	28%	47	48%	3.0 (1.7-5.2)[±]
Sex															
Male	367	49%	46	43%	Reference	393	51%	20	26%	Reference	378	50%	38	39%	Reference
Female	378	51%	61	57%	1.4 (0.9-2.1)	381	49%	58	74%	2.5 (1.5-4.0)[±]	380	50%	60	61%	1.6 (1.1-2.4)[±]
SES															
1 (poorest)	179	24%	38	36%	2.0 (1.0-3.5)[±]	198	26%	19	26%	1.0 (0.5-1.9)	198	26%	20	20%	0.7 (0.4-1.4)
2	184	25%	31	29%	1.5 (0.9-2.6)	195	25%	21	28%	1.1 (0.5-2.3)	197	26%	22	22%	0.8 (0.4-1.4)
3	200	27%	18	17%	0.8 (0.4-1.7)	199	26%	19	25%	0.9 (0.4-1.9)	185	25%	33	34%	1.3 (0.7-2.3)
4 (least poor)	177	24%	18	17%	Reference	179	23%	16	21%	Reference	172	23%	23	23%	Reference
Years lived in Syria															
< 2years	42	6%	10	9%	1.4 (0.5-2.8)	47	6%	5	5%	1.2 (0.4-3.4)	44	6%	8	8%	1.7 (0.6-4.8)
2-3 years	139	19%	16	15%	0.7 (0.3-1.5)	142	18%	13	17%	1.6 (0.8-3.2)	136	18%	22	22%	1.5 (0.8-3.0)
4-5 years	418	56%	56	53%	0.8 (0.4-1.4)	430	56%	44	59%	1.4 (0.7-2.6)	423	56%	52	53%	1.1 (0.6-2.2)
>5 years	141	19%	23	22%	Reference	152	20%	12	16%	Reference	148	20%	16	16%	Reference
Resilience*															
	Mean (95% CI)		**Mean (95% CI)**		**P-value**	**Mean (95% CI)**		**Mean (95% CI)**		**P-value**	**Mean (95% CI)**		**Mean (95% CI)**		**P-value**
	71.2 (69.5-72.9)		59.0 (55.0-63.1)		<0.001	68.9 (67.1-70.7)		69.7 (65.3-74.1)		0.81	69.1 (67.2-79.9)		69.1 (65.6-72.6)		0.53

[*] Higher scores denote greater resilience

[±] p<0.05

Appendix 8. Factors associated with having worked in the past week among adults with disabilities

	Did not work in the past week		**Worked in the past week**		Age & Sex Adjusted OR (95% CI)
	N	%	N	%	
Gender					
Male	101	32%	45	73%	0.2 (0.1-0.3)
Female	218	68%	17	27%	
Age (years)					
18-29	48	19%	17	33%	Reference
30-39	63	25%	17	33%	0.6 (0.3-1.5)
40-49	52	21%	13	25%	0.6 (0.2-1.4)
>50	88	35%	4	8%	0.1 (0.03-0.3)
Marital Status					
Not Married	53	21%	15	29%	0.5 (0.2-1.2)
Married	196	79%	36	71%	
Education					
No education	39	16%	5	10%	1.3 (0.4-4.1)
Some education	211	84%	46	90%	
SES					
1st Quartile (poorest)	59	24%	15	29%	
2nd Quartile	63	25%	10	20%	0.7 (0.2-1.9)
3rd Quartile	69	28%	14	27%	0.8 (0.3-2.0)
4th Quartile (richest)	59	24%	12	24%	1.2 (0.4-3.1)
Disability Type[a]					
Vision	44	14%	8	13%	1.1 (0.4-2.8)
Hearing	18	6%	4	6%	0.9 (0.3-3.5)
Physical Function	172	54%	35	56%	0.9 (0.5-1.9)
Cognitive Function	58	18%	6	10%	0.1 (0.0-0.7)
Mental Health	147	46%	29	47%	1.4 (0.7-2.9)
Multiple	105	33%	18	29%	0.5 (0.3-1.2)

[a] Non-mutually exclusive binary variables: subjects may have more than one significant functional limitation. For each of the domains this analysis compares, in turn, people with a difficulty in one domain (e.g. vision) to people without a difficulty in that corresponding domain (people without vision difficulties)

Appendix 9. Participation in school among children with and without disabilities currently attending school

	Children without disabilities (n=84)		**Children with disabilities (N=101)**		Age and sex adjusted OR (95% CI)
	N	%	N	%	
Teachers are willing to help if there is a problem					
Often/Always	57	68%	53	53%	0.5 (0.3-1.0)
Sometimes/Never	27	32%	48	48%	Reference
Friends are willing to help if there is a problem					
Always	49	58%	55	55%	0.96 (0.5-1.6)
Sometimes/Never	35	42%	46	46%	Reference
Friends come to you if they have a problem					
Always	51	61%	54	53%	0.7 (0.4-1.3)
Sometimes/Never	33	39%	47	47%	Reference
You have friends to play with at breaktimes					
Always	72	86%	65	64%	0.3 (0.2-0.7)
Sometimes/Never	12	14%	36	36%	Reference
Your friends look up to you as a leader					
Always	40	47%	32	32%	0.4 (0.3-0.9)
Sometimes/Never	44	52%	69	68%	Reference
Other children hit, hurt or say nasty things to you					
Always	14	17%	19	19%	1.2 (0.5-2.6)
Sometimes/Never	70	83%	19	19%	Reference
Teachers hit, hurt or say nasty things to you					
Always	2	2%	3	3%	1.0 (0.2-6.3)
Sometimes/Never	82	98%	98	97%	Reference
You are included in lessons and activities					
Always	59	70%	65	64%	0.8 (0.4-1.4)
Sometimes/Never	25	30%	36	36%	Reference
Your school has the right materials to help you learn					
Always	66	79%	72	71%	0.7 (0.3-1.2)
Sometimes/Never	18	21%	29	29%	Reference

Appendix 10. Factors associated with current school attendance among children with disabilities

	School		Age & Sex Adjusted OR (95% CI)
	N	%	
Gender			
Male	103	88%	Reference
Female	142	89%	0.7 (0.2-2.1)
Age (years)			
5-8	43	71%	0.1 (0.03-0.4)
9-12	107	94%	0.6 (0.2-2.1)
13-17	95	93%	Reference
Functional domain[a]			
Vision	11	85%	0.8 (0.2-3.3)
Hearing	8	100%	N/A
Physical Function	30	78%	0.3 (0.1-0.9)
Cognitive Function	28	72%	0.2 (0.1-0.6)
Mental Health	96	92%	1.6 (0.5-5.1)
Multiple	24	73%	0.2 (0.1-0.5)

[a] Non-mutually exclusive binary variables: subjects may have more than one significant functional limitation. For each of the domains this analysis compares, in turn, people with a difficulty in one domain (e.g. vision) to people without a difficulty in that corresponding domain (people without vision difficulties)

Appendix 11. General health services utilisation

	People without disabilities		**People with disabilities**		Age, Sex adjusted Odds Ratio (95% CI)
	N	%	N	%	
Had serious health problem in past year	155	32%	33	9%	4.5 (2.9-6.8)
Sought treatment if had health problem	143	93%	32	97%	0.3 (0.1-2.4)
Where sought health care					
Government primary health care centre	15	11%	3	9%	
Government hospital	109	76%	23	72%	
Migrant health centre	11	8%	4	13%	
Other	8	6%	2	6%	
Reason for not seeking services					
I do not know what services are available	3	25%	0	0%	
I received some information but could not read/understand due to disability	3	25%	0	0%	
No translator (e.g. Arabic) available in the facility/language barrier	2	16%	0	0%	
Lack of documentation	1	8%	0	0%	
Services too expensive	5	17%	0	0%	
Services not available	1	8%	0	0%	
Services far away and no transport available	3	25%	0	0%	
Services far away and transport too expensive	1	8%	0	0%	
Services far away and transport not accessible	0	0%	0	0%	
Negative attitudes of staff	1	8%	0	0%	
Not permitted by other family members	0	0%	0	0%	
No-one to accompany me	2	17%	1	100	
Experiences of health care for people seeking care in past year					
Respect					
Felt completely/mostly respected	124	87%	30	94%	p=0.47
Felt neither respected/disrespected	10	7%	2	6%	
Felt completely/mostly disrespected	9	6%	0	0%	
Difficulties understanding information given					
No difficulty	74	52%	17	53%	Reference
Some/a lot of difficulty – due to language	62	43%	13	41%	1.2 (0.5-2.6)**
Some/a lot of difficulty – related to hearing/communication	7	5%	2	6%	
Difficulties being understood by health provider					
No difficulty	86	60%	19	59%	Reference
Some/a lot of difficulty – due to language	53	37%	12	38%	1.1 (0.5-2.5) **
Some/a lot of difficulty – related to hearing/communication	4	3%	1	3%	

* fishers exact test used due to small cell size; ** combined ‘Some’ difficulty due to small cell size

Appendix 12. Type of support received, by impairment type

Vision			Hearing			Mobility			Cognition			Mental Health		
Support	**N**	**%**	**Support**	**N**	**%**	**Support**	**N**	**%**	**Support**	**N**	**%**	**Support**	**N**	**%**
Medication	10	26%	Medication	9	50%	Medication	116	77%	Medication	9	43%	Medication	8	28%
Rehabilitation	3	8%	Surgery	4	22%	Surgery	22	15%	Speech therapy	5	24%	Psychotherapy	14	48%
Glasses	21	54%	Hearing test	5	28%	Physiotherapy	35	23%	OT	6	29%	Peer support	0	0%
Cataract surgery	2	5%	Hearing aids	4	22%	Info on exercises	11	7%	Referral	5	24%	Other	9	31%
Other surgery	2	5%	Other rehab	0	0%	Prosthesis/orthosis	3	2%	Other	5	24%	**Total**	**29**	
Diabetes control	2	5%	Other	2	11%	Environmental mod	0	0%	**Total**	**21**				
Other	10	26%	**Total**	**18**		Other rehab	2	1%						
Total	**39**					Other	12	8%						
						Total	**150**							

NB: Participants could choose more than one option and percentages do not therefore amount to 100%

Appendix 13. Services for people with MSI

	Medication	Surgery	Physiotherapy	Information on Exercises	Other Rehab*	Environmental Modification	Other Services
Ever received service	184 (49%)	66 (18%)	75 (20%)	25 (7%)	4 (1%)	6 (2%)	3 (1%)
Ever received service in Turkey	164 (44%)	29 (8%)	61 (16%)	21 (6%)	1 (0.3%)	2 (0.5%)	1 (0.3%)
Currently receiving/awaiting	121 (34%)	5 (1%)	14 (4%)	5 (1%)	-	2 (0.5%)	1 (0.3%)
Where accessing the service							
Physiotherapist	-	-	-	20%	-	-	-
Government health centre	5%	-	7%	-	-	-	-
Government hospital	33%	100%	-	-	-	-	-
Pharmacy	9.1%	-	-	-	-	-	-
NGO clinic	8.3%	-	14%	-	-	-	-
Migrant health centre	43%	-	79%	80%	-	50%	-
Private clinic	1.7%	-	-	-	-	-	-
Other, please specify:	-	-	-	-	-	50%	100%
Unmet service need							
Need but not receiving service (n = 373)	139 (37%)	72 (19%)	308 (83%)	143 (38%)	53 (14%)	42 (11%)	47 (13%)
Unmet service need**	53%	94%	96%	97%	100%	95%	98%
Reason not seeking service							
Need not felt by participant	57.6%	38.9%	47.7%	62.9%	32%	23.8%	19.1%
Unaware of available services	15.8%	9.7%	38%	53.1%	25%	23.8%	31.9%
Could not afford	17.3%	26.3%	16.2%	16.8%	26.4%	41.9%	51%
Service not available	16.5%	31.9%	24%	30.8%	41.5%	40.5%	40.4%
Transport not accessible	2.2%	-	3.6%	1.4%	1.9%	2.4%	4.3%
Transport too expensive	3.6%	5.6%	11.4%	14.7%	7.5%	11.9%	10.6%
Service too far away	2.9%	2.8%	4.5%	6.3%	-	-	2.1%1
Negative attitude of service providers	3.6%	8.3%	2.6%	0.7%	3.8%	-	6.4%
No translator	4.3%	8.3%	2.6%	1.4%	1.9%	-	2.1%
No one to accompany me	0.7%	-	0.6%	-	1.9%	2.4%	-
Other, please specify:	69%	11.1%	8.8%	1.4%	5.7%	-	4.2%

* Other rehabilitation included occupational therapy, speech and language therapy and psychosocial support

** Unmet service need = (Need but not receiving) / (Need but not receiving + currently receiving)

Appendix 14. Organisations included in situational analysis

Organisation name	**Location**
MHPSS	
Sultanbeyli Social Service Center	Sultanbeyli
International Blue Crescent Relief and Development Foundation	Sancaktepe
International Blue Crescent Relief and Development Foundation	Sultanbeyli
Support to Life (STL)	Kucukcekmece
Tarlabaşı Community Center	Tarlabaşı
Kadınlarla Dayanışma Vakfı - Women Solidarity Foundation	Sefaköy
Kadınlarla Dayanışma Vakfı - Women Solidarity Foundation	Taksim
Sultanbeyli Public Mental Health center	Sultanbeyli
Physical rehabilitation	
AAR Japan	Esenyurt