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Assessing the health literacy and health communication needs of Syrian refugees in Turkey



ABSTRACT

Health literacy in health care is crucial to achieving a reduction in child mortality, improving maternal health, combating infectious diseases and improving health outcomes. However, refugees and migrants may have lower health literacy than the host community, most often due to poor access to educational resources and information programmes, and related to economic, social and language barriers. Refugees may also have difficulty interacting with health information due to low literacy levels and cultural and language challenges. This publication presents an assessment of health literacy and health communication, including health information needs and sources of information, among Syrian refugees in Turkey. It describes health literacy and the factors that determine health literacy, health information needs, common sources and channels of health information, and barriers to health communication among Syrian refugees. The publication concludes with recommendations for improving health literacy and health communication, including targeted, culturally sensitive health communication through preferred and commonly used channels that are endorsed by trusted sources.

KEYWORDS

HEALTH LITERACY
COMMUNICATION
HEALTH INFORMATION
REFUGEE
SYRIA
TURKEY

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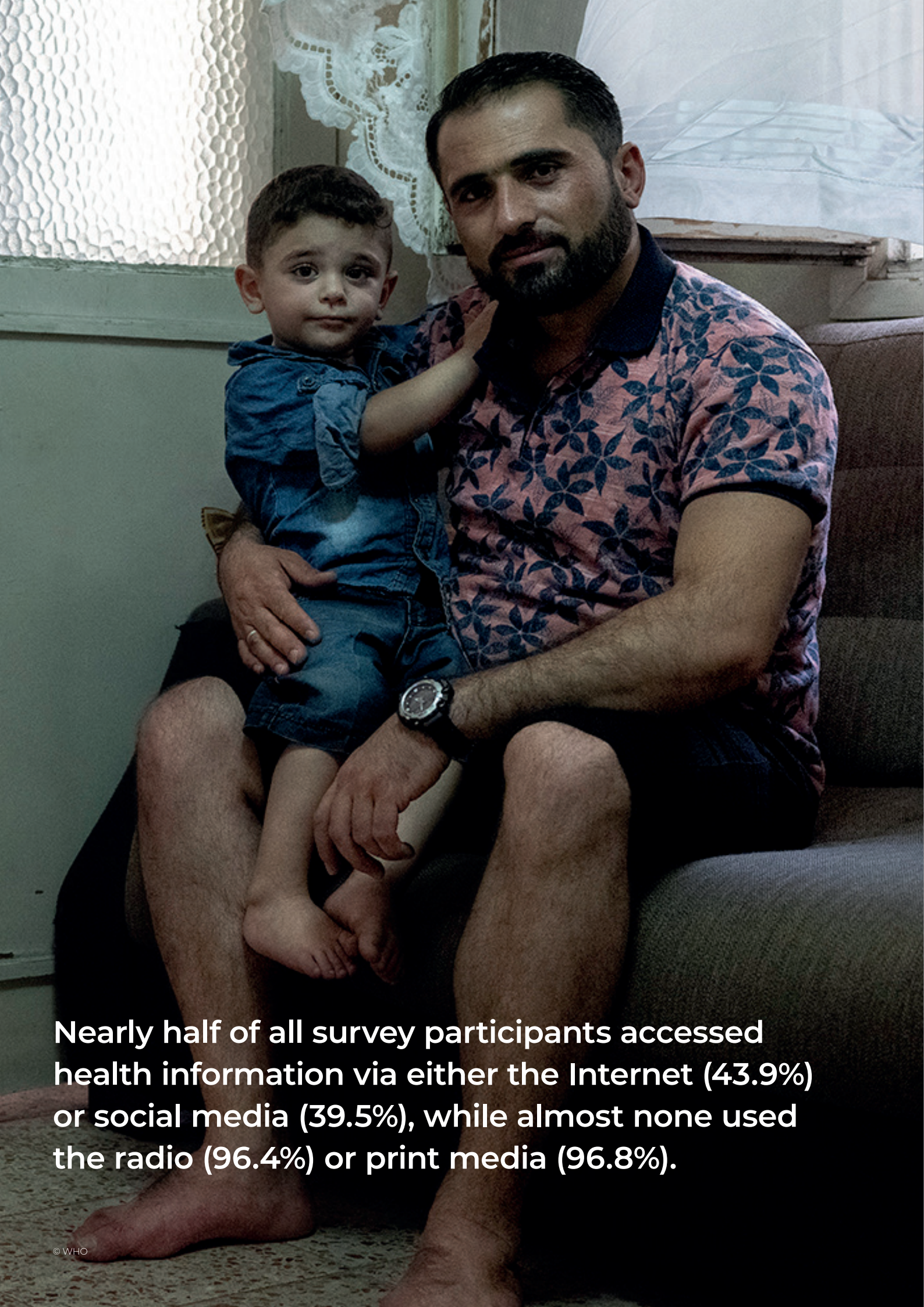
Suggested citation. Assessing the health literacy and health communication needs of Syrian refugees in Turkey. Copenhagen: WHO Regional Office for Europe; 2020.

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Assessing the health literacy and health communication needs of Syrian refugees in Turkey



Nearly half of all survey participants accessed health information via either the Internet (43.9%) or social media (39.5%), while almost none used the radio (96.4%) or print media (96.8%).

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Preface

The conflict in the Syrian Arab Republic has caused one of the world's largest and most dynamic displacement crises, affecting millions of lives.

WHO is supporting the response to the crisis through its operations in Turkey, which comprise a cross-border response from the field office in Gaziantep and a health response to refugees in Turkey, coordinated from the WHO Country Office in Ankara. In north-western Syria, WHO is implementing interventions such as the delivery of vital medicines and medical supplies and providing support for the operational costs of health facilities and capacity-building of health staff. Through the Refugee Health programme in Turkey, efforts have been made to strengthen the national health system through integrating Syrian health workers and translators, build capacity for mental health care, provide linguistic and culturally sensitive health services, and support home care for older refugees and those with disabilities.

Activities of the programme are defined within the scope of the Regional Refugee and Resilience Plan (3RP), a broad partnership platform for over 270 development and humanitarian partners to provide coordinated support in countries bordering Syria that are heavily impacted by the influx of refugees. This platform capitalizes on the knowledge, capacities and resources of humanitarian and development actors to provide a single strategic, multisectoral and resilience-based response. Supported by several donors, WHO's activities are complementary to the SIHHAT (Improving the health status of the Syrian population under temporary protection and related services provided by Turkish authorities) health and well-being project, a joint initiative by the European Union and Ministry of Health of Turkey that aims to improve health-care services for Syrian refugees in the

country. This project operates under the European Union's Facility for Refugees in Turkey and focuses on strengthening the provision of primary and secondary health-care services to Syrian refugees, building and supporting a network of refugee health centres across the country, and employing additional health personnel, including Syrian doctors and nurses.

In November 2018 the Refugee Health programme conducted the Workshop on Refugee and Migrant Health in Turkey: Survey and Research Consultation to identify gaps in the information and evidence required for programme development and adaptation and for informing policies on migrant health in Turkey. The Workshop brought together more than 57 national and international experts from academia, Ministry of Health, United Nations agencies and WHO collaborating centres and led to the formulation of the programme's research framework. Within this framework, a series of studies were implemented in the fields of mental health, health literacy, women and child health, health workforce and noncommunicable diseases. This study, *Assessing the health literacy and health communication needs of Syrian refugees in Turkey: study report*, is one of the studies implemented within the RHP research framework.

Acknowledgements

The WHO Health Emergencies team in Turkey would like to thank Kanuni Keklik, Esin Yilmaz Aslan and Saniye Ertunç of the Ministry of Health Turkey for their leadership and guidance in implementing the study.

Special thanks go to Anastasia Koylyu and Cristiana Salvi of the WHO Regional Office for Europe for their contribution in designing the study and reviewing the report; Asiye Uğraş Dikmen, Mustafa N. İlhan, Hatice Mediha Kina and the field team at Gazi University, Turkey; Adile Zehra Aydin, Anup Das, Burcu Erdoğan, Şükran Erken, Sarper Hira and Muhammed Eren Özorpak of the International Organization for Migration; and Nurtaç Kavukcu, Melda Keçik, Kadriye Küçükbalci and Mustafa Bahadır Sucakli of the WHO Country Office in Turkey for their valuable contribution in data collection, data analysis and overall implementation of the study.

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This report was produced with financial assistance of the Government of Germany through KfW Development Bank.

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Abbreviations

CI	confidence interval	RHC	refugee health centre
FGD	focus group discussion	S-FHL	Swedish Functional Health Literacy (scale)
HLS-EU-Q16	European Health Literacy Survey Questionnaire	SMS	short message service
IOM	International Organization for Migration	WHO	World Health Organization
OR	odds ratio	FHL	(Functional Health Literacy)



Executive summary

The Government of Turkey currently provides public services to almost 3.7 million Syrian refugees,¹ including free access to health care and medicines.

Health literacy is fundamental to health and well-being; however, migrants and refugees are at particular risk of poor health literacy, which is associated with limited healthy life choices, less self-health management, risky health behaviours, more and longer hospital admissions, unnecessary emergency service use, and an overloaded health system.

Health literacy can be improved through the effective communication of health information and structured education. However, to communicate health information effectively, it is important to understand which type of communication channel is favoured and trusted by Syrian refugees.

This study utilized a mixed-methods approach to assess health literacy and evaluate health communication among Syrian refugees in seven Turkish provinces that host 57.1% of the Syrian refugees: Bursa, Gaziantep, Istanbul, Izmir, Konya, Mersin and Şanlıurfa. A total of 7105 adults participated in face-to-face interviews to complete the survey, while 219 people (73 men, 77 women and 69 adolescents) participated in focus group discussions (FGDs). The survey questionnaire was based on the Swedish Functional Health Literacy (S-FHL) questionnaire, the European Health Literacy Survey Questionnaire (HLS-EU-Q16) and the Health Communication Needs Assessment Questionnaire. Prior to implementation, Arabic versions of the S-FHL were contextualized to Syrian Arabic, pretested and validated.

Among the survey participants ($n = 7105$) 49% were female. Most participants were between 20 and 39 years of age (70.1%), 67.8% were married and 86.6% had two or more children. The highest education level attained was primary for 39% and university level for 13%. Among the participants, 23.1% assessed their health status as poor, and the top three institutions they preferred to attend for health services were public hospitals (52.9%), refugee health centres (RHCs; 28.5%) and private health centres (9.8%). Over 50% of participants reported experiencing barriers and challenges in accessing health services, with language the most common barrier, especially in public hospitals and family health centres. However, participants reported that, despite the language barriers and long waiting times, they preferred to seek health care from public hospitals because of the availability of specialists and more detailed laboratory tests.

Participants stated a need for information on chronic diseases such as musculoskeletal diseases, cardiovascular diseases and cancer. Their preferred ways to receive health information were through social media, mobile phone calls and text messaging (short message service (SMS)). Participants often used Internet-based platforms as sources of information but also expressed a lack of trust in these sources. However, many reported using these platforms without questioning the validity of the information, which may increase their vulnerability to misinformation.

1 Officially recorded by the Government of Turkey as Syrians under temporary protection.

Most participants reported trusting health professionals and health institutions to provide accurate and relevant health information. However, there was a lack of interest in written materials such as leaflets or posters.

Functional health literacy levels were inadequate or problematic among 82.8% of the participants. Although levels of comprehensive health literacy were higher, about half of participants (49.5%) had inadequate or problematic comprehensive health literacy, which led to problems in accessing, understanding, appraising and applying health information and in making judgements and decisions on health care, disease prevention and health promotion. A multivariate analysis of factors affecting health literacy identified factors that significantly increased the chance of having low health literacy levels ($P < 0.05$), including being over 60 years of age, having a low education level, not being legally registered as a Syrian under temporary protection, speaking only Arabic and having a low income. Therefore, consideration of these factors is essential for planning and implementing health and health literacy interventions.

Based on the findings of this study, health planning authorities are also recommended to consider developing specifically targeted, culturally sensitive health communication materials for Syrian refugee and migrant communities in Turkey to support their health promotion initiatives. Properly tailored messages should be developed according to the specific health information needs of these communities. In particular, the findings suggest that more information should be provided on chronic disease treatment and disease prevention. This information should be delivered through the preferred and most commonly used channels (social media, telephone calls, SMS) and endorsed by trusted sources. In this regard, health authorities such as the Ministry of Health and other partner organisations should promote their presence in social media, as well as official websites in appropriate languages, as a source of much-needed reliable health messages. Two-way communication should also be considered in reaching out to communities to build further trust in the health system and to monitor health risks, rumours and misinformation, unhealthy behaviours and further health information needs.²



Background

The Government of Turkey currently provides public services to almost 3.7 million Syrian refugees (1),¹ including free access to health care and medicines. Nevertheless, migrants and refugees (who are among the most disadvantaged and vulnerable groups in society) are at risk of poor health literacy and poor health outcomes (2). Specifically, improving health literacy is crucial to achieve a reduction in child mortality, improve maternal health, combat infectious diseases and improve health outcomes (3). Limited health literacy often correlates with a lack of access to health services, inability to effectively manage self-health problems, lack of understanding of available relevant information and limited ability to make sound health-related decisions (4). This leads to the poor use of health-care resources, which creates extra costs for individuals and the public health system.

There are differing definitions of health literacy, but it is generally agreed that health literacy includes more than just being able to read pamphlets, make appointments and comply with medical instructions: it also comprises the cognitive and social skills that determine the motivation and ability of individuals to gain access to, understand and use information in ways that promote and maintain good health (3). However, being able to make health decisions using health information requires having sufficient basic skills in reading and writing and more advanced cognitive and literacy skills that, together with social skills, are used to critically analyse information, derive its meaning and take action. These skills have been defined in literature as functional health literacy, “an individuals’ ability to read information and instructions about health and to function effectively as a patient in the health system” and comprehensive health literacy, which is (5):

[linked] to literacy and entails people’s knowledge, motivation and competencies to access, understand, appraise, and apply health information in order to make judgments and decisions in everyday life concerning healthcare, disease prevention and health promotion to maintain or improve quality of life, during the life course.

Health communication is defined as the “use of communication strategies to inform and influence individual and community decisions that enhance health” (6). However, the combination of low literacy levels, cultural and language challenges, psychosocial stress and limited access to basic needs makes it difficult for migrants and refugees to interact with health information (7). Efforts to improve health literacy should therefore incorporate culturally and linguistically appropriate interventions, including communication of key health messages through appropriate channels.

According to the WHO Regional Office for Europe, refugees and migrants have lower health literacy than host communities, which is mainly due to poor access to educational resources and information programmes, and related to economic, social and language barriers (2). In Turkey, a survey by the Regional Office on the health status of Syrian refugees revealed that only 9.8% of respondents could read and understand documents on patients’ rights and responsibilities, and only 14.4% of adults could write their name and complete a treatment consent form (8). However, neither this study nor other similar studies in Turkey aimed to link health literacy with health communication.



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The Turkish Ministry of Health is addressing the challenges that refugees face in accessing culturally and language-sensitive health services through the RHC mechanism. To support this effort, WHO has implemented a tailored adaptation training programme for Syrian health professionals to prepare them for employment within the Turkish health system. As of December 2019, 1529 doctors, 1002 nurses and 807 translators had been trained through this programme and are providing services in RHCs across the country. However, this effort to supply the needs of the health-care system needs to be balanced by an increased demand for health services. Scaling up public health-focused interventions is critical to increase the demand and shift the focus from cure to disease prevention or slowing progression, especially for noncommunicable diseases. An important way to achieve this goal is increasing the level of health literacy through effective health education and tailored health communication interventions. However, designing appropriate interventions requires knowledge of the communication channels, sources of health information and health

information needs favoured by different refugee groups, as well as their levels of health literacy. To obtain this information, WHO and the International Organization for Migration (IOM) designed and implemented a large-scale study on health literacy and health communication among Syrians refugees in Turkey.

Study aim and objectives

The study aimed to assess the health literacy level and health communication needs of Syrian refugees through three objectives, which were to:

1. assess and determine the current level of health literacy among Syrian refugees;
2. determine their health information needs and sources of health information; and
3. develop recommendations for policy and practice to improve health literacy and health communication.

Methodology

Study design

The study utilized a mixed-methods approach. The health literacy component relied on quantitative methods: face-to-face interviews among the target population were conducted using validated questionnaires that had been translated into Arabic. The health communication component used both quantitative and qualitative methods: a face-to-face survey and FGDs.

The study was undertaken as a joint project between the WHO Refugee Health Programme and the IOM Migrant Presence Monitoring Programme between October and December 2019.

Study population

To specifically assess the health literacy and communication needs of adolescents and adults, the study recruited Syrians aged 15 years and above who were living in Turkey. The lower age limit of 15 years was based on an assumed pattern of utilization of communication means and media, including the Internet, social media and television. The sample was drawn from seven provinces with the highest refugee populations and where the Migrant Presence Monitoring Programme is in operation: Bursa, Gaziantep, Istanbul, Izmir, Konya, Mersin and Şanlıurfa. At the time of the study conception phase, these provinces hosted 57.14% of all Syrian refugees in Turkey.



Sampling approach

Proportional stratified sampling was used to estimate the sample size required to meet all study objectives. Sample size estimation was processed using WinPepi version 11.65 with a 95% confidence interval (CI), 0.01 error margin and 10–15% loss to follow-up. The final sample size of 6715 individuals was distributed proportionally between the seven provinces (Table 1).

Table 1. Estimated sample size for the health literacy study: quantitative survey

Province	Syrian refugee population	Sample size (survey)	Participants in FGDs
Bursa	211 694	685	24
Gaziantep	323 109	1050	24
Istanbul	897 718	2910	24
Izmir	151 075	490	24
Konya	88 343	290	24
Mersin	163 115	530	24
Şanlıurfa	234 752	760	24
Total	2 069 806	6715	168

In Turkey, Syrian refugees do not live in designated camps but mainly live alongside host communities in urban areas. However, at the time of the study, there was no accurate population register, complete with household names, that would enable typical sampling approaches for population surveys. Therefore, the sampling approach followed several steps. First, data from IOM field assessments on migration movement were used to identify areas (towns) in each of the provinces with a high density of Syrians. Secondly, in each of the selected towns, neighbourhoods (*“mahalle”*) where Syrians were known to live were mapped and assigned random numbers. Thirdly, the minimum sample size for each neighbourhood was calculated proportionally based on the estimated population size of the *“mahalle”*. Finally, enumerators visited the randomly selected neighbourhoods and interviewed willing participants until the required number of participants was reached.

Data collection tools

Quantitative data were collected using three survey tools: the Demographic Information Questionnaire (9); the Health Literacy Survey, which includes the S-FHL and HLS-EU-Q16 (10); and the Health Communication Needs Assessment Questionnaire.

Previous studies using a similar approach had cited a benefit in assessing health literacy. The HLS-EU-Q16 measures comprehensive health literacy, while the S-FHL measures functional health literacy. The original Arabic versions of the S-FHL and the HLS-EU-Q16 were considered for use in this study but the Arabic was not a good match for the Syrian dialect of common Arabic. Therefore, Syrian Arabic versions were developed, pretested and validated before implementation.

Qualitative data were collected in FGDs using semi-structured questions. Prior to conducting the FGDs, pretesting was used to refine the questions to improve the flow and focus of discussions.

Training of data collectors

A total of 23 enumerators and 10 team leaders, located across all seven provinces, were trained to implement the survey. Training sessions included understanding the questionnaire, delivering key information (e.g. the scope and aim of the study), and using paper and electronic data collection forms, and included role play to practice conducting the interviews.

Quantitative data collection

Surveys were conducted using electronic questionnaires in KoBo Toolbox (12), which ensured that no incomplete questionnaires could be submitted. Although data was primarily collected electronically, the paper form of questionnaire was also used if:

- respondents felt uncomfortable with the data collector using a tablet to conduct the survey;
- there were technical problems with tablets due to local environmental conditions (e.g. temperature, weather conditions) or technical issues; or
- the use of electronic devices was not permitted at specific locations and facilities (e.g. hospitals and medical clinics).



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If the paper form was used for data collection, then data were transferred to the electronic form on the same day.

Data were collected in various locations across the selected *mahalle*, such as marketplaces, parks, clinics, hospitals, areas close to social service offices and aid distribution points, and nearby government buildings such as mukhtar's office or other provincial offices. Table 2 shows the total number of respondents in each province.

Those over 60 years of age, those with a low education level, those not registered as refugees, those with low incomes and Arabic speakers had lower health literacy levels.

Table 2. Survey participants^a, by province

Province	Sample size	Total participants	Total invitees
Bursa	685	729	898
Gaziantep	1050	1100	1577
Istanbul	2910	3115	3634
Izmir	490	520	675
Konya	290	305	365
Mersin	530	530	695
Şanlıurfa	760	806	1079
Total	6715	7105a	8923

^a A total of seven non-Syrian refugees were excluded from the dataset.

Table 3. FGD participants, by province

Province	Men	Women	Adolescents	Positive response	Total reached
Bursa	10	12	10	31	32
Gaziantep	10	12	13	33	35
Istanbul	10	11	7	28	28
Izmir	11	13	11	34	35
Konya	11	12	9	30	32
Mersin	12	11	9	31	32
Şanlıurfa	11	11	11	32	33
Total	75	82	70	219	227

Qualitative data collection

Three FGDs were conducted in each province, one for each of the following groups: men (aged above 18 years); women (aged above 18 years), and adolescents aged 15–17 years (mixed sex group).

Each FGD had between eight and 12 participants (approximately 10 per group) and lasted between 60 and 90 minutes depending on the group dynamics. FGDs were conducted in Arabic with the support of a trained translator: the facilitator asked questions in Turkish and the interpreter translated these into Arabic; and the participants answered in Arabic. This approach was used because the study team could not identify a trained FGD facilitator that could speak the Arabic dialect understood by people with limited education (which was needed for this study population). Even when the group included Turkish speakers, it was agreed to use Arabic to ensure that all participants could contribute to the discussion. FGDs were facilitated by a public health expert, with two research assistants taking notes.

Table 3 shows the number of FGD participants per location, including those who did not wish to participate in the survey. In total, 227 respondents participated in FGDs (eight had to leave before the end for various reasons, including childcare and previous engagements). Therefore, valid responses were collected from 219 participants: 77 women, 73 men and 69 adolescents.

Data monitoring and quality checking

Data collection monitoring and data quality checking were conducted alongside data collection. Data quality monitoring included checking for logical flow of the information, consistency of the answers, a contextual link between close-ended and open-ended answers, and typographical errors. Enumerators were given one-to-one coaching to improve their performance and eliminate errors.

IOM and WHO technical staff, together with Ministry of Health representatives, supervised and monitored data collection activities in the various locations.

Ethical approval

Ethical approval for this study was granted by the Gazi University Internal Review Board on 3 July 2019 and the WHO Ethical Review Board on 5 August 2019. The study was implemented after ethical approval was granted.

Results



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Demographic characteristics of the study population

The study population was balanced regarding sex: 49% were female and 51% were male. Most of the participants were between 20 and 39 years of age (70.1%; Table 4, Fig. 1). In all, 68% were married and over two thirds had children (68.5%); of these, 86.6% had two or more children. Regarding educational attainment, most had received formal schooling (92.3%); only 13% were university graduates and 39.0% had primary education or lower. The sociodemographic characteristics of the study population are shown in Tables 4–6.



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Fig. 1. Demographic pyramid of study participants

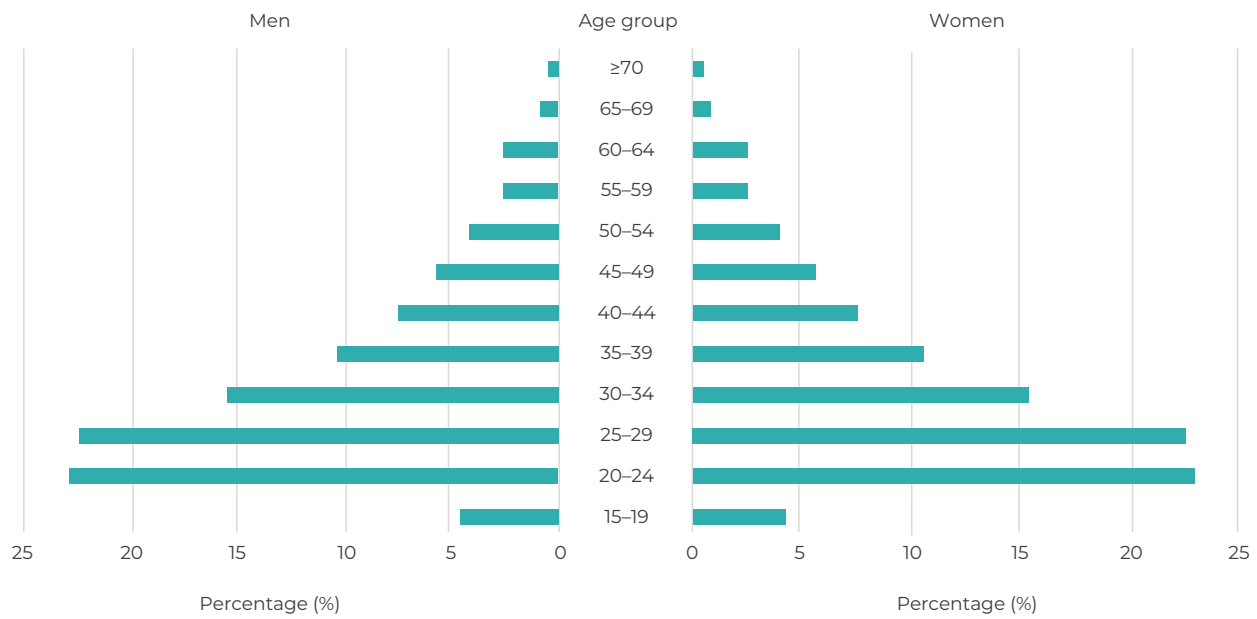


Table 4. Demographic characteristics of survey participants: age and sex distribution

Characteristic	<i>n</i>	%
Sex (<i>n</i> = 7105)		
Male	3626	51.0
Female	3479	49.0
Age, years (<i>n</i> = 7068)^a		
15-19	346	4.9
20-24	1460	20.7
25-29	1553	22.0
30-34	1135	16.1
35-39	797	11.3
40-44	571	8.1
45-49	467	6.6
50-54	332	4.7
55-59	203	2.9
60-64	135	1.9
65-69	51	0.7
≥ 70	18	0.3

^a The average age was 33.2 years for the total study population, 32.6 years for men and 33.8 years for women. Data on age were missing for 37 participants.

Note: percentages are given for each category.

Table 5. Demographic characteristics of survey participants: education and marital status

Characteristic	<i>n</i>	%
Education^a (<i>n</i> = 7105)		
No formal schooling	529	7.4
Less than primary school	595	8.4
Primary school completed	1648	23.2
Lower secondary	2167	30.5
Upper secondary/vocational	1192	16.8
University and above	951	13.4
Prefer not to say	23	0.3
Marital status (<i>n</i> = 7105)		
Never married	1834	25.8
Currently married/cohabitating	4815	67.8
Separated/divorced/widowed	427	6.0
Prefer not to say	29	0.4
Characteristic		
<i>n</i>		
%		
Household composition (<i>n</i> = 7105)		
Live alone	874	12.3
With partner (no children)	464	6.5
With partner and dependent children	4246	59.8
One parent with dependent children	625	8.8
Living with disabled/elderly family member	299	4.2
Other ^b	518	7.3
Prefer not to say	79	1.1
Children (<i>n</i> = 7105)		
Yes	4869	68.5
No	2236	31.5
Number of children (<i>n</i> = 4869)		
1	652	13.4
2–3	2206	45.3
≥ 4	2011	41.3

^a The highest level of education attained. Elementary/primary school: age 6–12 years; middle school: age 12–15 years; secondary school: age 15–18 years.

^b Among the respondents who answered “other”, 85 (16.4%) said they lived with a friend and the remainder lived with their immediate family.

Note: percentages are given for each category.

Table 6. Immigration characteristics of survey participants

Characteristic	<i>n</i>	%
Turkish citizenship (<i>n</i> = 7105)		
Yes	559	7.9
No	6546	92.1
Registered with the Turkish authorities ^a (<i>n</i> = 6546)		
Yes	6032	92.1
No	483	7.4
Prefer not to say	31	0.5
Characteristic	<i>n</i>	%
Arrival date to Turkey (<i>n</i> = 7093)		
Before 2015	3712	52.3
2015 or later	3381	47.7
Length of stay in Turkey, years (<i>n</i> = 7093) ^b		
≤ 1	403	5.7
2	496	7.0
3	896	12.6
4	1586	22.4
≥ 5	3712	52.3

^a As a Syrian under temporary protection.

^b The average length of stay was 4.4 years.

Notes: percentages are given for each category. Data are missing for some categories.





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The sociodemographic characteristics of each subgroup of FGD participants are as follows.

- Adolescents aged 15–17 years (male and female):** 69 adolescents between 14 and 19 years participated in FGDs.³ Of these, 18.8% were married. The highest education level attained was primary for 55.2%, secondary for 25.8% and high school for 6.9%; 12.1% had no formal education or were illiterate. Most adolescents were not in employment (82.4%).
- Women:** 77 women (aged > 18 years) participated in FGDs (age range: 19–67 years). Of these, 84.4% were married, 7.8% were widowed and 7.8% were single. The number of children per participant ranged from none to 13 (median: three). The highest education level attained was primary school for 36.4%, secondary school for 34.8% and high school for 15.2%; only 3% were university graduates and 10.6% were illiterate. Most female participants were unemployed (97.4%).
- Men:** 73 men (aged > 18 years) participated in FGDs (age range: 18–77 years). Of these, 80.8% were married and 19.2% were single. The number of children per participant ranged from none to 12 (median: three). The highest education level attained was primary for 29.5%, secondary for 23.0%, high school for 23.0%; 21.3% were university graduates. The remaining 3.2% had received no formal education: 1.6% were literate and 1.6% were illiterate. Over half of male participants were employed (61.4%).

Most participants spoke only Arabic (59%), while 24.9% also spoke Turkish (Table 7). In FGDs, most adults said that they could speak only Arabic, but all adolescents could speak Arabic and at least one other language (mostly Turkish).

3 The disparity between age ranges for adolescents was a consequence of using data from IOM, which does not collect data on individuals aged 10–13 years.



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Table 7. Language characteristics of survey participants

Characteristic	n	%
Number of languages (n = 3938)		
Monolingual	2324	59.0
Multilingual	1614	41.0
Other language (n = 1614) ^a		
Turkish	1445	89.5
Kurdish	241	14.9
English	237	14.7
Others	29	1.8

^a Multiple answers were possible.

Note: percentages are given for each category.

Employment and income status

Almost half of participants said they had been unemployed before leaving Syria (43.8%), 32.1% had been employed and 21.1% had been students (Table 8). During their stay in Turkey, 22.5% of participants had had a full-time job in the last year, 31.0% had been homemakers and 11.8% had been unemployed. Overall, 38.8% of participants had a monthly income of less than 2020 Turkish lira, while 30.9% had no income whatsoever.

Participants preferred health communication through social media, telephone, and SMS messages, compared to written media or other sources.

Table 8. Employment and income status of survey participants

Status	n	%
Employment status prior to departing (n = 7105)		
Employed	1802	25.4
Self-employed	474	6.7
Unemployed	3110	43.8
Student	1500	21.1
Retired	89	1.3
Prefer not to say	130	1.8
Main work status over the last 12 months (n = 7105)		
Full-time employee	1601	22.5
Part-time employee	589	8.3
Self-employed	593	8.3
Unpaid	143	2.0
Student	506	7.1
Homemaker	2200	31.0
Retired	136	1.9
Unemployed (able to work)	840	11.8
Unemployed (unable to work)	240	3.4
Prefer not to say	257	3.6
Current monthly income (n = 7105) ^a		
No income	2194	30.9
Prefer not to say	540	7.6
I don't know	266	3.7
< 2020 lira	2757	38.8
2021–4040 lira	1307	18.4
≥ 4041 lira	41	0.6

^a The average monthly income was 1266 Turkish lira.
Note: percentages are given for each category.

Comparison of participants' job histories before and after coming to Turkey revealed interesting results. Before coming to Turkey, the most common job categories in Syria were:

1. service industry – 23.6%
2. retail and automotive industry – 14.7%
3. manufacturing industry – 11.7%.

After coming to Turkey, the most common job categories were:

1. undefined – 22.8%
2. service industry – 15.8%
3. manufacturing industry – 11.7%.

Health-related behaviours and barriers to accessing health care

Self-perceived health and related behaviour

Of the participants, 23.1% described their health as poor or fair, and 34.1% had not visited a doctor or dentist in the last 12 months (Table 9). Overall, 44.1% of participants stated that they would go to a hospital emergency room and 22.1% said they would call an ambulance in an emergency. However, less than half of participants (47.5%) knew the hotline telephone number for the emergency services (i.e. 112).



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Table 9. Self-perception of health and health-seeking behaviour

Status	n	%
Self-assessed health status (n = 7105)		
Poor	419	5.9
Fair	1220	17.2
Good	2767	38.9
Very good	1806	25.4
Excellent	884	12.4
Prefer not to say	9	0.1
Number of visits to doctor/dental surgeon visit in last 12 months in Turkey (n = 7105)		
0	2421	34.1
1-2	2426	34.1
3-5	1398	19.7
≥ 6	860	12.1
Have you or anyone in your household ever received vaccinations (n = 7105)		
Yes	3983	56.1
No	2571	36.2
I don't know	505	7.1
Prefer not to say	46	0.6
The emergency hotline number in Turkey (n = 7105)		
112	3372	47.5
Other	221	3.1
I don't know	3512	49.4

Note: percentages are given for each category.



Caring for the sick and making health-care decisions

Most respondents indicated that they were the person who made health-related decisions in their family (71.1%), while 64.4% said that they were responsible for caring for the sick in their family (Table 10).

When men were asked in FGDs about health-related decision-making in the household, they said that they made decisions but sometimes consulted their parents or other family members. However, women in FGDs also said that they were responsible for most health-related decisions and for caring for sick children because their husbands did not share much of this responsibility. Most women said that they do not feel any pressure from other family members but usually consult family elders (consistent with their cultural norms). However, other participants said that they are heavily influenced by their husband or family elders, and some said that this had led them to change their decisions.

Table 10. Responsibility for personal and family health care

Responsibility	n	%
Who makes decisions on health in your family? (n = 7105)		
Me	5052	71.1
Partner	682	9.6
Mother	308	4.3
Father	405	5.7
Jointly with my spouse	382	5.4
Other answer	276	3.9
Who cares for/takes a sick family member to a health facility? (n = 7105)		
Me	4579	64.4
Partner	1128	15.9
Mother	786	11.1
Father	148	2.1
Jointly with my spouse	128	1.8
Other answer	336	4.7

Note: percentages are given for each category.

Male participants made the following comments.

- **FG.16.1.M6** For instance, if a child has fever, I give the child a bath; if it continues, I take the child to doctor. I make the decision. If my wife knew how to go to doctor she would go alone; since she doesn't know, I take them.
- **FG.35.1.M8.** In general, I make the decisions, but sometimes my wife makes the decisions. Since I work during the day, my wife makes the decisions about the children.

Female participants made the following comments.

- **FG.63.1.F6.** I do not go anywhere without my husband. For more than half of the women, their husbands would not allow this.
- **FG.63.1.F4–5.** The mothers take care of the children; in general, they take the children to the doctor. The fathers are working.

Adolescent participants in the FGDs said that they mostly consulted their parents when seeking information or taking decisions about their health. They also reported going to medical facilities with adult family members, mainly their mother. Findings suggest that this group does not make independent health decisions, as expressed by the following participant.

- **FG.27.3.T9.** I cannot go (to see a physician) without asking my mother or my father.

Barriers to accessing health care

Over 54% of participants reported experiencing barriers to accessing health-care services (Table 11), with language barriers (e.g. lack of adequate translation services) the most frequently encountered barrier (69.7%).

Table 11. Barriers and access to health-care services

Barriers/access	n	%
Do you experience barriers in accessing health services? (n = 7105)		
Yes	3889	54.7
No	2951	41.5
I don't know	240	3.4
Prefer not to say	25	0.4
Commonest types of barriers (n = 3889)		
Legal/procedural (e.g. registration status ^a)	552	14.2
Language (e.g. lack of translation services)	2711	69.7
Don't know how/where to access	179	4.6
Can't afford it	315	8.1
Lack of transportation	80	2.1
Other	52	1.3
Place accessed for health-care services (n = 7105)		
RHC	2027	28.5
Private health-care provider	693	9.8
Public hospital	3759	52.9
Pharmacy	161	2.3
Family health centre	354	5.0
Other	37	0.5
Prefer not to say	74	1.0

^a As a Syrian under temporary protection.

Note: percentages are given for each category.



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Among different health-care facilities, language barriers were experienced most often at public hospitals (78.2%), where language services (translation, interpretation and guidance) are less available. Most participants said that they had experienced language barriers at family health centres and public hospitals. The second most common type of barrier was legal barriers, which were mostly encountered when visiting a pharmacy. FGD participants also mentioned experiencing language barriers and said that this influenced their choice of health facility.

- **FG.34.1.F4.** The time they allocate for us in hospitals in Turkey is very limited. Perhaps the doctor is good, but I cannot express myself and share my troubles.
- **FG.33.1.F4.** The health services offered by Turkey are very good, and I trust the Turkish health personnel. But I come to the RHC more often because we do not face language problems here.

- **FG.63.2.M2.** Most Syrians cannot go to the hospital due to language problems. They come to RHCs; but, there are not enough specialists at RHCs. Since there is only one intern, the physician's workload is very high. We must wait for hours for just one doctor. We have the same problem with cardiology. Not all hospitals have translators. Since there are too many people, the translators cannot keep up with them.

Among the other barriers in accessing health services ($n = 52$), the most common were ill treatment by health-care personnel (34.6%), neglect by health-care personnel (25.1%), and overcrowded health centres (13.5%).

Most participants obtained health-care services from hospitals (52.9%), while 28.5% obtained these services from RHCs. Among the 37 participants who reported obtaining health-care services from other providers, the most common were private health-care providers.

For FGD participants, the most common barrier to accessing health services was language, which was most frequently encountered at hospitals. Language was not a common problem in RHCs due to the presence of skilled translators. However, many participants said that, because of limited services at RHCs (including specialists), they need to visit hospitals or family health centres, but that they experience major language barriers in these facilities. They specifically said that language barriers prevented them from fully explaining their health-related concerns to health professionals and from understanding their advice. Male participants said there were too few RHCs across Turkey to accommodate all of their health needs, so they had to visit other facilities but then experienced language barriers because of the limited number of translators in these facilities.

- **FG.42.2.M2.** We do not even know what medication we are taking. We go to the pharmacy and if the pharmacy employs a translator, the translator tells us how to use the medication for our disease. They write instructions on how to administer the medication on the box, but we still do not understand.
- **FG.34.2.M10.** I experience problems with translator at the hospital.

Health information and communication Health information needs

Survey participants were asked the open-ended question: “What information related to your own and your family’s health do you need?” The most common responses indicated a need for information on chronic diseases (Fig. 2).

Fig. 2. Preferred ways to receive health information for study participants

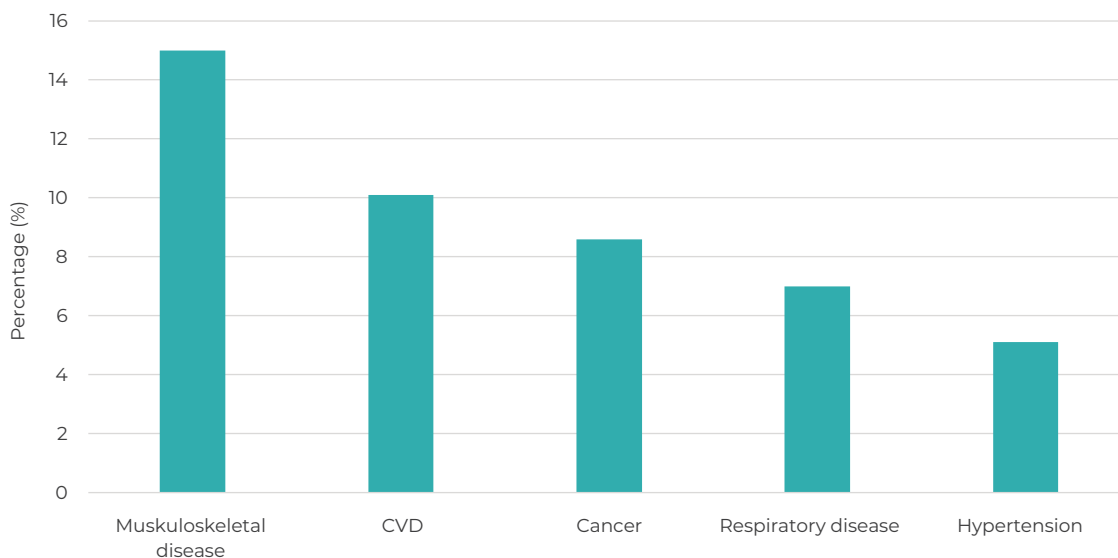
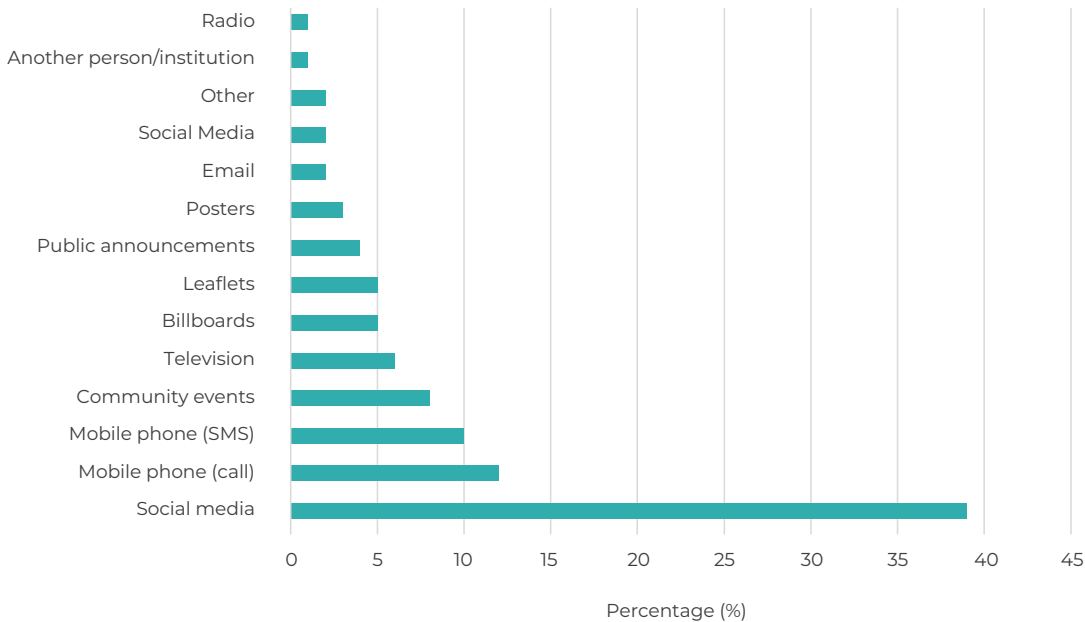


Fig. 3. Preferred ways to receive health information for study participants



FGD participants had limited knowledge on health topics. Although most women said they needed information on the diseases they or their family members have, a few participants in all groups (adolescents, women and men) said they were seeking information related to health protection or disease prevention. However, in general, men and women were uninterested in or unaware of the importance of such information for their health and well-being, and did not know where to obtain it.

Sources and channels for receiving health information

Survey participants were asked which of the different communication channels they considered the best way to obtain health information (Fig. 3).

Participants said that social media was the best way to receive health information (45.6%), followed by phone calls/SMS (26.3% combined). Of those who considered that the best way to receive health information was from another health worker or health institution ($n = 1160$), 99.4% said they would consult either a health worker or health authority for information; when further asked about their first preference, 59.6% said health worker, 35.8% said health authority and 4.0% said aid/social worker. Notably, written health information materials such as leaflets or posters were not generally consulted by study participants. Among the other ways to receive health information mentioned by participants ($n = 132$), the most common platforms were Google (60.6%) and YouTube (13.6%).

In FGDs, some women said that they obtained health information from health facilities, television and the Internet, while others said they trusted neighbours and relatives as reliable sources. Similarly, men reported consulting the Internet and television for health information, but a few questioned the reliability of these sources. Most adolescents reported obtaining health information from family members but also from television and books. Overall, very few participants were aware that television and Internet are not sufficiently reliable to use as the sole sources of health information, and that using information from these sources without consulting health professionals could be harmful. In addition, most men were unaware that informational videos are available at RHCs.

Women's views on health information sources included the following.

- **FG.16.2.F4.** I check the Internet about how to provide good education to a child. I benefit from the Internet on so many things.
- **FG.16.2.F6.** I check the Internet for the causes of miscarriage. Some things are correct, but sometimes they totally contradict what the doctor has said. And the medicine the doctor prescribed is different from what is written on the Internet, but I trust the doctor.
- **FG.34.1.F5.** First, I ask to the doctor, then I research on the Internet. I search Google about what the doctor says and verify it.

Men's views on health information sources included the following.

- **FG.16.1.M2.** I check the Internet. Google is more convenient than the physicians since it provides immediate answers and there are no queues. Since I can check the information from many websites, I find it trustworthy.
- **FG.33.1.M4.** I trust the Internet the most. Since the men are working, they cannot go to a doctor, so I trust the Internet.

Adolescents' views on health information sources included the following.

- **FG.16.3.T10.** Most often, I check health-related stuff on the Internet and television.
- **FG.16.3.T3.** I, too, learn from smart phone applications.

Community, local and religious leaders

Most survey participants had never received health information from community leaders (89.8%), mukhtars (93.2%) or religious leaders (91.8%). However, at least 90% of those who received information from these sources, trusted the information they received (Table 12). Participants most commonly received the information from these sources via phone calls (community leaders, 64.5%; mukhtars, 62.5%; and religious leaders, 67.8%) and SMS (community leaders, 23.4%; mukhtars, 25.2%; and religious leaders, 20.3%).

In contrast, FGD participants (especially women and adolescents) considered neighbours, family members and elders as important sources of health information. Another relevant source of health information was their peers and/or speakers at community events.

One woman made the following statement.

- **FG.34.1.F2.** So, elders in our community have both the experience and the information. For example, my neighbour is older than me. I go and share my troubles, thinking perhaps my neighbour had gone through that. My neighbour will tell me what she knows.

One adolescent made the following statements.

- **FG.42.3.T5.** My mother trusts in her neighbour. She is also a Syrian.



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Table 12. Frequency and trust in health information received from community leaders, local government officials/mukhtars and religious leaders

Frequency/level of trust	Community leaders		Local government official/mukhtar		Religious leaders	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Frequency of receiving information (<i>n</i> = 7105)						
Never	6381	89.8	6624	93.2	6519	91.8
Seldom	132	1.9	140	2.0	99	1.4
Sometimes	277	3.9	175	2.5	244	3.4
Often	170	2.4	71	1.0	105	1.5
Always	40	0.6	3	0.0	14	0.2
Prefer not to say	105	1.5	92	1.3	124	1.7
Trust in health information ^a	<i>n</i> = 619		<i>n</i> = 389		<i>n</i> = 462	
Yes	553	89.3	356	91.5	426	92.2
No	14	2.3	8	2.1	5	1.1
I don't know	34	5.5	22	5.6	26	5.6
Prefer not to say	18	2.9	3	0.8	5	1.1

^a Participants who answered "never" and "prefer not to say" to the previous question did not answer this question.

Note: percentages are given for each category.

Table 13. Frequency and trust in health information from health workers and health authorities

Frequency/level of trust	Health workers		Health authorities	
	%	<i>n</i>	%	%
Frequency	<i>n</i> = 7105		<i>n</i> = 4766	
Never	2170	30.5	721	15.1
Seldom	792	11.1	701	14.7
Sometimes	1319	18.6	1289	27.0
Often	1093	15.4	783	16.4
Always	1562	22.0	1184	24.8
Prefer not to say	169	2.4	88	1.8
Trust on health information sources ^a	<i>n</i> = 4766		<i>n</i> = 4678	
Yes	4260	89.4	3884	83.0
No	126	2.6	110	2.4
I don't know	320	6.7	529	11.3
Prefer not to say	60	1.3	155	3.3

^a Participants who answered "never" and "prefer not to say" to the previous question did not answer this question.

Note: percentages are for each category.

Health workers and health authorities

Among survey participants, 67.1% said they had received health information from health workers and 83.1% from health institutions. Most participants trusted the health information they received from health workers and health institutions (89.4% and 83.0%, respectively; Table 13).

In FGDs, most participants said they were satisfied with the health-care services they receive in Turkey, and trusted health professionals and their authority to provide health information.

Men made the following statements.

- **FG.33.3.T5.** In general, we trust those who provide health services.
- **FG.33.3.T3.** We also trust the administrators.
- **FG.16.3.T2.** I trust experienced physicians.

Women made the following statements.

- **FG.27.1.F1-4-5-6-14.** Yes, of course we trust in physicians.
- **FG.33.1.F4.** The health services offered by Turkey are very good, and I trust the health personnel. I come more often to RHCs because we do not experience language problems here.
- **FG.42.1.F9.** Physicians have the information, so we trust them. It is wrong for the patient to obtain information from the Internet. Physicians provide the full information. But since so many different people provide information on the Internet, you hear different things.
- **FG.42.2.M8.** I trust no one but physicians. Physicians have the information; it is their job.

Adolescent made the following statements.

- **FG.63.3.T3.** Television and Internet are the least trustworthy sources because they provide information without explaining much. I always think, why is it so? But when I am with a doctor, I can ask, and the doctor can explain the reasons.

Physical and virtual sources

Nearly two thirds of all survey participants said they did not know a physical source of health information. Of those who did know where they could go to access health information, 54.8% said that hospitals and 26.4% said that RHCs were the most relevant places.

Nearly half of all survey participants accessed health information via either the Internet (43.9%) or social media (39.5%), while almost none used the radio (96.4%) or print media (96.8%). However, less than half of participants using these sources (either seldom, sometimes, often or always) trusted them. Specifically, only 38.8% of those who used the Internet and 22.2% of those who used social media said that they trusted these sources to provide reliable health information (Table 14). Participants who trusted the Internet as a source of health information most commonly used Google (49.4%) and YouTube (21.9%). Those who trusted social media platforms most commonly used Facebook (46.9%), and Instagram (11.3%) while a significant proportion relied on WhatsApp (36.8%) as a source of information.

Table 14. Frequency of using media as a source of health information

Frequency/level of trust	Radio		Television		Print media		Internet ^a		Social media ^b	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Frequency (<i>n</i> = 7105)										
Never	6851	96.4	4654	65.5	6881	96.8	1553	21.9	864	12.2
Seldom	71	1.0	469	6.6	75	1.1	303	4.3	413	5.8
Sometimes	82	1.2	1058	14.9	60	0.8	875	12.3	1326	18.7
Often	34	0.5	488	6.9	29	0.4	1208	17.0	1638	23.1
Always	8	0.1	394	5.5	5	0.1	3118	43.9	2804	39.5
Prefer not to say	59	0.8	42	0.6	55	0.8	48	0.7	60	0.8
Trust in health information sources ^c										
	<i>n</i> = 195		<i>n</i> = 2409		<i>n</i> = 169		<i>n</i> = 5504		<i>n</i> = 6181	
Yes	80	41.0	800	33.2	82	48.5	2133	38.8	1374	22.2
No	61	31.3	786	32.6	44	26.0	1703	30.9	2167	35.1
I don't know	48	24.6	773	32.1	37	21.9	1536	27.9	2386	38.6
Prefer not to say	6	3.1	50	2.1	6	3.6	132	2.4	254	4.1

^a The most commonly used Internet sources were Google (49.4%) and YouTube (21.9%).

^b The most commonly used social media platforms were Facebook (46.9%) and Instagram (11.3%). WhatsApp (36.8%) was also relied on for information on health.

^c Participants who answered "never" and "prefer not to say" to the previous question did not answer this question.

Note: percentages are given for each category.

Some opinions shared in FGDs were consistent with the survey findings: FGD participants acknowledged using the Internet to access health information but did not always trust the information they found.

Barriers to accessing and using health information

The greatest obstacle to accessing health information reported by participants was that information was not provided in a language the participants understood or spoke (49.1%). Most participants said they could make decisions based on the health information they received (85.5%; Table 15).

Table 15. Barriers to accessing and using health information

Barriers/ability to act	<i>n</i>	%
Barriers to accessing relevant health information (<i>n</i> = 7105)		
Unable to read	461	6.5
Don't own any electronic equipment (radio, mobile phone, television)	69	1.0
Depend on another family member to get information	141	2.0
Information is not in a language I understand/speak	3492	49.1
Information is inaccessible (to visually impaired, disabled people)	12	0.2
No access to a health centre/health worker	193	2.7
Nothing stops me	2454	34.5
Other ^a	26	0.4
I don't know	173	2.4
Prefer not to say	84	1.2
Are you able to act upon the health information that you receive (<i>n</i> = 7105)		
Yes	6073	85.5
No ^b	152	2.1
I don't know	748	10.5
Prefer not to say	132	1.9

^a Among those who said they had "other" barriers to accessing relevant health information, the most common barriers were lack of an identity card (42.1%), ill treatment by health-care personnel (21.0%) and difficulty in securing an appointment (21.0%)

^b The most common reasons for being unable to act upon the medical information were a lack of trust (26.1%), language problems (20.3%) and "I do not know" (15.9%).

Note: percentages are given for each category.

Health literacy

Functional and comprehensive health literacy

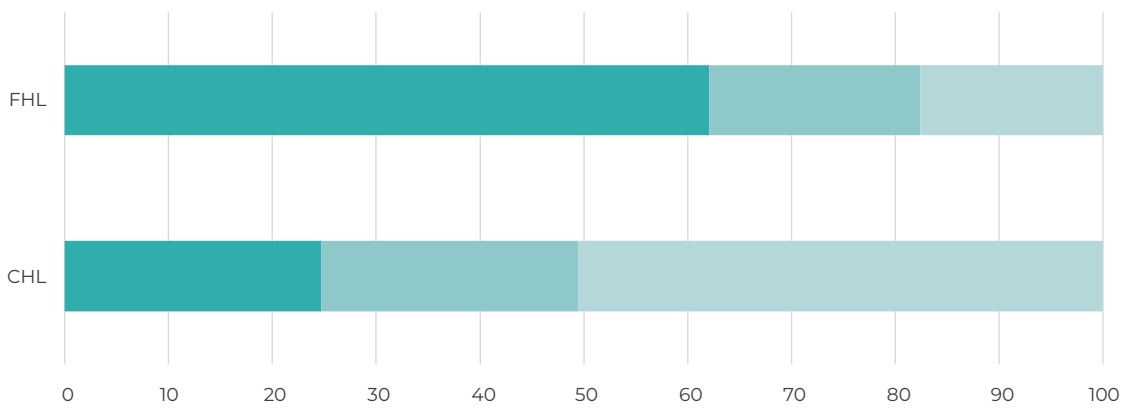
Nearly half of survey participants had inadequate or problematic levels of comprehensive health literacy (49.5%; Fig. 4) and 82.4% of participants had an inadequate or problematic levels of functional health literacy. Only 17.6% had a sufficient level functional health literacy and 50.5% had a sufficient level of comprehensive health literacy.

There was a 41.8% consistency between comprehensive health literacy and functional health literacy results (Table 16).



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Fig. 4. Health literacy levels of the study population



Proportion of study population

■ Inadequate ■ Problematic ■ Sufficient

CHL: comprehensive health literacy; FHL: functional health literacy.



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Table 16. Comparison of functional and comprehensive health literacy in survey participants

FHL level	CHL level ^a						Total (n = 7105)	
	Inadequate (n = 1757)		Problematic (n = 1761)		Sufficient (n = 3587)		n	%
	n	%	n	%	n	%		
Inadequate	1546	35.1	1280	29.0	1583	35.9	4409	62.1
Problematic	157	10.9	353	24.5	933	64.7	1443	20.3
Sufficient	54	4.3	128	10.2	1071	85.5	1253	17.6

CHL: comprehensive health literacy; FHL: functional health literacy.

^a Determined using the HLS-EU-Q16 Scale.

Notes: percentages are given for each category; The intercepts of assessment categories are shown in bold.

Most survey participants said that actions related to accessing, understanding, appraising and applying health information to make decisions concerning health care, disease prevention and health promotion (HLS-EU-Q16 questions) were easy or very easy (Table 17). However more than 30% said it was difficult to understand what the doctor said (33.1%) and difficult to find information to manage mental health problems such as stress and depression (35.3%).

However, more participants said that tasks related to reading information and instructions about health (questions on functional health literacy) were often or always difficult to accomplish (Table 18).

Table 17. Distribution of responses to the HLS-EU-Q16

Item (n = 7105)	Very easy		Easy		Difficult		Very difficult		I don't know	
	n	%	n	%	n	%	n	%	n	%
1. How easy/difficult is it for you to find information on treatments of illnesses that concern you?	1661	23.4	3481	49.0	1289	18.1	336	4.7	338	4.8
2. How easy/difficult is it for you to find out where to get professional help when you are ill?	1951	27.5	3235	45.5	1345	18.9	315	4.4	259	3.6
3. How easy/difficult is it for you to understand what your doctor says to you?	1088	15.3	3537	49.8	1707	24.0	647	9.1	126	1.8
4. How easy/difficult is it for you to understand your doctor's or pharmacist's instruction on how to take a prescribed medicine?	1739	24.5	4077	57.4	875	12.3	348	4.9	66	0.9
5. How easy/difficult is it for you to judge when you need to get a second opinion from another doctor?	1361	19.2	3566	50.2	1489	21.0	464	6.5	225	3.2
6. How easy/difficult is it for you to use information the doctor gives you to make decisions about your illness?	1927	27.1	3577	50.3	1113	15.7	263	3.7	225	3.2
7. How easy/difficult is it for you to follow instructions from your doctor or pharmacist?	1679	23.6	4219	59.4	759	10.7	352	5.0	96	1.4
8. How easy/difficult is it for you to find information on how to manage mental health problems such as stress or depression?	1137	16.0	2700	38.0	1808	25.4	700	9.9	760	10.7
9. How easy/difficult is it for you to understand warnings about behaviour?	1789	25.2	3672	51.7	1023	14.4	267	3.8	354	5.0
10. How easy/difficult is it for you to understand why you need health screenings?	1605	22.6	3551	50.0	1256	17.7	297	4.2	396	5.6
11. How easy/difficult is it for you to judge if the information on health risks in the media is reliable?	1076	15.1	3034	42.7	1528	21.5	512	7.2	955	13.4
12. How easy/difficult is it for you to decide how you can protect yourself from illness based on information in media?	1143	16.1	3198	45.0	1402	19.7	396	5.6	966	13.6
13. How easy/difficult is it for you to find out about activities that are good for your mental well-being?	1138	16.0	3863	54.4	1150	16.2	439	6.2	515	7.2
14. How easy/difficult is it for you to understand advice on health from your family members or friends?	1660	23.4	4019	56.6	999	14.1	294	4.1	133	1.9
15. How easy/difficult is it for you to understand information in the media on how to get healthier?	1457	20.5	3330	46.9	1216	17.1	276	3.9	826	11.6
16. How easy/difficult is it for you to judge which everyday behaviour is related to your health?	1858	26.2	3650	51.4	1153	16.2	180	2.5	264	3.7

Notes: percentages relate to each row: light blue, 0–20%; mid blue, 20–40%; dark blue, > 40%.

Table 18. Distribution of responses to the S-FHL

Item (n = 7105)	Very easy		Easy		Difficult		Very difficult		I don't know	
	n	%	n	%	n	%	n	%	n	%
1. Do you think that it is difficult to read health information because the text is difficult to see (even if you have glasses or contact lenses)?	3455	48.6	144	2.0	1252	17.6	504	7.1	1750	24.6
2. Do you think that it is difficult to understand words or numbers in health information?	2113	29.7	322	4.5	1664	23.4	618	8.7	2388	33.6
3. Do you think that it is difficult to understand the message in health information?	2288	32.2	357	5.0	1896	26.7	581	8.2	1983	27.9
4. Do you think that it takes a long time to read health information?	1930	27.2	592	8.3	1700	23.9	606	8.5	2277	32.0
5. Do you ever ask someone else to read and explain health information?	2314	32.6	495	7.0	1677	23.6	564	7.9	2055	28.9

Notes: percentages relate to each row: light blue, 0–20%; mid blue, 20–40%; dark blue, > 40%.

Health literacy distribution by social demographic characteristics

The level of comprehensive health literacy was higher among men, adults aged 19–29 years and unmarried individuals (Table 19) and among multilingual individuals, those without Turkish citizenship and those with legal registration⁴ (Table 20). As the level of education increased, the percentage of those with a sufficient level of comprehensive health literacy increased. For women, those with children had a higher level of health literacy than those without; however, the opposite was found for men (Table 21). In terms of employment status, people who had been employed before leaving Syria had the highest level of comprehensive health literacy, while those who had been retired had the least adequate level (Table 22). The level of comprehensive health literacy was inversely related to age (Table 19) and directly related to income level (Table 22).



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Table 19. Level of comprehensive health literacy, by demographic characteristic^a

Characteristic	Inadequate/problematic		Sufficient		P value ^b
	n	%	n	%	
Sex (n = 7105)					
Male	1608	46.2	1871	53.8	< 0.001
Female	1910	52.7	1716	47.3	
Age group, years (n = 7068)					
≤ 18	65	44.5	81	55.5	< 0.001 ^c
19–29	1342	41.8	1871	58.2	
30–44	1284	51.3	1219	48.7	
45–59	645	64.4	357	35.6	
≥ 60	147	72.1	57	27.9	
Marital status (n = 7076)					
Never married	717	39.1	1117	60.9	< 0.001
Married/ cohabitating	2504	52.0	2311	48.0	
Separated/ divorced/widowed	276	64.6	151	35.4	
Number of children (n = 7105)					
0	1008	45.1	1228	54.9	< 0.001
1	289	44.3	363	55.7	
2–3	1031	46.7	1175	53.3	
≥ 4	1190	59.2	821	40.8	

^a Analysis of HLS-EU-Q16 responses.

^b Pearson's chi-squared test.

^c Chi-squared test for a linear trend.

Note: percentages relate to each row.

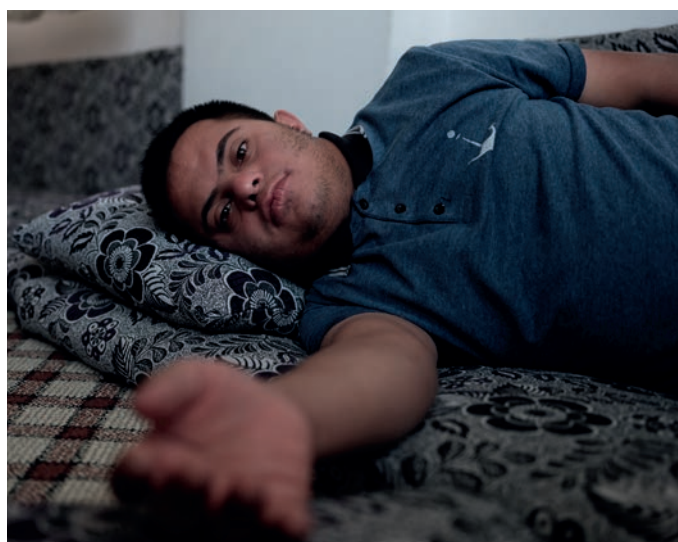


Table 20. Level of comprehensive health literacy, by language characteristics, migrant and education characteristics^a

Characteristic	Inadequate/problematic		Sufficient		P value ^b
	n	%	n	%	
Languages (n = 3934)					
Monolingual	1585	68.3	735	31.7	< 0.001
Multilingual	805	49.9	809	50.1	
Turkish citizenship (n = 7105)					
No	3213	49.1	3333	50.9	0.013
Yes	305	54.6	254	45.4	
Registered with the Turkish authorities ^c (n = 6515)					
No	259	53.6	224	46.4	0.036
Yes	2935	48.7	3097	51.3	
Time of stay in Turkey, years (n = 7093)					
≤ 1	213	52.9	190	47.1	< 0.001
2	234	47.2	262	52.8	
3	383	42.7	513	57.3	
4	751	47.4	835	52.6	
≥ 5	1929	52.0	1783	48.0	
Arrival date in Turkey (n = 7093)					
before 2015	1929	52.0	1783	48.0	< 0.001
2015 or later	1581	46.8	1800	53.3	
Education ^d (n = 7082)					
No formal schooling	386	73.0	143	27.0	< 0.001 ^e
Less than primary school	363	61.0	232	39.0	
Primary school completed	897	54.4	751	45.6	
Lower secondary	1013	46.7	1154	53.3	
Upper secondary/vocational	518	43.5	674	56.5	
University and above	322	33.9	629	66.1	

^a Analysis of HLS-EU-Q16 responses.

^b Pearson's chi-squared test.

^c As a Syrian under temporary protection.

^d The highest level of education attained.

^e Chi-squared test for a linear trend.

Note: percentages relate to each row.

Table 21. Comprehensive health literacy by parental status^a

Parental status	Inadequate/problematic		Sufficient		P value ^b
	n	%	n	%	
Women (n = 3626)					
No children	479	58.1	345	41.9	< 0.001
At least 1 child	1431	51.1	1371	48.9	
Men (n = 3479)					
No children	529	37.5	883	62.5	< 0.001
At least 1 child	1079	52.2	988	47.8	

^a Analysis of HLS-EU-Q16 responses.

^b Pearson's chi-squared test.

Note: percentages relate to each row.

Table 22. Level of comprehensive health literacy, by employment and income status^a

Employment/ income	Inadequate/problematic		Sufficient		P value ^b
	n	%	n	%	
Employment status prior to leaving Syria (n = 6975)					
Employed	1173	51.5	1103	48.5	< 0.001
Unemployed	1697	54.6	1413	45.4	
Student	520	34.7	980	65.3	
Retired	58	65.2	31	34.8	
Employment status over the last 12 months (n = 6848)					
Employed	1227	44.1	1556	55.9	< 0.001
Unemployed	1792	52.3	1631	47.7	
Student	218	43.1	288	56.9	
Retired	94	69.1	42	30.9	
Income, lira (n = 6299)					
None	1217	55.5	977	44.5	< 0.001
< 2020	1338	48.5	1419	51.5	
2021–4040	450	34.4	857	65.6	
≥ 4041	13	31.7	28	68.3	

^a Analysis of HLS-EU-Q16 responses.

^b Pearson's chi-squared test.

Note: percentages relate to each row.

Table 23. Univariate and multivariate logistic regression analysis of the risk factors for inadequate/problematic levels of comprehensive health literacy

Characteristic	Model I (n = 7105)		Model II (n = 3749)	
	Adjusted OR (95% CI)	P value	Adjusted OR (95% CI)	P value ^a
Sex (Ref: male)	1.1 (0.9–1.2)	0.142	0.9 (0.8–1.1)	0.215
Age, years (Ref: ≤ 18 years)				
19–29	0.9 (0.6–1.3)	0.417	0.9 (0.5–1.8)	0.958
30–44	1.3 (0.9–2.0)	0.153	1.2 (0.7–2.2)	0.499
45–60	1.7 (1.1–2.6)	0.009	1.6 (0.8–2.9)	0.164
≥ 60	2.3 (1.3–3.8)	0.003	2.7 (1.2–6.1)	0.019
Education ^b (Ref: university and above)				
No formal schooling	4.8 (3.6–6.4)	0.001	6.3 (4.2–9.5)	0.001
Less than primary school	2.6 (2.0–3.3)	0.001	4.0 (2.8–5.8)	0.001
Primary school	2.0 (1.7–2.5)	0.001	3.1 (2.3–4.2)	0.001
Lower secondary	1.6 (1.3–1.9)	0.001	2.2 (1.6–2.9)	0.001
Upper secondary/vocational	1.5 (1.2–1.8)	0.001	1.5 (1.1–1.9)	0.013
Time of stay in Turkey	1.1 (1.0–1.1)	0.044	0.9 (0.9–1.1)	0.480
Registered with the Turkish authorities ^c (Ref: yes)	1.2 (1.1–1.5)	0.044	2.1 (1.3–3.4)	0.001
Languages (ref: multilingual)	–	–	1.2 (1.1–1.4)	0.037
Current monthly income, Turkish lira (Ref: ≥ 4041)				
None	3.0 (1.4–6.5)	0.005	2.8 (0.9–8.5)	0.074
< 2020	2.4 (1.1–5.2)	0.026	1.3 (0.4–3.9)	0.661
2021–4040	1.5 (0.7–3.3)	0.285	0.8 (0.3–2.5)	0.697
Use of Internet or social media (Ref: ever)	1.0 (0.8–1.3)	0.761	1.7 (1.3–2.2)	0.001

Ref: reference group.

^a Variables with a P value of < 0.05, as determined by univariate analysis, were entered into the multivariate logistic regression analysis.

^b The highest level of education attained.

^c As a Syrian under temporary protection.

Factors associated with health literacy

Multivariate logistic regression models were used to examine the influence of some variables on the level of comprehensive health literacy. First, univariate analysis was conducted and variables with a P value of < 0.05 were entered into multivariate logistic regression analysis (Table 23). Two models were generated, one without language (Model I) and one with language (Model II), to test the impact of language as a variable because only a small fraction of

participants spoke a language other than Arabic. Since language did not affect the model, it was excluded it from the analyses. A P value of < 0.05 indicated a significant association between the variable and inadequate/problematic level of comprehensive health literacy. When language was excluded (Model I), the proportion of people with inadequate/problematic levels of comprehensive health literacy was significantly higher among those aged 45–60 years (odds ratio (OR): 1.7; 95% CI: 1.1–2.6; P = 0.009) and those aged 60 years and



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over (OR: 2.3; 95% CI: 1.3–3.8; $P = 0.003$) compared with adolescents (reference group). The duration of residency in Turkey (OR: 1.1; 95% CI: 1.0–1.1; $P = 0.044$) and income level (OR: 3.0; 95% CI: 1.4–6.5; $P = 0.005$) were positively related with the level of comprehensive health literacy. When language was included (Model II), the proportion of people with inadequate/problematic levels of comprehensive

health literacy was significantly higher among those who spoke only Arabic compared with multilingual participants (OR: 1.2; 95% CI: 1.1–1.4; $P = 0.037$). This model also showed that the odds of having an inadequate level of comprehensive health literacy were significantly higher among those with less education compared with those with university education and above.

Discussion

Refugees and migrants with language barriers, and those who cannot access health information, are at a greater risk of poor health and well-being.

Previous studies have included assessment of health literacy among Syrian refugees in Turkey (8), but a detailed assessment of health literacy levels in connection with health communication had not yet been done. The large sample size and robust assessment approach used in this study provided more detailed information on health literacy and health communication. Health literacy has been studied among refugees in other countries (7,9,12). However, a study to generate knowledge on health communication in relation to health literacy among refugees in Turkey was needed to support the development of policy recommendations to improve refugee and migrant health.

Language barriers

Despite significant efforts to overcome language barriers to health care for refugees through the RHC mechanism, the pressure from demand on some RHC services pushes patients towards other facilities such as hospitals, where interpreter services are not provided. This might explain the high proportion of participants reporting language barriers in such facilities. However, since respondents were not asked to specify which obstacles they face in the different types of health-care facilities, the study cannot support this conclusion.

A similar study from Sweden reported that 30% of participants experienced language obstacles and had difficulty understanding the health information they had received (10). It is important to be aware that communication problems in health services might prevent patients from making effective health decisions. A study of migrants reported barriers as lack of insurance, financial difficulties, problems with transportation, dissatisfaction with health-care services and long waiting times, in addition to language barriers (13). Most study participants preferred hospital-based health-care services and thought primary health-care provision was insufficient (including at RHCs) due to heavy workloads and a lack of specialists (most physicians are general practitioners).

Two qualitative studies reported similar perceptions in asylum seekers in the United Kingdom. The asylum seekers believed that specialist physicians were needed in primary health-care facilities because general practitioners could not treat all health problems (14,15). This might reflect their cultural background, since pre-war Syria did not provide comprehensive primary health-care services and Syrians were not accustomed to consulting general practitioners at primary health-care facilities. The same study also found that despite their preference for obtaining health-care services from secondary and tertiary health-care facilities, most refugees faced obstacles (including language barriers) at these facilities. They were satisfied with the health-care services provided at RHCs due to the availability of trained translators and Syrian health-care personnel.

Other studies identified language barriers at secondary health-care facilities and reported that most refugees were satisfied with the translation services at primary health-care facilities (14,16). However, translation services might be insufficient to overcome the language barriers experienced by refugees at RHCs and hospitals: to provide effective health-care services, it is critically important that health-care personnel can speak the same language as the refugees they are treating. This study found that female, elderly (aged over 65 years) and unemployed refugees experienced the most language barriers. A possible explanation is that in the Syrian community men are more likely than women to seek employment, which makes it easier for them to learn the local language. Where language barriers are prevalent, refugees tend to seek health-care services from unsafe or inappropriate sources, including undocumented private practices or non-certified medical practitioners. Moreover, the use of family members (e.g. their children) as translators might exacerbate this problem.

Problems in health-care organization

The Turkish Ministry of Health fully supports health-care provision for refugees at public hospitals. However, bureaucratic problems and difficulties in accessing health-care services provided by RHCs exacerbate the challenges in service delivery and increase the workload at secondary care hospitals. Furthermore, owing to cultural differences and language barriers, some health-care providers might be unresponsive or indifferent towards the health-care needs of refugees (17). The integration and acceptance of refugees within the host community are critically important, not only to prevent discrimination but also to strengthen their relationship with health workers and help them benefit more from health services to improve their public health status (18). Effective organization of primary health-care services and use of a referral system between primary, secondary and tertiary health-care services are essential to ensure that health-care services at all levels are effectively utilized. Deficiencies in health system organization are reflected in underutilization of primary health-care services by the host community in Turkey and a preference to seek help in secondary and tertiary health-care facilities. This environment is familiar to most refugees, who originate from countries where primary health-care services are not planned, organized or utilized effectively.

Finally, lack of knowledge and information on health-care service organization in the host community might create another obstacle for refugees to utilize health-care services effectively (19).

In general, experiences of poor health service delivery in their home countries lead refugees to seek a better quality of service in the host country (20). As in Turkey, many other host countries provide health-care services to refugees free of charge. The costs of health care and scheduling health-care visits create additional obstacles for refugees. Lebanon and Jordan also provide primary health-care services specifically for refugees with the aim of improving the quality and performance of health-care delivery by increasing coverage and access; however, there are differences between these countries and Turkey. For instance, the Government of Lebanon covers 75% of health-care costs for refugees, whereas Jordan provides health-care services free of charge only to refugees who reside in the camps (21). In contrast, Turkey provides free health-care services to all refugees in the country registered as a Syrian under temporary protection. Despite this, almost half of the study participants complained of barriers to accessing health-care services. This suggests that, regardless of the host country, conditions or organization of health-care delivery, migrants and refugees face difficulties (e.g. language, communication and financial barriers) in accessing health care.

Another study involving refugees in Turkey found that health-care providers also experience language and communication problems, which they believe hinders health-care delivery (22). Other studies have also reported that language is an obstacle to accessing health care (9,23–25). Besides hindering service delivery, poor communication in health-care services might create insecurity and a lack of trust among refugees. Combined with social exclusion, poverty, unemployment, poor housing conditions and language barrier, this insecurity and lack of trust might lead to stigmatization (26) and cultural alienation of refugees (23,27,28).

Health communication preferences

Comprehensible and adequate health information is needed for individuals to make effective health decisions. However, the relationship between health communication and health literacy is often ignored (29). Historically, health-care professionals have been the main source of health information; however, technological advances over the last decade have led to a variety of different ways (mass media, Internet and social media) to transmit health information. Recent public health projects (since the influx of Syrian refugees into Europe) have incorporated health communication and health information technologies, such as utilizing social media and applications to improve health literacy. By helping both health professionals and the general public to source, understand and use health information, properly utilized social media and Internet have a great impact on health decisions and behaviours (30).

The results of this study confirmed the importance of the Internet for accessing health information, as well as for health decision-making, by Syrian refugees. The majority of participants reported that social media was the best way to receive health information, followed by mobile phone calls and telephone messages (SMS; 26.3%). The Internet and social media were often used to obtain health information, but trust in these sources was low. Disparities between the preference for, use of and trust in social media may be due to the informal nature of the information sources and quality of the information shared. However, the findings indicate that social media should be considered for communicating health-related information to refugees.

High proportions of participants trusted the information they received from health workers and health authorities (89.4% and 83%, respectively). Despite this, the proliferation of digital media and the language barriers experienced in health facilities may encourage refugees to consult the Internet and social media. The results of this study therefore reflect the increasing trend in the use of social media, as previously reported (31).

Health literacy

FGDs revealed that within the Syrian community, women are more attentive than men to health-care issues related to themselves, their family or their children. Since most men work outside the home, women were more likely to attend RHCs to deal with family health-care problems and more likely to receive health-related information from health-care providers. However, the study found that women had lower levels of health literacy compared with men. This was thought to be a consequence of the paternalistic culture within the Syrian community. It was also notable that most adolescents depended on their parents to support them with their health-care problems.

Overall, most participants were not aware of or did not utilize accurate sources of health information. Therefore, to deliver accurate health information for decision-making on health, Syrian refugees need further guidance on accessing accurate information and health education. Moreover, since family members share health-related information, it is important to raise the health literacy level of all community members. Despite advances in these areas, language may still be a barrier to health care and health information. Even when translators are available, low health literacy and language-related stigmatization might limit health communication between refugees and health-care providers (32).

The study revealed that functional health literacy level was poor: 82.4% of participants had inadequate or problematic levels of functional health literacy. The lack of ability to read information and instructions about health may be a consequence of the language challenges already described. Providing health information in Arabic and using infographics for less-literate populations could improve functional health literacy and related health decision-making in Syrian refugees. Almost half of participants had inadequate or problematic levels of comprehensive health literacy (49.5%); this suggests a higher level of comprehensive health literacy among Syrians in Turkey than previously reported. A Swedish study conducted in 2015 reported that 79.0% of Syrian refugees had poor functional health literacy and 72.5% had poor comprehensive health literacy (10).

A previous study in the Turkish community reported that 68.9% of participants had poor health literacy (33). Differences in the levels of health literacy reported in the present study and the two previous studies might be due to differences in the health literacy scale used. This study suggests that Syrian refugees would benefit from education and training programmes, and would especially benefit from programmes to raise their awareness of and obtain information on health promotion and prevention. Such programmes could help people to identify suitable sources of health information and question the accuracy of the health information they receive.

The multivariate analyses showed that elderly people and those with lower education levels, lower incomes and language difficulties had the lowest health literacy levels. Contradictory reports have been published on differences in health literacy by sex (5,34). However, age and education level have been repeatedly reported as important contributory factors in health literacy (5,34). The observation that participants aged 18–64 years had higher levels of health literacy level than adolescents and elderly people suggests that health literacy might also be related to education levels. These results suggest a need for tailored health promotion and education programmes delivered through channels that reach those with lower health literacy levels. Therefore, when developing culturally appropriate education programmes to increase health literacy levels, health communications should be adjusted to the health literacy level of the target group.

This study found that language barriers and a lack of translators in health facilities other than RHCs are major obstacles in health communication. As good health communication is critically important for delivering quality health-care services, programmes to increase health literacy levels should consider the health communication skills of both refugees and health-care providers.

One of the limitations of this study was the unavailability of a population registry of Syrian refugees that would have enabled a more robust sampling approach. Results of this study should be interpreted with this limitation in consideration. However, the study had a large sample based on which the conclusions and recommendations of this study are made. Similar studies in the future studies should consider more robust sampling procedures.



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Recommendations

Based on this study, the main recommendations to improve health literacy and health communication among Syrian refugees in Turkey are as follows.

- For Syrian refugees, the social/family network is an important route for accessing health information and for health decision-making. Therefore, improving health literacy for all community members is critically important.
- Turkish health authorities should use health communication channels that are most effective in reaching the majority of Syrian refugees, such as social media, phone calls and SMS, to convey reliable health information.
- Adolescents and elderly members of the community deserve special attention in order to improve their health literacy.
- Since women are the main care givers for children and elderly people, it is important to focus on women's education and on organizing programmes to improve their behaviours and health status.
- The cultural and social characteristics of the target population were identified as important factors in providing sustainable health-care services. Improving digital health literacy would be an effective strategy to improve overall health literacy levels.
- Simplifying access to health information and providing translated information on the Internet and social media are necessary to explain how the health system works.

Conclusion

Due to inadequate living and working conditions, Syrian refugees are vulnerable to various health problems.

Planning and implementing effective interventions to improve the health status among refugees should include strategies to improve health communication and health literacy levels. The study found that most adult men made their own health-related decisions, while most adult women consulted their husbands and mothers-in-law, and most adolescents relied on their parents. For Syrian refugees, the social/family network is an important route for accessing health information and for health decision-making. Contrary to expectation, community and religious leaders did not play an important role in health information and decision-making; instead, participants preferred to obtain health information from health-care professionals.



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Participants perceived RHCs and public hospitals as reliable sources of health information. However, their interest in visual materials such as brochures and posters was low. They preferred to receive health-related information via social media, phone calls or SMS; the relatively high level of comprehensive health literacy (compared with functional health literacy) might be related to social media use. Participants were generally uninterested or unaware of the importance of health information for their well-being – especially information about health protection or disease prevention.

Given that low health literacy is related to age (being over 60 years of age), having a low educational level, not being legally registered as a Syrian under temporary protection, speaking Arabic only and having a low income, it is essential to consider these factors in planning and implementing health interventions.

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Based on the findings of this study, health planning authorities are also recommended to consider developing specifically targeted, culturally sensitive health communication materials for Syrian refugee and migrant communities in Turkey to support their health promotion initiatives.

Information should be delivered through the preferred and most commonly used channels (social media, telephone calls, SMS) and endorsed by trusted sources.

