



Student midwives' perspectives of women's sexual and reproductive health literacy in Turkey

Sarah Church^{a,*}, Serap Ejder Apay^b, Ayse Gurol^c, Yoanna Slaveva^a, Rhianna Mills^a

^a School of Nursing & Midwifery, Institute of Health & Social Care, London South Bank University, London, United Kingdom

^b Faculty of Health Sciences, Atatürk University & Atateknokent Company, Erzurum, Turkey

^c Faculty of Health Sciences, Erzurum Technical University, Turkey

ARTICLE INFO

Keywords:

Student midwives

Health literacy

Sexual and reproductive health

ABSTRACT

Objective: This study focused on the issues surrounding health literacy in the context of women's sexual and reproductive health (SRH), the significance and availability of information for midwives and women; and the socio-cultural influences and barriers related to women's level of health literacy.

Methods: A cross sectional on-line survey was distributed to 280 student midwives in their 2nd 3rd and 4th year of a midwifery programme. This paper focuses on the responses from 138 students which were analysed using descriptive and non-parametric tests.

Results: Student midwives indicated their level of agreement regarding women's ability to access, understand, and appraise information they received verbally and in written form about the six main SRH topics (namely contraception, STIs, abortion, Pap tests and cervical cancer, and fertility and pregnancy), from their midwife but agreement was much lower regarding women's access to SRH information from peers and their families. False beliefs were ranked as the most common barrier to accessing information and services. Students ranked being a refugee, being from a rural area, being educated to a primary school level or not formally educated, as having the greatest negative impact on women's health literacy.

Conclusions: Findings from this study indicate the role that the sociocultural background of Islamic culture plays in the disparities in sexual and reproductive health literacy (SRHL) for women from the perspective of student midwives. Our findings indicate the need for future research to focus on women as participants to gain their first-hand experiences of SRHL.

Introduction

Health literacy has been defined as "people's knowledge, motivation and competences to access, understand, appraise and apply health information in order to make judgements and take decisions in everyday life concerning health care, disease prevention and health promotion to maintain or improve quality of life during the life course" [1]. Results from the European Health Literacy Survey indicated that nearly half of the respondents had inadequate or problematic health literacy [2], and low health literacy has been linked to a variety of negative health outcomes, including poor health status, difficulty in understanding medication instructions, increased hospitalizations and mortality [3].

Whilst health literacy research has increased in recent years [4] the importance of women's health literacy has been raised in relation to the increase impact of disease on women's physiology and the consequences

for pregnancy and maternal and neonatal outcomes [5,6]. However, women's sexual and reproductive health literacy (SRHL), remains largely under researched. The key findings of a recent literature review, however, identified that health literacy is related to sexual and reproductive health (SRH) knowledge across many topics. For instance, evidence from the review of 34 papers [5] supports this finding with regards to contraception, fertility, prenatal screening and sexually transmitted infections (STIs). It is suggested that women with lower health literacy are less likely to seek SRH care, as well as exhibiting a lower attendance for STI screening, abnormal cervical screening follow-ups, and delayed attendance for prenatal care. Less clear however, is the association between health literacy and health-related behaviours [5]. Therefore, the need for further research to fully understand the relationship between health literacy and reproductive health outcomes, and to evaluate interventions to address inequalities between women who

* Corresponding author at: School of Nursing & Midwifery, Institute of Health & Social Care, London South Bank University, London SE1 0AA, United Kingdom.
E-mail address: churchs@lsbu.ac.uk (S. Church).

<https://doi.org/10.1016/j.srhc.2023.100864>

Received 28 April 2022; Received in revised form 5 May 2023; Accepted 24 May 2023

Available online 29 May 2023

1877-5756/© 2023 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

have different levels of health literacy, is evident. Despite this, current evidence suggests health literacy plays an important role in determining women's SRH knowledge, behaviour, and outcomes.

Health literacy can be understood as an interaction of individual capacities with the wider health literacy environment. Determinants of health literacy are based on this interaction of personal factors with the context of structures such as healthcare systems, educational systems, and societal and cultural factors such as family and the community. These systems can act as both challenges and opportunities for intervention to improve health literacy and related outcomes [7]. Consequently, attitudes to SRH have been established to be directly impacted by contextual factors such as societal values, family influence, and cultural and religious norms [8]. In a sociocultural context of Muslim-majority countries such as Turkey, strict cultural norms dictate that topics surrounding sexuality and SRH are seen as taboo and not to be discussed openly [9]. As a result, complexities around a number of SRH issues, such as contraception, unplanned pregnancy, and cervical screening, among others, arise. Furthermore, SRH education, provision, and use of services for unmarried women, in particular, are deemed unnecessary and are largely limited in some Islamic cultures, which has been linked to a number of negative health outcomes. For instance, a recent systematic review [10] identified a lack of basic reproductive knowledge, misconceptions and negative attitudes, as barriers to contraceptive use, family planning, and access to SRH services and information, with family and community, as well as fear of stigmatization, having a major influence. Such findings highlight the urgent need to improve women's access to SRH education and services in this complex cultural landscape, where behaviour is governed by strong cultural, societal and religious norms.

The midwifery profession is vital for the provision of SRH services [11]. Midwives have an important role in health promotion during pregnancy and following birth, in which they support women and their partners to adopt healthy lifestyles with the anticipation of behaviour change, as a means to prevent illness, reduce health inequalities and a way to increase positive health, obstetric and neonatal outcomes [12]. While in some contexts midwifery care may be confined to pregnancy, birth and postnatal care, the public health focus of midwives has extended beyond reducing maternal and infant mortality, to one which deals with health promotion topics, such as smoking cessation, alcohol consumption and weight management [13]. Whilst there is limited research on the health literacy of women and childbirth, some recent work has highlighted the role of health literacy during pregnancy. The findings of a systematic review indicated a mixed level of health literacy among pregnant women, as well as an association between health literacy and certain outcomes [14]. For example, women with limited health literacy had more negative views regarding medication, a higher probability of smoking and other negative health behaviours. In contrast, women with adequate health literacy made more informed choices in regard to prenatal testing, reflecting an established association between adequate health literacy and adequate health knowledge [1].

The issue of midwives' knowledge of health literacy is also under-researched [15]. Only a few studies have explored midwives' knowledge and understanding of health literacy. For instance, in a study which focused on communication about health literacy in the provision of care for women from different cultures with language challenges [16], midwives' awareness of communication issues was only evident when women required the use of interpretation services where the risk of low health literacy was potentially higher, but the assessment of health literacy skills for other women was otherwise disregarded. They developed and tested a tool to assess midwives' knowledge and skills of maternal health literacy and reported that midwives did not have a recollection of receiving any education and training in health literacy and as a result found assessment challenging. Their recommendations focus on the need for more education about health literacy and its assessment [16].

In Turkey, midwifery care includes a broad definition of duties

including "health-care services concerning family planning, personal health care, nutrition, first aid, vaccination and fight against, and protection from, sexually transmitted and contagious diseases" [17]. Thus, it is suggested that the knowledge and practice of midwives in relation to SRH play a major role in influencing the health of women and their partners, as well as the development and accessibility of public health and family planning services. The challenge of ensuring that women have access to accurate and reliable information is crucial to informed decision making within the wider philosophy of woman-centred care [18]. Health literacy in this context reflects the contribution of external sources and availability of information and services, including the relationship and communication with midwives in addition to the skills of the individual woman. As such, it is seen that in order to improve SRH services and care for women in Turkey, it is critical to understand women's SRHL from the perspectives of midwives. However, in light of the dearth of literature in relation to midwives and health literacy [16] and the integration of theoretical knowledge in a higher education context with clinical practice in healthcare settings [17]; the roles that student midwives take on are complex and varied. As a result, student midwives provide a unique insight into both educational and healthcare systems, as well as an understanding of the sociocultural context and women's individual experiences of SRH. For this reason, the focus of this study was on the issues surrounding health literacy in the context of women's SRH, the significance and availability of information for midwives and women; and the socio-cultural influences and barriers related to women's level of health literacy. Subsequently, the main objective was to examine participants views and understanding of several key aspects of women's SRHL in relation to their experiences as student midwives in Turkey.

Midwifery education in Turkey is offered over four years and structured across two semesters each year. Whilst students are given detailed information about the concept of ethics and health literacy as part of the basic concepts and principles in midwifery, theoretical and practical information about sexual and reproductive health is developed throughout the programme and presented as a discrete course in the third year with practice placements in hospitals and clinics where students are supported by members of the academic faculty.

Methods

Design

The design was a cross-sectional survey using self-reported online questionnaire. The research was conducted with student midwives from the Department of Midwifery, Atatürk University Turkey. Data were collected between 16 June and 7 July 2021.

Participants and procedure

Purposive sampling using a total population sampling strategy was used [19]. Second, third, and fourth-year midwifery students were invited via email to participate. First-year students were excluded from the study as they had less than one year's midwifery and academic experience. No further exclusions were included. Email invitations were sent out to 280 student midwives via the University learning platform. Participants were presented with an online consent form which they completed to enable them to proceed with the survey. The research received approval from the Institute of Health and Social Care Ethics Committee at London South Bank University ETH2021-0045. The response rate was around 56% with 157 participants initially completing the online survey. During the data analysis, inconsistencies in the responses of 19 participants in relation to the demographic questions of the survey, were detected. As a result, those participant's responses were excluded from the final analysis to enhance the reliability and validity of findings. Therefore, the responses of 138 participants who completed the online survey were analysed and form the

basis of this paper.

Measures

The survey included a set of demographic questions obtaining participant information about their age, gender, marital status, year of study and religious beliefs. This was followed by a series of questions on topics related to sexual and reproductive health literacy (SRHL) which was designed using an iterative process based on existing literature reviews on SRHL [5,20], health literacy in midwives [15] and health literacy in nursing students in Turkey [21,22].

The survey was structured around key components of HL and was divided into six sections including 34 questions in total. Questions focused on demographic data, women's level of HL, the assessment, experience and communication of HL, the significance of HL during and after pregnancy and childbirth, as well as false beliefs and barriers to HL. The survey consisted of 5-point Likert scale questions measuring agreement, ranking order questions, as well as several open answer questions to obtain supplementary qualitative data, designed to capture a detailed picture of student midwives' understanding and perspectives. 5-point Likert scale questions are a universally understood method for collecting data on attitudes and offers respondents a neutral response, rather than having to select an alternative option that may not reflect their opinion. Additionally, Likert scales with more than four response options perform better over several indices of reliability, validity, and discriminating power [23]. The possible responses ranged from 1 – strongly disagree to 5 - strongly agree.

Piloting activities were undertaken by researchers from both the UK and Turkey institutions to ensure coherence, accuracy and validity of the measure. Furthermore, the survey was reviewed by the study authors based in Turkey for context, meaning, cultural sensitivity and relevance to midwifery practice, and forward and back translation into Turkish was implemented in order to ensure accuracy and conceptual and cultural equivalence [24].

This present paper reports the results of a part of the survey which focused on student midwives' perspectives of women's SRHL. This included women's level of health literacy relating to accessing, understanding, appraising SRH information, as well as accessing SRH services, making decisions about SRH and factors affecting SRHL; the significance of SRHL during and after pregnancy and childbirth; false beliefs that women hold about SRH; and barriers to SRHL that women experience.

Statistical analysis

Descriptive statistics of the demographic data and survey responses were produced to identify the central tendency, spread and frequency distributions of the data and identify trends in participants' responses. Due to the nature of the questionnaire, the data obtained were at the ordinal level of measurement and followed a non-normal distribution. Thus, nonparametric tests were used in order to identify significant differences in student midwives' median responses for each identified SRHL based on two characteristics. Specifically, independent samples Kruskal-Wallis tests were conducted to compare groups based on year of study (second, third and fourth-year students) and familiarity with the term 'Health Literacy' (familiar, unfamiliar, and 'I don't know'). Due to the ordinal nature of responses obtained using Likert scale questions, independent samples Kruskal-Wallis tests were conducted on the dependent variable of level of agreement. The Kruskal-Wallis test also assumes an independent variable that consists of multiple categorical independent groups. Each of the two independent variables chosen for this analysis is based on three independent categories of participants. For year of study, the three groups were students in their second, third and fourth year of study, while for familiarity with the term health literacy the categories consist of those participants that were familiar, those that were unfamiliar and those that indicated they do not know whether they were familiar with the term. The test also assumes

independence of observations which was also met following from the three discrete categories under each independent variable tested. The significance level was set at $P < 0.05$ and data were analysed using SPSS for Windows version 23.0.

Results

Participant characteristics

The average age of participants was 20.75 ± 1.31 years (range: 18–24) and all of the 138 student midwives in this sample were female. The majority were single (99.3%) and 65.9% were in their second year of study, 16.7% were in their third year of study, and 17.4% were in their fourth. Most of the participants' religion was Islam (96.4%). Table 1 provides an overview of participant characteristics.

When asked whether they were familiar with the term 'health literacy' just over half answered yes (55.8%), while the other half indicated that they were not familiar with the term (30.4%) or that they didn't know (13.8%). As Fig. 1 illustrates, a similar distribution of responses was observed between different class years, where just over half of respondents indicated they are familiar with the term (50.5% of 2nd year, 69.6% of 3rd year and 61.9% of 4th year students), around a third indicated they are not familiar with the term (31.9% of 2nd, 21.7% of 3rd, and 31% of 4th year students) and the remainder said that they 'didn't know'. Third year students had the highest proportion of participants who were familiar with the term out of all year groups.

Women's level of health literacy

Student midwives indicated their level of agreement regarding women's ability to access information about six main SRH topics, namely contraception, STIs, abortion, Pap tests and cervical cancer, fertility, and pregnancy, from four different sources. Fig. 2 shows the highest proportions of agreement were observed for accessing information from their midwife about all six topics (median response was 5 signifying 'strongly agree', IQR = 1), followed by information online (Mdn = 4, i.e. 'agree', IQR = 1). Agreement was much lower regarding women being able to access SRH information from their peers (Mdn was 3, i.e. 'neutral', IQR = 2 for contraception, STIs, and Pap tests and cervical cancer, and 4, IQR = 1 for abortion, fertility and pregnancy), and even lower about information from their families (median response was 3, IQR = 1–2 for the first four topics, 3.5, IQR = 1 for fertility, and 4, IQR = 1 for pregnancy).

Table 1
Demographic characteristics of the participants (N = 138).

Characteristic	n (%)
Age (Yrs)	
Range	18–24
Mean \pm SD	20.75 \pm 1.31
Gender	
Female	138 (100)
Marital status	
Single	137 (99.3)
Married	1 (0.7)
Year of study	
2nd class year	91 (65.9)
3rd class year	23 (16.7)
4th class year	24 (17.4)
Religion	
Islam	133 (96.4)
Christianity	1 (0.7)
No religion	3 (2.2)
Other	1 (0.7)
'Are you familiar with the term health literacy?'	
Yes	77 (55.8)
No	42 (30.4)
I don't know	19 (13.8)

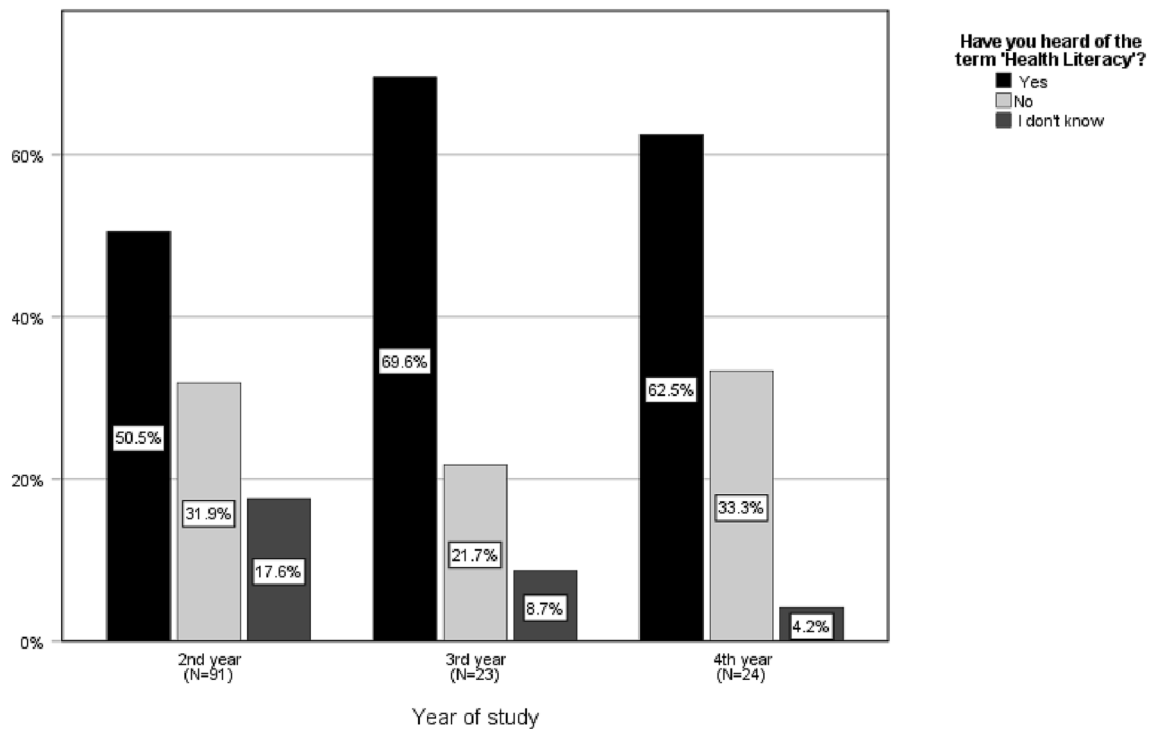


Fig. 1. Proportion of participants (%; N = 138) familiar with the term "Health Literacy" by year of study.

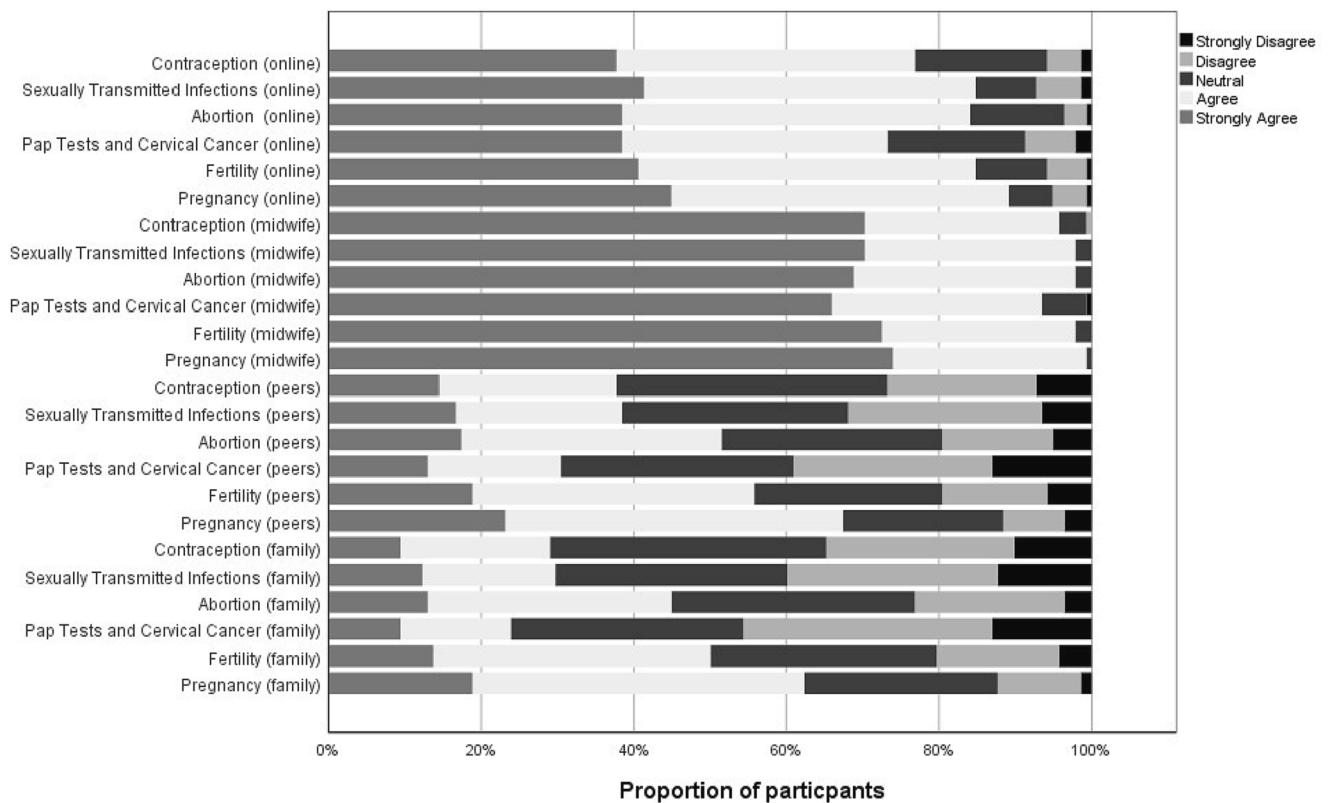


Fig. 2. Proportion of participants (%) agreement that women to whom they provide care are able to access information about SRH topics (contraception, STIs, Pap test and cervical cancer, fertility and pregnancy) either online, from their midwife, from their peers, or from their families.

Student midwives also reported agreement that women are able to understand information they receive both verbally (Mdn = 4, IQR = 1) and written (Mdn = 4, IQR = 2) but agreement was slightly lower for

information they receive online (Mdn = 3, IQR = 1). Median responses indicated overall agreement that women are able to understand information about all six.

SRH topics (Mdn = 4, IQR = 1). Similarly, student midwives' median responses were 4 – agree for all statements regarding women being able to appraise information (IQR = 0–1). Participants indicated agreement that women in their care are able to access contraceptive, STI testing, abortion, Pap testing, prenatal and postnatal services (Mdn = 4, IQR = 1). Likewise, median responses indicated overall agreement (Mdn = 4, IQR = 1) that women are able to use information to make decisions about using the most appropriate contraceptive method, getting tested for STIs, terminating a pregnancy, getting a Pap test, and when to get pregnant. See Table 2 for a summary of responses.

Comparing year groups' median level of agreement regarding women's ability to access information online revealed statistically significant differences for two of the six subtopics: Pap tests and cervical cancer ($H(2) = 8.17, p = .017$) and fertility ($H(2) = 6.95, p = .031$). Pairwise comparisons with adjusted p -values found a significant difference between median level of agreement of 2nd class year (mean rank = 64.77) and 3rd class year (mean rank = 89.91) students for Pap tests and cervical cancer ($p = .013$), indicating 3rd-year students had a higher degree of agreement that women can access information online about Pap tests and cervical cancer than did 2nd-year students. A similar pattern emerged for fertility: median level of agreement of 2nd class year students (mean rank = 64.12) was lower than that of 3rd class year students (mean rank = 86.00) ($adj. p = .032$).

Regarding women accessing information from their midwife, significant differences between year groups emerged for median level of agreement for sexually transmitted infections ($H(2) = 7.14, p = .028$), abortion ($H(2) = 6.63, p = .036$) and Pap tests and cervical cancer ($H(2) = 6.54, p = .038$). Pairwise comparisons with adjusted p -values revealed a significant difference between 2nd year students (mean rank = 64.85) and 3rd class year students (mean rank = 84.13) for sexually transmitted infections ($p = .028$), abortion (2nd year mean rank = 65.81, 3rd year mean rank = 85.13, $p = .031$) and Pap tests and cervical cancer (2nd year

mean rank = 65.01, 3rd year mean rank = 84.59, $p = .035$). Thus, level of agreement was higher in the 3rd year group for all three topics.

When comparing class year groups in their level of agreement regarding women accessing information from their families, differences were found for the topics of sexually transmitted infections ($H(2) = 8.23, p = .016$) and abortion ($H(2) = 8.62, p = .013$). Pairwise comparisons with adjusted p -values revealed a significant difference was present when comparing 2nd (mean rank = 66.32) and 4th (mean rank = 70.48) class year for sexually transmitted infections ($p = .009$), and again between 2nd (mean rank = 67.74) and 4th class year (mean rank = 63.85) for abortion ($p = .002$). This indicates that level of agreement was lower for the 2nd year students for women's ability to access information about sexually transmitted infections from their families, while for abortion 4th year students had higher agreement.

There was a significant difference between HL familiarity groups level of agreement with the statement: *Women are comfortable talking about sexual and reproductive health.* ($H(2) = 6.41, p = .041$). Pairwise comparisons revealed the difference was between the 'Yes' group (those familiar with HL) who had a mean rank of 74.59 and the 'I don't know' group (not sure if familiar with HL) with a mean rank of 50.76 ($adj p = .035$). No differences were detected in median rankings of topics that women find easy/difficult to talk about when discussing SRH.

Factors affecting Women's health literacy

Table 3 shows a descriptive summary for rankings of each factor. The factors that were ranked as having the greatest negative impact on women's health literacy were: being a refugee, being from a rural area, being educated to a primary school level or not formally educated, being aged under 18, being from a low-income household, and being unmarried.

The factors that were found to differ between groups in their median

Table 2
Frequencies of responses, medians, and interquartile ranges for each statement.

	Strongly Agree	Agree N (%)	Neutral	Disagree	Strongly Disagree	Median (IQR)
Women to whom I provide care, are able to understand health information they receive:						
Verbally	57 (41.3)	71 (51.4)	8 (5.8)	1 (0.7)	1 (0.7)	4 (1)
Written	40 (29.0)	52 (37.7)	38 (27.5)	8 (5.8)	0	4 (2)
Online	22 (15.9)	45 (32.6)	50 (36.2)	16 (11.6)	5 (3.6)	3 (1)
Women to whom I provide care, are able to understand information about:						
Contraception	47 (34.1)	63 (45.7)	25 (18.1)	3 (2.2)	0	4 (1)
Sexually Transmitted Infections	47(34.1)	72 (52.2)	18 (13.0)	1 (0.7)	0	4 (1)
Abortion	49 (35.5)	82 (59.4)	6 (4.3)	1 (0.7)	0	4 (1)
Pap Tests and Cervical Cancer	42 (30.4)	64 (46.4)	29 (21.0)	1 (0.7)	2 (1.4)	4 (1)
Fertility	59 (42.8)	71 (51.4)	8 (5.8)	0	0	4 (1)
Pregnancy	60 (43.5)	73 (52.9)	5 (3.6)	0	0	4 (1)
Women to whom I provide care, are able to appraise health information they receive:						
Verbally	59 (42.8)	67 (48.6)	9 (6.5)	2 (1.4)	1 (0.7)	4 (1)
Written	37 (26.8)	65 (47.1)	32 (23.2)	3 (2.2)	1 (0.7)	4 (1)
Online	28 (20.3)	48 (34.8)	49 (35.5)	10 (7.2)	3 (2.2)	4 (1)
Women to whom I provide care, are able to appraise information about:						
Contraception	33 (23.9)	76 (55.1)	26 (18.8)	2 (1.4)	1 (0.7)	4 (0)
Sexually Transmitted Infections	39 (28.3)	74 (53.6)	23 (16.7)	2 (1.4)	0	4 (1)
Abortion	39 (28.3)	82 (59.4)	16 (11.6)	1 (0.7)	0	4 (1)
Pap Tests and Cervical Cancer	33 (23.9)	68 (49.3)	30 (21.7)	6 (4.3)	1 (0.7)	4 (1)
Fertility	43 (31.2)	84 (60.9)	11 (8.0)	0	0	4 (1)
Pregnancy	48 (34.8)	82 (59.4)	8 (5.8)	0	0	4 (1)
Women to whom I provide care, are able to access:						
Contraceptive Services	47 (34.1)	65 (47.1)	24 (17.4)	2 (1.4)	0	4 (1)
Sexually Transmitted Infections Testing services	45 (32.6)	62 (44.9)	25 (18.1)	6 (4.3)	0	4 (1)
Abortion Services	40 (29.0)	77 (55.8)	19 (13.8)	1 (0.7)	1 (0.7)	4 (1)
Pap Testing Services	47 (34.1)	63 (45.7)	24 (17.4)	4 (2.9)	0	4 (1)
Prenatal Services	53 (38.4)	67 (48.6)	17 (12.3)	1 (0.7)	0	4 (1)
Postnatal Services	53 (38.4)	69 (50.0)	16 (11.6)	0	0	4 (1)
Women to whom I provide care are able to use information to make decisions about:						
Using the most appropriate contraceptive method	60 (43.5)	65 (47.1)	11 (8)	2 (1.4)	0	4 (1)
Getting tested for sexually transmitted infections	54 (39.1)	66 (47.8)	13 (9.4)	5 (3.6)	0	4 (1)
Terminating a pregnancy	50 (36.2)	67 (48.5)	19 (13.8)	1 (0.7)	1 (0.7)	4 (1)
Getting a Pap test	54 (39.1)	60 (43.5)	22 (15.9)	2 (1.4)	0	4 (1)
When to get pregnant	58 (42.0)	66 (47.8)	10 (7.2)	2 (1.4)	2 (1.4)	4 (1)

Table 3

Average ranking, standard deviation and median of each factor affecting women’s health literacy ranked from having the greatest negative impact on women’s health literacy to the least negative impact.

Topic	Mean ± SD (Median)
Being a refugee	3.54 ± 3.39 (2)
Being from a rural area	3.70 ± 3.07 (3)
Being educated to primary school level or not formally educated	3.75 ± 3.35 (2)
Being aged under 18	4.13 ± 3.25 (3)
Being from a low-income household	4.27 ± 2.92 (4)
Being unmarried	5.54 ± 3.60 (5)
Being educated to secondary school level or above	6.69 ± 3.69 (6)
Being aged over 18	7.22 ± 3.57 (8)
Being married	7.23 ± 3.69 (7)
Other	7.50 ± 3.90 (8)
Being from an urban area	8.20 ± 3.80 (10)
Being from a high-income household	8.17 ± 3.83 (10)

ranking were; being from an urban area ($H(2) = 8.60, p = .014$) where the 2nd year (mean rank = 63.90) and 4th year (mean rank = 90.46) groups were found to differ significantly ($adj. p = .010$), and being from a high-income household ($H(2) = 7.77, p = .021$) where the difference was also between 2nd (mean rank = 63.14) and 4th year (mean rank = 86.85) students ($adj. p = .026$). Thus, 4th-year students ranked those two factors as having a more negative impact on women’s health literacy compared to the rankings of 2nd-year students. No significant differences were found between class year groups median ranking of the remaining factors: being from a rural area, being educated to secondary school level or above, being educated to primary school level or not formally educated, being from a low-income household, being a refugee, being unmarried, being married, being aged under 18, being aged over 18, and other.

The significance of SRHL in relation to sexual and reproductive health during and after pregnancy and childbirth

Student midwives overall showed high agreement with statements in this section of the questionnaire (see Table 4 for a descriptive summary of responses). While still reflecting agreement, median responses were slightly lower (Mdn = 4, IQR = 1) with the statements that SRHL should include the right to make autonomous decisions about SRH free from the influence of others, and free from the influence of a male partner. The majority of student midwives expressed strong agreement (Mdn = 5,

Table 4

Frequencies, medians, and interquartile ranges for each statement relating to the significance of SRHL during and after pregnancy and childbirth, including decision making.

	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	Median (IQR)
N (%)						
It is important to understand a women’s level of health literacy to be able to support her in relation to her sexual and reproductive health during pregnancy and following childbirth.	82(59.4)	52 (37.7)	3(2.2)	1(0.7)	0	5(1)
Having access to sexual and reproductive health information provides women with opportunities to increase their knowledge of sexual and reproductive health issues during pregnancy and following childbirth.	80(58)	53 (38.4)	3(2.2)	2 (1.4)	0	5(1)
Being able to understand and appraise sexual and reproductive health information is important for women to make appropriate decisions about their sexual and reproductive health during pregnancy and following childbirth.	77(55.8)	57 (41.3)	4(2.9)	0	0	5 (1)
Sexual and reproductive health literacy should include:	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	Median (IQR)
N (%)						
The right to make autonomous decisions about sexual and reproductive health free from the influence of others.	81 (58.7)	49 (35.5)	8 (5.8)	0	0	4(1)
The right to make autonomous decisions about sexual and reproductive health free from the influence of a male partner.	61 (44.2)	50 (36.2)	18 (13.0)	7 (5.1)	2 (1.4)	4(1)
The right to make autonomous decisions about sexual and reproductive health free from the risk of violence.	80 (58.0)	48 (34.8)	8 (5.8)	2 (1.4)	0	5(1)

IQR = 1), however, that SRHL should include the right to make autonomous decisions about SRH free from the risk of violence.

A significant difference in median level of agreement between class year groups was identified for the statement ‘Having access to sexual and reproductive health information provides women with opportunities to increase their knowledge of sexual and reproductive health issues during pregnancy and following childbirth.’ ($H(2) = 6.83, p = .033$), but adjustment for pairwise comparisons resulted in this difference being no longer significant. No other significant differences in median level of agreement between year groups were found for the following statements: ‘It is important to understand a women’s level of health literacy to be able to support her in relation to her sexual and reproductive health during pregnancy and following childbirth.’, and ‘Being able to understand and appraise sexual and reproductive health information is important for women to make appropriate decisions about their sexual and reproductive health during pregnancy and following childbirth.’. No significant differences in median level of agreement between year groups were found for the following statements about what sexual and reproductive health literacy should include: ‘The right to make autonomous decisions about sexual and reproductive health free from influence of others’, ‘The right to make autonomous decisions about sexual and reproductive health free from influence of a male partner’, and ‘The right to make autonomous decisions about sexual and reproductive health free from risk of violence’.

False beliefs

Student midwives reported high levels of agreement that women in their care hold false beliefs about SRH issues. The median response across statements was 4 (IQR = 1–2) and the combined proportion of ‘agree’ and ‘strongly agree’ responses ranged from 71.7% to 86.9% (see Fig. 3)

Contraception

Year groups differed significantly in their median level of agreement with the statement: ‘Women in my care hold false beliefs about contraception and its effects on fertility.’ ($H(2) = 14.92, p = .001$). Pairwise comparisons revealed a significant difference between 2nd class year students (mean rank = 61.85) and 4th class year students (mean rank = 93.00) ($adj. p < .001$). Furthermore, class year groups were found to differ significantly regarding the statement ‘Women in my care hold false beliefs about the side effects of contraception.’ ($H(2) = 7.04, p = .030$) which differences being again between the 2nd (mean rank = 64.18) and 4th (mean rank = 85.83) year students ($adj. p = .029$), indicating

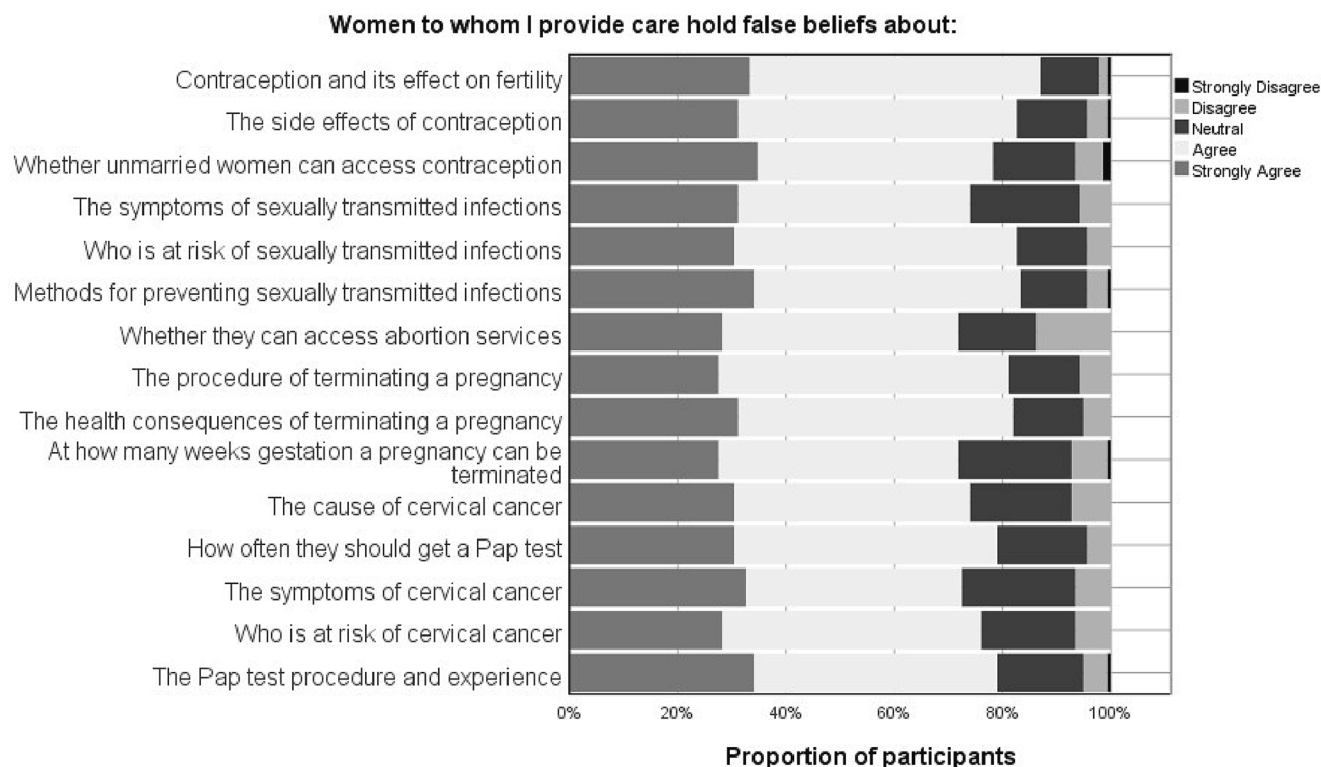


Fig. 3. Proportion of participants (%) agreement with statements about false beliefs that women hold about contraception, STIs, abortion, and Pap test and cervical cancer.

significantly higher agreement from 4th-year students with those two statements.

Sexually transmitted infections

Year groups differed significantly in their median level of agreement with the statement: 'Women in my care hold false beliefs about who is at risk of sexually transmitted infections.' ($H(2) = 9.34, p = .008$) where level of agreement differed between 2nd year students (mean rank = 64.09) and 4th year students (mean rank = 90.00) ($adj. p = .006$), as well as 'Women in my care hold false beliefs about methods of preventing sexually transmitted infections.' ($H(2) = 9.02, p = .011$) where 2nd year students had a significantly lower level of agreement (mean rank = 65.31) as compared to 4th year student (mean rank = 89.90) ($adj. p = .010$). No difference was found in level of agreement for false beliefs about the symptoms of sexually transmitted infections, however.

A significant difference between HL familiarity groups emerged for the statement 'Women in my care hold false beliefs about methods of preventing sexually transmitted infections.' ($H(2) = 6.92, p = .045$) but the difference was no longer significant after adjustment.

Pap tests and cervical cancer

There was a significant difference between HL familiarity groups' level of agreement regarding women holding false beliefs about the health consequences of terminating a pregnancy ($H(2) = 7.04, p = .030$). Pairwise comparisons with adjusted p -values found that level of agreement differed between the 'No' group (i.e. unfamiliar with HL) (mean rank = 75.89) and the 'I don't know' group (i.e. unsure if familiar with HL) (mean rank = 49.58) ($adj. p = .028$). Thus, participants that were not familiar with the term indicated a higher level of agreement than the participants who said they don't know whether they are familiar with HL.

There was a significant difference between HL familiarity groups level of agreement regarding false beliefs women hold about the cause of cervical cancer ($H(2) = 6.75, p = .034$). Pairwise comparisons identified

the groups that differed were the 'Yes' group (mean rank = 74.15) which showed higher agreement than the 'I don't know' group (mean rank = 49.18) ($adj. p = .028$). A difference also emerged for level of agreement regarding false beliefs women hold about how often they should get a Pap test ($H(2) = 7.61, p = .022$). Pairwise comparisons identified 2 sets of groups that differed significantly in their median agreement for this statement. Those were the 'Yes' (mean rank = 71.49) and 'I don't know' (mean rank = 48.26) groups ($adj. p = .042$), and 'No' (mean rank = 75.46) and 'I don't know' familiarity groups ($adj. p = .023$). Thus, agreement with this statement was higher for students familiar with the term HL than those who were unsure if familiar, as well as for those who were not familiar, compared to those who were unsure.

Barriers to SRHL

Student midwives also indicated agreement (Mdn = 4, IQR = 1–2) that the women to whom they provide care experience barriers to accessing, understanding, and appraising SRH information, as well as to accessing services and making decisions about their SRH (see Table 5 for a descriptive summary). Table 6 outlines the average ranking, standard deviation and median to what participants believe are the most common barriers to SRHL for women. False beliefs were ranked as the most common barrier, followed by lack of knowledge, embarrassment, family influence and illiteracy.

Median rankings of perceived barriers to sexual and reproductive health differed between HL familiarity groups for lack of knowledge ($H(2) = 7.41, p = .025$) between the 'No' (mean rank = 58.10) and 'I don't know' (mean rank = 85.00) groups ($adj. p = .029$) suggesting lack of knowledge was ranked higher in the unfamiliar group than the unsure if familiar group. A difference was also present for ranking of false beliefs ($H(2) = 6.30, p = .043$) which again was between the 'No' (mean rank = 61.83) and 'I don't know' (mean rank = 87.68) groups ($adj. p = .036$) reflecting higher ranking of this barrier by the unfamiliar with HL group. Ranking of religious beliefs also differed significantly between groups (H

Table 5
Frequencies, medians and interquartile ranges for each statement regarding barriers to SRHL.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Median (IQR)
N (%)						
The women to whom I provide care experience barriers to:						
Accessing sexual and reproductive health information	44 (31.9)	54 (39.1)	25 (18.1)	14 (10.1)	1 (0.7)	4 (2)
Understanding sexual and reproductive health information	33 (23.9)	69 (50.0)	21 (15.2)	14 (10.1)	1 (0.7)	4 (1)
Appraising sexual and reproductive health information	35 (25.4)	68 (49.3)	22 (15.9)	13 (9.4)	0	4 (2)
Accessing sexual and reproductive health services	36 (26.1)	62 (44.9)	21 (15.2)	18 (13.0)	1 (0.7)	4 (2)
Making decisions regarding their sexual and reproductive health	46 (33.3)	68 (49.3)	17 (12.3)	6 (4.3)	1 (0.7)	4 (1)

Table 6

Average ranking, standard deviation and median ranking of each barrier to SRHL for women ranked from the most common to the least common.

Barrier	Mean \pm SD (Median)
False beliefs	2.72 \pm 2.64 (1.5)
Lack of knowledge	2.79 \pm 2.71 (2)
Embarrassment	2.82 \pm 2.71 (1)
Family influence	2.83 \pm 2.61 (2)
Illiteracy	3.00 \pm 3.03 (1)
Partner influence	3.22 \pm 2.80 (2)
Religious beliefs	3.40 \pm 2.97 (2)
Cultural issues	3.44 \pm 2.92 (2)
Fear	3.49 \pm 2.99 (2)
Language difficulties	4.20 \pm 3.29 (3)
Other	6.61 \pm 3.56 (7)

(2) = 6.61, $p = .037$) whereby the difference was again between the 'No' group which ranked this barrier as more common (mean rank = 60.29) than did the 'I don't know' group (mean rank = 87.79) (adj. $p = .031$).

Discussion

Midwives are at the centre of providing SRH care to women, and despite this, no study to date has evaluated women's health literacy in relation to SRH from the perspective of midwives. This study is the first to explore SRHL from the perspectives of student midwives and has raised a number of issues which merit further discussion.

From the statistical analysis presented, it is worth noting that significant differences between the 2nd year and 4th year student responses relating to a range of sexual and reproductive health issues can be explained by the fact that sexual and reproductive health is a focus within the 3rd year and by the 4th year, students have increased knowledge and practice experience of working with women and their families. However, what is less clear is why some students responded that they were unfamiliar or didn't know about the term health literacy. The term is included in the midwifery programme and careful translation was undertaken during the development of the questionnaire to limit any misunderstanding. Therefore, as this was an unexpected result, differences between the 'No' and 'I don't know' groups in relation to barriers for example, may reflect their understanding of the wider issue of sexual and reproductive issues, rather than reveal differences between groups in their understanding of health literacy.

Findings from this study indicate the important role that the socio-cultural background of Islamic culture plays in SRHL in Turkey. Our results strongly suggest that women are not readily able to access SRH information from their peers or their families and contraception, STIs, and Pap testing and cervical cancer were identified as the topics that are least acceptable to discuss. This is consistent with previous literature outlining the cultural sensitivity of topics around sexuality which suggests that screening practices are seen as threatening Muslim cultural and religious values [25]. In addition, there is a major lack of information and widespread misconceptions around the availability of services for single women, as it is generally assumed they are not sexually active [10]. In contrast, participants in this study reported that women

are able to access SRH information from their midwives, as well as and to a lesser extent online. Our findings further indicate that when information is made available, women are seen as capable of understanding, appraising and using SRH information well. These findings call for further research to examine women's self-reported experiences, but equally to emphasise the importance of improving the provision of SRH information from healthcare professionals, such as midwives, as well as making accurate and credible resources available online.

Several factors were identified as negatively affecting health literacy. Being a refugee was seen as having the greatest impact, which reflects previous findings of poor SRH amongst refugees and migrants [26]. A systematic review of SRH of Syrian refugee women in Turkey found child marriage and adolescent pregnancy, unmet need for contraception, low awareness and high incidence of STIs, as well as sexual and gender-based violence, amongst a wide range of SRH challenges that refugee women are faced with [27]. While language difficulties and lack of knowledge of a new health system are often implicated as contributing to poor SRHL amongst refugees, often the cultural background of refugees may prohibit the discussion of sexual health topics, leading to limited access to information and services [28]. Qualitative evidence from Sweden has highlighted that shame, taboo and stigmatization are closely associated with SRH in the home countries of Muslim refugee women, who report restricted access to SRH information, widespread misconceptions, and lack of SRH rights such as access to contraception [29].

Another culture-specific aspect of SRHL for women is the issues surrounding reproductive rights, family planning, and the lack of autonomy and control over decision making. According to a large body of evidence, family and community factors are primary determinants of family planning methods in Muslim culture [30]. In addition to unmarried women facing greater difficulties in accessing SRH services such as contraception, married women also lack control over their SRH. It is common in Islamic cultures for husbands to be the key decision-makers in family planning, often influenced by family interference from the mother-in-law and other family members, and decision making is rarely shared between husband and wife. As a result, women often have no access to contraception and no control over their own fertility [9,10]. Our results showed that a higher proportion of students expressed disagreement that women should have the right to make autonomous decisions about SRH free from the influence of a male partner, compared to other statements in this section of the questionnaire, likely reflecting these cultural values. Despite this, the student midwives in this study generally expressed agreement that women have a right to autonomy in their SRH decision-making.

A common finding in the literature concerns the myths, false beliefs and misconceptions around SRH topics as a result of limited information, and the shame associated with discussions of sexuality [31,32]. The current study echoed those findings, with as much as 86% of students agreeing that women in their care hold certain false beliefs. While the proportion of agreement was high across all statements about false beliefs, the largest proportion of agreement was observed for false beliefs about the side effects of contraception use and its effects on fertility, who is at risk of STIs and methods of preventing STIs, as well as the procedure and health consequences of terminating a pregnancy. Misconceptions about contraception including that it can cause infertility [10,31],

reflect our findings of false beliefs around contraception. Furthermore, students ranked false beliefs as the most common barrier to women's SRHL, suggesting this might be a key issue to be tackled in improving health literacy. Lack of knowledge, embarrassment, and family influence were amongst the other barriers ranked as most common by the student midwives in this study. Thus, it seems that sociocultural factors that discourage open discussion of SRH contribute to misinformation and lack of knowledge, in addition to family and community factors influencing women's access to SRH information and care.

Our findings also reflect the social groups that are at risk of having poorer SRHL, such as refugees, women from rural areas, and those with lower educational and socioeconomic status. It is likely that the lack of comprehensive education and access to information is amplified by these factors and resources and services should be developed with this in mind to improve engagement with health information for those vulnerable groups. Based on our results women rely on the provision of information from midwives and other healthcare practitioners, as well as online resources and more focus is needed on ensuring women get the right information from these sources. Interventions that are culturally sensitive have the potential to challenge issues of lack of information and knowledge and provide both married and unmarried women with reliable information to improve both their health literacy and access to services. Evidence from interventions with refugee women in their new country suggests that women are receptive to new, accurate information and open to challenging their misconceptions, which also improved their self-confidence and communication of sensitive topics with their husbands and family members. Such information is both desired and appreciated by women when presented in a culturally sensitive way, including gender sensitive and culturally competent communicators, as well as the facilitation of information using pictures, videos, and having group discussions [29].

Whilst this study has generated interesting data in relation to women's sexual and reproductive health literacy, it has also focused on the wider issues of health literacy in relation to midwifery education. A specific strength of this study is the way in which it has illustrated how important it is for student midwives to recognise the significance of health literacy for women in addressing their individual sexual and reproductive health needs; and in so doing, the need to focus on health literacy within midwifery education. As a result, this study may be useful to other midwifery educators to explore SRHL in relation to their curricula. In addition, it does add to the current limited literature on issues of sexual and reproductive health in Turkey, further highlighting the cultural issues associated with the subject.

There are several limitations to consider. First, issues relating to the student sample. As this study focused on students from one University in Turkey, the findings as a result may not be generalisable to other student populations. A larger sample across Universities in Turkey may yield more diverse student perspectives on sexual and reproductive issues and the services available to women. However, it is worth noting that sexuality remains taboo and some Universities may have issues with participation in such studies [33]. Furthermore, as a survey of student midwives may present unique perspectives, it is also possible that these may be influenced by specific personal or professional experiences in clinical practice, which this survey did not explore, and in so doing present a rather distorted picture of women's SRHL. For this reason, a survey of mothers' experiences is vitally important to provide a more comprehensive picture of their SRHL in Turkey and in so doing, highlight the efficacy of health interventions to challenge issues of health literacy in a systematic way, to inform future policy and practice. Secondly, as a cross-sectional survey, the development of the questionnaire was novel in the absence of an alternative validated questionnaire and was developed from the available but limited literature and was subject to limited testing. Whilst a focus was placed on accurate translation to ensure accuracy and conceptual and cultural equivalence, further testing of measures of reliability and validity should be undertaken. However, the responses of students confirmed findings from the

literature which does provide a degree of reassurance. Third, a reasonable response rate for online surveys was achieved. However, since differences between those who participated and those who did not, remain unclear, we suggest that the study may be susceptible to non-response bias [34]. It is also important to note specific challenges in the completion of the questionnaires, namely those which were not subject to analysis due to erroneous demographic responses, and unexpected participants responses regarding their familiarity with the term health literacy; both of which raise potential issues of bias.

Conclusion

Taken together, these findings highlight the potential challenges of SRHL for women in Turkey, from the perspective of student midwives. The present study echoed various aspects and challenges to SRHL in other recent empirical work. The area of women's SRHL remains under researched, and our results indicate future research would benefit from including women as participants to gain their first-hand insight, perspectives and experiences and identify how they access and use SRH information and services, the specific false beliefs that they hold, the barriers to SRH they experience as well as the role of their family and culture in their decision-making process in terms of their SRH.

Funding

This research was supported with funding from LSBU's QR Global Challenges Research Funding (GCRF) 2019. The funders have not been involved in the design, data collection and analysis, or decision to publish this manuscript.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

The authors would like to thank all the students that participated in this study.

References

- [1] Sørensen K, Van den Broucke S, Fullam J, Doyle G, Pelikan J, Slonska Z, et al. Health literacy and public health: a systematic review and integration of definitions and models. *BMC Public Health* 2012 Dec;12(1):1–3. <https://doi.org/10.1186/1471-2458-12-80>.
- [2] Sørensen K, Pelikan JM, Röthlin F, Ganahl K, Slonska Z, Doyle G, et al. Health literacy in Europe: comparative results of the European health literacy survey (HLS-EU). *Eur J Public Health* 2015 Dec 1;25(6):1053–8. <https://doi.org/10.1093/eurpub/ckv043>.
- [3] Berkman ND, Sheridan SL, Donahue KE, Halpern DJ, Viera A, Crotty K, et al. Health literacy interventions and outcomes: an updated systematic review. *Evidence Rep/Technol Assess* 2011 Mar;1(199):1–941. PMID: PMC4781058.
- [4] Weiss BD. Health literacy research: Isn't there something better we could be doing? *Health Commun* 2015 Dec 2;30(12):1173–5. <https://doi.org/10.1080/10410236.2015.1037421>.
- [5] Kilfoyle KA, Vitko M, O'Connor R, Bailey SC. Health literacy and Women's reproductive health: a systematic review. *J Women's Health* 2016 Dec 1;25(12):1237–55. <https://doi.org/10.1089/jwh.2016.5810>.
- [6] Tehrani H, Rahmani M, Jafari A. Health literacy and Its relationship with general health of women referring to health care centers. *J Health Literacy* 2018;3(3):191–8. <https://doi.org/10.22038/JHL.2018.36901.1021>.
- [7] Institute of Medicine (US) Committee on Health Literacy. In: Nielsen-Bohman L, Panzer AM, Kindig DA, editors. *Health Literacy: A Prescription to End Confusion*. Washington (DC): National Academies Press (US); 2004. <https://doi.org/10.17226/10883>. PMID: 25009856.
- [8] Arousell J, Carlbohm A. Culture and religious beliefs in relation to reproductive health. *Best Practice Res Clin Obstetrics Gynaecol* 2016 Apr;1(32):77–87. <https://doi.org/10.1016/j.bpobgyn.2015.08.011>.
- [9] Alomair N, Alageel S, Davies N, Bailey JV. Sexual and reproductive health knowledge, perceptions and experiences of women in Saudi Arabia: a qualitative

- study. *Ethnicity Health* 2021 Jan;19:1–9. <https://doi.org/10.1080/13557858.2021.1873251>.
- [10] Alomair N, Alageel S, Davies N, Bailey JV. Factors influencing sexual and reproductive health of Muslim women: a systematic review. *Reprodu Health* 2020 Dec;17(1):1–5. <https://doi.org/10.1186/s12978-020-0888-1>.
- [11] Renfrew MJ, McPadden A, Bastos MH, Campbell J, Channon AA, Cheung NF, et al. Midwifery and quality care: findings from a new evidence-informed framework for maternal and newborn care. *The Lancet* 2014 Sep 20;384(9948):1129–45. [https://doi.org/10.1016/S0140-6736\(14\)60789-3](https://doi.org/10.1016/S0140-6736(14)60789-3).
- [12] McNeill J, Lynn F, Alderdice F. Public health interventions in midwifery: a systematic review of systematic reviews. *BMC Public Health* 2012 Dec;12(1):1–23. <https://doi.org/10.1186/1471-2458-12-955>.
- [13] Finlay H. Public health, midwifery and government policy. In *Health Promotion in Midwifery* 2016 Nov 25 (pp. 13-30). Routledge.
- [14] Nawabi F, Krebs F, Vennedey V, Shukri A, Lorenz L, Stock S. Health Literacy in Pregnant Women: A Systematic Review. *Int J Environ Res Public Health* 2021 Apr 6;18(7):3847. <https://doi.org/10.3390/ijerph18073847>.
- [15] Creedy DK, Gamble J, Boorman R, Allen J. Midwives' self-reported knowledge and skills to assess and promote maternal health literacy: A national cross-sectional survey. *Women Birth* 2021 Mar 1;34(2):e188–95. <https://doi.org/10.1016/j.wombi.2020.02.018>.
- [16] Hughson JA, Marshall F, Daly JO, Woodward-Kron R, Hajek J, Story D. Health professionals' views on health literacy issues for culturally and linguistically diverse women in maternity care: barriers, enablers and the need for an integrated approach. *Aust Health Rev* 2018;42(1):10–20. <https://doi.org/10.1071/AH17067>.
- [17] Sogukpinar N, Saydam BK, Bozkurt ÖD, Ozturk H, Pelik A. Past and present midwifery education in Turkey. *Midwifery* 2007 Dec 1;23(4):433–42. <https://doi.org/10.1016/j.midw.2007.01.011>.
- [18] Yuill C, McCourt C, Cheyne H, Leister N. Women's experiences of decision-making and informed choice about pregnancy and birth care: a systematic review and meta-synthesis of qualitative research. *BMC Pregnancy Childbirth* 2020 Dec;20(1): 1–21. <https://doi.org/10.1186/s12884-020-03023-6>.
- [19] Trobia A, Lavrakas PJ. *Encyclopedia of survey research methods*. *Encyclopedia of Survey Research Methods*. first ed. Sage Publications, Inc.; 2011. p. 169–70.
- [20] Corrarino JE. Health literacy and women's health: challenges and opportunities. *J Midwifery Womens Health*. 2013 May-Jun;58(3):257–64. doi: 10.1111/jmwh.12018. [Epub 2013 Apr 30. PMID: 23631442].
- [21] McCleary-Jones V. Assessing nursing students' knowledge of health literacy. *Nurse Educ*. 2012 Sep-Oct;37(5):214–7. doi: 10.1097/NNE.0b013e318262ead3. [PMID: 22914282].
- [22] Ozen N, Bal Ozkaptan B, Coskun S, Terzioğlu F. Health literacy of nursing students and its effective factors. *Nurs Forum*. 2019 Jul;54(3):396–402. doi: 10.1111/nuf.12346. [Epub 2019 Apr 17. PMID: 30997673].
- [23] Preston CC, Colman AM. Optimal number of response categories in rating scales: reliability, validity, discriminating power, and respondent preferences. *Acta Psychol (Amst)*. 2000 Mar 1;104(1):1–5. [https://doi.org/10.1016/s0001-6918\(99\)00050-5](https://doi.org/10.1016/s0001-6918(99)00050-5).
- [24] Tyupa S. A theoretical framework for back-translation as a quality assessment tool. *New Voices Transl Stud* 2011;7(1):35–46.
- [25] Matin M, LeBaron S. Attitudes toward cervical cancer screening among Muslim women: a pilot study. *Women Health* 2004;39(3):63–77. https://doi.org/10.1300/J013v39n03_05.
- [26] Alarcão V, Stefanovska-Petkovska M, Virgolino A, Santos O, Costa A. Intersections of immigration and sexual/reproductive health: an umbrella literature review with a focus on health equity. *Soc Sci* 2021 Feb;10(2):63. <https://doi.org/10.3390/socsci10020063>.
- [27] Çöl M, Aykut NB, Mut AU, Koçak C, Uzun SU, Akin A, et al. Sexual and reproductive health of Syrian refugee women in Turkey: a scoping review within the framework of the MISP objectives. *Reprod Health* 2020 Dec;17(1):1–2. <https://doi.org/10.1186/s12978-020-00948-1>.
- [28] Mengesha ZB, Perz J, Dune T, Ussher J. Talking about sexual and reproductive health through interpreters: The experiences of health care professionals consulting refugee and migrant women. *Sex Reprod Healthcare* 2018 Jun;1(16):199–205. <https://doi.org/10.1016/j.srh.2018.03.007>.
- [29] Svensson P, Carlzén K, Agardh A. Exposure to culturally sensitive sexual health information and impact on health literacy: a qualitative study among newly arrived refugee women in Sweden. *Culture, Health Sex* 2017 Jul 3;19(7):752–66. <https://doi.org/10.1080/13691058.2016.1259503>.
- [30] Abdi B, Okal J, Serour G, Temmerman M. "Children are a blessing from God"—a qualitative study exploring the socio-cultural factors influencing contraceptive use in two Muslim communities in Kenya. *Reprod Health* 2020 Dec;17(1):1. <https://doi.org/10.1186/s12978-020-0898-z>.
- [31] Selam G, Erensoy H, Luş MG. Investigation of the relationship between sexual myths and parent attitudes of Turkish women. *Nesne* 2020;8(17):180–8. <https://doi.org/10.7816/nesne-08-17-02>.
- [32] Demirgöz Bal M, Aydın Özkan S. Misconceptions about family planning of women in Turkey. *J Human Sci* 12(1):1319. doi: 10.14687/ijhs.v12i1.2895.
- [33] Ören B, Zengin N, Yazıcı S, Akıncı A. Attitudes, beliefs, and comfort levels of midwifery students regarding sexual counselling in Turkey. *Midwifery*. 2018;56: 152–7. <https://doi.org/10.1016/j.midw.2017.10.014>.
- [34] Cheung KL, Ten Klooster PM, de Smit C, Vries H, Pieterse ME. The impact of non-response bias due to sampling in public health studies: A comparison of voluntary versus mandatory recruitment in a Dutch national survey on adolescent health. *BMC Public Health* 2017;17:276. <https://doi.org/10.1186/s12889-017-4189-8>.