A qualitative assessment of the sexual-health education, training and service needs of young adults in Tehran

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Research

Keywords: Needs assessment, sexual health, sexual healthcare, sexual education, young adults, Iran, Tehran

Posted Date: September 15th, 2020

DOI: https://doi.org/10.21203/rs.3.rs-74763/v1

Abstract

Background: Sexual Health and Relationships Education (SHRE) provides individuals with the knowledge and skills set which helps them to manage risky behaviors and take informed decisions and to protect themselves against STIs, risky behavior and unintended pregnancy. Such education is minimally provided in Iranian schools and universities and previous research has indicated demand and need for SHRE among different social groups. This study explored Iranian young adults' sexual health education, training and service needs and ways to improve or augment the existing provision.

Design and methods: A qualitative design was employed. Semi-structured interviews were conducted with a sample of 25 young adults who lived in Tehran, Iran and have volunteered to participate in our study. Transcripts were analyzed using thematic analysis.

Results: Participants explained their need and demand for sexual health education and healthcare. They highlighted existing barriers such as lack of reliable resources, taboo and cultural barriers and lack of trust and protected confidentiality to gaining sexual health information and seeking related advice and healthcare. This has resulted in ambiguities and misconceptions, including those regarding the cause and transmission of STIs and correct use of contraceptions.They unanimously expressed their dissatisfaction with the limitedly available sexual health education and provided recommendations for an improved provision, including holding mixed gender extracurricular workshops with a comprehensive approach to sexual health and relationships education.

Conclusions: There is a clear need and demand for provision of relevant and reliable sexual health and relationships education to young adults, which needs to be addressed in order for young adults to make informed choices and limit their risky sexual behavior.

Plain English Summary

We explored Iranian young adults' sexual health education, training and service needs and ways to improve existing provision in this study.

We interviewed 25 young adults who lived in Tehran, Iran and have volunteered to participate in our study. Interviews were transcribed and translated to English.

Our participants explained their need and demand for sexual health education and healthcare. They mentioned problems such as lack of reliable educational resources, taboo and cultural barriers and lack of trust and protected confidentiality to receiving sexual health information and seeking related advice and healthcare. This has caused them to be confused about the cause and transmission of STIs and correct use of contraceptions.They were dissatisfied with currently limited sexual health education and recommended ways to improve the situation, including holding mixed gender out of school/university workshops for sexual health and relationships education.

We understood that there is a clear need and demand for provision of relevant and reliable sexual health and relationships education to young adults, which is necessary in order for young adults to make informed choices and limit their risky sexual behavior.

Introduction

Iran has a population of more than 81 million. There is limited reporting of STIs prevalence in the country. Available data indicate that more than 66,000 people are HIV positive in Iran, of whom, approximately 30% were infected through unprotected sexual intercourse (Medical Express, 2016; Islamic Republic News Agency, 2017) with this transmission route accounting for increasing numbers of cases (Iranian Institute of AIDS Research, 2015, Amnesty International, 2015; Medical Express, 2016). Illegal abortion rates are also increasing and have estimated to be more than 1000 cases per day (Independent News Agency, 2019). These statistics suggest that more effective preventive sexual health education would have considerable benefit.

Tehran is the most populous city in Iran with a population of 8.5 million, including approximately 1.04 million people aged 18-25. Young people in Iran complete schooling at 18 and this is the legal age at which they can get married. Approximately 500,000 students are admitted onto university courses in across the 10 universities inTehran. So almost half of 18-25 year olds in Tehran attend university (Iranian institute of national statistics, 2018). There are, therefore, opportunities to reach this age group with extra curricular workshops on sexual health (Iranian institute of national statistics, 2018).

Sexual health and relationship education (SHRE) can provide knowledge, motivation and skills to help people to, (i) understand the potential consequences of their sexual behavior, (ii) make informed decisions about sexual relationships, (iii) more comfortably communicate about sex, sexuality and sexual health and (iv) protect themselves against sexually transmitted infections (Denford Abraham, Campbell & Busse, 2016).

SHRE is effective. A review of reviews incorporating 37 systematic reviews (and 224 primary trials) indicated that comprehensive school-based SHRE is effective in increasing knowledge, changing attitudes, and reducing risky sexual behavior (Denford et al., 2016). SHRE does not promote earlier sexual debut. Similarly, a

, 2018) review of 85 SHRE interventions for young people aged of 15-24, delivered in schools, community centers and health clinics in the United States of America (USA) and developing countries, concluded that these interventions were effective and that there was no evidence indicating that SHRE results in earlier or more frequent sexual encounters. Ideally, SHRE should promote “a state of physical, mental and social well-being in relation to sexuality... requiring a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence” (World Health Organization, n,d; United Nations Population Fund, 2010). SHRE has never been included in Iranian school curricula so sexual health knowledge is based on less regulated media and discussion with other young people. Consequently, young adults can have poor sexual health knowledge. Many universities including those in Tehran, offer a single SHRE module (“Science of Family and Population”) which is a 20-hour course taught by a lecturer specializing in religious and spiritual studies (Iranian Ministry of education, 2018). The module targets heterosexual people and does not include information relating to many elements of SHRE considered important by the World Health Organization (WHO) such as sexual consent, prevention of sexually transmitted infections, use of available contraception options or safer sexual practices across sexual orientations). There are also pre-marriage classes teaching similar content and are compulsory for people getting married.

There are also a limited number of clinics across Tehran, referred to as “Centers for Behavioral Diseases”, that offer free and confidential testing for sexually transmitted infections (STIs) (Iran National Centre for AIDS Prevention, 2013). However, these facilities are not publicly advertised and are used primarily by “high risk” groups such as drug users and sex workers, so attendance tends to be stigmatized.

A series of studies have highlighted a need and demand, for, SHRE in Iran. For example, Shahhosseini and Hamzegardeshi (2015) interviewed 77 young women, aged 11-19 and concluded that there is a strong demand for SHRE and that, in its absence from school curricula, young adults have turned to unreliable internet sources. Mosavi, Babazadeh, Mirzaii Najmabadi & Shariati (2014) drew similar conclusions, based interviews with adolescent girls and their mothers. These authors highlighted a lack of knowledge regarding sexual health, ease of access to unreliable and inaccurate information through the Internet, and increased risky, sexual behavior patterns among adolescents.Mahmodi and Valiee (2016) and Rahmati Najarkolaei, Niknami, Aminshokravi & Tavafian, (2013) designed and delivered sexual health and STIs awareness programs aimed at Muslim women and university students, respectively. Using pre- and post-program questionnaire evaluations, these researchers confirmed the need and demand for SHRE for young Iranians. These studies recruited small and unrepresentative samples (60 married Muslim women and 109 female law or literature students at the University of Tehran, respectively) and used only pre-post-evaluations. The results are, nonetheless, encouraging because participants who completed these programs showed significant improvements in knowledge about HIV/STIs, although we do not know if this translated into changes to their sexual health protection.

Despite these encouraging findings, there is a lack of research into what exactly young Iranians know about sex and sexual health and what they want and need in terms of SHRE and sexual services. Moreover, research to date has not applied theoretically driven analyses to identify particular gaps in knowledge, motivation and skills might be expected to shape population-level behavior patterns and could identify key SHRE targets.

The Information-Motivation Behavioral skills model (IMB; J. D., Fisher & Fisher (1992), proposes that people need to be well informed, motivated and to have prerequisite skills to successful change behavior patterns. The model was developed as a framework to improve interventions designed to promote HIV-preventive behavior and can be used to identify key targets for health promotion including, for example, accurate risk assessments, positive attitudes towards performing preventive actions, the perception that important others' (e.g., partners)' approve of protective actions and self-efficacy and skills relevant to protective actions. The model has been applied in the design and evaluation of effective HIV-preventive behavior (Fisher, Fisher, Williams and Malloy, 1994).

The Present Study

We aimed to clarify sexual health needs of young Tehranians by conducting needs-assessment interviews with young Tehranians, as recommended by the Intervention Mapping framework, (Bartholomew et al., 2016, Abraham & Denford, 2020).

Applying the IMB, we sought to understand what these young people know, the cognitive bases of their motivation, what skills and training they might need and what services they valued and wanted. We defined four research aims.

1. To assess young people's sexual health knowledge and to identify their sources of sexual health information and available advice, as well as their recommended sources.
2. To explore young people's beliefs, attitudes, norms and motivations in relation to sexual health protection.
3. To investigate the availability and accessibilityof sexual health services for these young people.
4. To explore what additional sexual health services would be most valued by this group.

Methods

Semi-structured interviews were conducted with 18-25-year-old Tehranians in a convenient location in Greater Tehran. The research work was conducted in accordance with the Standards for Reporting Qualitative Research (O'Brien, Harris, Beckman, Reed, Cook, 2014). The study was approved by ethics committees of The University of Exeter Medical School and Iran University of Medical Sciences.

Sampling and data collection

Convenience sampling involved placing advertisements in health clinics and university health centers in Tehran. Interested people were asked to contact the research team and were provided with a participant information sheet. Those who consented to participate were given details of the interview time and location by telephone. Interviewees were made aware that they could withdraw at any time without giving a reason. Verbal consent (rather than written consent) was obtained from every participant to protect the interviewees' anonymity. All participants consented to interviews being recorded and for quotations to be reported anonymously.

Interviews

The semi-structured topic guide is provided as document 1 in Supplementary Materials. The guide included questions on (1) sexual health knowledge (2) perception of personal knowledge (3) content of any sexual health education (4) source of sexual and sexual health information (5) confidence in preventing STIs and protecting oneself in sexual relationships and (6) perceived accessibility of sexual healthcare and contraceptives). The topic guide was developed in accordance with the research aims and pilot tested on 5 young adults. Since sex and sexuality and their related matters are considered taboo by many Iranian population, questions focused on sexual health and relationships knowledge and did not address personal choices or personal sexual behavior. Interviews were conducted in Persian except for one, in which the interviewee requested use of English. Recorded interviews were transcribed verbatim, anonymized and translated, where necessary.

Participants

One hundred and forty-five people responded to recruitment advertisements, of whom, 60 were Iranian and aged 18-25, speaking Persian and living in Greater Tehran.Thirty-five people declined to be interviewed when contacted or were not available during the data collection period. Twenty-five young women (*N*=18) and men (*N*=7) from various educational backgrounds, including those with high school diplomas (4), Bachelors degrees (13) and Masters degrees (7) were interviewed. Participants were form mixed socioeconomic backgrounds (high Income (9), middle Income (4) and lower Income (12)). They identified as agnostic (17), atheist (1), theist (10) and religious (3). They were 18-25 years old, with the mean age of 23.

Data analysis

NVivo was used to store transcripts and allocate excerpts to categories. A thematic analysis was conducted employing guidelines provided by Braun & Clark (2006). This involved 6 stages of analysis applied to anonymized interview transcripts. These included (1) establishing familiarity with the data (reading, re-reading and note taking) and (2) generating initial category definitions (sketching definitions and identifying content examples and recurring categories). Step 3 involved a more systematic search for themes and overlapping/corresponding content categories (checking if emerging definitions are applicable across interviews or are too general/specific). During step 4 the emergent categories were reviewed (checking that defined categories are distinct and correspond to

multiple examples from interviews). Steps 3-5 involved multiple meetings between all three researchers to critically discuss each of the category definitions, the relation of categories to one another and the appropriateness of each excerpt allocation to the category tree. The fifth step was to finalize the category definitions and the conceptual tree to which they belong. Finally, interviews were re-read to ensure selection of all excerpts were relevant to the final category definitions and the results report written, was illustrative of the category tree, category definitions and the overall coding of transcripts.

To ensure validity, two researchers coded a number of interviews separately and reviewed themes. The first author recorded reflective notes during data collection and revisited these through data analysis to ascertain inclusion and explanation of details expressed by participants.

Results

Thematic analyses generated 17 themes, incorporating 35 sub-themes which are listed in document 2 in the Supplementary Materials. In total, 505 quotations were extracted from 25 interviews. Table 1 lists the main themes and numbers of quotations allocated to each theme. Approximately 80% of the interview transcript text was extracted as relevant quotations. All participants contributed multiple quotations across themes. All extracted quotations are presented, by theme and sub theme, in document 4 of the Supplementary Materials. Below we present illustrative quotations that highlight the core meaning of the 17 themes and discuss sub-theme structure. We recorded demographic data including age, gender, socioeconomic status and self-expressed religious beliefs, but we did not find differences in themes attributable to these individual characteristics and, therefore, did not include these data below.

Table 1: 17 Main Themes

Theme	Number of Quotes
Sexual Health Knowledge	71
Perceptions of Personal Sexual Health Knowledge	40
Sources of Sexual Health Information	50
Recommended Sources of Sexual Health Information	40
Perceptions of Availability and Quality / Content of Sexual Health Education	43
Understanding and Negotiation of Sexual Relationships	14
Concerns about Sexually Transmitted Infections (STIs)	22
Concerns about Pregnancy	21
Knowledge of STI Prevention and Contraception	46
Condom Use	19
Availability of Sexual Health Services	11
Consulting Doctors for Sexual Health Services	25
Psychological Barriers to Seeking Sexual Healthcare	30
Sexual Prohibition	19
Socioeconomic Sexual Health Inequalities in Tehran	13
Gender Power Inequalities in Sexual Relationships	12
Recommendations for Improved Sexual Health Education and Services in Tehran	29

Theme 1. Sexual Health Knowledge

Two sub-themes were identified: i) Knowledge of STIs; symptoms and transmission ii) Knowledge of sexual organs (see research question 1).

Sub-theme 1i: Knowledge of STIs; symptoms and transmission

Knowledge of STIs; symptoms and transmission methods was generally poor. Although HIV and HPV were named as known STIs, their symptoms and transmission methods were often unclear. Other STIs were sometimes named but again there was a general lack of understanding of transmission routes.

Gonorrhea, Syphilis, that's all. I don't know how they get transmitted, I think from anal sex. Fortunately, I don't prefer anal sex so I'm not going to get these diseases.

Sub-theme 1ii: Knowledge of sexual organs

Generally, participants expressed a good knowledge of sexual organs.

Theme 2. Perceptions of Personal Sexual Health Knowledge

Participants reflected on their level of sexual health knowledge in comparison to their peers. These assessments were categorized according to whether young people thought their level of knowledge was similar to others (sub-theme 2i), less than others (2ii) or superior to others (2iii). In general, respondents saw themselves as similar to other young people and few thought they knew more.

I don't think some know more than the others, everyone's knowledge is about the same level because no one has ever been educated for this.

I think my friends know more than me because I don't know much.

I think I know more than others. Others know less.

Sub-theme 2iv: Deprivation and knowledge of sexual health

Interviewees also spontaneously voiced their opinions regarding the relationship between socioeconomic deprivation and lower sexual health knowledge.

The district you live in plays a determinant role, people in deprived areas are more likely to have unprotected sex that's why the stats for unintended pregnancy are much higher in these areas. Poverty is a big factor, it causes limitation of options and education.

Theme 3. Sources of Sexual Health Information

The lack of official SHRE, has meant that young adults have turned to self-education. Interviewees highlighted various sources of sexual health information. These information sources are categorized in five sub-themes.

Sub-theme 3i: Internet and social media

Internet and social media were the most quoted sources of information. Interviewees mentioned popular social media apps like Instagram and Telegram along with Google as their source of sexual health information.

I get most of my information from social media. I haven't read any book about this subject. By social media mostly I mean Telegram and Instagram. In Instagram I follow pages about women's health.

Every time I have an issue, I go and search about that specific subject on the internet.

Sub theme 3ii: Parents

Parents were blamed for not discussing sexual health in the absence of official SHRE. Some participants believed their parents did not intend to discuss a taboo subject. *I feel people my age haven't learned anything from their parents.*

Parents don't inform their kids… so you start to notice and find out things from talking to your friends.

Parents also don't discuss it. Neither parents nor schools would teach us anything.

Sub-them 3iii: Pornography

Pornography was identified as a learning tool by few male and female participants; some believed in harms it could cause and some viewed it as a beneficial guide.

I watched porn. Porn really did help me, because there wasn't anything else that would show everything as real as it was. It helped me to see, understand and discover things. However, watching porn is not healthy as it might make you have unrealistic expectations from yourself or your partner.

We got introduced to these things by watching porn. Porn has taught us a lot and with porn we have gained knowledge and experience.

Sub-theme 3iv: Books

A few participants mentioned books as a source of sexual health information, although not always books intended to educate about sexual health.

I…read the books that my mom had about pregnancy.

[There] was nothing in school but my dad had bought me an oxford encyclopedia, I was around 13-14 years old. This book explained everything from A-Z, fertility and other stuff. So when I learned about it I went to school and explained it to my classmates.

Sub-theme 3v: Personal or friend's experience

Few participants mentioned their sexual experiences as their learning opportunities. Others trusted their friends' experiences and followed their advice. Contrary to social norms and taboos, only young women mentioned experimenting as a learning tool.

I believe nowadays the knowledge is increased due to exchange of information that kids do between themselves. This can interest others that have no idea what is going on and they'll go and search further. This education spreads in a very personal level and the knowledge expands in more private groups.

It's not perfect but the point is that most of the information they get is from their own experience, not from the education anywhere in school or university or anywhere else.

Theme 4. Recommended Sources of Sexual Health Information

Interviewees described sources of sexual health information they would recommend to their friends. In general these overlapped considerably with the sources they themselves had used (see theme 3, above). However, many participants also, highlighted "doctors" as a useful source of information.

Sub-theme 4i: Doctors

While participants did not identify doctors as their source of sexual health knowledge, interestingly they recommended doctors as a source of information for others.

Visit a doctor and ask their questions.

I would tell them to go and see a gynecologist.

Theme 5. Perceptions of Availability and Quality/ Content of Sexual Health Education

Interviewees highlighted the limited sexual health education provided in school, university or pre-marriage classes (research question 1 and 3).

We've never had an official sex education class . They always try to keep kids away from this kind of topics and there are no resources for those who get into these kind of stuff.

Our educational system teaches us absolutely nothing about this kind of stuff.

I've learned everything I know through experience. No one has taught me anything. There were absolutely zero education.

Theme 6. Understanding and Negotiation of Sexual Relationships

Interviewees discussed how they and other young people would manage sexual relationships and negotiate their needs (research questions 1 and 2). Their responses are presented in 3 sub-themes. These often highlight confidence in managing relationships despite lack of self-management and behavioral skills.

Sub-theme 6i: Familiarity implies health in sexual partners

Duration of knowing a sexual partner was cited as a way of judging STI risk by some participants.

It rarely happens that someone becomes concerned about STIs because they trust their partners and believe that they haven't been with unhealthy people. They would say I've known this person for such a long period as if longevity and duration of knowing someone before sleeping with them is a guarantee of them being sexually healthy. It's stupid I know, but almost everyone is like that.

Sub-theme 6ii: Confidence and power in managing sexual relationships

Despite lack of formal education and limited sexual health knowledge, participants were generally confident they could manage their sexual relationships.

If someone tries to force me into having sex with them I can always defend myself and get over my shyness. Because If I am honest to myself I know that there are so many people who want to have sex and I don't have to give in to just anyone for the sake of having sex. Therefore, I think I can 100% manage my sex life.

Sub-theme 6iii: Communication in Sexual Relationships

Interviewees rightly emphasized good communication as an important instrument in managing sexual relationships and ensuring both parties' satisfaction.

I usually try to talk about these kind of stuff before starting any relationship and would tell him about what I want before sex.

Theme 7. Concerns about Sexually Transmitted Infections (STIs)

Participants explained their concerns about STIs in response to research questions 1 and 2. Some concerns were caused by lack of sexual health education, e.g., ambiguity and lack of education on STIs. Their comments are categorised using 4 sub-themes.

Sub-theme 7i: Ambiguity and lack of education on STIs

Participants were concerned about their lack of knowledge (see theme 1 above) and acknowledged that lack of reliable information has led to misconceptions and, at times, poor motivation to prevent STIs.

We haven't been educated for it and this can be as harmful as the diseases itself. We don't consider STIs [to be] serious diseases. We need to learn about them.

Even in university it is vague, they only come and give out names of some STIs. I mean people are not concerned because they don't know about it.

Sub-theme 7ii: Invisibility of STIs

The lack of visibility was seen to make STIs less of a public or shared issue which could undermine discussion and preventive motivation.

You know STIs is something that you get and you are the only one who is gonna know and is gonna be bothered.

The fact that you can hide your STI from others makes them not to be concerned about.

Sub-theme 7iii: Fear and worry about STIs

Some were not concerned because of their perceived skills while others expressed quite serious fears about STIs.

My other partners always insisted on not using a condom but I never accepted. Mostly because of the fear of HPV and AIDS. I'm generally concerned about the STIs.

STIs concern me the most. You know if you give your STI to someone else you might change the course of their lives forever.

Sub-theme 7iv: Perception of other groups' lack of concern

Participants generally viewed themselves as careful and concerned but saw others as less responsible.

Guys will be very careless most of the times and they are like: Who's got time and energy for such stuff. There might be so many people who can afford it financially but then that carelessness stops them from seeking medical attention.

I believe people who are younger than us are more careless in their sexual relationships and people around my age are more careful.

Theme 8. Concerns about Pregnancy

Interviewees were more concerned about pregnancy than STIs (research questions 1 and 2), mainly because pregnancy was socially visible and was seen as causing more serious life consequences.

Sub-theme 8i: Fear and worry about pregnancy outside marriage

Since sex out of marriage is not legally supported in Iran, pregnancy out of marriage was considered ruinous by participants, as it would affect one's social life. The exaggerated fear of pregnancy, might also be attributed to lack of sexual health education, as effective contraception methods have never been taught to young adults.

I've had friends who had the phobia of becoming pregnant so they couldn't really enjoy having sex even while wearing condoms or using other preventive methods.

99% of those who have sex are concerned about unintended pregnancy.

Sub-theme 8ii: Visibility of pregnancy leading to social and personal issues

Participants appeared to be strongly motivated to avoid pregnancy; largely due to its social visibility. Cultural norms related to the taboo, shame and embarrassment surrounding sex increased the extent to which participants wanted to hide any evidence of sex outside of marriage.

I think some people are more concerned about unintended pregnancy because of their social image.

I remember that it was around 1 or 2 years ago that we were in a gathering and one of my closest friends came by and she was like 100% sure that [she was] pregnant and we were all scared as hell, not because of the pregnancy itself but because of the consequences… The social judgment that comes with those things ruins your life for good.

Theme 9. Knowledge of STI Prevention and Contraception

Condoms were most frequently identified and only a few participants identified contraceptive pills as a preferred option. Quotes were categorized into three sub-themes.

Sub-theme 9i: Condom availability and accessibility

Condoms were regarded as convenient, available and accessible contraception method.

[Condoms are] accessible everywhere. You can find them in both pharmacies and super markets. Therefore, the accessibility and availability is good.

Sub-theme 9ii: Condom cost

Participants had divided opinions regarding condom cost. Some believed condoms were expensive while others considered them to be reasonably priced.

I think they are expensive. … For foreign condoms as imports are getting more complicated due to sanctions the prices are getting higher so they are more expensive.

Condoms are relatively cheap…

Sub-theme 9iii: Quality of Iranian condoms

Cheaper Iranian condoms were regarded to be unreliable.

From what I've heard Iranian produced condoms are not reliable at all.

Iranian condoms are accessible for everyone but lack quality and tear apart easily.

Theme 10. Condom Use

Ease of use and inconsistent use were key points made in relation to condom use and are represented in two sub-themes (see research question 2).

Sub-theme 10i: Ease of use

Condoms were considered not just accessible but easy to use.

Male condoms only because it's the most accessible, easiest and cheapest method.

Condoms. They're easy to find and use.

Sub-theme 10ii: Inconsistent use

Participants also expressed negative attitudes towards condom use, including reduced pleasure and concerns about reliability (see also above) and acknowledged likely inconsistency of correct use. This theme includes young men's views on condom use. Women's views are illustrated in theme "Gender power inequalities in sexual relationships".

I don't like using condoms. It doesn't give the real touching sensation; it is like you are putting it in a plastic. I prefer to be sure of myself and my partner. I mean to be sure that neither of us have any diseases.

In my opinion you're better off not using condoms because you might be risking with a low quality one, maybe this way you would pull out because you don't have that trust. Still unintended pregnancy might happen, you would never know. Better to put that trust in yourself rather than piece of plastic.

Theme 11. Availability of Sexual Health Services

Although there are government-funded sexual health centers in Tehran our participants were not aware of them or how to access them (research question 3).

I don't know any sexual health clinics in Tehran though, so maybe for people like me, who have the money to spend, a part of it is the lack of information on where to go and who to trust to spend their money on.

Theme 12. Consulting Doctors for Sexual Health Services

Although doctors were recognized as reliable sources of information, participants identified barriers in approaching doctors, including cost, privacy and trustworthiness concerns (research questions 1 and 3).

Sub-theme 12i: Cost of visiting doctors and sexual health care

Healthcare is mainly privatized in Iran and therefore is very costly for most citizens.

I have so many questions which I don't have the answers to and I can't afford to visit a doctor to ask them.

Sub-theme 12ii: Trust in doctors

Whilst young people were willing to share personal experiences and personal advice, they appeared unwilling to extend this trust to healthcare professionals. Young adults appeared to have developed trusting relationships, in which sexual health and sexual relationships could be freely discussed. Doctors were not included in this circle and participants were reluctant to discuss their private life, even when seeking advice or medical attention because they feared that these issues will be shared with their families or even law enforcement officials. This lack of trust appeared to reiterate the "shame, taboo and embarrassment" regarding sexual health currently imposed by society.

"*We are scared to tell the doctor about our issues, for example to tell them we've had sex out of marriage and they would let our families know about it. I'm absolutely terrified about that"*

Doctors are not trustworthy.

Theme 13. Psychological Barriers to Seeking Sexual Healthcare

Interviewees identified other personal and social barriers to seeking sexual healthcare in Tehran (research question 3).

Sub-theme i: Embarrassment as a barrier to sexual protection

Although condoms were the most frequently mentioned method of contraceptive, shame, taboo and embarrassment were recognized as barriers to buying condoms; leading participants to report a lack of accessibility to an available method of contraceptive.

Some people are embarrassed to go and ask for condoms in a pharmacy because it's usually out of hand reach and you should ask someone to give it to you. If it's a lady selling it, it's even worse for men, they would be even more embarrassed.

Sub-theme ii: Taboo shame and social disapproval as barriers

Sexual health is not freely spoken about within Iranian society. That appeared to reduce motivation for seeking appropriate sexual healthcare. Participants discussed how shame and embarrassment would prevent them from seeking medical care; even in critical situations (such as pregnancy – as described above).

I think it's the fear of getting judged by the others .What others might think of me if they find out that I have sex out of marriage. I know so many guys that believe that their girlfriends are not decent and good people because they sleep with them. They ask "If she's a good girl why did she have sex with me?"

Sub-theme iii: Health motivation

As highlighted by various social cognition models including the IMB, individual differences in health motivation was identified as an important factor in overcoming barriers to sexual healthcare with a lack of motivation being attributed to others, in contrast to the self.

Sometimes it is because of carelessness though. Some people simply don't care.

About the STIs. from what I know people generally aren't concerned about their health until something happens to the

Sub-theme iv: Denial / fear

Some participants believed that young adults may avoid visiting doctors due to fear of diagnosis and a lack of stress management skills.

Knowing you are ill is scary to some and so many people don't want to face the harsh truth.

Theme 14. Sexual Prohibition

Consistent with the identification of embarrassment and fear of social judgement as barriers to sexual health care, participant acknowledged how existing laws enforced social and cultural norms portraying sex as shameful or unacceptable for unmarried people and sanctify virginity in women (research question 2).

Because in Iran, it is illegal for people to have sexual relationships before getting married. It is something everyone does, but you would be blamed for it. Becoming pregnant out of marriage is way worse, people are getting more open minded but still there are many dogmatic people out there. Unintended pregnancy is definitely much worse because STIs might be treated but you can't "treat" pregnancy.

I know girls who give in to any form of sexual relationship other than the vaginal intercourse only to protect their virginity, it's a huge concern for so many people to the extent they put themselves in painful positions to please the guy they're with but also to stay virgin.

Theme 15. Socioeconomic Sexual Health Inequalities in Tehran

Interviewees highlighted socioeconomic inequalities in sexual health and service availability and quality in Tehran based on socioeconomic status (research question 3). The consensus was that citizens from lower socioeconomic backgrounds face challenges in assessing and paying for sexual healthcare and contraception methods.

And poor areas don't have much of a choice, both with doctors and contraceptives and condoms.

Theme 16. Gender Power Inequalities in Sexual Relationships

Women interviewees indicated that they could not control heterosexual sexual encounters , including condom use, so highlighting power inequalities and the prioritization of male partners' preferences; even when these young women were highly motivated to avoid STIs and pregnancy (research question 2).

There is this need to please guys in girls, and they tend to agree with whatever guys tell them, like not using condoms or having rough sex. I've seen this in my friends' relationships.

We don't use condoms because he is not into it.

Theme 17. Recommendations for Improved Sexual Health Education and Services in Tehran

Interviewees offered various recommendations on how sexual health education and services in Tehran could potentially be improved (research question 4). In general, all participants deemed SHRE provision a necessary action and believed sexual health education would have optimal results if started from an early age. They almost unanimously suggested subjects such as contraception and condom use, sexual organs, pregnancy and relationship management skills to be included in a short course or a day workshop. Participants had varying opinions on the gender mix and delivery method of such programs.

It should be started from the beginning of elementary school with teaching about sexual organs, then they should carry it on with sexual health in middle school.

In my opinion it would be better for the classes to be mixed gender, so that we all benefit from it equally.

Discussion

To our knowledge, this is the first qualitative assessment exploring sexual health education, training and service provision needs of 18-25 year-olds living in Tehran.

Participants expressed their demand for SHRE and shared recommendations for a potential intervention. Seventeen themes and 35 sub-themes were identified from our thematic analyses of 25 interviews. These highlighted the demand for, and lack of SHRE, and provided in depth insight to existing sexual healthcare provision and needs. Interviewees also shared their understanding of SHRE and elaborated their unofficial sources of information. The interviews illustrated the negative effects of non-existent SHRE in young adults' understanding of sexual relationships, STIs and contraceptives and how inadequate knowledge has influenced their sexual behavior.

We found that poor sexual health knowledge has caused misconceptions, and young adults have turned to unreliable sources, including their friends and social media, to look for answers. This has deepened misinformation, leading to misconceptions and ambiguities regarding the cause and treatment of STIs, the effectiveness of contraception methods, and the importance of consistent condom use. These findings correspond to those of Bostani Khalesi et al. (2017).

Moreover, young adults deemed the quality and content of existing SHRE programs insufficient and ineffective and provided recommendations on ways to improve or augment current provision, which indicated their need and demand for comprehensive SHRE and mirrors the conclusions of Pourmarzi et al (2014).

Interviewees were unaware of existing government-funded sexual healthcare clinics and deemed visits to private doctors as limited by cost. They were concerned about confidentiality of their private information and the potential damage to their social image, even in conversations with doctors. Cultural barriers such as sexual prohibition and associated taboo and shame also discouraged visits to doctors.

Overall, the findings suggest a need for improved, well-advertised, accessible, confidential and reasonably priced sexual healthcare. Additionally, introduction of policies supporting patient confidentiality and pre-marriage sexual relationships would facilitate the removal of mistrust in current government-funded sexual healthcare services.

The informational and skills foundation needed for effective STI and pregnancy prevention was found to be underdeveloped in these young people. Interviewees acknowledged inconsistent condom use and, especially young women shared problems in negotiating protection. We concur with Mirzaee et al (2017) that such findings highlight a need for better education and training for young Iranians, embarking on sexual relationships. Our findings indicate that this should include, basic biology of STI transmission, self-management skills (e.g., setting goals and priorities), relationship management skills and protection skills, including condom-acquisition, negotiation and use skills. Given the widespread use of internet sources, the creation of online training materials in Persian seems like an obvious first step to bridging this educational gap. This would also allow self-selection of short courses according to the needs of the users.

Young women expressed their lack of empowerment in managing sexual relationships, emphasizing the need for materials particularly addressing these issues. Our finding also suggest that presentations by young Iranians, like the potential users could optimize trust.

Our findings represent a novel needs assessment with useful recommendations for improvement of health services and health education. Nonetheless, there are limitations to this research. We used a small sample and the applicability of our findings to other groups, including those who live in suburbs of Tehran, remains unclear. A large scale quantitative study would be needed to address this limitations; including participants from diverse socioeconomic backgrounds and those with special requirements (e.g., those with physical disabilities and learning difficulties and physical limiting conditions). We found no discernible patterns, indicating differences in views across educational, socioeconomic and religious backgrounds, perhaps due to the almost universal reliance on internet and social media sources. Again a more representative, quantitative study could investigate this and perhaps contribute to a culturally tailored intervention.

Notwithstanding these limitations, our study presents insights and recommendations for the development of sexual health services and education for young people in Tehran and provides a good basis for developing and testing preliminary materials, incorporating learning from international developments. Additionally, our findings could provide guidance to policy makers about service and educational gaps that could prompt revision of SHRE and sexual healthcare provision for young Iranians. It would be interesting to explore young people's reflections and recommendations in relation to service provision with policy makers and health care practitioners.

In conclusion, sexual health knowledge is poor amongst Tehranian 18-25 year olds and they do not perceive sexual healthcare as available and accessible. Young adults want comprehensive SHRE in order to understand and manage sexual health risks and manage their sexual relationships safely. They also expressed the need for non-judgmental, confidential, accessible and reasonably priced sexual healthcare.

List Of Abbreviations

Sexual health and relationship education (SHRE)

United Nations Educational, Scientific and Cultural Organization (UNESCO)

The United States of America (USA)

The World Health Organization (WHO)

Declarations

Interviewees were made aware that they could withdraw at any time without giving a reason. Verbal consent (rather than written consent) was obtained from every participant to protect the interviewees' anonymity. All participants consented to interviews being recorded and for quotations to be reported anonymously.

The study was approved by ethics committees of The University of Exeter Medical School and Iran University of Medical Sciences.

Consent for publication

Not Applicable

Availability of Data and Materials

Data available in article supplementary material: The data that supports the findings of this study are available in the supplementary material of this article.

Funding

This study was part of a self-funded PhD project and has not received external funding.

Authors' Contributions

NS conceived of the study, carried out recruitment, data collection, data analysis and drafted the manuscript. CA co-created the study design and development with NS, and participated in its design, analysis and coordination and helped to draft the manuscript. SD participated in the design and data analysis. ME provided local support and cooperated with the recruitment and coordination of the study. All authors read and approved the final manuscript.

Acknowledgements

We would like to thank young adults who participated in this study.

Competing Interests

The authors declare that they have no competing interests.

References

1. Islamic Republic News Agency [IRNA]. (2017). HIV patterns have changed. Retrieved from https://www.irna.ir/news/82748474/%D8%A8%DB%8C%D9%85%D8%A7%D8%B1%DB%8C-%D8%A7%DB%8C%D8%AF%D8%B2-%D8%AF%DB%8C%DA%AF%D8%B1-%D9%83%D8%B4%D9%86%D8%AF%D9%87-%D9%86%DB%8C%D8%B3%D8%AA-%D9%85%D8%A8%D8%AA%D9%84%D8%A7%DB%8C%D8%A7%D9%86%DB%8C-%D9%83%D9%87-%D9%86%D8%A7%D9%82%D9%84-%D9%86%DB%8C%D8%B3%D8%AA%D9%86%D8%AF
2. Medical Express,[2016], Sexual transmission of AIDS on the rise in Iran: official. Retrieved from https://medicalxpress.com/news/2016-07-sexual-transmission-aids-iran.html
3. Independent Persian News Agency. (2019). There are 1000 daily abortions in Iran. Retrieved from https://www.independentpersian.com/node/15891/%D8%B1%D9%88%D8%B2%D8%A7%D9%86%D9%87-%D9%87%D8%B2%D8%A7%D8%B1-%D8%AC%D9%86%DB%8C%D9%86-%D8%AF%D8%B1-%D8%A7%DB%8C%D8%B1%D8%A7%D9%86-%D8%B3%D9%82%D8%B7-%D9%85%DB%8C%E2%80%8C%E2%80%8C%D8%B4%D9%88%D8%AF
4. Iranian institute of national statistics. (2018). Results of 2016 national census. Retrieved from https://nnt.sci.org.ir/sites/nnt/SitePages/report_90/ostani/ostani_MaritalStatus_report_final_permision.aspx
5. Iranian institute of national statistics. (2018). Results of 2016 national census. Retrieved from https://www.amar.org.ir/portals/0/census/1395/results/g_sarshomari-95.pdf

6. Iranian Institute of AIDS Research. (2015). Info. Retrieved from http://aids.ir/Info.
7. Amnesty International. Population increasing act in Iran. (2015). Retrieved from https://amnesty.org/en/documents/MDE13/1111/2015/en/.
8. Iranian Ministry of education .(2018).Retrieved from https://prog.msrt.ir/fa/regulation/44/%D8%AC%D8%A7%DB%8C%DA%AF%D8%B1%DB%8C%D9%86%DB%8C-%D8%AF%D8%B1%D8%B3-%D8%AF%D8%A7%D9%86%D8%B4-%D8%AE%D8%A7%D9%86%D9%88%D8%A7%D8%AF%D9%87-%D9%88-%D8%AC%D9%85%D8%B9%DB%8C%D8%AA-%D8%A8%D8%A7-%D8%AF%D8%B1%D8%B3-%D8%AC%D9%85%D8%B9%DB%8C%D8%AA-%D9%88-%D8%AA%D9%86%D8%B8%DB%8C%D9%85-%D8%AE%D8%A7%D9%86%D9%88%D8%A7%D8%AF%D9%87
9. Iran National Centre for AIDS Prevention. (2010). Centre for behavioural diseases. Retrieved fromhttp://aids.ir/news-231-%D9%85%D8%B1%D8%A7%DA%A9%D8%B2-%D9%85%D8%B4%D8%A7%D9%88%D8%B1%D9%87-%D8%A8%DB%8C%D9%85%D8%A7%D8%B1%DB%8C-%D9%87%D8%A7%DB%8C-%D8%B1%D9%81%D8%AA%D8%A7%D8%B1%DB%8C.html
10. World Health Organization. Sexual health. Retrieved fromhttps://www.who.int/topics/sexual_health/en/
11. United Nations Population Fund [UNFPA]. (2010). Comprehensive Sexuality Education. Retrieved from https://www.unfpa.org/resources/comprehensive-sexuality-education-advancing-human-rights-gender-equality-and-improved
12. Denford, S., Abraham, C., Campbell, R., & Busse, H. (2017). A comprehensive review of reviews of school-based interventions to improve sexual health. *Health Psychology Review*, *11*(1), 33– doi: 10.1080/17437199.2016.1240625
13. United Nations Educational, Scientific and Cultural Organization [UNESCO]. (2019). Comprehensive Sexuality Education. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000264649
14. Mosavi, S. A., Babazadeh, R., Najmabadi, K. M., & Shariati, M. (2014). Assessing Iranian Adolescent Girls Needs for Sexual and Reproductive Health Information. *Journal of Adolescent Health*, *55*(1), 107– doi: 10.1016/j.jadohealth.2013.11.029
15. Mirzaee, M., Jahani, Y., & Sharifi, H. (2017). Reasons for Inconsistent Condom Use Found as Answers to a Multiple Response Question: A National Survey of Iranian Adults, 2013. *Journal of Research in Health Sciences*, *10*(17).
16. Shahhosseini, Z., & Hamzehgardeshi, Z. (2015). Female adolescents' perspective about reproductive health education needs: a mixed methods study with explanatory sequential design. *International Journal of Adolescent Medicine and Health*, *27*(1), 57– doi: 10.1515/ijamh-2014-0008
17. Mahmodi, Y., & Valiee, S. (2016). A clinical trial of the effect of sexual health education on the quality of life of married Muslim women in Iran. Women And Birth, 29(1), e18- e22. doi: 10.1016/j.wombi.2015.08.001
18. Rahmati Najarkolaei, F., Niknami, S., Aminshokravi, F., & Tavafian, S. (2013). Promoting sexual abstinence intention among female university students: A quasi-experimental study. Journal of Research in Medical Sciences,18(1), 37–
19. Fisher, J., Fisher, W., Williams, S. and Malloy, T., 1994. Empirical tests of an information-motivation-behavioral skills model of AIDS-preventive behavior with gay men and heterosexual university students. *Health Psychology*, 13(3), pp.238-2

20. Abraham C. & Denford S. (2020) Design, Implementation and Evaluation of Behavior Change Interventions: A Ten-Task Guide. In, The Cambridge Handbook of Behaviour Change. M Hagger & K Hamilton (Eds.) Cambridge University Press
21. Fisher, J. D. & Fisher, W. A. (1992). Changing AIDS-risk behaviour. Psychological Bulletin, 111, 455-474. Retrieved from http://doi.org/10.1037//0033-2909.111.3.455
22. O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. (2014). Standards for reporting qualitative research: a synthesis of recommendations. Acad Med. 2014; 89(9):1245-1251.
23. Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology. Qualitative Research in Psychology, 3 (2). pp. 77-101. ISSN 1478-0887
24. Bostani Khalesi, Z., Simbar, , & Azin, S. (2017). A qualitative study of sexual health education among Iranian engaged couples. African Health Sciences,17(2)
25. Pourmarzi, D., Rimaz, S., & Merghati Khoei, E. (2014). Sexual and Reproductive Health Educational Needs in Engaged Couples in Tehran in 2010. Sexuality Research and Social Policy: Journal of NSRC 11(3):225-232

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