Migration Letters

Volume: 19, No: S5 (2022), pp. 1383-1392

ISSN: 1741-8984 (Print) ISSN: 1741-8992 (Online)

www.migrationletters.com

The Impact of Health Knowledge, Attitude and Practice of Adolescent Girls toward Reproductive Health

Alenezi, Mohammad Furaih M[1], Thamer Abdullah Alotaibi[2], Abdualmajed Muhyi Alqarni[3], Mashaan Dhaifallah Alotaibi[4], Abdullah Mtaab Nahadh Alotaibi[5], Awad zaed alasmri[6], Hani Sultan Idris alganas[7], Abdulmajeed Saleh Almarshud[8], Ahmad Abullah Sultan Alotaibi[9], Khaled Farhan Farih Al-Anzi[10], Nwaf Saliman Awwad Alshamari[11], Areej Mohammad Ataia ALharthi[12], Amna Ahmad Abdallah Harmosh[13]

Abstract

Background: Adolescence is a pivotal age for girls around the world. What emerges during a girl's teenage years shapes the direction of her life and that of her family. For many girls in developing countries, the mere onset of puberty that occurs during adolescence marks a time of heightened vulnerability to leaving school, child marriage, early pregnancy, HIV, sexual exploitation, coercion and violence. Reproductive health of adolescent females is an important health concern. The study aims: To determine the impact of health teaching on the knowledge, attitude and practice of adolescent girls toward reproductive health. Methods: A survey based cross-sectional study conducted in KSA. Results: A total of 1250 participants were included with a mean age of 17.3 ± 1.4 years, and >80% of the participants have completed high school. A total of 1191 girls had the onset of menarche at approximately 13.2 years old, and 85.7% reported menstrual disorder. Conclusion: There is poor knowledge and practice of reproductive health among participating adolescents. High BMI, bad family relationships and lack of gynecological visits were found to negatively affect reproductive health. Improving adolescent girl's knowledge toward reproductive health can help them make better and informed reproductive health choices.

Keywords: *Adolescent Girls, Menstruation, Reproductive Health, Social Status*.

[1] Senior social specialist, Aja Long Care Hospital, Saudi Arabia.
[2] Health Education Specialist, Makkah Health Cluster, King Faisal Hospital, Saudi Arabia.
[3] Health Education Specialist, Makkah Health Cluster, King Faisal Hospital, Saudi Arabia.
[4] Social worker, King Salman Hospital, Saudi Arabia.
[5] Specialist Sociology, Dawadmi General Hospital, Saudi Arabia.
[6] social worker, hospital alqowweh, Saudi Arabia.
[7] Social Specialist (M) (Non-Phsician, Maternity&Children's Hospital_Dammam, Saudi Arabia.
[8] Social service, Prince Mohammed bin Abdulaziz Hospital in Riyadh, Saudi Arabia.
[9] Senior Specialis Nursing Education, Dawadmi Genral Hospital, Saudi Arabia.
[10] specialist- sociology, Aja Long Care Hospital, Saudi Arabia.
[11] specialist- sociology, Aja Long Care Hospital, Saudi Arabia.
[12] Social Worker, Mental health hospital, Saudi Arabia.
[13] Social Worker, Mental health hospital, Saudi Arabia.

Introduction

As per United Nations Children's Fund (UNICEF), there are approximately 1.3 billion adolescents worldwide, with 90% of them living in developing countries. Among these, there are around 880 million adolescent girls [(1)]. Gender inequality has persisted in the communities marginalizing adolescent girls who are victims of pernicious social norms affecting their ability to make decisions regarding education, work, marriage and social relationships [(2)]. The United Nations Population Fund (UNFPA) defines Sexual and Reproductive health (SRH) as a state of complete physical, mental, and social well-being related to the reproductive system [(3)]. Literature shows that adolescent girls lack adequate knowledge on SRH, for which they face issues such as early pregnancy and childbirth, abortion, violence, unintended pregnancies, maternal mortality, reproductive tract infections (RTIs) and sexually transmitted diseases (STDs) [(4)].

Around twelve million girls aged 15–19 years and seven million girls under 15 years give birth each year in developing countries. Complications arising due to pregnancy and childbirth are the leading cause of death for girls aged 15–19 years globally [(5)]. Each year around 39,000 child marriages happen every day [(6)]. Available data suggest that adolescent mothers yield to depression compared to non-pregnant peers and adult mothers [(7)]. The Sustainable Development Goal (SDG) 3.7 states that by the year 2030, there should be universal access to sexual and reproductive health care services, including family planning, education, and integration of reproductive health into national programs. Also, SDG 5 focuses on gender equality by empowering women and girls, but data suggests only 57% of women aged 15–49 years make informed decisions regarding sexual and reproductive health care [(8)].

International organizations such as the World health organization (WHO), United Nations Children's Fund (UNICEF), and the Lancet Commission highlight the need to prioritize adolescents in achieving the SDGs [(9)]. The reproductive pattern in the Kingdom of Saudi Arabia (KSA) is characterized by pregnancies starting at an early age, by high fertility throughout the reproductive span, by low educational attainment of the mother, and by poor coverage by antenatal services [(10)]. Menarche is the first menstrual cycle that reflects the sexual and reproductive development of females, and it is one of the most noticeable developmental events during adolescence years that occur between the ages of 10 and 16 years [(11)]. However, the average age for the onset of menarche depends on several factors including nutrition, environmental conditions and socio-economic status of the individual [(12, 13)].

Also, the formation and regularityof the menstrual cycle are considered as important indicators for reproductive health of childbearing females including adolescents [(14)]. However, menstrual disorders including dysmenorrhea, menorrhagia, hypo-menorrhea, oligo-menorrhea and dysfunctional uterine bleeding are commonly reported during adolescence years [(15, 16)]. These diseases are influenced by biological, environmental and social factors [(11, 12, and 14)]. For the latter, studies suggested that the family's socioeconomic background not only affect the adolescents' behavior, but it can significantly impact their reproductive health as well [(17)]. The sexual and reproductive health of adolescents is closely associated with their social, cultural and economic environments [(12, 13, and 17)]. Adolescents in low and middle-income countries are at a significantly high risk of acquiring sexual transmitted diseases [(18)].

Reproductive health needs of adolescents as a group have been largely ignored by the existing reproductive health services. There is lack of information about the reproductive health needs and problems of adolescent females. Very little research is available on adolescent health profiles, awareness about reproductive health, psychosocial profiles and morbidity patterns. Although significant studies concerning women's sexual and reproductive needs and problems have been conducted all over the world, there is a lack of information regarding sexual patterns and reproductive preferences among women in the Middle East in general, and particularly in

Saudi Arabia [19].

Thus, an adolescent with good reproductive knowledge would likely make the right decision, as the outcome of the choices they take during this period would likely to influence their future. Therefore, it is quite important to determine the adolescents' knowledge attitude and practice toward reproductive health and the impact of the socioeconomic backgrounds on the reproductive health of adolescent girls. Thus, the current study aims to determine the impact of adolescents' knowledge, attitude and practice toward reproductive health. The study will also determine the impact of socioeconomic status of their families on their reproductive health.

Methods

A cross-sectional questionnaire-based study was conducted in KSA, from January to May 2022. The questionnaire used in the current study was adapted from Herdman et al. (1998) [20] and Pleasant et al., (2011) [21] that were developed to assess knowledge of reproductive health and the impact of socioeconomic status. The questionnaire contains 32 questions divided into different sections; including a section about the participant's demographic data and other sections designed to test the participant's knowledge, practice and attitude toward reproductive health.

The menarche age was calculated retrospectively and recorded by age in years. Height and weight were measured according to the protocol described by Clarys et al., (2006) [22]. Briefly, the height and weight were measured with ananthropometry to the nearest 0.1 cm, and the nearest 0.1 kg, respectively. BMI (kg/m^2) was determined and used as an indicator of healthy weight status of the participants. The questionnaire was validated with a pilot run using a group of 20 randomly selected individuals (13 adolescent girls (10–15 year old) and seven young adults (16–25 year old) who were surveyed to ensure reliability and suitability of the survey. The results of the pilot test indicated minor changes and based on the results of the pilot run, the final corrected version of the questionnaire was usedto execute the current study.

Participants were recruited by convenience sampling method from four different secondary schools in KSA and three special educational colleges and first and second year University students. For participants under the age of 18 years, parental or guardian consent was requested. The parents/guardians of these individuals as well as all participants were made aware that this study is for research purposes only and their participation was voluntary. They were not asked for their names, email address or contact information, ensuring the privacy of survey respondents. Those who are under 18 years of age without adult consents, and the over 18 year old who did not consent to participate were excluded from the study.

All data collection forms were kept in a secure setting, only available to the principal investigator. Data were recorded on a data collection form and entered on a Microsoft Office Excel (2013) spreadsheet. The statistical analyses were performed using SPSS Statistics version 28. The Shapiro–Wilk and Kolmogorov–Smirnov tests were performed as normal distribution tests. Student's t-test was used to compare two independent groups suitable for normal distribution, and the Mann–Whitney U test was used in paired groups not suitable for normal distribution. Chi-square test was used to compare categorical variables. A p-value of less than 0.05 was considered statistically significant.

Results

Response rate

A total of 1500 questionnaires distributed to cover for the required participants at 95% CI, plus

10% attrition rate for non-respondents or incomplete questionnaires. There was 1300 completed surveys, 50 of which were excluded (invalid/incomplete responses) bringing the survey response rate to 83.3%.

Demographic data

Table (1) shows the mean age of the participating girls was 17.3 ± 1.4 years, including 39.4% identified as college students, 37.8% were university students, high school students 17.5% and students with higher education 5.4%.

Socioeconomic status

Table (2) shows the average parental age for the participants' fathers was 48.8 ± 6.6, and for their mothers was 44.8 ± 5.7. Out of the respondents, 56.7% live in their own homes, 23.9% in rented apartments and 19.4% in dormitories. The average number of children in the family was 6.1 ± 1.8, including 2.3 ± 1.3 girls. While the employment rate for parents (both fulltime and self-employed parents) was estimated to be 57.4% for fathers and 56% for mothers, there was a significantly high percentage of parental unemployment (44% mothers and 42.6% fathers). In total, 12.3% of the participants were considered to be from low socioeconomic background, 56.8% were designated as middle-class, and the remaining 30.9% were considered to have high socioeconomic status (Table 2).

Age of menses

While 59 girls (4.7%) did not yet menstruate, the remaining 1191 (95.3%) of adolescent girls did. The mean age of the onset of menarche was 13.2 ± 1.2 years old, and menstruation duration of 4.8 ± 1.4 days (Table 1). The average height is 162.4 ± 8.3 cm and the average weight is 53.8 ± 8.9 kg. Compared with the 181 (14.48%) girls who reported normal menstruation, the majority of the girls 85.7% (1071 girls) reported various menstrual disorders with irregular, delayed or painful menstruation as being the most commonly reported disorders (Table 1).

Furthermore, to determine the volume of menstruation, the girls were asked to select the number of menstrual pads that they use during each period, after which they were divided into different groups. For example, low menstrual volume group (oligo) included girls who use 1 pad per day, normal menstrual volume group included those who use 2–5 pads per day and for those who use six or more pads per day, included in the high menstrual volume group (hyper). Interestingly, there was a significant association between menstrual disorders and body weight and family relationship (Table 3).

Health status

In addition to reproductive health, the participants were surveyed about general health status. Out of the total surveyed participants, 490 girls (39.2%), indicated that they have existing extra genital disorders with anemia as the most recorded disorder among the participants (20.2%), followed by cystitis (13.9%) and goiter, which was reported in about 5% of the participants.

Knowledge of reproductive health

In order to determine the participants' knowledge of reproductive health, the participants were asked about their knowledge of sexual transmitted diseases and the different types of contraceptives. The results show that the majority of the participating girls have low knowledge of sexually transmitted diseases (96.1%) and the different types of contraceptives or their measures (96.8%), (Table 4). These statistics indicate an alarming low level of reproductive literacy and knowledge among the participating girls.

Practice & attitude toward reproductive health

One of the most important indicators of health practice and attitude is dietary intake.

Interestingly, the majority of the girls (52.5%), reported to mostly consume a healthy balanced diet that contains adequate meat, fruits, vegetables and dairy products; 37.1% reported to consume an imbalanced high meat diet; and the remainder 10.4% reported to commonly consume unhealthy diet (Table 2). The participants were asked whether they seek professional help from gynecologists or not for reproductive health issues. While, the vast majority of the participants (75.1%) believe that gynecological testing is important for reproductive health, more than 1000 participants do not seek gynecological help 82.3% if they have a reproductive issue (Table 4). Despite believing in the importance of gynecological testing, multivariate analysis showed that girls who do not seek gynecological assistant were likely to have low reproductive knowledge and have one form of menstrual disorder (Table 3).

Table (1): Characteristics of the participants

Variables	Mean ± SD	Percentage
Age	17.3 ± 1.4	100%
Educational background		
College student	492	39.4%
University student	472	37.8%
High school student	219	17.5%
Higher education	67	5.4%
BMI		
Height (cm)	162.4 ± 8.3	
Weight (Kg)	53.8 ± 8.9	
Menses		
Yes	1191	95.3%
No	59	4.7%
Average age of menarche	13.2 ± 1.2	
Average duration of menses (days)	4.8 ± 1.4	
Normal menses	181	14.48%
Menses disorders	1071	85.7%
Delayed	330	30.8%
Irregular	345	32.2%
Painful	306	28.6%
Others	90	8.4%

Table (2): Socioeconomic indicators

Family status	Mean ± SD	Percentage
Live with both parents	1041	83.3%
Live with single parent	209	16.7%

Family status	Mean ± SD	Percentage
Parents		
Average age: father	48.8 ± 6.6	
Employment status		
Working (including own business)	718	57.4%
Not working	532	
Average age: mother	44.8 ± 5.7	
Employment status		
Working (including own business)	700	56%
Not working	550	44%
Family own home	709	56.7%
Rented apartment	299	23.9%
Dormitory	242	19.4%
Number of family members	6.1 ± 1.8	
Number of girls in the family	2.3 ± 1.3	
Lack of money		
Always	154	12.3%
Sometimes	710	56.8%
Never	386	30.9%
Family relationship		
Good	932	74.6%
Normal	249	19.9%
Bad	69	5.5%
Diet		
Healthy balanced diet	656	52.5%
Imbalanced high meat diet	464	37.1%
Unhealthy diet	130	10.4%

Table (3): Menstrual disorders and modifiable risk factors

Variable	β (95% CI)	p-value
Menses disorders (reference all disorders)	0.566 (0.506, 0.491)	0.151
Normal BMI (18.5–24.9 kg/m^2) vs. high BMI (25–29.9 kg/m^2)	0.361 (0.230, 0.344)	<0.001†

Variable	β (95% CI)	p-value
Good family relationship vs. bad	0.271 (0.485, 0.592)	<0.001†
Healthy diet vs. unhealthy diet	0.402 (0.320, 0.314)	<0.12
Gynecological visits vs. no gynecological visits	0.512 (0.385, 0.377)	<0.05†
Multivariable adjusted for menses disorders, and BMI. †Indicate significance.		

Table (4): Respondent's knowledge and attitude toward reproductive health

Item	Percentage
Knowledge of sexual transmitted diseases	3.9%
Knowledge of types of contraceptives	3.2%
Believe in gynecological testing	75.1%
Seek gynecological help	17.7%
Life style is not related to reproductive health	63%

Discussion

The current study examined the knowledge, attitude and practice of adolescent girls living in KSA. The study included 1250 participants from different schools and institutes in KSA including more than 80% have completed at least 12 years of study (high school). The mean age of the participants was 17.3 years of whom, 1191 had the onset of menarche at the average age of 13.2 years old and the remaining 59 participants did not yet have their menarche. Interestingly, the vast majority of the participants (85.7%) reported some sort of menstrual disorders. This is a very high percentage, and due to the lack of similar studies or published statistics in the country, we cannot compare the results locally. However, internationally the prevalence was significantly different between countries, for instance, an Australian study that investigated menstrual patterns and disorders in Australian teenagers, claimed that 25% of the participants reported menstrual disorder [(23)].

Whereas, study from rural areas in Tamil Nadu, India reported menstrual disorders in close to 90% of the participants [(24)]. The variation is, of course, due to several variable and non-variable factors [(12, 23, and 25)]. However, the results showed poor knowledge and practice of reproductive health among adolescent girls measured by their knowledge of sexual transmitted diseases and types of contraceptives. The impact of poor knowledge of reproductive health can be reflected by the high percentage (>85%) of participants who reported different types of menstrual disorders. The results are similar to previous reports from developing countries including, Hamadanieh et al., (2021) [(26)] who conducted a cross-sectional study to assess the sexual and reproductive knowledge of women in Lebanon [(26)]. They reported that less than 10% of the participants to have adequate reproductive health knowledge.

Similarly, a study by Kyilleh et al., (2018) [(27)] that assessed adolescents' reproductive health knowledge, reported a significantly low level of reproductive health knowledge among the participating adolescents that was negatively affecting their reproductive health [(27)]. While the

present results showed no correlation between diet and reproductive health, BMI was identified as a strong factor that could influence menstrual disorders. For instance, girls with BMI of 25–29.9 kg/m^2 were likely to experience reproductive health issues. This appears to be a widely accepted factor with several studies supported this finding including, Chavarro et al., (2007) [28] who studied the impact of nutrition on reproductive health. The authors claimed that a BMI value of more than 25 kg/m^2 or less than 19 kg/m^2 could negatively affect women's reproductive health [28].

Nevertheless, more than 60% of the participants believe that lifestyle does not affect reproductive health. Although, we did not investigate the reasons for this, we can speculate that this may in part be due to the significantly poor knowledge of reproductive health. While, more than three-quarters of the participants believe/trust gynecological testing, less than 18% seek or visit a gynecology if they experience a reproductive health issue. This may partly be due to the lack of available gynecological services in KSA, as well as the poor practice and attitude of the participants' toward reproductive health.

Conclusion

The present study investigates reproductive health in the adolescent population in KSA. This study shows the majority of the participants suffer some form of menstrual disorder that was associated with poor knowledge of reproductive health, high BMI and bad family relationship. It also showed the importance of gynecological assessment of adolescents to improve their reproductive health. Thus, the results of the current study highlight the need of pediatric gynecological services in the region. Thus, it is recommended that the health authority, with the support of the Ministry of Health and the participation of different medical specialties, must initiate region-wide gynecological services for the adolescent population. It is also important to increase the awareness of reproductive health among adolescents through health campaigns or inclusion in school curricula.

References

1. Adolescents statistics—UNICEF data. Available at: https://data.unicef.org/topic/adolescents/overview/.
2. Porroche-Escudero A. Health systems and quality of healthcare: bringing back missing discussions about gender and sexuality. Health Syst. 2022. Available at: https://doi.org/10.1080/20476965.2022.2096487.
3. Sexual & reproductive health. Available at: https://www.unfpa.org/sexual-reproductive-health.
4. Adolescent sexual and reproductive health. Available at: https://www.who.int/southeastasia/activities/adolescent-sexual-reproductive-health.
5. Weis JR, Greene JA. Mental health in pregnant adolescents: focus on psychopharmacology. J Pediatr. 2016; 169:297–304.
6. Child marriages—39,000 every day: more than 140 million girls will marry between 2011 and 2020. Available at: https://www.who.int/news/item/07-03-2013-child-marriages-39-000-every-day-more-than-140-million-girls-will-marry-between-2011-and-2020.
7. Hodgkinson SC, Colantuoni E, Roberts D, Berg-Cross L, Belcher HME. Depressive symptoms and birth outcomes among pregnant teenagers. J Pediatr Adolesc Gynecol. 2010; 23(1):16.
8. THE 17 GOALS | Sustainable development. Available at: https://sdgs.un.org/goals.
9. WHO. Global accelerated action for the health of adolescents (AA-HA!) guidance to support country implementation. WHO. 2017; 9. Available at:

https://apps.who.int/iris/bitstream/handle/10665/255415/9;jsessionid=B309C8C56E5EEFA24FA2F606422AB847?sequence=1.

10. Tork HMM & Al-hosis KF. Effects of Reproductive Health Education on Knowledge and Attitudes among Female Adolescents in Saudi Arabia. The Journal of Nursing Research 23(3), 236-42 SEPTEMBER 2015.
11. Lacroix AE, Gondal H, Shumway KR, Langaker MD. Physiology, Menarche. StatPearls, FL, USA (2022).
12. Gemelli IFB, Farias EDS, Spritzer PM. Association of body composition and age at menarche in girls and adolescents in the Brazilian Legal Amazon. J. Pediatr. (Rio J.). 96(2), 240–246 (2020).
13. Yu EJ, Choe SA, Yun JW, Son M. Association of early menarche with adolescent health in the setting of rapidly decreasing age at menarche. J. Pediatr. Adolesc. Gynecol. 33(3), 264–270 (2020).
14. Hetlevik O, Bjorna CH, Lundring IT, Gjesdal S. Adolescents consulting general practitioners for psychological problems-a nationwide, register-based study in Norway. Fam. Pract. 36(1), 77–83 (2019).
15. Dick B, Ferguson BJ. Health for the world's adolescents: a second chance in the second decade. J. Adolesc. Health 56(1), 3–6 (2015).
16. Hudgins R, Erickson S, Walker D. Everyone deserves a second chance: a decade of supports for teenage mothers. Health Soc. Work 39(2), 101–108 (2014).
17. Davis P, Sarasveni M, Krishnan J, Bhat LD, Kodali NK. Knowledge and attitudes about the use of emergency contraception among college students in Tamil Nadu, India. J. Egypt Public Heal. 95(1), 1 (2020).
18. Deogan C, Ferguson J, Stenberg K. Resource needs for adolescent friendly health services: estimates for 74 low- and middle-income countries. PLOS ONE 7(12), e51420 (2012).
19. Alkoly T. Abd Allah A. Alghamid A. Nutritional Status and Eating Behaviors among Adolescents of Some Intermediate Schools in Jeddah. JKAU: Med. Sci. 2011; 18(2). DOI: 10.4197/Med. 18-2.X
20. Herdman M, Fox-Rushby J, Badia X. A model of equivalence in the cultural adaptation of HRQoL instruments: the Universalist approach. Qual. Life Res. 7(4), 323–335 (1998).
21. Pleasant A, McKinney J. Coming to consensus on health literacy measurement: an online discussion and consensus-gauging process. Nurs. Outlook 59(2), 95–106.e1 (2011).
22. Clarys JP, Provyn S, Marfell-Jones M, Van Roy P. Morphological and constitutional comparison of age-matched in-vivo and post-mortem populations. Morphologie 90(291), 189–196 (2006).
23. Parker MA, Sneddon AE, Arbon P. The menstrual disorder of teenagers (MDOT) study: determining typical menstrual patterns and menstrual disturbance in a large population-based study of Australian teenagers. BJOG 117(2), 185–192 (2010).
24. Ravi R, Shah P, Palani G, Edward S, Sathiyasekaran BW. Prevalence of menstrual problems among adolescent school girls in rural Tamil Nadu. J. Pediatr. Adolesc. Gynecol. 29(6), 571–576 (2016).
25. Aljofan M, Alkhamaiseh S. Prevalence and factors influencing use of herbal medicines during pregnancy in Hail, Saudi Arabia: a cross-sectional study. Sultan Qaboos. Univ. Med. J. 20(1), e71–e76 (2020).
26. Hamdanieh M, Ftouni L, Al Jardali B et al. Assessment of sexual and reproductive health knowledge and awareness among single unmarried women living in Lebanon: a cross-sectional study. Reprod. Health 18(1), 24 (2021).

27. Kyilleh JM, Tabong PT, Konlaan BB. Adolescents' reproductive health knowledge, choices and factors affecting reproductive health choices: a qualitative study in the West Gonja District in Northern region, Ghana. BMC Int. Health Hum.Rights 18(1), 6 (2018).

28. Chavarro JE, Rich-Edwards JW, Rosner BA, Willett WC. Diet and lifestyle in the prevention of ovulatory disorder infertility. Obstet. Gynecol. 110(5), 1050–1058 (2007).