

KNOWLEDGE AND ATTITUDES ABOUT SEXUAL AND REPRODUCTIVE HEALTH AMONG YOUTH GIRLS

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Abstract

Background: sexual and reproductive health (SRH) is a crucial aspect of the overall wellness of body and mind; adolescent girls go through a critical phase of physical, emotional, and social development, because of which the health of the reproductive system is of utmost importance. Realization of the knowledge background and attitudes of adolescent girls in sexual reproductive health is fundamental to the design of programs that promote evidence-based judgment, healthy habits over their lifespan, and positive health outcomes.

Objectives: To evaluate the knowledge and attitudes about sexual and reproductive health among the study sample and to assess the knowledge and attitudes about sexual and reproductive health after giving an intervention lecture among the study sample.

Design and sample: This experimental study was conducted in public preparatory schools for girls in Najaf. The sample was female government preparatory school students, morning classes only, aged 15-22 years, and residents of the center of Najaf Governorate, Iraq.

Measurements: Students' sexual knowledge and attitudes were assessed before the intervention (pre-test), immediately after the intervention (post-test 1), and one month after the intervention (post-test 2).

Intervention: Students in the experimental group received a 30-minute research lecture on "Empowering women's basic concepts about sexual and reproductive health." The lecture covered a wide range of subjects.

Result: Compared with the control group, overall knowledge of the intervention group was improved; the majority of students in both groups had negative attitudes toward sexual and reproductive health.

Conclusion: The findings show that the intervention group's knowledge regarding sexual and reproductive health significantly increased after participating in a lecture and discussion.

Recommendation: Comprehensive programs for youth sexual and reproductive health be created using reliable, scientific medical data.

Keywords: Youth, Knowledge, Attitudes, Reproductive health.

INTRODUCTION

Concern regarding the sexual and reproductive health (SRH) of youth has grown on a global scale in recent years ¹. Young people are still disproportionately serviced by SRH programs despite significant advancements in their implementation in the majority of nations ². In the United States, three million girls at the age of 15 - 19 years experience risky abortions annually, and one in every four sexually active teenagers suffers from an STDs ³. Target 3.7 of the Sustainable Development Goals states that by 2030, everyone shall have worldwide contact with reproductive health care ⁴. However, many low to middle-income countries (LMICs) have limited access to SRH information and services ^{5,6}. In a survey conducted across 70 LMICs, almost every country reported that just 10% or less of all adolescents who visited a health center within the preceding year were given information on birth control ⁷.

SRH being a crucial aspect for the overall wellness of body and mind, adolescent girls go through a critical phase of physical, emotional, and social development, because of which the health of the reproductive system is of utmost importance ⁸⁻¹⁰. Realization of the knowledge background and attitudes in adolescent girls in sexual reproductive health are fundamental

to the design of programs that promote evidence-based judgment, healthy habits over their lifespan, and positive health outcomes ¹¹.

In the 21st century, where girls face different negative issues concerning relationships, sex, and reproductive health, it is a call to action to ensure that they are confident with accurate information to guarantee that they have a positive attitude towards reproductive health ¹². This research is aimed at offering more profound insight into the system of SRH knowledge and attitudes among adolescent girls.

MATERIALS AND METHODS

Study settings

The study was conducted in public preparatory schools for girls in the city of Najaf.

Study sample

The sample was female government preparatory school students, morning classes only, aged 15-22 years, and residents of the center of Najaf Governorate, Iraq.

Intervention

Students in the experimental group received one 30-minute lecture about "Empowering women's basic concepts about

sexual and reproductive health." While the control group received a 30-minute lecture about "Family violence."

Measurements and Scoring

Students' sexual knowledge and attitudes were assessed before the intervention (pre-test), immediately after the intervention (post-test 1), and one month after the intervention (post-test 2). The scale of the three levels was rated on 3 points (Likert respondent scale), which was scored as scoring of knowledge by assigning a score of (1) for "I don't know," (2) for "NO" and score of (3) for "Yes." The questions in part three 42Q "The questions regarding the overall knowledge:

Poor knowledge = 0 – 74

Fair knowledge = 75 – 99

Good knowledge = ≥ 100

A five-point Likert-type scale is used for attitudinal assessment, typically with scores ranging from "strongly disagree" to "strongly agree." The questions in part four are 20Q. The questions regarding the overall attitudes:

Negative attitudes = 0 – 59

Neutral attitudes = 60 – 79

Positive attitudes = 80 – 100.

Data collection

A structured self-administered questionnaire translated from English to Arabic was used to elicit the information from the study participants. The questionnaire included the following information:

Domain 1: Sociodemographic data including age, class grade, family size, living, marital status, father's educational and occupational status, and mother's educational and occupational status.

Domain 2: Past medical and lifestyle history.

Domain 3: Includes knowledge about sexual and reproductive health.

Domain 4: Includes attitudes about sexual and reproductive health.

Statistical Analysis

Statistical Package for Social Science (SPSS) version 28 was used to analyze the data. Descriptive statistics were calculated for selected numerical and categorical variables for descriptive data, inferential statistics, T-test, and Mann -Whitney U test, which were used to test differences between experimental and control groups.

Ethical Consideration:

❖ Ethical approval was obtained from the College of Health and Medical Technologies/Kufa, Al-Furat Al-Awsat Technical University.

❖ Approval was obtained from the general education directorate in Najaf province.

❖ Written consent was taken from all participants.

Results and Discussion

Table 1: Sociodemographic Characteristics of respondents for both groups (Experiment-control)

Sociodemographic characteristics		Experiment		Control		P.value			
		Freq.	Perc.	Freq.	Perc.				
Age Group	15-19Y	201	89.7	209	93.3	*0.061			
	≥ 20	23	10.3	15	6.7				
	Total	224	100.0	224	100.0				
Grade	Fourth	76	33.9	76	33.9	***1.000			
	Fifth	74	33.0	74	33.0				
	Sixth	74	33.0	74	33.0				
Marital Status	Single	212	94.6	212	94.6	***0.978			
	Married	2	0.9	2	.9				
	Engaged	7	3.1	10	4.5				
	Divorced	3	1.3	0	0.0				
Living With	Parents	208	92.9	206	92.0	***0.722			
	Grandfather	2	0.9	5	2.2				
	Mother	4	1.8	0	0.0				
	Husband	7	3.1	10	4.5				
	Father	3	1.3	3	1.3				
Family Size	Small	3	1.3	2	.9	***0.377			
	Medium	100	44.6	111	49.6				
	Large	121	54.0	111	49.6				
*Parents Occupation									
Experiment		Control							
Occupations	Father		Mother		Father		Mother		F ***0.225
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	M ***0.380
Housewife	0	0.0	202	90.2			196	87.5	
Not Classified	128	57.1	1	0.4	136	60.7		-	
Non	13	5.8			12	5.4			
Legal and Related Associate Professionals	2	0.9	-	-			2	.9	

Armed & Police Forces Officers	16	7.1			8	3.6			
Administrative and Commercial Managers	3	1.3			6	2.6			
Shopkeeper	1	0.4	3	1.3	2	0.9			
Metal, Machinery, and Related Trades Workers	2	0.9							
Drivers and Mobile Operators	1	.4			10	4.5			
Personal Services Workers	5	2.2			2	0.9	6	2.7	
Food Processing, Woodworking, Related Trades Workers	5	2.2			7	3.1			
Retired	4	1.8	1	0.4	4	1.8			
Services Clerks	13	5.8	3	1.3	16	7.1	4.0	17	
Building and Related Trades Workers	1	0.4			2	.9	3	1.3	
Armed & Police Forces	23	10.2			11	4.9	2	0.9	
Engineering Professionals	4	1.8			3	1.3			
Health Professional	3	1.3	2	0.9	3	1.3	3	1.3	
Teaching professional			9	4.0	3	1.3	17	7.6	
Education Manager			3	1.3					
Agricultural, Forestry and Fishery	3	1.3			2	0.9			
Educational level	ExperimentControl								
	Father		Mother		Father		Mother		F. 0.05
	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	Freq.	Perc.	M. 0.850
Illiterate	15	6.7	16	7.1	21	9.4	16	7.1	
Read and write	29	12.9	23	10.3	31	13.8	34	15.2	
Primary school graduate	29	12.9	63	28.1	44	19.6	45	20.1	
Intermediate school graduate	57	25.4	67	29.9	53	23.7	77	34.4	
Secondary school graduate	56	25.0	34	15.2	38	17.0	34	15.2	
Diploma	4	1.8	11	4.9	9	4.0	8	3.6	
Bachelor	22	9.8	7	3.1	21	9.4	10	4.5	
Master	11	4.9	3	1.3	7	3.1	0	0.0	
PhD	1	.4	0	0.0	0	0.0	0	0.0	

*Classification according to ILO, 2023.

**Independent sample T-test, significant at level 0.05.

*** Independent-Samples Mann-Whitney U Test.

Table (1) presents the total number of respondents in this study, which was 448, divided into two groups: the experiment (n=224) and control groups (n=224), preparatory schools' female students. The age range was (15-22) years, and the mean $\pm$ std. was (17.187 $\pm$ 1.645) for the experiment and (16.910 $\pm$ 1.473) for the control group. All participants answered the questionnaire, giving a response rate of (100%). The data was normally distributed.

The highest percentage (91.5%) of both groups was in the age group (15-19); this result was similar to a study conducted in Riyadh – Saudi Arabia, and Kenya^{13,14}. There was no statistically significant difference between the experimental and control groups regarding age (p= 0.061).

Girl's students have been selected from the fourth, fifth, and sixth grades. In both groups, the majority were single girls (95%).

About all participants live with their parents. These findings reflect the true nature of Iraqi/Arab society, including

postponing marriage until completing studies and living with parents until marriage. This result agreed with the result of a study done in Egypt¹⁵. About half of the sample in the two groups had family sizes ranging from medium to large; this is consistent with the UNICEF report, which stated that the average family size in Iraq is 6.3 persons¹⁶.

The participants' fathers had different occupations, more than half of whom were unclassified. At the same time, most of the students' mothers were housewives in both groups with percentage (90.2%, 87.5%); this was in agreement with the estimated labor force participation rate of the female population aged 15 and over in Iraq, which was reported to be (11.02) percent in 2022 by the World Bank's collection of development indicators, which was gathered together from officially recognized sources¹⁷.

The educational level of students' parents varied from illiterate to doctorate for both groups; intermediate school graduates had the highest percentage for both groups (experimental = 27.6 %,

control = 29%), and this result is consistent with the UNESCO report, which demonstrates the percentage of parents in Iraq with an intermediate school graduate level is approximately (28%)¹⁸.

Table 2: Past medical and lifestyle history of respondents

Medical History		Experiment		Control		P.value
		Freq.	Perc.	Freq.	Perc.	
Polycystic		16	7.1	20	8.9	0.815
Irregular period		64	28.5	77	34.3	
UTI		34	15.1	36	16.1	
Anemia		105	46.8	98	43.7	
Diabetes		3	1.3	2	0.9	
Kidney failure		1	0.4	20	8.9	
Heart Diseases		0	0.0	2	0.9	
Hypertension		0	0.0	12	5.4	
Past surgical history		Freq.	Perc.	Freq.	Perc.	
Appendicitis		8	3.6	11	4.9	
Intestinal Problems		3	1.3	0	0.0	
Curettage		3	1.3	0	0.0	
Plastic surgery		1	0.4	2	0.9	
Delivery		1	0.4	6	2.7	
Tonsillitis		8	3.6	5	2.2	
gallbladder removal		4	1.8	0	0.0	
Life style						
Exercise	Yes	74	33.0	76	33.9	
Smoking status	Yes	10	4.5	12	5.4	
Hookah	Yes	7	3.1	6	2.7	

Regarding Past medical and lifestyle history, anemia was more familiar with (45%) of female students affected; this percentage was similar to a study in India, which found that 48.63% of adolescent girls in a rural area were anemic¹⁹, micronutrient deficiency, especially iron deficiency is one of the major cause of anemia among adolescent girls and in addition to this excessive blood loss during girls' menstrual cycle also contributes to the development of anemia^{20,21}. Factors such as changes in dietary trends, mostly taken low content in iron foods, youth high body growth rate, and excess demand for the formation of hemoglobin are also being recognized to contribute to anemia development in growing adolescent girls²². Thirty-one percent of participants had irregular menstrual cycles; this percentage falls within the range specified by the findings of a literature review published between 2013 and 2023 that addressed the epidemiology of irregular menstruation and its effects on health. It concluded that frequencies of irregular menstrual periods range from (5%-35.6%) worldwide²³. Nevertheless, imminent after puberty comes a new challenge, the menstrual phase for adolescent girls. Yet, apart from the cause of nervous system disease or heavyweight, other factors might lead to menstrual delay²⁴⁻²⁶. It could be a combination of causes, for instance, getting overweight, stress in the nervous system, excess exercise or diet, hormonal changes in response to bodily adjustments, deficiency of vitamin D, or the mechanism of some drugs²⁷.

In terms of past surgical history, there have been a variety of surgeries performed, including tiny amounts of plastic surgery, delivery, intestinal problems, gallbladder surgery, and appendix surgery. (33%) of the participants in the study exercised; this percentage is consistent with the WHO report, which stated that adolescent girls face challenges in maintaining physical activity

levels, with around (85%) globally not meeting the WHO recommendations of at least 60 minutes per day of moderate to vigorous physical activity²⁸. The girls in their teenage stage go under weightless or no or hardly an exercise, as indicated by a research of 66% of girls at ages of 12-19 years, they generally choose to engage in sedentary physical activities during leisure time and thus do not get enough physical activity²⁹.

Furthermore, many times, longer hours of studying, lack of cultural exposure, and sports participation at home are among the contributory factors of this barrier²⁸. Multiple factors where the girls do not have time to play, their peers end up discouraging them due to competition issues and changes in personality traits, and their performance in sports decline are some of the reasons that cause girls to be inactive in school games²⁸.

Besides social norms, gender inequality and stigma, and a shift from youth to adulthood perception are considered some of the factors that the researchers attribute physical activity among girls in adolescence to³⁰.

Extensive smartphone usage, increased screen time, and the virtual elimination of physical education classes in schools are some factors that have eased students' physical activity opportunities to recycle their wits. In addition, as a result, the youth who have undergone this hardship have been bedeviled by several adverse health outcomes³¹. The solution would be to embrace education about physical activity, motivating sports, designating schools and social facilities, as well as side paths and other ways to boost exercise around this age group, which would be the best option. (7.8%) of participants are smoked. Smoking among adolescent girls in Iraq is a concerning issue; research indicates that the prevalence of tobacco use among Iraqi adolescents is (21.8%), with male adolescents having a higher rate of (27.1%) compared to female adolescents at (12.7%)³².

Table (3): Overall knowledge levels comparison between groups and within study stages

Experimental			Control	
Knowledge			Knowledge	
Pre-test	Freq.	Perc.	Freq.	Perc.
Good knowledge	2	0.9	2	0.9
Fair knowledge	117	52.2	119	53.1
Poor knowledge	105	46.9	103	45.9
Post-test 1				
Good knowledge	42	18.8	4	1.8
Fair knowledge	182	81.3	141	62.9
Poor knowledge	0	0.0	79	35.3
Post-test 2				
Good knowledge	4	1.8	2	0.9
Fair knowledge	187	83.5	129	57.6
Poor knowledge	33	14.7	93	41.5

In the pre-test, the results showed that the knowledge levels were almost the same for both groups. The post-test1 indicates a significant difference between knowledge levels for both groups, which means there was a substantial effect on the education lecture given to the experimental group compared to the control group. However, the results show that the knowledge was impacted overtime on the level of knowledge over three times during data collection for the experimental. On the other hand, the situation for control was different because there was no intervention for this group.

Table (4): Attitude levels comparison between groups within stages of study

Experimental			Control	
	Attitudes		Attitudes	
Pre-test	Freq.	Perc.	Freq.	Perc.
Positive	4	1.8	4	1.8
Neutral	37	16.5	48	21.4
Negative	183	81.7	172	76.8
Post-test 1				
Positive	17	7.6	4	1.8
Neutral	39	17.4	24	10.7
Negative	168	75.0	196	87.5
Post-test 2				
Positive	5	2.2	2	.9

Neutral	63	28.1	27	12.1
Negative	156	69.6	195	87.1

This Table shows three data collection times according to attitude levels for both groups. At the pre-test stage, the level of attitude was almost the same for both groups. For post-test 1, there was a significant difference in attitude levels between groups. Both groups had a fair situation for the third time collection data(post-test2). On the other hand, the results of this Table also show a significant difference between the three stages of data collection for the experimental group according to attitude level. However, the situation is different for the control group, as shown in this Table.

Table (10): Overall knowledge and attitude levels comparison (mean $\pm$ std.) between groups and within study stages

Experimental			Control		*P.value	
	Knowledge	Attitudes	Knowledge	Attitudes	Know.	Attit.
Pre-test	74.879 $\pm$ 9.928	50.763 $\pm$ 10.540	74.607 $\pm$ 10.430	51.450 $\pm$ 11.591	0.777	0.512
Post-test 1	82.839 $\pm$ 9.607	52.500 $\pm$ 14.526	76.821 $\pm$ 13.705	46.950 $\pm$ 11.742	0.001	0.001
Post-test 2	81.152 $\pm$ 8.081	54.075 $\pm$ 9.837	73.142 $\pm$ 13.216	47.825 $\pm$ 9.675	0.001	0.001
**ANOVA	0.001	0.071	0.001	0.008		

*Independent sample T-test, significant at level 0.05.

**One-way ANOVA, significant at level 0.05.

The results of this Table show a statistically significant difference among the mean $\pm$ sd of overall knowledge for the three data collection times for the experimental group (0.001). However, the situation for the control group was quietly different; perhaps there was a significant difference, but we showed a straightforward difference when looking for the mean. For attitude, there was no significant difference between the three data collection times for the experimental group. However, the control group had significant differences that may have happened by chance. On the other hand, there was a statistically significant difference between groups for post-test 1 and post-test 2.

Conclusion

This study highlights how vital it is to raise girls' understanding of sexual and reproductive health issues, especially in the information-rich world of today. Our findings show that the intervention group's understanding of sexual and reproductive health significantly increased after participating in a lecture and discussion. On the other hand, the control group displayed no change, indicating that they need ongoing exposure and knowledge enrichment to acquire favorable views on this subject. Knowing that education about a particular issue alone, even at a high level, does not immediately affect people's attitudes again stresses the importance of constant encounters and education.

Recommendations

1. Submerge family education with the curriculum to be all-inclusive.
2. Design all-inclusive educational programs for the sexual and reproductive health of adolescents that have a strong base on actual and medical knowledge.

3. Establish programs for teachers and health care professionals focusing on conducting sensitive and successful lessons for adolescents on reproductive health.
4. Promote cooperation between educational institutions and medical facilities to provide counseling and other health support services to adolescents; provide examples.
5. Create protected surroundings in school where teens would be freely talking about their sexual and reproductive misfortunes.
6. Through awareness campaigns and specialized family counseling programs, improve the involvement of teens' parents and the community in teaching sexual and reproductive health.
7. Enact legislation and regulations to ensure that youth get private and safe facilities for comprehensive sexual and reproductive health services.
8. The adolescent sexual and reproductive health programs should be consistently improved based on the results of research and studies. Programs must also be constantly evaluated to determine their effectiveness.

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