

A School Based Intervention Study On Reproductive Health Education Among Cairo Secondary School Girls

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Summary

Objective: To increase the awareness of school adolescent girls about reproductive health through a comprehensive school educational program.

Methodology: It is an intervention study applied on two secondary school girls of different socioeconomic classes (Usef El Sebai and Saint Fatima schools) during the school year 2012- 2013. Baseline knowledge was assessed by a structured questionnaire and reassessed just after implementation of a comprehensive training program on reproductive health and three months later to test retention of knowledge.

Results: A total of 150 secondary school students were included in this study. The mean (\pm SD) pretest score of the private school group (St Fatema) on knowledge of reproductive health was 21.7 (\pm 5.64) and of the governmental school group (Usef El Sebai) was 23.24 (\pm 7.09). The maximum total score of questionnaire is 62. After the training program, the mean score increased significantly to 52.28 (\pm 4.35) and 57.32 (\pm 23.06) respectively. The same test was applied after three months and scores did not significantly differ.

Conclusion: The knowledge of adolescent school students on reproductive health is inadequate. Reproductive health education is crucial in school aged children to promote healthy practices during adolescence and to prepare them for healthy transition to adulthood.

Keywords: Reproductive health, School, Adolescents, Educational Program.

دراسة تدخلية عن الصحة الإنجابية لطالبات بالمرحلة الثانوية بمدارس القاهرة

الخلفية: تعتبر الصحة الإنجابية جزءاً جوهرياً من الصحة العامة وسمة أساسية للتنمية البشرية. فترة المراهقة هي الفترة الأكثر أهمية وحساسية في حياة الإنسان وخاصة المرأة ففي هذه السنوات تتراكم الخبرات والتجارب التي قد تؤثر على نوعية حياتهن كإحتمال المرأة العبء الأكبر من مشاكل الصحة الإنجابية. إن برامج التنقيف الصحي في مصر ضعيفة والمناهج الدراسية في المدارس العامة تقدم قليلاً لتنقيف الطلاب حول الصحة الإنجابية.

الهدف من البحث: هو تقييم فعالية برنامج تنقيف صحي مدرسي شامل لجميع جوانب الصحة الإنجابية على معارف طالبات بالمرحلة الثانوية.

المنهجية: الدراسة تدخلية تم تطبيقها على 150 طالبة بالمرحلة الثانوية من مدرستين مختلفتين في المستوى الاجتماعي والاقتصادي، مدرسة سانت فاتيما الخاصة ومدرسة يوسف السباعي الحكومية. تم تقييم المعرفة الأولية للطالبات من خلال استبيان شامل لجميع جوانب الصحة الإنجابية وبعد تنفيذ البرنامج التدريبي تم إعادة الاستبيان مرتين بعد البرنامج مباشرة وبعد ثلاثة أشهر. المجموع الكلي للاستبيان 62 درجة حيث أعطيت نقطة واحدة لكل إجابة صحيحة.

النتائج: أوضحت نتائج الإختبار القبلي ضعف شديد حيث أن متوسط مجموع الطالبات بمدرسة سانت فاتيما 21.7 ± 5.64 أما متوسط مجموع الطالبات بمدرسة يوسف السباعي 23.24 ± 7.09 والذي ارتفع بعد تنفيذ البرنامج التدريبي إلى 52.28 ± 4.35 بمدرسة سانت فاتيما و 57.32 ± 23.06 بمدرسة يوسف السباعي. تم تطبيق الإختبار نفسه بعد ثلاثة أشهر لتقييم ثبات المعرفة لدى الطالبات والذي أظهر انخفاضاً ضئيلاً ليس له دلالة إحصائية.

الخلاصة والتوصيات:

ولذا تنصح الدراسة بمراجعة المناهج الدراسية لتحتوي على أساسيات الصحة الإنجابية وضرورة تفعيل دور الأسرة ووسائل الاعلام ومجموعات التنقيف الصحي بالمدارس.

الكلمات الكاشفة: الصحة الإنجابية، المراهقة، مدارس، البرامج التنقيفية

Introduction:

Adolescents in Egypt represent 22.54% of Egypt's total population.⁽¹⁾ Young people are important catalysts for development and change. Success or failure of policies in the areas of education, employment, or health will have a decisive impact on this cohort of young people.⁽²⁾ Their behaviors, attitudes, and beliefs shape the societies of the future. Thus, it is imperative to promote healthy practices during adolescence and to prepare them for the transition to adulthood. With proper attention, support, guidance and nurturing, their contribution and participation can be greatly enhanced.⁽³⁾ In Egypt, however, health education is weak and the public school curriculum offers little to educate students about health in general and about reproductive health in particular. Evidence from both developed and developing countries shows the importance of reproductive health education programs in improving the overall health of young people.

Adolescent girls need support as they begin to menstruate, how to recognize menstrual problems. Learning about hygiene during menstruation is a vital aspect of health education for adolescent girls as patterns that are developed in adolescence are likely to persist into adult life. Youth are often reluctant to ask about reproductive health issues, fearing that questions might raise suspicions of illicit activity. Many parents either lack this knowledge or afraid to discuss them with their children.⁽⁴⁾ The end result is that young people are left in the dark and lack access to reliable information. If unaddressed, this situation can put the health and well-being of adolescents at risk. Schools are a safe place for adolescents to learn about reproductive health matters in age-appropriate ways.

Aims:

To evaluate the effectiveness of a school health educational program addressing RH issues on the knowledge of adolescent female students. It was hypothesized that the adolescents' RH knowledge will significantly improve after implementation of the educational program.

Subjects And Methods:

- ✦ The questionnaire was developed built on the different components of reproductive health and guided by some previously tested tools.^(5,6) It was modified to suit the Egyptian context. Correct answers were each given a score of 1 and incorrect answers were given 0. Scores for a respondent's RH knowledge could range from 0 to 62. The averages were calculated before and after the intervention. Question formats were pre-tested and edited through a pilot study.
- ✦ Preparation of the program that covered all aspects of reproductive health guided by the science book of the third preparatory stage and adolescent health education programs by WHO. It was designed in 10 sessions, each is 45 minutes duration and covered the following topics: -C concept and importance of RH, female reproductive system, puberty in girls and physiology of menstruation, menstrual hygiene and disorders of menstruation, STDs (including HIV), nutrition in period of adolescence, pregnancy, family planning, premarital counseling and safe motherhood.
- ✦ Sampling Design: It is a multistage random sample. Al Nozha district was selected randomly amongst districts of Cairo governorate. Secondary girl schools of the district were enlisted and then 2 schools were selected, governmental school (Usef El Sebai school) and a private school (Saint Fatema school). Finally two classrooms were selected from each school as our study sample. The number of enrolled students was 150.

- ✦ Administrative and ethical considerations: Approvals were obtained from Capmus, Ministry of Education and Al Nozha directorate of education. Subsequently, permissions from the two schools and consent of the students were obtained.
- ✦ Implementation of the study: A pretest was done to evaluate baseline knowledge. Sessions were carried out in the multimedia laboratory where data show, posters and flipcharts were used. A posttest was done after session completion and repeated after three months to test retention of knowledge.

Results:

The study included 150 students, 83 students from Usef ElSebai governmental secondary school and 67 students from St Fatima language school with ages between (14- 17) years. The mean age was 15.1 and 16.4 respectively. Socioeconomic scoring was done according to (Ibrahim and Abdel Ghaffar, 1990) which is a total score of 5 items (Education, Occupation, Family size, Crowding index, Family income) and it demonstrated a statistical significance between the two groups. The major source of information about RH was mother (60% of St Fatema and 40% of Usef El Sebai), 25% of both schools relied on friends and no source was found in 20% and 29% respectively (Table 1).

Table (1) Sources of Information about Reproductive Health

Source Of Information	St Fatema		Usef El Sebai	
	No	%	No	%
Mother	40	59.7%	33	39.8%
Friends	16	23.9%	18	26.9%
Teacher	3	4.5%	6	7.23%
Books& Internet	5	7.5%	6	7.23%
None	13	19.4%	24	28.9%

The correct definition of reproductive health was known by 71.6% from St Fatema school and 75.9% from Usef El Sebai school which increased after the training program to 94% and 98.8% respectively.

Table 2 shows the statistically significant increase in knowledge of physiology of female reproductive system after implementation of the training program.

Table (2) Knowledge of physiology

Physiology	St Fatema		Usef El Sebai	
	Pre%	Post%	Pre%	Post%
Signs Of Puberty	35.8%	88%	32.5%	88%
Source Of Menstruation	12%	90%	24%	97.6%
Duration Of Menstrual Period	62.7%	92.5%	68.7%	96.4%
Age Of Menarche	68.7%	98.5%	62.7%	100%
Timing Of Ovulation	7.5%	91%	21.7%	93%
Site Of Ovum Fertilization	23.9%	94%	19.3%	94%
Cause Of Menstruation	19.4%	89.6%	49.4%	96.4%

Menstrual disorders were reported by 55% from St Fatema school and 66.3% from Usef El Sebai experience menstrual disorders which are shown in Table 3

Table (3) Menstrual disorders among respondents

Reported Menstrual Disorders	St Fatema		Usef El Sebai	
	no	%	no	%
Dysmenorrhea	17	25.4%	20	24.1
Menorrhagia	4	6%	9	10.8%
Irregular Cycle	12	17.9%	19	22.9%
Prolonged Menstrual Period	4	6%	3	3.6%
Others (No menstruation)	1	1.5%	3	3.6%

The knowledge of the female reproductive organs scored 10points, 1 point

for each organ. The mean score was 0.60 in St Fatema school and 2.24 in Usef El Sebai school. After the training program the mean scores increased significantly to 6.87 and 7.69 respectively.

Questions on nutrition included: dietary elements that should be increased during menstruation, sources of iron in diet and possible consequences of malnutrition. Score on nutrition (maximum score is 11 points) increased significantly from 8.18 (St Fatema) and 5.31 (Usef El Sebai) to 10.70 and 10.64 respectively.

Before program implementation, 70% of St Fatema school and 55% of Usef El Sebai school knew the suitable age of marriage and conception. This changed to 98.5 and 92.8% respectively after learning potential hazards of early childbearing. An interval of 3 years between pregnancies was reported by 30% of St Fatema and 53% of Usef El Sebai. These values increased after training to 89.6% and 97.6% respectively. Mean score of knowledge about contraceptive devices increased significantly from 2.24 (StFatema) and 2.45 (Usef El Sebai) to 6.79 and 6.67

Knowledge about sexually transmitted diseases (10 points) was highly deficient, mean score was 1.94 (St Fatema) and 2.96 (Usef El Sebai). These mean scores increased significantly to 7.97 and 8.14 respectively. This section included examples of STDs, symptoms of STDs and modes of AIDS transmission.

Around 3% of St Fatema and 30% of Usef El Sebai respondents were circumcised. The knowledge of potential hazards of circumcision (4 points) increased significantly from 1.18 (StFatema) and 1.13 (Usef El Sebai) to 3.72 and 3.83 respectively.

Finally, benefits of breast feeding were highlighted and knowledge in that section (4 points) increased from 1.15 (St Fatema) and 1.34 (Usef El Sebai) to 3.75 and 3.28 respectively. Table 4 shows the known breastfeeding principles before and after program implementation.

Table (4) Principles of breast feeding

Breast Feeding	St Fatema				Usef El Sebai			
	Pre		Post		pre		Post	
	no	%	No	%	no	%	no	%
Starts Immediately After Delivery	8	11.9%	3	4.5	30	36.1%	1	1.2%
Is Given When Baby Demands	13	19.4%	1	1.5	12	14.5%	3	3.61%
Exclusive breast feeding till age of 6 months	29	43.3%	2	3	21	25.3%	3	3.61%
All Of The Above	1	1.5%	64	95.5%	1	1.2%	80	96.3%
Don't Know	27	40.3%	0	0%	8	9.6%	0	0%
Significance	X ² =95.35 P- value= 0.000				X ² = 57.14 P- value= 0.000			

N.B Total does not necessarily equal 100% as there are multiple answers

Significant improvements in students' knowledge were noticed in all sections after implementation of the training program.

The mean scores increased significantly after the training program. The mean total score in St Fatema school was 21.7 (±5.64) out of 62 points. After the training program, the mean score was 52.28 (±4.35) points.

Table (5) Differences between Pre Test& Post Test of St Fatema School

Parameter	Group	Mean	SD	T- Test	P- Value
Concept of reproductive health (1 pt)	Pretest	0.72	0.45	3.572	0.000
	Posttest	0.94	0.24		
Physiology (10 Pts)	Pretest	4.78	1.50	22.151	0.000
	Posttest	9.54	0.93		
Anatomy of reproductive system (10 pts)	Pretest	0.60	1.16	20.897	0.000
	Posttest	6.87	2.17		
Nutrition (11 Pts)	Pretest	8.18	2.94	6.837	0.000
	Posttest	10.70	0.70		
Right age for marriage and conception (1 pt)	Pretest	0.70	0.46	4.867	0.000
	Posttest	0.99	0.12		
Premarital counseling (2 pts)	Pretest	0.94	0.74	10.869	0.000
	Posttest	1.97	0.24		
Sexually transmitted Diseases (10 pts)	Pretest	1.94	1.63	20.056	0.000
	Posttest	7.97	1.84		
Hazards of circumcision (4 pts)	Pretest	1.18	1.42	12.525	0.000
	Posttest	3.72	0.85		
Conception and contraception (9 pts)	Pretest	2.24	1.61	17.617	0.000
	Posttest	6.79	1.38		
Breast Feeding (4 pts)	Pretest	1.15	1.05	17.700	0.000
	Posttest	3.75	0.59		
Total Score (62 points)	Pretest	21.70	5.64	35.149	0.000
	Posttest	52.28	4.35		

The mean scores of Usef El Sebai school increased significantly after the training program. The mean total score was 23.24 (±7.09) out of 62 points. After the training program, the mean score was 57.32 (±23.06) points.

Table (6) Differences between Pre Test& Post Test of Usef El Sebai School

Parameter	Group	Mean	SD	T- Test	P- Value
Concept of rep. health (1 pt)	Pretest	0.87	0.34	3.063	0.003
	Posttest	0.99	0.11		
Physiology (10 Pts)	Pretest	5.96	1.85	17.594	0.000
	Posttest	9.69	0.54		
Anatomy of reproductive system (10 pts)	Pretest	2.24	1.97	17.999	0.000
	Posttest	7.69	1.92		
Nutrition (11 Pts)	Pretest	5.31	1.79	24.992	0.000
	Posttest	10.64	0.76		
Right age for marriage and conception (1 pt)	Pretest	0.55	0.50	8.121	0.000
	Posttest	1.00	0.00		
Premarital counseling (2 pts)	Pretest	1.29	0.69	9.383	0.000
	Posttest	2.00	0.00		
Sexually transmitted Diseases (10 pts)	Pretest	2.96	1.69	19.364	0.000
	Posttest	8.14	1.76		
Hazards of circumcision (4 pts)	Pretest	1.13	1.18	18.607	0.000
	Posttest	3.83	0.60		
Conception and contraception (9 pts)	Pretest	2.45	1.78	17.082	0.000
	Posttest	6.67	1.38		
Breast Feeding (4 pts)	Pretest	1.34	1.09	12.451	0.000
	Posttest	3.28	0.91		
Total Score (62 points)	Pretest	23.24	7.09	12.867	0.000
	Posttest	57.32	23.06		

The second posttest results showed a slight decrease in mean total score of St Fatema respondents from 52.28 (±4.35) to 51.31 (±4.40) points with a P value 0.8. Also, there was a slight decrease in mean total score of Usef El Sebai respondents from 57.32 (±2.30) to 55.60 (±2.49) points with a P value 0.5

Discussion:

Previous multiple studies were conducted in Egypt and other countries addressing knowledge and attitude of youth towards reproductive health issues.^(7, 8, 9, 10) On the other hand, fewer studies were designed to assess the

impact of health education intervention among youth in Egypt.⁽¹¹⁾

Some studies also found the parents, particularly mothers as the preferred source of information about RH issues among young females.⁽¹²⁾ Surveys in other countries reveal that the main source of information about RH issues is friends, peers, and often the media.^(13,14) All those studies agreed that teachers and health care providers constitute a minor source of information. A nationwide survey of more than 15,000 young people ages 10 to 29 conducted by the Population Council in Cairo.⁽²⁾ showed that schools do little to provide RH information and that the information available to youth outside of school is not necessarily accurate or helpful. In our study, the gross inadequacy of knowledge on reproductive health could be because of inadequate educative material related to the reproductive health in the school curricula or because of the ineffective teaching method or both. Many previous studies reported poor knowledge about reproductive health issues such as menstruation and puberty.^(15,16) and pregnancy and contraception.⁽¹⁷⁾ Studies from Egypt.^(18,19) showed poor knowledge scores where more than three-quarters of the respondents said that they knew little or nothing about RH. The foregoing findings are certainly due to the societal norms and attitudes towards RH issues that are considered as restricted areas that should not be discussed. After implementation of the training program, significant improvements in students' knowledge were noticed in all areas. Similar success of educational programs in RH has been previously reported.^(20,21)

Recommendations:

Reproductive health is covered minimally in the school curriculum and the media and often not addressed within families, thus the school system should provide time for programs that provide correct, carefully measured, properly timed and emphatically provided biological and sexual information which should be viewed within cultural and religious norms.

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