

## Effect of Educational Program for Premarital Counseling among technical school student

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### Abstract

**Background:** Premarital counseling is one of the most important strategies for prevention of genetic disorders, congenital anomalies and several medical, psychosocial marital problems. It can provide an opportunity to intervene according to the identified risk. **Aim:** to evaluate the effect of educational program on knowledge and attitude of technical school students regarding premarital counseling. **Design:** Pre/post-quasi-experimental research design was used in this study. **A Purposive sampling** of 400 unmarried female students were included in the study. **Setting:** Elfekria Female Technical School in Abokorkase at Minia City. **Tools:** two tools were utilized to collect data. **The First tool** was included socio demographic data and the knowledge about premarital counseling and, **the second tool** was included the attitude assessment tool about premarital counseling. **Results:** the majority of students (82%) had poor knowledge before the educational program which decreased to (11.5%) after the educational program. Moreover, more than half (55.8%) of them had negative attitude before the educational program which decreased to (17.8%) after the educational program. **Conclusion:** the study concluded that implementation of educational program was effective in improving Knowledge scores and attitude of technical school student for premarital counseling **Recommendation:** providing continuously health education programs about premarital counseling in every technical school because those target group of students marry during or early after finishing school so these programs are very useful for them also incorporate information about premarital counseling and examination in school curricula. **Keywords:** Educational Program, Premarital Counseling, Technical School Students.

### Introduction

Premarital counseling (PMC) is a worldwide activity aiming to diagnose, treat unrecognized disorders, and reduce transmission of diseases to couples. It is the promotion of the health and well-being of a woman and her partner before pregnancy; it is considered as the primary preventive approach for couples planning for conception. From public health view, it provides health education as well as a convenient means of collecting information on population health for planning purposes (Parhizgar et al., 2017).

Premarital counseling can help ensure that the partners have a strong, healthy relationship - giving them a better chance for a stable and satisfying marriage. It can also help them to identify weaknesses that could become problems during marriage (Moeti et al., 2017).

Premarital counseling is one of the most important strategies for prevention of genetic disorders, congenital anomalies and several medical, psychosocial marital problems. It can provide an opportunity to intervene according to the identified risk. This intervention include vaccination, counseling regarding behavior (including those related to HIV and other infections), nutrition, genetic counseling, advice regarding contraception, modification of chronic disease, treatment of infections and medication to decrease teratogenic risk (Zaien et al., 2021).

So, health education is one of the tools that provide individuals with the knowledge, skills, and motivation to make healthier lifestyle choices. However, there is a big lack in knowledge related to reproductive health even among educated persons. Premarital counseling service is lagging behind current attitudes and demands of students. Although students' attitudes towards sexual matters are liberal, their knowledge about reproductive health and premarital knowledge is still limited. A preliminary step for the design of proper health education strategy is to know how much the

target group knows about health problems and what their attitudes towards this important element of health care (Kamel et al., 2019).

The educational program can improve knowledge of participants. The information provided during the educational program could assist in making students better aware of the dangers and more selective of their future partners. They will spread their corrected knowledge and ideas to their friends, family and community. Premarital education and couples counseling is to be some of the most effective prevention programs for couples as it considered a way to lower the chances of divorce and increase couple satisfaction after marriage (Murdiningsih & St Hindun, 2020).

In addition, nurses have a crucial role to play in premarital counseling. They communicate with clients verbally and non-verbally so it requires much skill to do this and with the considerations of various domains: biological, psychological, socio culture, spiritual and environment. The role of nurse is very complex as it includes there role as advocator, educator, communicator, consultant, coordinator of care, leader or member of the profession, care giver, empowering agent, researcher user and health promoter, role model and as a counselor (Aker et al., 2018).

Moreover, nurses help individual prevent hereditary disorders and consequential morbidity and mortality. In addition, they ensure that the couples are aware of concerns relevant to their situation and help them make decisions that fit lifestyle and beliefs (Gomes et al., 2019).

### Significance of the Study

Premarital counseling is directed mainly at youth as the majority of marriages take place after finishing studying. Consequently, students are considered a target group to assess their knowledge, attitudes towards pre-marriage counseling. Clear orientation and knowledge of such a test are necessary.

Studies in some Arab countries, like Egypt and Syria, have revealed a significant lack of knowledge about premarital counseling (Al-Nood et al., 2016).

The knowledge and attitudes towards premarital counseling among students influence its practice and success rate because they can play a key role in propagating and educating their communities about the importance of premarital counseling, also Exploring and identifying the knowledge and attitudes of students towards premarital counseling is an essential step to evaluate their impact on planning to implement it.

#### Aim of the Study

The aim of the current study was to evaluate the effect of educational program on knowledge and attitude of technical school students regarding premarital counseling

#### Study hypothesis:

Implementation of educational program will improve knowledge scores and attitude of technical school student for premarital counseling

#### Subjects and methods

**Research Design:** Pre/post-quasi-experimental research design was used in this study.

**Research Setting:** This study was carried out at Elfekria female technical school in Abokorkase center at Minia City.

**Sample:** A non-probability (purposive) sampling technique was utilized in this study four hundred (400) unmarried female students who were studying during the period of data collection were included in the study according to the following formula.

$$\frac{z_{\alpha}^2 p (1 - p)}{1 + \frac{z_{\alpha}^2 p (1 - p)}{m^2 N}} = \frac{(1.96)^2 (0.5) (0.5)}{1 + \frac{(1.96)^2 (0.5) (0.5)}{(0.04)^2 1200}} = 400$$

#### Description:

n = Required Sample Size.

$z_{\alpha}$  = is the Z score at 0.05.

p = (0.5)

m = Margin of Error at 5 % (standard value of 0.04).

N= Population Size

#### Inclusion criteria:

- The age is 16-20 years.
- Third-year female technical students
- Unmarried.

#### Exclusion criteria:

Students who unwilling to participate in the study

#### Tools of Data Collection:

Data were collected through the utilization of two tools as follows:

#### The first (pretest) tool:-

Self-administrated questionnaire was developed by the researchers in the Arabic language after reviewing the related literature. It consisted of the following parts:

**Part 1:** Demographic data about students' demographic characteristics as age, residence, engagement status, is there a degree of fiancé consanguinity, the type of fiancé

consanguinity, fiancé education, father's education, and mother's education.

**Part 2:** knowledge about premarital counseling, it was consisted of nine multiple-choice questions (MCQ) like definition of premarital counseling, importance of premarital counseling, component of PMC, places designated to provide premarital counseling, target groups that need premarital counseling, the diseases that transmitted sexually, methods used to delay pregnancy in early marriage, and hereditary diseases that transmitted through genes.

#### Scoring system for knowledge:

Knowledge questions were given scores 3, 2 and 1 for complete correct answer, incomplete correct answers, and don't know respectively. The score of total knowledge was classified as the following: - Poor knowledge when the total score was (< 50%) (<14 points), Fair knowledge when the total score was (50 % to < 75 %) (14 -< 20 points), Good knowledge when the total score was (≥75%) (≥20 points) (Zaien et al., 2021)

#### The second tool: attitude regarding premarital counseling

It was consisted of 22 items as: readiness for attendance of premarital counseling lectures, readiness to perform medical and genetic examinations, and acceptance of the advice related to results of genetic or laboratory test.....etc.

#### Scoring system of technical school students' attitude:

Three-point Likert scale with 3 possible responses: (disagree=1), (not sure=2), and (agree=3) was used to assess the student's attitude toward premarital counseling. Three scores were given for agree, two scores were given for not sure, and one score was given for disagree). The Technical school students' attitude was considered positive if the percent score is (> 60%) (>40 points) and negative if (< 60%) (< 40 points) (Kamel et al., 2019).

#### Validity and Reliability:

The validity of questionnaire was reviewed by a jury of 5 experts in the field of obstetrics & woman health nursing to ascertain clarity, relevance, comprehensiveness and applicability of tools. Modifications were done such as adding, rephrasing and omitting some questions. The jury composed of two Professors from Faculty of Nursing, Minia University and three Professors from Faculty of Nursing, Assuit University. Each of the expert panel was asked to examine the instrument for content coverage, clarity, wording, length, format and overall appearance.

Reliability of the tools was performed to confirm the consistency of the tool. The internal consistency measured to identify the extent to which the items of the tools measure the same concept and correlate with each other by Cronbach's alpha test which revealed good internal reliability was ( $\alpha=0.927$ ) for the knowledge assessment tool and it revealed internal reliability was ( $\alpha=0.841$ ) for the attitude assessment tool.

#### Pilot Study:

The pilot study was conducted on 10 % of the total sample (40 students) before starting data collection to estimate the time required for completing the sheets and to check the simplicity, clarity, applicability and feasibility of the

developed tools. No modifications were done. Thus, students involved in the pilot study were included in the study sample.

**Data collection Procedure:**

The current study was achieved through four phases; assessment phase (pretest), planning, implementation (distributed handout (booklet)), and evaluation phase (post - test).

**1-Assessment phase:**

This phase was involved interviews with the studied sample. The researcher was available at the previously mentioned settings for four days weekly from March to June (2021) in the morning to the afternoon from 10 am to 2 pm during free classes or between lectures. First, the researcher was introducing herself and briefly explained the nature and the purpose of the study and obtaining the acceptance from the students to participate in the current study, the researcher provided an overview and clarification about the data collection tools questions then the students were given a questionnaire to fill it. The time that required for finishing each questionnaire was around 20-30 minutes.

**2-Planning phase:**

Based on baseline data obtained from pre-test assessment, the educational program was developed by the researcher. Program construction was in a form of printed Arabic form to improve the students' knowledge and attitude regarding premarital counselling.

**3-Implementation phase:**

After assessing the students' knowledge and attitude the researcher conducted education sessions to students over six weeks, each session was included 50 students for 1.30 hours. It was included information about the definition of premarital counseling, importance of premarital counseling, places designated to provide premarital counseling and examination, target groups, investigations required before marriage,

Component of PMC, hereditary blood disorders, and the diseases that transmitted sexually and methods used to delay pregnancy in early marriage. Also, the researcher distributed handout (booklet) for the student and use Power Point and photos for the illustrations

**4-Evaluation Phase:**

The same questionnaire was used after one month of the educational program with the same students to evaluate the level of students' knowledge and attitude after educational program.

**Ethical consideration:**

An official permission from the selected study setting was obtained for the fulfillment of the study. Before applying the tools, the researcher explained the aim and importance of the study to gain student's confidence and trust. The researcher took oral consent from students to participate in the study and confidentiality were assured. The data were collected and treated confidentially where personal data were not disclosed and the students were assured that all data was used only for research purpose. All students were informed that their participation is voluntary and their rights to withdraw at any time. The study wasn't having any physical, social or psychological risk on the participants

**Statistical analysis**

The data obtained from the study tools were categorized, tabulated, analyzed and data entry was performed using the SPSS software (statistical package for social sciences version (25.0). Descriptive statistics were applied (e.g. mean, standard deviation, frequency and percentage) . Tests of significance were performed to test the study hypotheses (i.e. t- test) . Pearson's correlation coefficient was applied between quantitative variables . A significant level value was considered when  $p < 0.05$ .

**Results**

**Table (1) Demographic characteristics among the studied students (No=400)**

Personal data		NO	%
<b>Age</b>			
• 16		26	6.4
• 17		147	36.8
• 18		172	43.0
• 19		55	13.8
<b>Mean ± SD 17.64± 1.79</b>			
<b>Residence</b>			
• Rural		226	56.5
• Urban		174	43.5
<b>Engagement status</b>			
• Engaged		200	50.0
• Not Engaged		200	50.0
<b>Is there a degree of fiancé consanguinity (N=200)</b>			
• Yes		110	55.0
• No		90	45.0
<b>The type of fiancé consanguinity(N=110)</b>			
• Cousin/Aunt		71	64.5
• Distant kinship		39	35.5
<b>Fiancé education (N=200)</b>			
• Illiterate		2	1.0
• Reads and writes		15	7.5
• Primary / Preparatory education		13	6.5
• Secondary /Technical		130	65.0
• University		40	20.0
<b>Father's education</b>			
• Illiterate		43	10.8
• Reads and writes		63	15.8
		36	9.0

Personal data		NO	%
<b>Age</b>			
• Primary / Preparatory education		228	57.0
• Secondary /Technical		30	7.5
• University			
<b>Mother's education</b>			
• Illiterate		116	29.0
• Reads and writes		78	19.5
• primary / Preparatory education		52	13.0
• Secondary /Technical		134	33.5
• University		20	5.0

**Table (1)** shows the demographic characteristics among the studied students. It presents that 43% of participants were in the age group 18 years with mean age  $\pm$  SD 17.64 $\pm$  1.79. As regards the residence 56.5% of them were live in rural area, 50% of the studied students were engaged and 55% of them had a degree of consanguinity with finances. According to participants' fiancé, father and mother's level of education 65%, 57% and 33.5% had secondary /technical education respectively.

**Table (2) The Source of information about premarital counselling among the studied students (No =400)**

Items	No	%
<b>Did you have any information about premarital counseling previously?</b>		
• Yes	50	12.5
• No	350	87.5
<b>The source of information about premarital counseling (N=50)</b>		
• The radio	1	2
• TV	20	40
• Schools and universities	5	10
• Colleagues, friends and neighbors	7	14
• Family and relatives	14	28
• All the above	3	6

**Table (2)** illustrates the source of information about premarital counselling among the studied students. It shows that 87.5% of participants did not receive any official training about premarital counseling and 28 % & 40% of them gain their information from family and T.V respectively.

**Table (3) Knowledge about pre-marital counseling among the studied students at pre-educational program (No =400)**

Items	Pre-educational program	
	NO	%
<b>Definition of premarital counseling.</b>		
• Complete correct answer	74	18.5
• Incomplete correct answer	202	50.5
• Don't know	124	31.0
<b>Importance of premarital counseling.</b>		
• Complete correct answer	53	13.2
• Incomplete correct answer	215	53.8
• Don't know	132	33.0
<b>Component of PMC.</b>		
• Complete correct answer	66	16.5
• Incomplete correct answer	97	24.2
• Don't know	237	59.3
<b>Places designated to provide premarital counseling.</b>		
• Complete correct answer	84	21.0
• Incomplete correct answer	158	39.5
• Don't know	158	39.5
<b>The target groups that need premarital counseling.</b>		
• Complete correct answer	64	16.0
• Incomplete correct answer	209	52.2
• Don't know	127	31.8
<b>The investigations that required before marriage.</b>		
• Complete correct answer	71	17.8
• Incomplete correct answer	227	56.8
• Don't know	102	25.4
<b>What are the diseases that transmitted sexually?</b>		
• Complete correct answer	10	15.2
• Incomplete correct answer	12	18.2
• Don't know	44	66.6
<b>Methods used to delay pregnancy in early marriage.</b>		
• Complete correct answer	72	18.0
• Incomplete correct answer	93	23.2
• Don't know	235	58.8
<b>What are the hereditary diseases that transmitted through genes?</b>		
• Complete correct answer	20	5.0
• Incomplete correct answer	172	43.0
• Don't know	208	52.0

**Table (3)** clarifies the knowledge about pre-marital counseling among the studied students at pre-educational program. It illustrates that 50.5% and 53.8% of the studied students give incomplete correct answers about the concept and importance of

premarital counseling respectively, while 59.5% & 39.5% of them did not know about the component of PMC and the places provide PMC, also 52.2% and 56.8% of them give an incomplete correct answer about the groups that need counseling and investigations done before marriage. Regarding diseases that transmitted sexually, methods used to delay pregnancy in early marriage, and diseases transmitted through genes were 66.6%, 58.8%, and 52% of studied students respectively reported that they did not know about this.

**Table (4) Knowledge about pre-marital counseling among the studied students at post-educational program (No =400)**

Items	Post-educational program	
	NO	%
<b>Definition of premarital counseling.</b>		
• Complete correct answer	307	76.8
• Incomplete correct answer	52	13.0
• Don't know	41	10.2
<b>Importance of premarital counseling.</b>		
• Complete correct answer	296	74.0
• Incomplete correct answer	75	18.8
• Don't know	29	7.2
<b>Component of PMC.</b>		
• Complete correct answer	223	55.8
• Incomplete correct answer	101	25.2
• Don't know	76	19.0
<b>Places designated to provide premarital counseling.</b>		
• Complete correct answer	221	55.2
• Incomplete correct answer	79	19.8
• Don't know	100	25.0
<b>The target groups that need premarital counseling.</b>		
• Complete correct answer	301	75.2
• Incomplete correct answer	67	16.8
• Don't know	32	8.0
<b>The investigations that required before marriage.</b>		
• Complete correct answer	265	66.2
• Incomplete correct answer	60	15.0
• Don't know	75	18.8
<b>What are the diseases that transmitted sexually?</b>		
• Complete correct answer	189	47.2
• Incomplete correct answer	23	5.8
• Don't know	11	2.8
<b>Methods used to delay pregnancy in early marriage.</b>		
• Complete correct answer	311	77.8
• Incomplete correct answer	32	8.0
• Don't know	57	14.2
<b>What are the hereditary diseases that transmitted through genes?</b>		
• Complete correct answer	330	82.5
• Incomplete correct answer	53	13.2
• Don't know	17	4.3

**Table (4)** shows the knowledge about pre-marital counseling among the studied students at post-educational program. It presents that 76.8% & 74.0% of the studied students gave complete correct answers about the concept and importance of premarital counseling respectively, while only 55.5% & 55.2% of them give complete correct answers about component of PMC and the places provide PMC, also 75.2% & 66.2% of the students give a complete correct answer about the groups that need counseling and investigations done before marriage. Regarding diseases that transmitted sexually, methods used to delay pregnancy in early marriage, and diseases transmitted through genes were 84.8%, 77.8%, and 82.5% of studied students respectively gave a completely correct answer.

**Table (5) Comparison of knowledge's mean-scores of studied samples before and after implementation of educational program (No =400)**

Items	pre	post	X <sup>2</sup>	P
	Mean ± SD	Mean ± SD		
Definition of premarital counseling.	.875±.693	1.66±.654	6.612	.001
Importance of premarital counseling.	.802±.651	1.33±.606	35.85	.001
Component of PMC.	.524±.574	1.12±.921	37.16	.001
Places designated to provide premarital counseling.	.815±.756	1.69±.844	105.6	.001
The target groups that need premarital counseling.	.842±.658	1.32±.617	27.71	.001
The investigations that required before marriage.	.922±.653	1.52±.791	47.47	.001
What are the diseases that transmitted sexually?	.752±.157	1.69±.424	31.12	.001
Methods used to delay pregnancy in early marriage.	.592±.776	1.36±.719	78.18	.001
What are the hereditary diseases that transmitted through genes?	.530±.591	1.13±.339	6.554	.001

Chi-Square test for p value.

Table (5) shows the comparison of knowledge's mean-scores of studied samples before and after implementation of educational program. It clarifies that there was a statistically significant difference in all knowledge items regarding pre-marital counseling before and after the implementation of educational program. It was noticed that the mean score of knowledge improved after the implementation of the educational program were p-value (0.001).

Figure (1): Total knowledge score about pre-marital counseling among the studied students before and after educational program implementation (No =400)

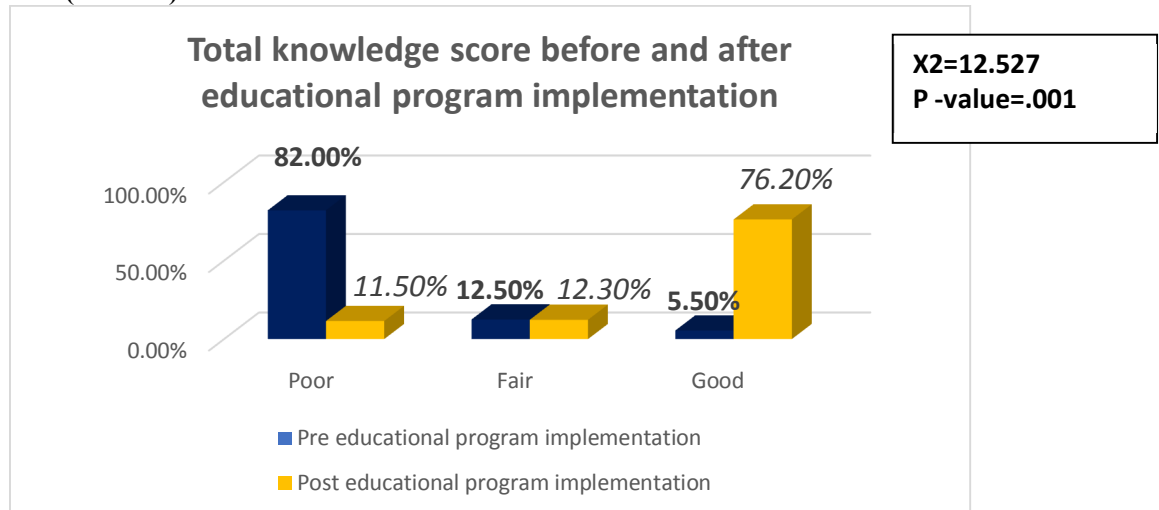


Figure (1) shows the total knowledge score about pre-marital counseling among the studied students before and after educational program implementation. It illustrates that 82% of studied students had poor level, before the implementation of educational program which decreased after implementation of education program to 5.5%. Also, there were significant relations between total knowledge score before and after implementation of educational program (P- value= .001).

Table (6) Attitude toward pre-marital counseling among the studied students at pre-educational program (No = 400)

Elements	Pre-educational program					
	Agree		Not sure		Not agree	
	NO	%	NO	%	NO	%
I am ready to attend lectures on premarital counseling and examination	66	16.5	196	49.0	138	34.5
Premarital counseling and examination are not important for both fiancés*	142	26.5	152	38.0	106	35.5
Pre-marital examination and counseling is a necessary step for a successful marriage	122	30.5	114	28.5	164	41.0
Premarital counseling and examination have an important impact on the future of the family	9	2.2	103	25.8	288	72.0
We must tell the other partner (the fiancé or fiancée) about any illnesses in the family	109	27.2	175	43.8	116	29.0
The presence of children with genetic problems does not affect the economic situation of the family*	147	36.8	119	29.8	134	33.4
Going to premarital counseling and examination is a waste of time*	164	41.0	139	34.8	97	24.2
Customs and traditions prevent me from premarital counseling and examining *	196	49.0	151	37.8	53	13.2
I will do premarital counseling and examination if it is free	166	41.5	81	20.3	153	38.2
Consanguineous marriage is not considered one of the main causes of genetic diseases*	231	57.8	83	20.8	86	21.4
Premarital counseling and examination should be done in the case of consanguineous marriage only*	217	54.3	122	30.5	61	15.2
The results of the tests are not an obstacle to consummating the marriage if they are positive*	199	49.8	108	27.0	93	23.2
It is not socially acceptable to have premarital counseling and examination *	152	38.0	161	40.2	87	21.8
Pre-marital counseling and examination should be obligatory for those wishing to marry	68	17.0	90	22.5	242	60.5
I am going to read about premarital counseling and examination	53	13.2	160	40.0	187	46.8
School curricula should not contain information about premarital counseling and examination*	227	56.8	77	19.2	96	24.0
My knowledge that my fiancé/fiancée is carrier of the disease does not affect my choice to marry him/her*	230	57.4	115	28.8	55	13.8
Embarrassment to conduct premarital counseling and examination *	241	60.3	134	33.5	25	6.2
The presence of pre-marital counseling and examination within the health insurance services encourages an increase in the percentage of those who conduct it	198	49.4	75	18.8	127	31.8
Premarital counseling and examination do not prevent the birth of children carrying genetic diseases*	223	55.8	125	31.2	52	13.0
I accept vaccination before marriage	58	14.4	183	45.8	159	39.8
Punishments must be imposed on those who did not comply with the positive examination results and complete the marriage	39	9.8	179	44.8	182	45.4

\*Item's code was reversed

Table (6) exhibits the Attitude toward pre-marital counseling among the studied students at pre-educational program. It presents that 34.5% of the studied students was disagree about attending lectures on premarital counseling, also 41.5%, 57.8%, 54.3% and 49.8% respectively agreed that they will do premarital counseling and examination if it is free, consanguineous marriage is not considered one of the main causes of genetic diseases, premarital counseling and examination should be done in the case of consanguineous marriage only and the results of the tests are not an obstacle to consummating the marriage if they are positive.

While 56.8%, 57.4% and 60.3% respectively of the studied students were agreed that school curricula should not contain information on premarital counseling and examination, knowing that their fiancés were carriers of the disease does not affect the choice to marry him and embarrassment to conduct premarital counseling and examination. Related to the presence of pre-marital counseling and examination within the health insurance services encourages an increase in the percentage of those who conduct it 49.4% respectively of the studied students were agreed about this

Table (7) Attitude toward pre-marital counseling among the studied students at post educational program (No = 400)

Elements	Post-educational program					
	Agree		Not sure		Not agree	
	NO	%	NO	%	NO	%
I am ready to attend lectures on premarital counseling and examination	347	86.8	43	10.8	10	2.4
Premarital counseling and examination are not important for both fiancés*	10	2.4	27	6.8	363	90.8
Pre-marital examination and counseling is a necessary step for a successful marriage	326	81.5	58	14.5	16	4.0
Premarital counseling and examination have an important impact on the future of the family	325	81.2	57	14.3	18	4.5
We must tell the other partner (the fiancé or fiancée) about any illnesses in the family	348	87.0	45	11.2	7	1.8
The presence of children with genetic problems does not affect the economic situation of the family *	16	4.0	50	12.5	334	83.5
Going to premarital counseling and examination is a waste of time*	11	2.8	35	8.8	354	88.4
Customs and traditions prevent me from premarital counseling and examining *	7	1.8	30	7.4	363	90.8
I will do premarital counseling and examination if it is free	340	85.0	51	12.8	9	2.2
Consanguineous marriage is not considered one of the main causes of genetic diseases*	5	1.2	12	3.0	383	95.8
Premarital counseling and examination should be done in the case of consanguineous marriage only*	29	7.2	71	17.8	300	75.0
The results of the tests are not an obstacle to consummating the marriage if they are positive*	23	5.8	29	7.2	348	87.0
It is not socially acceptable to have premarital counseling and examination *	19	4.8	67	16.8	314	78.4
Pre-marital counseling and examination should be obligatory for those wishing to marry	343	85.8	31	7.8	26	6.4
I am going to read about premarital counseling and examination	344	86.0	33	8.2	23	5.8
School curricula should not contain information about premarital counseling and examination*	16	4.0	77	19.2	307	76.8
My knowledge that my fiancé/fiancée is carrier of the disease does not affect my choice to marry him/her*	23	5.8	49	12.2	328	82.0
Embarrassment to conduct premarital counseling and examination *	34	8.5	42	10.5	324	81.0
The presence of pre-marital counseling and examination within the health insurance services encourages an increase in the percentage of those who conduct it	312	78.0	50	12.5	38	9.5
Premarital counseling and examination do not prevent the birth of children carrying genetic diseases*	25	6.3	34	8.5	341	85.2
I accept vaccination before marriage	352	88.0	35	8.8	13	3.2
Punishments must be imposed on those who did not comply with the positive examination results and complete the marriage	286	71.5	105	26.3	9	2.2

\*Item's code was reversed

Table (7) shows the attitude toward pre-marital counseling among the studied students at post educational. It presents that 90.8% of them disagreed that consultation and examination before marriage is not important for both fiancés. and 90.8% of the studied students disagreed that the presence of children with genetic problems does not affect the economic situation of the family respectively. Also 95.8% respectively of the studied students disagreed that consanguineous marriage is not considered one of the main causes of genetic diseases. Regarding pre-marital counseling and examination should be obligatory and they going to read about premarital counseling and examination 85.8% and 86.0% respectively of the studied students were agree. While 76.8%, 82.0% and 81.0% respectively of the studied students disagreed that school curricula should not contain information on premarital counseling and examination, knowing that their fiancés were carriers of the disease does not affect the choice to marry him and embarrassment to conduct premarital counseling and examination.

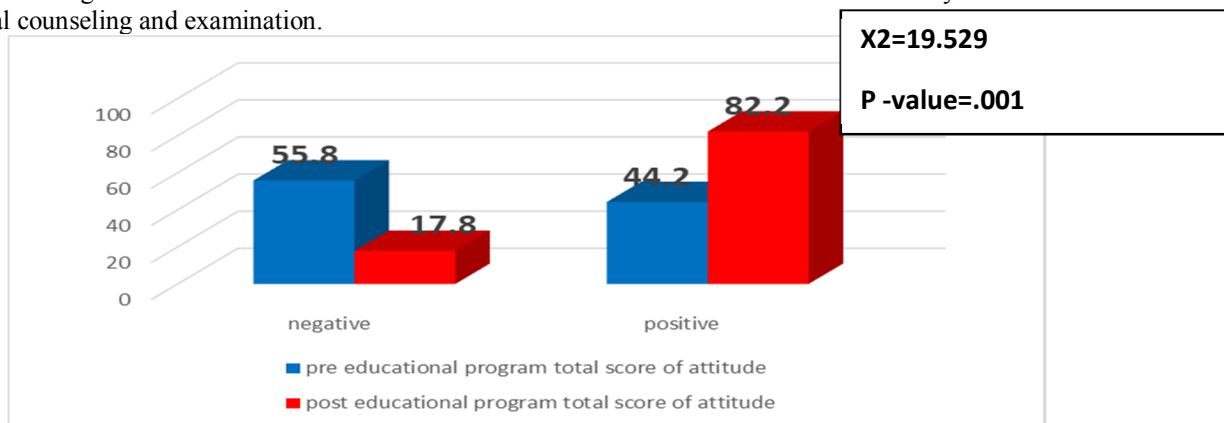
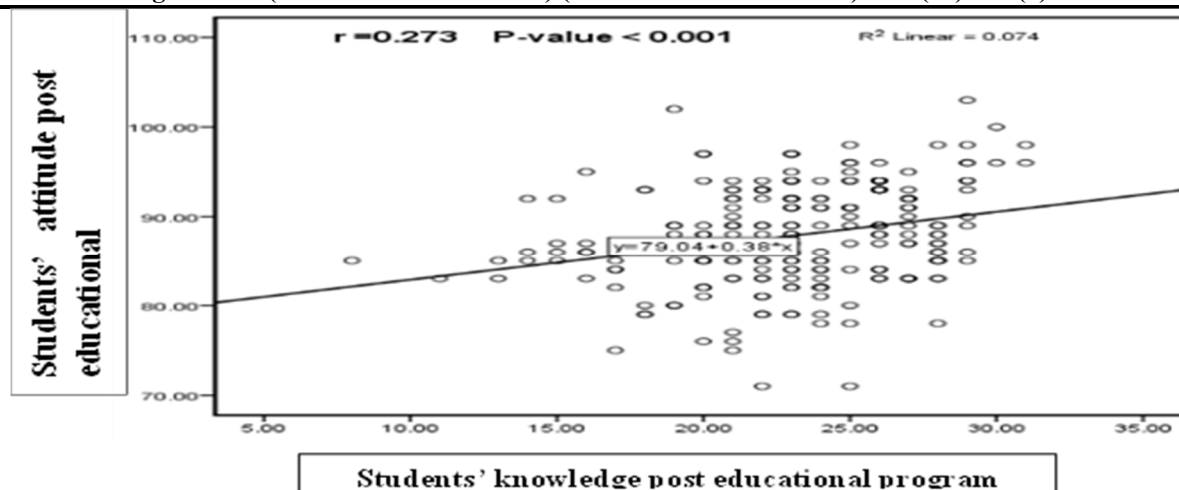


Figure (2): Total attitude score toward pre-marital counseling among the studied students before and after implementation of educational program (No=400)

Figure (2) illustrates the total attitude score toward pre-marital counseling among the studied students before and after implementation of educational program. It shows that (55.8%) of them had negative attitude before the educational program which decreased to (17.8) after the educational program. Also, there were significant relations between total attitude score before and after implementation of educational program (P- value= .001).



**Figure (3): Correlation between student’s knowledges and the attitude at post educational program.**

**Fig (3):** demonstrates correlation between student’s knowledges and the attitude at post educational program. It shows that there was a positive correlation between knowledge and attitude of the studied students at post educational test.

### Discussion

Premarital counseling is an excellent way to start a marital journey. It gives an array of fundamental skills that can be used to converse, resolve conflicts, and create a balance in relationship. It fosters respect, success in parenting, acceptance of family tribulations, sexual health and integrity toward each other’s needs by acknowledging each other’s strengths and weaknesses. By creating awareness and encouraging problem-solving the two can address issues when they arise instead of neglecting, leading to dysfunction in the relationship (Newcomb et al., 2020).

The aim of the current study was to evaluate the effect of educational program on knowledge and attitude of technical school students regarding premarital counseling

The current study revealed that less than one half of participants were in the age group 18 years. As regards the residence more than one half of them were live in rural area, one half of the studied students were engaged and more than one half of them had a degree of kinship with finances. According to participants’ fiancé, father and mother’s the level of education nearly two third, one half and one third had secondary technical respectively.

The present study shows that more than three quarter of the studied sample did not receive any official training about premarital counseling and examination. In the investigator point of view this may be due to the nature of our community forbidden the speech in these topics. Also, they did not know about the places provide premarital counseling.

These findings were in harmony with Kabbash et al., (2019) who stated that the majority of the participants did not receive any official training about premarital counseling and examination. This result agrees with the study of AL Kindi et al., (2012) who clarified in his study about knowledge and attitude of university students towards premarital screening program in Oman that most of participants heard about premarital screening, but half of them were unaware of premarital testing and not receive any official training about premarital counseling and examination previously.

The current study clarifies that before the program implementation, half of the studied sample gave incomplete correct answers about the concept and importance of PMC, while half as well as more than one third of them did not know about component and places provide PMC, also one half

of the studied sample of the students give an incomplete correct answer about the groups that need counseling and investigation done before marriage. In the researcher opinion this is because the illiteracy about premarital counseling and ignorance about the places providing it.

These results were in congruence with AL-Farsi, (2014) who stated that few of participants reported a complete correct answer about the groups that need counseling and investigation done before marriage and they also were willing to use free premarital counseling and express their awareness of premarital investigations and knew about places providing premarital counseling and investigations. Also, agreed with AL Kindi et al., (2012), who showed that their participants had inadequate knowledge about premarital screening test.

These results disagree with Kabbash et al., (2019) who mentioned that the majority among participants reported a complete correct answer about the groups that need counseling and investigation done before marriage and they also were willing to use free premarital counseling.

The current study clarifies that more than half of studied students reported that they did not know about diseases that transmitted sexually, methods used to delay pregnancy in early marriage, and diseases transmitted through genes before the program implementation. In the researcher opinion because of the illiteracy about premarital counseling and testing these services uncommon.

This result parallel to the study of Osman et al., (2021) who discovered that the majority of studied students had incomplete information about PMC which include check health status of both couples, detection of hereditary and genetic diseases, production of healthy offspring, decrease transmission of STDs & infectious diseases and saving marriage.

The current study shows that about three quarter of the studied students gave complete correct answers about the concept, importance of premarital counseling, the target groups that need premarital counseling and methods used to delay pregnancy in early marriage, while only more than half of them gave complete correct answers about component of PMC and the places provide premarital counseling, also nearly two thirds of the students gave a complete correct answer about the investigations that required before marriage, in addition, the majority of them gave a complete correct answer diseases that transmitted sexually and hereditary



diseases that transmitted through genes. In the investigator opinion this result due to the improvement that occur after the educational program that make them feeling by the importance of premarital counseling.

This result paralleled with **Kabbash et al., (2019)** who stated that the majority gave correct answers about the concept and importance of premarital counseling; moreover half of the participant gave correct answers about the places provide premarital counseling. This result in agreement with the study of **Yonus & Kashmoola, (2020)** who indicated that two third of the study sample gave correct answers about the concept and importance of premarital counseling, two thirds of the participant were correct answers about investigations that required before marriage.

These results were come in accordance with **Ali et al., (2018)**, who reported that less than two thirds of participants had completed information about importance of PMC. Farther more studies by **Abou Elyazid et al., (2014)** who found that the majority of participants considered PMC was important in preventing genetic blood disorders. This result paralleled with **AL-Farsi, (2014)** who stated that the majority of students knew about places providing premarital counseling and vaccination. This was in accordance with **Farahat et al., (2014)**, who showed that high frequency of participants was more knowledgeable about importance of PMC.

The current study reveals that before the implementation of educational program the knowledge was more than three quarter of studied students had poor level of knowledge, less than eighth of them had fair level knowledge regarding premarital counselling. This is rationalized by lack of experience and social stigma, ignorance about where to seek care and poor treatment by service providers. While after program implementation less than two thirds of the participant had good level of knowledge and one quarter of them had excellent of knowledge about PMC. In the investigator opinion this may be due to improve the level of knowledge after the educational program.

These findings were similar to **Farahat et al., (2014)** who conducted a study in Menoufiya University, and stated that the students' knowledge was low before the educational program about premarital counseling and their knowledge improved after implementation of educational program. Also, **Ali et al., (2018)**, who reported that less than two thirds of males and females nursing students had good knowledge about premarital screening and genetic counseling. On the same line a study performed by **Al Kindi et al., (2019)** who mentioned that awareness and attitude towards the premarital screening program among high school students, and found that the majority of students had good awareness and knowledge about the premarital screening.

The current study shows that there was a statistically significant difference in all knowledge items regarding premarital counseling between before and after the execution of educational program. It was noticed that the mean score of knowledge improved after the implementation of the educational program. In the investigator point of view this is due to the positive effect to the educational program that increase the knowledge after the implementation of the educational program

This result was agreed with **Parhizgar et al., (2017)** who indicated that there was highly statistically significant difference in knowledge regarding pre-marital counseling

between before and after the implementation of educational program

The current study showed that before program implementation about three quarter of them disagreed that premarital examination and counseling is a necessary step for a successful marriage and it has an important impact on the future of the family. In the investigator point of view this due to illiteracy and poor knowledge about the importance of premarital examination and counseling and its impact on them. So, investigator recommended by continuous educational programs about the importance of pre-marital examination and counseling

This result agreed with **He et al., (2017)** who stated that the study participants were disagreed that pre-marital examination and counseling is a necessary step for a successful marriage and it has an important impact on the future of the family. This result was against with **McGhee et al., (2021)** who stated that the majority of the study sample agreed that pre-marital examination and counseling is a necessary step for a successful marriage and it has an important impact on the future of the family.

The current study stated that nearly half of students were agreed that consanguineous marriage is not considered one of the main causes of genetic diseases, premarital counseling and examination should be done in the case of consanguineous marriage only before program implementation. The interpretation of investigator this might be due to illiteracy about causes of genetic diseases.

Similarly, these results were agreed with **Al-Nood et al., (2016)**, who mentioned that half of the participant agreed that premarital counseling and examination should be done in the case of consanguineous marriage only which is similar to results of the present study where the high percent of students agreed that premarital counseling and examination should be done in the case of consanguineous marriage only before program implementation.

These results were against with **Bostani Khalesi & Simbar, (2017)** who demonstrated that majority of study sample believed that consanguinity can increase the risk for genetic diseases. Also, this result opposite with **Al-Aama, (2010)** who concluded that consanguineous marriage is considered one of the main causes of genetic diseases.

Regarding pre-marital counseling and examination should be obligatory the current study indicated that nearly two third of them disagreed with this. Less than half of the students disagreed that they going to read about premarital counseling and examination. In the investigator opinion this result might be due the shame of premarital counseling and examination and the Egyptian norms and beliefs that refuse this counselling.

These findings were consistent with **Al-Nood et al., (2016)** who stated that the study sample disagreed that premarital counseling and examination should be obligatory. These findings was in consistent with the study of **Gomes et al., (2019)** who enumerated that the majority of the study sample reported that pre-marital counseling and examination should be obligatory and they were not read about premarital counseling and examination.

The current study indicated that more than half of the studied students were agreed that school curricula should not contain information about premarital counseling and examination, knowing that their fiancés were carriers of the disease does not affect the choice to marry him and embarrassment to conduct premarital counseling and

examination. In the investigator opinion this result might be due our old beliefs that talking about this topic was prohibited.

These findings were in consistent with **Alsaed et al., (2018)** who stated that the majority of the study sample was disagree about conduction of similar educational programs and didn't want to add PMC in the curriculum of secondary and university education before the educational program. These findings were agree with **Sharma & Narang, (2020)** who stated that the study participants were agreed that school curricula should not contain information on premarital counseling and examination, knowing that their fiancés were carriers of the disease does not affect the choice to marry him and the word of premarital counseling and examination prevents it from taking place.

The current study shows that the majority of the studied students was agree about attending lectures on premarital counseling, while the majority of them disagreed that premarital counseling and examination are not important for fiancés after the educational program. In the investigator opinion these results prove that the educational program was success to make them more concerned by premarital counseling.

This result in the same line with **Norton & Tan, (2019)** who found that the majority of participants attending lectures on premarital counseling and agreed on the importance of premarital screening. This agreed with the study of **Kotb et al., (2018)** who stated that most of participants attending lectures about premarital screening. Similarly to this study such as those by **Bansiwal et al., (2018)** who demonstrated that the majority of participants attending lectures about premarital screening women were more oriented and more knowledgeable with important health issues related to premarital genetic screening than men which reflected on their better attitude.

On the other hand, before the program implementation the current study showed that more than three quarter of the studied students disagreed that the presence of children with genetic problems does not affect the economic situation of the family, going to premarital counseling and examination are a waste of time and customs and traditions prevent them from premarital counseling and examining. In the investigator opinion this result due to fear of stigma when discovered diseases before marriage

This results were in congruent with **Li et al., (2017)** who stated that the presence of children with genetic problems affect the economic situation of the family, going to premarital counseling and examination weren't a waste of time its beneficial to prevent genetic problems.

Also, after the program implementation the current study shows more than three quarter of them agreed that they will do premarital counseling and examination if it is free. Moreover, more than three quarter of the studied students disagreed that consanguineous marriage is not considered one of the main causes of genetic diseases, premarital counseling and examination should be done in the case of consanguineous marriage only, the results of the tests are not an obstacle to consummating the marriage if they are positive and pre-marital counseling and examination is not socially acceptable. In the researcher opinion this result due to lack of awareness about genetic diseases and a misunderstanding of the impact of genes on their health.

This result was opposite with **Al Sulaiman, (2010)** who found that the majority of the study sample agreed that consanguineous marriage is considered one of the main causes

of genetic diseases, premarital counseling and examination should be done.

Regarding the presence of pre-marital counseling and examinations within the health insurance services encourages and increase in the percentage of those who conduct it the current study showed that more than three quarter of the studied students were agreed to conduct it if these services become on the health insurance after the program implementation. In the investigator point of view this result due to the majority of the Egyptian used to the service of the health insurance. So, the presence of pre-marital counseling within the health insurance services encourages those who conduct it.

This result similar to **Arluck & Mayhew, (2018)** who found that the majority of the study sample was agree that the presence of pre-marital counseling within the health insurance services increase in the percentage of those who conduct it.

The current study clarifies that more than half of studied students had negative attitude regarding premarital counselling before the implementation of education program. In the investigator opinion this result might be due to poor student level of knowledge that led to negative student attitude.

These findings were in agreement with **Osei-Tutu et al., (2020)** who indicated that the majority of the study sample had negative attitude before the implementation of education program and there was improvement after the program. These findings were contradicted with **Sulaiman, (2020)** who indicated that the majority of the study sample had positive attitude before the implementation of education program.

The current study revealed that more than three quarter of studied students had positive attitude regarding premarital counselling after the implementation of education program. In the investigator opinion this may be due to increasing information level after program. The information affects the attitude level of the individuals.

This result agreed with **Kabbash, (2019)** who found that students' attitude was positive in the post-test approved the importance of premarital counseling. Also were similar to **Razavi et al, (2018)** who stated that the participants had a good score of attitude regarding premarital counseling, the majority of students were willing to use free premarital counseling and the majority of them agreed that premarital counseling and testing can detect hereditary diseases and sexually transmitted infections. On the same line study of **AL-Farsi, (2014)** who clarified that a Syrian study reported that, students had positive attitude toward other aspects of premarital counseling.

These findings were similar to **Mohamed et al., (2015)** who concluded that half participants were expressed favorable and positive attitude toward premarital screening and counseling. These findings agreed to **AL Kindi et al., (2012)** who indicated in his study of knowledge and attitude of university students towards premarital screening program in Oman proved that the participants' knowledge and attitudes towards premarital counseling were favorable, where the majority believed that premarital counseling is important and agreed to carry it out in the future. The majority of the participants reported that they will perform premarital counseling to prevent transmission of diseases to their children. This reflects that the participants had a good understanding of the preventive value of premarital counseling after implementation of the program.

This results in consistent with **Al Sulaiman, (2010)** who showed that there was a positive attitude towards the program. While These findings contrast to **Bostani Khalesi & Simbar, (2017)** who conducted among nursing students showed that two third of them had a negative attitude towards premarital counseling.

The current study demonstrated that there was a positive correlation between knowledge score and attitude score of the studied students at post educational test. In the investigator opinion this due to the improvement on the knowledge level of students which influence on their attitudes. So, there are relation between knowledge and attitudes.

This result come in accordance with **Matney, (2019)** who reported there were a positive correlation between knowledge and attitude of the studied students at post educational test, Also this result in the same line with **Shreffler et al., (2020)** who indicated in his study that there are positive correlation between knowledge and attitude of the studied students at post educational test.

## Conclusion And Recommendations

### Conclusion:

Implementation of educational program was effective in improving Knowledge scores and attitude of technical school student for premarital counseling

### Recommendation:

**Based on the findings of the current study, the following recommendations are suggested.**

- Providing continuously health education programs about premarital counseling in every technical school because those target group of students marry during or early after finishing school so these programs are very useful for them
- Incorporate information about premarital counseling and examination in school curriculum
- Conducting a comparative study between the children of the couples who receive premarital counseling and the children of the couples not received premarital counseling.
- Conducting educational workshops and periodical programs to all people to increase their knowledge and attitude regarding the premarital counseling and examination.
- Provide health education about premarital counseling to all couples during their attendance for the health certification before the marriage.

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