

Knowledge and perception about premarital exam and the results of their investigations among couples attending for this test in Hilla city 2016

Dr. Rafal Bassim Abdul Hussien^{1*}, Dr. Ohood Mardan Merhije²,
Abdul Ameer, Atheer J.³

Author's Information

1.M.B.Ch.B, FICMS.
2.M.B.Ch.B, FICMS.
3.College of Medicine
Al-Nahrain University

Corresponding author:

Dr. Rafal Bassim Abdul Hussien
rafalbassim80@gmail.com.

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ABSTRACT

Background: Health counseling before marriage can be a most satisfying aspect of preventive medicine. Premarital Health Care is considered a component of preconception care.

Objective: To assess the knowledge and perceptions and their relation with socio-demographic factors of couples and described their investigations results at clinic.

Methods: A cross sectional and analytic study were carried out on 500 couples attending the premarital care clinic at Hilla Teaching Hospital from 1st July to 1st October 2016. The information was collected by interviewing them. The questionnaire consist of three main parts: the first part about socio-demographic data, the second part dealt with the participants' knowledge and perceptions about the premarital health care screening program and the third part about the investigation results.

Results: Association of their knowledge and perceptions with socio-demographic and other factors was analyzed with screening program (recording hemoglobin, mean corpuscular volume (MCV), virology screening (HBV, HCV and HIV), ABO Blood group and Rh and VDRL of couples). The majority of participants of both genders had a good perception toward premarital screening and showed a significant increase in knowledge among them about premarital screening as with increase in age and with more education years. But the vast majority of the participants of both gender had a significant lack in knowledge about the procedures of the test and types of the screened diseases. A vast majority of the participants believed it is important to do Premarital Health Care Screening with good perceptions toward it but inadequate knowledge about the contents of the program.

Conclusion: Most of the participants have heard about PMCS, and had positive perception toward it as they believed about their usefulness and the role of PMCS in preventing different diseases. The knowledge and perception were significantly affected by the age of participants of both gender and their educational level.

Keywords: Knowledge, perception, premarital exam, Hilla city

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1. INTRODUCTION

Premarital Health Care (PMHC) is the promotion of the health and well-being for a woman and her partner before pregnancy; it is considered as the primary preventive approach for couples planning for conception (1); it can identify and modify behavioral, medical, and other health risk factors known to impact pregnancy outcomes through prevention and management (2, 3). It is considered a step towards saving the society and allowing people to enjoy life (4).

PMHC is considered a component of preconception care, which is a primary approach used to address various health issues and emerging national challenges. A healthy baby and a healthy mother are valued hopes and dreams of families and cultural heritages across the world (5). Health counseling before marriage can be a worthwhile and a most satisfying aspect of preventive medicine. One important aspect of PMHC is genetic counseling (6).

PMHCS reduces the number of offspring that may be affected by a disorder, by defining the need for treatment (e.g. phenylketonuria) or assisting the couple to decide whether or not to avoid pregnancy in the presence of a high risk abnormality (7).

Healthy marriage is defined as state of agreement and harmony between the marriage partners with regard to the healthy, psychological, sexual, social, and legislative aspects, aiming at making a sound family and begetting healthy, happy children. Hereditary or contagious diseases can disturb life leading to social, economic and psychological, problems as well as medical complications with their reflection on the patient, the family and the society (8).

The objectives of the study are:

1. To determine the knowledge and perception about premarital exam among couples attending for PMHC in Hilla city.
2. To identify the relation of socio-demographic factors that may influence the perception among couples who attended premarital counseling clinics.
3. To describe the results of investigations among couples attending for this test

2. METHODOLOGY

Study design:

A cross sectional design and analytic study were used to conduct this study.

Study Setting:

The data were collected in the premarital counseling clinic of the Department of Medicine at Al Hilla teaching hospital during the period from 1st July to 1st October 2016, two days weekly, 5 hours per day.

Target population:

The study was carried out on couples aged equal and more than 14 years old attending the premarital care clinic at Hilla teaching hospital.

Sampling and sample size:

A consecutive sample of all those attending for premarital health care during the data collection period of three months in a rate of 2 days per week (about thirty to forty participants/week) The sample size was estimated from the mean monthly number of couples attending this clinic for previous months which was about 400-500 monthly.

Ethical approvals:

Official approvals were obtained from the administrative of the selected Premarital Health Care Counseling (PMHC). A verbal consent obtained from the couples of study participants.

Study Tools:

The investigator collected the data by interviewing the participants and fill out a questionnaire that was specifically designed for this study by the researcher and her supervisor. The questionnaire covered independent (age, gender, etc.) and dependent variables (knowledge and perceptions on medical and social ideas pertaining to premarital health care (PMHC), and validated Scientific Medical Committee.

Questionnaire: (Appendix)

The questionnaire enquired about the socio-demographic characteristics of the participants including: age, years of education, occupation, residency (urban or rural), for both couples asking about family history of thalassemia, sickle cell disease, hemophilia, or other hereditary hematological disease, diabetes mellitus type 1, mental handicap from birth, glucose-6-phosphatase deficiency.

Occupation of male participants was classified (self-employee, professional, student, or government employee) while female participants' occupation was classified (housewife, professional, student, or worker).

Biochemical laboratory methods:-

Each couple was assessed for having anemia by measuring their hemoglobin and mean corpuscular volume (MCV) in blood sample taken from each participant.

Hemoglobin is a commonly performed clinical assessment frequently used in surveys of anemia while mean corpuscular volume may be helpful in the determination of type of anemia so they are acceptable and recommended method for anemia determination (9).

They were performed by well-trained health personal; blood was taken by peripheral intravenously of the arm. Done by auto analyzer device (Emerald Company/France).

The prevalence of anemia was determined by using the cut off values considering participant's sex according to WHO study group on nutritional anemia (9). For the the cut off values used to define mild, moderate and severe anemia were first presented in the 1989 guide preventing and controlling anemia through primary health care (10). Abnormal mean corpuscular volume (MCV) was determined by comparison with the reference values of (MCV) for males and females as it is not influenced by sex but by age, and the result is reported in femtolitre (fL=10-15 L) according to the cutoff values reported in clinical literature (11).

Statistical analysis:-

Data entry and analysis was done using Statistical Package for Social Sciences SPSS version 24. Mean, standard deviation and frequency were calculated. The association between knowledge and sociodemographic factors (age groups, education level and gender) was calculated by Chi square test or Fisher's Exact Test whenever applicable. P value of less than 0.05 was considered significant statistical inference.

Limitations of the study:-

1. There were about 169 missing results of Hb and MCV investigation out of 500 couples' due to non-working device.
2. The collected data was mostly of couples from city center and surrounding areas.

3. RESULTS

The mean age of males was 25.51 ± 7.18 years; with their mean years of education were 8.93 ± 4.60 years. While the mean age of females was 20.84 ± 5.64 years and their mean years of education was 9.17 ± 5.71 years. Most of the males 370 (74%) were self-employed and most of the females 361 (72.2%) were housewives. Residency of urban areas was slightly more in males but females were more from rural areas (50.6% urban men versus 42.8% urban women). Both males and females reported very few positive family histories of diseases.

Moreover, distribution of the blood groups of the 500 couples showed that blood group of type O was the most prevalent type 178 (35.6%) and 157 (31.4%) for males and females respectively, followed by blood group type A. While Rh positive type for males and females were 454 (90.8%) and 457 (91.4%) respectively (**Table 1**).

Asking male participants about their knowledge and perception regarding premarital health care, findings showed that 449 (89.8%) heard about PMHC before they planned for marriage, 495 (99.0%) of them supported having investigations, 494 (98.8%) believed of their usefulness and 484 (96.8%) didn't think these procedures were boring routine. About two thirds of them 332 (66.4%) believed that consanguineous marriage increases the risk of genetic diseases while one fifth 95 (19.0%) didn't know about it. Almost all of them 497 (99.4%) believed wrongly that these investigations assess their fertility. However, 374 (69.4%) thought these positive results will not affect their marriage decision. Most of them 489 (97.8%) were ready to advice relatives and friends who would plan for marriage to go through investigations first, as well as 487 (97.4%) refused any assistance by acquaintances working in the health centers to fake or give their results without going through the entire investigation procedures and only 13 (2.6%) approved that. Most of males 493 (98.6%) believed that investigation and diagnosis before marriage will prevent different diseases, and only 14 (2.8%) wouldn't do these investigations if they weren't obliged by the court to do them (**Table 2**).

Asking female participants about their knowledge and perception regarding premarital health care, finding showed that 437 (87.4%) heard about PMHC before they planned for marriage, 489 (97.8%) of them supported having investigations, 488 (97.6%) believed of their usefulness and 475 (95.0%) didn't think these procedures were boring routine. About two third of them 332 (66.4%) believed that consanguineous marriage increases the risk of genetic diseases

while one fifth 97 (19.4%) didn't know about it. Only 5 (1.0%) didn't believe that these investigations assess their fertility, However, 287 (57.4%) thought the positive results of these investigations will not affect their marriage decision. Most of them 491 (98.2%) were ready to advice relatives and friends who plan for marriage to go through investigations first, 481 (96.2%) refused. Any assistance by acquaintances working in the health centers to fake or give their results without going through the entire investigation procedures and only 18 (3.6%) approved that. High rate of the participants 485 (97.0%) believed that investigation and diagnosis before marriage will prevent different diseases, and only 14 (2.8%) wouldn't do these investigations if they weren't obliged by the court to do them (**Table 3**).

Only 331 couples did the Hb and MCV tests, mild anemia were found in 8 (2.4%) males and 49 (14.8%) females, and moderate and severe anemia was found among females only forming 28 (8.5%) and 1 (3.02%) respectively. On the other side, normal MCV level was found in 233 (74.4%) and 151 (45.6%) males and females, respectively (**Tables 4**). No HIV, no HCV and VDRL cases were diagnosed and only two cases of HBV were diagnosed among males. Analysis of the relationship of participants' age, education level, and gender with their knowledge and perception towards pre-marital health care was performed; and showed a significant association between participants' age and hearing about PMHC before marriage as the knowledge increased with being older in age ($P=0.001$), While no such relation was found with all other questions except for questions 5 and 7 where a statistically significant association ($P=0.01$) was found among the perception of participants regarding the risk to have genetic disease as a result of consanguineous marriage, of which the rate of participants knowing this information increased with increasing age, while about one third of the youngest age group < 15 years old 22 (31.4%) didn't know the answer of this question. On the other hand, a statistically significant relation ($P=0.025$) was found among participants' age and their perception about investigation results if revealed positive, may affect their marriage decision as with being older. (**Tables 5**).

A significant association was found between participants' education and hearing about PMHC before marriage as the knowledge increase with having more education years $P= 0.0001$, Regarding if they had any acquaintance, they would refuse asking to fake or get results without going through the entire investigation procedures, a significant association ($P= 0.003$) was

found with participants' education level as the illiterate participants had the highest rate to accept this attitude. As well as a statistically significant association ($P= 0.00001$) was found among the perception of participants about consanguineous marriage might increase the risk of having genetic diseases with increasing the education level, while only 13 (44.8%) of illiterate participants had knowledge about it and 10 (34.5%) of them didn't know about it, all these findings are summarized in (Table 6).

Regarding the relation of knowledge and perception of participants with the gender of the participant, a statistically significant association ($P=0.0001$) found among the perception of participants about question (7) asked whether the positive investigation results could affect marriage decision mostly females 157 (31.4%) were significantly more than males 132 (26.4%) agreed on this attitude, while no such significant relation was found with all other questions (Table 7).

Table 1. Blood grouping and Rh typing distribution of participants

Variable		Male (n=500)		Female (n=500)	
		No.	%	No.	%
Blood group	A	151	30.2	157	31.4
	B	125	25	139	27.8
	AB	46	9.2	47	9.4
	O	178	35.6	157	31.4
Rh Typing	Positive	454	90.8	457	91.4
	Negative	46	9.2	43	8.6

Table 2. PMHC Knowledge and perception of male participants (N=500)

Questions*	YES		No		Don't know	
	No.	%	No.	%	No.	%
Have you heard of PMHC before you started planning for marriage?	449	89.8	51	10.2	-	-
Do you support having investigations and diagnosis?	495	99	2	0.4	3	0.6
Is having a premarital investigations and diagnosis useful?	494	98.8	3	0.6	3	0.6
Is having these procedures a boring routine required by the court?	13	2.6	484	96.8	3	0.6
Does consanguineous marriage increase the risk of having genetic diseases?	332	66.4	73	14.6	95	19
Do these investigations assess your fertility?	495	99	3	0.6	2	0.4
Will the positive investigation results affect marriage decision?	132	26.4	347	69.4	21	4.2
Do you advice relatives and friends who are getting married to go through investigations first?	489	97.8	11	2.2	-	-
If you have any acquaintance, would you ask them to fake or give you results without going through the entire investigation procedures?	13	2.6	487	97.4	-	-
Will having investigation and diagnosis before marriage prevent different diseases?	493	98.6	4	0.8	3	0.6
If you weren't obliged by the court to do this test, will you investigate?	486	97.2	14	2.8	-	-

*Questions are ordered from Q1 - Q11 sequentially

Table 3. PMHC Knowledge and perception of female participants (N=500)

Questions*	YES		No		Don't know	
	No.	%	No.	%	No.	%
Have you heard of PMHC before you started planning for marriage?	437	87.4	62	12.4	1	0.2
Do you support having investigations and diagnosis?	489	97.8	4	0.8	7	1.4
Is having a premarital investigations and diagnosis useful?	488	97.6	4	0.8	8	1.6
Is having these procedures a boring routine required by the court?	18	3.6	475	95	7	1.4
Does consanguineous marriage increase the risk of having genetic diseases?	332	66.4	71	14.2	97	19.4
Do these investigations assess your fertility?	489	97.8	5	1	6	1.2
Will the positive investigation results affect marriage decision?	157	31.4	287	57.4	56	11.2
Do you advice relatives and friends who are getting married to go through investigations first?	491	98.2	6	1.2	3	0.6
If you have any acquaintance, would you ask them to fake or give you results without going through the entire investigation procedures?	18	3.6	481	96.2	1	0.2
Will having investigation and diagnosis before marriage prevent different diseases?	485	97	5	1	10	2
If you weren't obliged by the court to do this test, will you investigate?	484	96.8	14	2.8	2	0.4

*Questions are ordered from Q1 - Q11 sequentially

Table 4. Distribution of hemoglobin values for males and females

	Males (N= 331)		Females (N=331)	
	No.	%	No.	%
Hb level*				
Normal	323	97.6	253	76.4
Mild	8	2.4	49	14.8
Moderate	0	0	28	8.5
Severe	0	0	1	3.02

*For males Normal Hb level : >13 g/dl, Mild: 11-12.9g/dl

For females: Normal: >12 g/dl, Mild 11-11.9 g/dl

For both genders Moderate: 8-10.9g/dl and severe < 8 g/dL

Table 5. Relationship between Age and Knowledge and Perception of participants

Questions Answer		Age (years)					
		≤15	16-25	26-35	>35	Total	P. value
		No.	No.	No.	No.	No.	
Q1	Yes	59	573	207	47	886	0.001
	No	11	90	9	3	113	
Q2	Yes	68	651	215	50	984	0.213*
	No	1	3	1	1	6	
Q3	Yes	69	649	214	50	982	0.417*
	No	0	4	2	1	7	
Q4	Yes	0	22	8	1	31	0.469*
	No	69	632	208	50	959	
Q6	Yes	69	651	213	51	984	0.793*
	No	0	5	3	0	8	

Table 6. Relation of Education with Knowledge and perception of participants

Questions Answer		Education level				Total	P. value
		None	1 – 6	7 - 12	>12		
		No.	No.	No.	No.	No.	
Q1	Yes	19	338	259	270	886	0.0001
	No	10	63	30	10	113	
Q2	Yes	25	393	286	280	984	0.111*
	No	1	3	2	0	6	
Q3	Yes	26	392	284	280	982	0.221*
	No	0	3	4	0	7	
Q4	Yes	2	12	9	8	31	0.0601
	No	24	384	279	272	959	
Q6	Yes	25	397	286	276	984	0.352*
	No	0	1	3	4	8	
Q8	Yes	27	292	285	276	980	0.578*
	No	1	8	4	4	17	
Q9	Yes	4	15	6	6	31	0.003
	No	24	387	283	274	968	
Q10	Yes	26	390	283	279	978	0.182*
	No	1	3	4	1	9	
Q11	Yes	28	390	279	273	970	0.714
	No	0	11	10	7	28	

Table 7. Relation of Gender with knowledge and perception of participants

Questions	Answer	Gender		Total	P. value
		Male	Female		
		No.	No.	No.	
Q1	Yes	449	437	886	0.27
	No	51	62	113	
Q2	Yes	495	489	984	0.45*
	No	2	4	6	
Q3	Yes	494	488	982	0.72*
	No	3	4	7	
Q4	Yes	13	18	31	0.31
	No	484	475	959	
Q5	Yes	332	332	664	0.976
	No	73	71	144	
	Don't know	95	97	192	
Q6	Yes	495	489	984	0.51*
	No	3	5	8	
Q7	Yes	132	157	289	0.0001
	No	347	287	634	
	Don't know	21	56	77	
Q8	Yes	489	491	980	0.33
	No	116	6	17	
Q9	Yes	13	18	31	0.36
	No	487	481	968	
Q10	Yes	493	485	978	0.751*
	No	4	5	9	
Q11	Yes	486	484	970	0.99
	No	14	14	28	

*Fisher's exact test used in comparison, the remaining compared with chi square test

4. DISCUSSION

Premarital counseling and examination are gaining an increased attention now days. It is one of the most important strategies for prevention of genetic disorders, congenital anomalies, and several medical psychological marital problems (12). The aim of this study was to explore and compare the knowledge and perception about premarital counseling among couples attended premarital health care clinic in the department of medicine at Al Hilla teaching hospital. The current study showed the mean $\pm$ SD age of participants attended the PMHC Center was 23.12 ± 6.58 years this is close to a study conducted in Oman were participants attended PMHCC mostly at age 20-25 years within a range 20-35 years old (13).

On the other hand, the educational level of females' participants attended PMHCC in this study was slightly higher than males' and this was inconsistent with most studies because they targeted on students with level of education according to the stages of colleges or classified as high school level and graduate and above. While the occupation for males' participants the vast majority of whom in this study were self-employee 74.0% and approximately the same for females' participants 72.2% who were housewives this explain difficulty of employment in Iraq related to economic problems, this unlike the study in Oman, the higher percentages of males and females' participants were employed 84.9% and 50.9% respectively (13).

For residency of males' participants in the current study the percentages of urban 50.6% more slightly than rural 49.4% while the percentages of rural residents among females 57.2% more than urban 42.8%, this study is consistent with a study in Saudi Arabia that involved evaluating premarital screening knowledge in Saudi students, where Saudi students showed a small variable percentages between urban 45.7% and rural 47.0% for participants of both sex (14). The present study showed that only 1.8% of males' and 2.6% of females' participants reported presence of family history of hereditary diseases, this study unlike to a study in Oman showed that 36.0% and 8.0% of students reported presence of family and personal histories of hereditary disorders, respectively (15).

In the current study most of the males' and females' participants heard about PMHC and this is consistent with the Omani study (13) and Syrian study (16). Majority of males' and females' participants supported having investigation and diagnosis, this study when compared with another study in Oman showed the majority of the participants (84.5%) believed that PMCS is necessary while about half of them supported the view of making PMCS compulsory (13).

The current study showed that majority participants of both genders explain the usefulness of this program because of preventing different diseases and this study similar to another study in Egypt, Menoufia University where carried out on practical students agreed about the usefulness and necessity of the services, more than theoretical students (17).

This study showed vast majority of participants of both genders weren't considering these procedures a boring routine required by the court this finding is similar to what a study in Saudi Arabia found that most Saudi students' perception of both sex in Jazan University supported doing this test to control and reduce hereditary diseases (14).

According to this study majority participants had knowledge about the increased risk of having genetic diseases related to consanguineous marriage, the same finding was in a study in Saudi Arabia majority of participants of both sex were strongly agreed 36.9% and 44.0% had attitudes that consanguinity may lead to hereditary diseases (18).

The present study showed that majority participants didn't know about the constituents of the program and what type of blood tests that were done as it was clearly showed that a high percent of participants of both gender said wrongly that the PMHC assess the fertility, and this was comparable to what the Omani study found "Although most of the participants in this study heard about PMCS, half of them were unaware of premarital testing" (13). However, the study of Saudi students was inconsistent with this study findings were vast majorities 85% of both sex reported to control and reduce hereditary disorders and infectious diseases, had a good knowledge about what included in the program (51). This gap in knowledge may be related to the target population.

In this study the perception of participants of both genders about marriage decision changes with the positive investigation results an showed that most of them will not change their marriage decision with positive results in contrast to a study in Oman where carried out on Omani students more than half of them will change decision about marriage based on PMCS results (15), and that was seen in Jeddah, Saudi Arabia study also were two thirds will change marriage plans (18). A vast majority of participants of both genders were ready to advice their relatives and friends to do these investigations first in the future this study like a study in Oman, most participants of both sex will advise future spouse to do PMCS (13).

The current study revealed that majority of participants of both genders refused to ask any acquaintance working in the health centers to fake or giving them results without doing the entire investigation procedures, for my knowledge, this finding was not reported by any other study reviewed.

In the present study many participants of both genders knew well that the investigation and diagnosis when it is done before marriage would prevent different diseases and this was like a finding in a study in Oman where participants of both sex knew that PMCS may reduce spread of hereditary diseases (13).

Also this study showed the majority of participants of both genders had a good perception with attending PMHCS even if they weren't obliged by the court. And this finding was also not reported in any other study for my best knowledge.

For infectious diseases only two cases out of 1000 (0.5%) who were two males, neither hepatitis C nor HIV were diagnosed, and this was less than the rate reported by a study in Saudi Arabia, as the infections (HBV, HIV and HCV) were diagnosed by the program among (740,667 participants) in 1.67% of the couples (18).

For investigation results of 500 couples it was revealed that females had anemia with various level (mid, moderate and severe) more than males who had only mild level.

The same for mean corpuscular volume (MCV) where low values less than 83 fl was more in females than males, but these results as such were of limited value because the PMHCS required equipment for Hb electrophoresis for screening of carriers for hereditary diseases like thalassemia and sickle cell anemia.

The result of this study showed a significant association of age of participants and hearing about PMHC before started planning for marriage so they had a good knowledge that is increased as their age increased where age group with the lowest percentage of hearing about PMHC were aged fifteen years or less (had least knowledge). And this finding was also not reported in any other study for my best knowledge regarding the age and hearing about the program.

In the present study a significant association ($P = 0.01$) was found among participants' age of both gender with good level of knowledge about the consequences of consanguineous marriage that would increase the risk of having genetic diseases, with being older having better information, this may be due to life experience, this disagree with a study in Jeddah, Saudi Arabia, who found that participants aged less than 30 years had a higher proportion (22.4%) of fair and satisfactory scores of knowledge when compared with those aged equal or more than 30 years (16.0%), with a statistically significant difference ($P = 0.02$), so they report that consanguinity may lead to hereditary diseases but without significance (18). In this study it was found that a significant association ($P = 0.025$) among participants' age and their perception towards marriage decision if their investigations revealed positive results, and showed almost two thirds 634 (63.4%) the positive investigation results will not affect their

marriage decision, and more than quarter 289 (28.9%) would cancel the marriage and only 77 (7.7%) didn't know what to do. This finding is consistent to what was reported in similar studies in Oman included a total of 590 participants Omani. All were unmarried in which the participants' response in case of positive PMS results showed that almost half will decide depending on the probabilities of transmitting the disease to their children and quarter will continue with marriage for several reasons such as not to interfere with God's will, family pressure and love and only 16% will change marriage decision and similar percentage did not know what to do (15).

In this study the participants had a significantly high level of knowledge about hearing of PMHC before they started planning for marriage among those with more than 12 years of education this may be related to gain this knowledge from the education experiences supported that illiterates had the lowest percentage of knowledge, and this is similar to the results of an Egyptian study carried out among medical students in Fayoum University for promotion of knowledge and attitudes toward PMC, this study demonstrated high knowledge scores in the pretest which may be related to the medical nature of the participants (1).

In comparison with another earlier Egyptian study in 1989 among villagers also revealed gaps in knowledge regarding premarital screening which could be attributed to discrepancy in educational level between Egyptian medical students and Egyptian villagers who were mostly illiterates (19).

Also higher educated participants had significantly higher knowledge about the increased risk of having genetic diseases resulting from consanguineous marriage compared with illiterate participants' low knowledge. This agreed with the result of Al-Odaib et al, (2003) in Jeddah, Saudi Arabia, which demonstrated that (84%) of King Abdul-Aziz University students agreed that consanguinity can increase the risk for genetic diseases so PMC services have a role in their prevention (20). Although most of the participants of both gender heard about the existence of PMHC but they had inadequate knowledge about the nature of the screened diseases in PMHC this study unlike the study in Jeddah, Saudi Arabia where three governmental hospitals was reported that although individuals with a university degree or above demonstrated a higher knowledge score ($P = 0.000$) the program will contribute to a reduction in the prevalence of some genetic diseases and STDs (18).

The result of this study revealed a highly significant association ($P= 0.003$) among higher educated participants of both gender and their perception toward refusing any acquaintance from those who are working in the health centers to fake or give them results without doing investigations, compared with illiterate participants' low knowledge, this explained the literacy and education experience among educated participants,), and this finding was also not reported in any other study for my best knowledge.

Female participants had significant perception more than males about marriage decision if any positive investigation results was revealed, this went in concordance with Khater and EL-Ghazaly (2003), Egypt (21) and Fageeh (2008), Saudi Arabia (22) who revealed that better attitudes among female students might be referred to the emotional and behavioral variation between males and females.

5. CONCLUSIONS

Most of the participants have heard about PMCS, and had positive perception toward it as they believed about their usefulness and the role of PMCS in preventing different diseases. The knowledge and perception were significantly affected by the age of participants of both gender and their educational level years. But the vast majority of the participants of both gender had a significant lack in knowledge about the procedures of the test and types of the screened diseases.

6. BIBLIOGRAPHY

1. Abd Al Azeem S T, Elsayed E T, El Sherbiny N A K and Ahmed L A G. Promotion of knowledge and attitude towards premarital care: an interventional study among medical student in Fayoum University. *Journal of Public Health and Epidemiology*. 2011; 3(3): 121-128.
2. Chuaung CH, Chen PC. Preconception care. *Hu Li Za Zhi*. 2008; 55(6): 5-10.
3. Chen B, Lu YN, Wang HX, Ma QL, Zhao XM, Guo JH, Hu K, Wang YX, Huang YR, Chen P. Sexual and reproductive health service needs of university/college students: updates from a survey in Shanghai, China. *Asian journal of andrology*. 2008 Jul;10(4):607-15.
4. Stanley SM, Markman HJ, Jenkins NH. Marriage education and government policy: Helping couples who choose marriage achieve success. Denver, CO: PREP. 2002.

5. Atrash H, Adams M, Cordero J, Howse J. Time to act on missed opportunities to improve perinatal outcomes. *Matern Child Health J.* 2006; 8:S7-S10.
6. Last JM, Wallace R. *Genetic and Public Health.* Prentice-Hall International Inc; 1992. Public health & preventive medicine, 13th ed. USA.
7. Cassens BJ. *Epidemiology and prevention of selected acute illnesses.* Williams & Wilkins; 1992. Preventive medicine and public health. 2nd ed. USA.
8. Ebtisam M. Fetohy Khalil, Sabah M. Abdelkader, Alsaeed M D, Alshahrany N M. Knowledge, Beliefs and Behavior Intention about Premarital Screening among King Saud University Female students in Riyadh. *Sch. J. App. Med. Sci.*, 2014; 2(5E): 1797-1805.
9. WHO. *Iron Deficiency Anemia Assessment, Prevention, and Control. A guide for programme manager.* 2001. Convened in Geneva jointly organized by the WHO 1993; 10(12): 114. <http://www.who.int/iris/handle/10665/66914>. Accessed on November 3th 2025.
10. *Preventing and controlling anemia through primary health care: a guide for health administrators and programme managers.* Geneva, World Health Organization, 1989. Available at http://www.who.int/nutrition/publications/micronutrients/amaemia_iron_deficiency/9241542497.pdf. Accessed on March 22th 2026.
11. Dacie and Lewis' *PRACTICAL HAEMATOLOGY*, 10th Edition edited by S.M. Lewis, B.J. Bain and I. Bates, 2006.
12. Mitwally, H.H., Abd El-Rahman, D.A., and Mohamed, N.I. Premarital counseling: view of the target group. *Journal of the Egyptian Public Health Association.* 2000; 75: 31–5.
13. Al-Farsi OA, Al-Farsi Y, Gupta I, Al-Adawi S. A study on knowledge, attitude, and practice towards premarital carrier screening among adults attending primary healthcare centers in a region in Oman. *S.BMC Public Health.* Apr 2014; 14(1): 380.
14. Hejri Y M A, Moussa M, Al-Amri B S, Al-Mutairi K D A, Al-Harbi A S. Evaluating premarital screening knowledge in Saudi students. *Int J Community Med Public Health.* 2015; 2(4): 540-551.
15. Al Kindi R, Al Rujaibi S, Al KM: Knowledge and attitude of University students towards premarital screening program. *Oman Med J.* 2012, 27(4): 291-296.
16. Ghraibeh H and Mater F. Young Syrian adults' Knowledge, perceptions and attitudes to premarital testing. *Int Nurs Rev.* 2009;56(4):450-455.
17. Farahat T M, Elmselhy Shaheen H M, Mohamed H M, Mohaseb M M M. Knowledge and attitude of students in Menoufia University, Shebin Elkom city toward premarital care in 2012. *Menoufia Medical Journal.* 2014; 2(27): 347-352.

18. Ibrahim N K, Bashawi J, Al Bar H, Al Ahmadi J, Al Bar D, Qadi M, Milaat W, Feda H. Premarital Screening and Genetic Counseling program: Knowledge, attitude, and satisfaction of attendees of governmental outpatient clinics in Jeddah. *Journal of Infection and Public Health*. 2013; 1(6): 41-54.
19. Eshra DK, Dongham LS, El-Sherbini AF. Knowledge and attitude towards premarital counseling and examination. *J Egypt Public Health Assoc*. 1989; 64:1-5.
20. Al-Odaib AN, Abu-Amero KA, Ozan PT, Al-Hellani AM. A new ere for preventive genetic programs in Arabian Peninsula. *Saudi Med J*. (2003); 24(11): 1168-75.
21. Khater TR, EL Ghazaly HS. Pre-marriage Checkup in Egypt. *BMJ*. 2003; 4: 111-118.
22. Fageeh WM. Awareness of Sexually transmitted diseases among Adolescents in Saudi Arabia. *J. King. Abdul. Aziz. University. (KAU). Med. Sci*. 2008; 15 (1): 77-90.

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