

Perception of Premarital Screening and Genetic Counseling among Prospective Marital Individuals in Maternal and Child Health Centers at El-Fayoum City

Gehad Ahmed Mohamed Abd Eltawab¹, Amal Sarhan Eldesokey², Marwa Yehia Mostafa³, Ehsan Shaban Morad⁴

¹Demonstrator of Maternal and Neonatal Health Nursing, Faculty of Nursing, Fayoum University, Egypt.

²Assistant Professor of Maternal and Neonatal Health Nursing, Faculty of Nursing, Fayoum University, Egypt.

^{3,4}Lecturer of Maternal and Neonatal Health Nursing, Faculty of Nursing, Fayoum University, Egypt.

Corresponding author: Gehad Ahmed Mohamed Abd Eltawab

Email: gaml2@fayoum.edu.eg

Abstract

Background: Premarital screening and genetic counseling are one of the most important strategies for preventing genetic disorders and congenital anomalies

Aim of the study: to evaluate perception of premarital screening and genetic counseling among prospective marital individuals in maternal and child health centers at El-Fayoum city. **Design:** A descriptive research design was used.

Setting: The study was conducted at two maternal and child health centers located in El-Fayoum city. **Sample:** A convenience sample of 220 prospective marital individuals.

Tools of data collection: two tools were utilized, **Tool I:** Structured interviewing questionnaire, it includes three parts: part(1): socio-demographic characteristics, part(2): Level of knowledge and part(3): Perception of the studied prospective marital individuals regarding premarital screening and genetic counseling, **Tool II:** Attitude of the studied prospective marital individuals regarding premarital screening and genetic counseling. **Results:** The study results showed that 69.5% had an unsatisfactory level of knowledge and 54.5% had a positive attitude regarding premarital screening and genetic counseling.

Conclusion: two-thirds of studied group had an unsatisfactory level of knowledge and more than half of studied group had a positive attitude regarding premarital screening and genetic counseling. **Recommendation:** Design an educational program to raise perception of prospective marital individuals and families about premarital screening and genetic counseling.

Keywords: Premarital screening, Genetic counseling, Prospective marital individuals.

Introduction

Premarital screening and genetic counseling is a service provided to couples before marriage to guide, educate, and prepare them for a healthy family. This service is particularly important in Middle Eastern countries where the consanguineous marriage rate is rising. Also, premarital counseling is known as premarital education, premarital therapy, and marriage preparation programs. It helps prospective marital individuals understand and accept their readiness for marriage **(Hafiz et al., 2025)**.

Premarital counseling is the promotion of the health and wellbeing of women and her partner before marriage so it is considered a worldwide activity aiming to diagnose, treat unrecognized disorders and reduce transmission of genetic and infectious diseases to couples **(Prismadianto, Endrawati, & Putra, 2025)**.

In addition, premarital counseling is considered a vital topic as teaches client's information about married life, enhances clients' communication skills, encourages clients to develop conflict resolution skills, and allows clients to speak about certain sensitive topics, such as sex **(Widodo & Manara, 2024)**.

Genetic counseling is often an integral part of premarital screening, it includes discussing the prospective marital individuals' options, educating them about the danger of genetic disease transmission, and explaining the implications of test results. In addition to screening, this service

ensures that prospective marital individuals receive emotional and psychological assistance so they may make well-informed decisions about their future **(Nurafifah, Rahayu, Cahyati & Farida, 2025)**.

Egyptian Ministry of Health and Population has implemented a comprehensive premarital screening protocol that includes tests for various conditions. These tests include chronic disorders, infectious diseases and genetic conditions. There are over 300 authorized premarital screening centers across Egypt which are the only facilities approved to conduct the necessary tests. The process of screening concludes with a certificate of completion, which may be required to proceed with legal marriage documentation **(Zalat, Abo-Alyazeed & El-Metwally, 2021)**.

Egypt has witnessed a substantial increase in the number of individuals undergoing premarital screening in 2025. According to the Egyptian Ministry of Health and Population, approximately 110,000 individuals underwent premarital medical tests. Also, over 3.1 million young men and women have completed premarital screening examinations **(Gomaa, Eladawi & Haries, 2025)**.

Perception of premarital screening is shaped by a variety of cultural, religious, educational, social, and economic factors. Also, perception is greatly influenced by education and knowledge. People with greater education are more likely to recognize the medical significance of screening. However, the level of knowledge regarding premarital screening and

genetic counseling varies in low and middle income countries (LMICs) Particularly in conservative societies where marriage is viewed as a religious or social duty (**Elhadi et al., 2023**).

The nurse is heart of health care system as the nurse plays a significant role in providing premarital screening and genetic counseling services that include assessment of genetic risk, providing information, discussing available testing options and provision of appropriate counseling. Moreover, nurses should also educate couples and provide them with accurate and unbiased information and nurses ensure that the couples are aware of all components and activities of premarital screening and genetic counseling to apply and increase the wellbeing of prospective couples (**Al-Ghamdi, 2024**).

Additionally, Nurses have a crucial role to play in premarital screening and genetic counseling. They communicate with clients verbally and nonverbally so requires much skill to do this and with the considerations of various domains: biological, psychological, socio culture, spiritual and environment. Furthermore, the role of nurses is very complex which includes their role as educators, communicators, counselor, care provider, empowering agents, administrator, researchers, and trainers (**Osman, Baraia& Abdelati, 2021**).

Significance of the study

Premarital screening and genetic counseling (PMSGC) is one of the most important strategies for

prevention of genetic disorders and congenital abnormalities. Genetic disorders are considered the main causes of infant and child death, morbidity and disability in Arab countries. So, early identification may lower the prevalence of these disorders by empowering couples to make educated decisions about marriage and family planning (**Howard, 2020**).

According to World Health Organization (WHO), approximately 240 million people are carriers of genetic disorders and at least 200,000 affected individuals are born annually, 30% congenital anomalies worldwide (**Dewi, Susanti, Rinawan, Gondodiputro, & Martini, 2022**). Moreover, it is estimated that 5.3% of new born will suffer from a genetic disorder (**Adeyemo, Ogunmuyiwa& Ajibade, 2022**).

Furthermore, chronic illnesses make up a significant amount of Egypt's overall disease burden. Couples are examined for a variety of chronic diseases, including as diabetes, hypertension and anemia, as part of premarital screening. So, premarital screening and genetic counseling can enhance quality of life, minimize long-term healthcare expenditures, and prevent pregnancy difficulties by detecting such disorders early (**ROSHAN, 2020**).

Aim of the study:

Evaluate perception of premarital screening and genetic counseling among prospective marital individuals in maternal and child health centers at El-Fayoum city. This aim is achieved through:

1. Assess prospective marital individuals ' knowledge regarding premarital Screening and genetic counseling.
2. identify prospective marital individuals ' attitudes toward premarital Screening and genetic counseling.

Research questions:

1. Are prospective marital individuals have knowledge regarding premarital Screening and genetic counseling?
2. What are the prospective marital individuals ' attitude toward premarital Screening and genetic counseling?
3. Are there relation between prospective marital individuals ' knowledge and their attitude toward premarital Screening and genetic counseling?

Subjects and Method

The subjects and methods for this study were portrayed under the following four main items:

I- Technical design.

II- Operational design.

III- Administrative design.

IV- Statistical design.

I- Technical design:

It includes research design, setting of the study, subjects of the study, and tools for data collection.

Research design: A descriptive research design was utilized to achieve the aim of this study.

Setting: The study was conducted at two maternal and child health centers (Alhadiqah and Kaiman faris) located in fayoum city which are the main health centers that have the highest

flow rate of prospective marital individuals.

Subjects of the study:

Sample type:

A convenience sample technique was utilized in this study.

Sample size:

The subjects of this study were consisted of 220 prospective marital individuals attending in (Alhadiqah and Kaiman faris) Maternal and Child Health centers at fayoum city.

Tools of Data Collection:

The data was collected by using two tools: -

Tool I: (A structured interviewing questionnaire):

This tool was developed by the researcher after reviewing the national and international related literatures, it was written in simple Arabic language and it included three parts:

Part (1): Socio demographic characteristics of the studied prospective marital individuals as age, gender, education, residence, occupation, marital status, relationship between couples and personal history of hereditary disease.

Part (2): It was composed of (25) questions and Included data related to level of knowledge of the studied prospective marital individuals regarding concept of premarital screening and genetic counseling such as (objectives of premarital screening and genetic counseling, components of premarital screening and genetic counseling, laboratory tests that are involved in premarital screening services, know hereditary diseases that are focused by premarital

screening and genetic counseling, sources of knowledge about premarital screening and genetic counseling).

The scoring system:-

Each question was scored by “1 point = correct answer, and 0 point = incorrect answers”. Total score was 25 points. The knowledge level categorized into two levels as;

- Unsatisfactory level if scores of < 70% of total scores (<18 points)
- Satisfactory level if scores \geq 70% of total scores (\geq 18 points)

Part (3): It was composed of (14) questions and Included data related to perception of the studied prospective marital individuals regarding premarital screening and genetic counseling such as (PMSGs is important, It is important to rising awareness about PMSGs, PMSGs will reduce the prevalence of genetic disease, PMSGs will reduce of the prevalence of some sexual transmitted disease, Consanguinity can increase the risk of hereditary disease, PMSGs should be confidential, PMSGs cause anxiety to the couples and Religious people should adopt ideas in their discussion).

The scoring system:-

Each question was scored by Likart scale, as following: (agree=2, neutral =1, disagree =0). The total score was 28. The perception level was categorized into two levels as:

- Positive level if scores \geq 70% of total scores (\geq 20 points).
- Negative level if total score > 70% of total scores (< 20 points).

Tool II: Attitude of the studied prospective marital individuals regarding premarital screening and genetic counseling:

This tool was composed of (12) questions and was used to assess attitude of prospective marital individuals regarding premarital screening and genetic counseling such as (there is a need for PMSGs ready to prepare lectures PMSGs, PMSGs are important for both couples, PMSGs have an important impact on the future of the family, it is important to tell the other partner about any Hereditary disease If present, Consanguineous marriage is considered one of the main causes of genetic diseases, My knowledge that future husband/ future wife has genetic or sexual disease does not affect my choice to marry him/her).

The scoring system:-

Each question was scored by Likart scale, as following: (agree=2, neutral =1, disagree =0). The total score was 24. The attitude level was categorized into two levels as:

- Positive attitude if scores \geq 70% of total scores (\geq 17 points).
- Negative attitude if total score < 70% of total scores (< 17 points).

Content validity:

The tools were submitted to a panel of three experts in the field of maternal and neonatal health nursing to test content validity. Each of the experts was asked to assess the tools for content coverage, clarity, wording, length, format, and overall appearance. There was modifications and was done to the tool.

Tools reliability:

- Cronbach Alpha coefficient test were used to measure the reliability of the tools used in the current study. The internal consistency coefficient (Cronbach's alpha) reflects the reliability of a scale.

- Alpha Cronbach Reliability Analysis of the Used Tool:

Scores	number of questions	Cronbach's alpha	p-value
- Knowledge score	25	0.885	<0.001
- Perception score	14	0.913	<0.001
- Attitude score	12	0.915	<0.001
Total questionnaire	51	0.934	<0.001

Ethical considerations:

- Primary approval permission was obtained from of research ethics committee of Fayoum University to conduct current study on October 2023 then the second permission was obtained from administrative personnel in MCH centres to conduct study.
- Written informed consent was obtained from each of prospective marital individuals after explaining the purpose, nature, benefits of the study.
- The researcher emphasized that the participants in the study was entirely voluntary.
- Anonymity and confidentiality was assured by allocation of a code number for each participant.
- Each participant had the right to withdraw from the study at any time without any rationale

Operational design: Included preparatory phase, Pilot study and Field work.

Pilot study:

The pilot study was carried out among 10% of the total sample size (22) prospective marital individuals to identify any difficulties that needed to be handled before, to confirm the clarity of applying questionnaire items and approximately identify the time needed to answer the questions. The sample of Pilot study was excluded from the studied sample.

Fieldwork:

- The researcher attended the previous mention study setting 2 days per week (Sunday and Wednesday from 9am: 1 pm).
- Data was collected through a period of 6 months, started from the beginning of October 2023 to the end of March 2024.
- The researcher introduced herself to prospective marital individuals and explained the purpose, importance and benefits of the study to obtain their acceptance to participate in the study as well as to gain their cooperation.
- The researcher was facing the prospective marital individual, asked them questions in Arabic language and recorded their answers on the questionnaire sheet.
- The researcher interviewed about 5 prospective marital individuals each day and data collection with each participant required approximately 30 to 45 minutes to complete the structured interview.

Administrative Design:

An official permission for data collection was obtained from the ethics committee of faculty of nursing Fayoum University and an official permission for data collection was obtained from the maternal and child health centers administrative personnel to carry out the study.

Statistical Design:

- Data collected and coded to facilitate data manipulation and double entered into Microsoft Access and data analysis performed using the Statistical Package of Social Science (SPSS) software version 22 in windows 7 (SPSS Inc., Chicago, IL, USA).
- Simple descriptive analysis in the form of numbers and percentages of qualitative data, and arithmetic means as central tendency measurement, standard deviations as a measure of dispersion of quantitative parametric data.
- Quantitative data included in the study first tested for normality by One-Sample Kolmogorov-Smirnov test in each study group then inferential statistic tests selected.

Significant level:

- P-value > 0.05 Not significant (NS)
- P-value \leq 0.05 Significant (S)
- P-value \leq 0.01 Highly Significant (HS).

Limitations of the study:-

Some of the prospective marital individuals did not agree to fill out the questionnaire and some of them refused to communicate

Results:

Table (1): shows that the socio demographic characteristics of the prospective marital individuals. Approximately two-thirds (69.5%) of the study group were aged less than 30 years while one-third (30.5%) of the study group were aged equal or more than 30 years with a mean age among study group was (26.9 \pm 7.5). Also age range of study group was (<30 - \geq 30) years. More than half (50.9%) the study group was males versus less than half (49.1%) the study group was females. As regard level of education approximately half (50.5%) of the study group were educated to secondary level. Moreover, in relation to residence approximately two-thirds (68.2%) of study group was lived in urban areas. Also, majority (82.3%) of study group had a negative consanguinity between couples.

Table (2): shows that approximately three-quarters of the prospective marital individuals (70%) mentioned that, they know the objectives of premarital screening and genetic counseling before. When asking about the component of PMSGs the two-thirds (64.1%) answered they know it. Moreover (58.6%) know about laboratory investigation. The approximately two-thirds of prospective marital individuals (64.5%) mentioned that they do not know hereditary diseases that are focused by premarital screening and genetic counseling while about half of them (52.7%) do not know about infectious diseases. Approximately two-thirds of the prospective marital individuals (69.1%) mentioned that

they know about personnel who responsible for providing premarital counseling. About one –third of prospective marital individuals (31.8%) didn't know maternal and child health care centers that provide premarital screening and genetic counseling services in Fayoum city. Approximately three-quarters of prospective marital individuals (70.9%) mentioned that they don't know permissible period for a pre-marital screening before the marriage contract and valid period of the marriage certificate.

Table (3): represents attitudes of prospective marital individuals regarding premarital screening and genetic counseling. Approximately three-quarters (72.7%) of the study sample agreed to there is a need for PMSGs. Approximately two-thirds (62.3%) of the study group agreed to that PMSGs are important for both couples, (61.8%) It is important to tell the other partner about any hereditary disease if present and (60%) advise future couples to conduct PMSGs. More than half (54.1%) of the study group agreed to PMSGs have an important impact on the future of the family, While less than half (43.2%)

of the study group agreed to be ready to attend lectures PMSGs, Also, (43.2%) consanguineous marriage is considered one of the main causes of genetic diseases. More than one-third (35.9%) of the study group agreed that the financial cost of pre-marital screening is high. More than one-third (33.6%) of the study group didn't agree that knowledge that future husband/ future wife has genetic or sexual disease doesn't affect choice marry him/her, Approximately two-thirds (60%) of the study group didn't agree that going to PMSGs is a waste of time and (59.1%) there are obstacles to do PMSGs. More than half (52.7%) of the study group didn't agree that premarital counseling and examination must be done in the case of consanguineous marriage only

Table (4): illustrates that there was a highly statistical significant difference between knowledge level, perception level and attitude level among participants with (p-value <0.001) (there is a relation between prospective marital individuals ' knowledge, Perception and their attitude toward premarital Screening and genetic counseling).

Table (1): Distribution of the studied sample according to their socio-demographic characteristics (n=220):

Variables	Number (n=220)	
	No.	%
Age (years)		
<30 years	153	69.5%
≥ 30 years	67	30.5%
Mean ±SD	26.9±7.5	
Range	<30 - ≥ 30	
Sex		
Male	112	50.9
Female	108	49.1
Level of Educational		
Primary education	34	15.5
Secondary education	111	50.5
University education	75	34.1
Residence		
Rural	70	31.8
Urban	150	68.2
Marital status		
Single	172	78.2
Divorced	43	19.5
Widowed	5	2.3
Occupation		
Not Work	85	38.6
Work	135	61.4
Parental consanguinity:		
No	181	82.3
Yes	39	17.7

Table (2): knowledge of studied sample about premarital screening and genetic counseling (PMSGs) (n=220):

Knowledge items about premarital screening and genetic counseling	Knowledge about			
	Incorrect		Correct	
	No.	%	No.	%
1. Do you know objectives of premarital screening and genetic counseling?	66	30%	154	70%
2. Do you know components of premarital screening and genetic counseling?	79	35.9%	141	64.1%
3. Do you know laboratory tests that are involved in premarital screening services?	91	41.4%	129	58.6%
4. Do you know Infectious diseases that are focused by premarital screening and genetic counseling?	116	52.7%	104	47.3%
5. Do you know hereditary diseases that are focused by premarital screening and genetic counseling?	142	64.5%	78	35.%
6. Who should provide premarital counseling?	152	69.1%	68	30.9%
7. Are the maternal and child health care centers the ones that provide premarital screening and genetic counseling services in Fayoum city?	70	31.8%	150	68.2%
8. What is the permissible period for a pre-marital screening before the marriage contract?	156	70.9%	64	29.1%
9. How long is the marriage certificate valid for?	156	70.9%	64	29.1%
Total knowledge score (mean± SD)	11.7±9.02			

Table (3): Distribution of studied sample attitude toward premarital screening and genetic counseling (PMSGs) (n=220):

Attitude items	Disagree		Neutral		Agree	
	No.	(%)	No.	(%)	No.	(%)
1. I think that there is a need for PMSGs	8	3.6	52	23.6	160	72.7
2. I ready to attend lectures PMSGs	72	32.7	53	24.1	95	43.2
3. I think that PMSGs are important for both couples	29	13.2	54	24.5	137	62.3
4. I think that PMSGs have an important impact on the future of the family	51	23.2	50	22.7	119	54.1
5. I think that it is important to tell the other partner about any Hereditary disease If present	28	12.7	56	25.5	136	61.8
6. I think that Consanguineous marriage is considered one of the main causes of genetic diseases	71	32.3	54	24.5	95	43.2
7. My knowledge that future husband/ future wife has genetic or sexual disease does not affect my choice to marry him/her	74	33.6	82	37.3	64	29.1
8. I advise future couples to conduct PMSGs	26	11.8	62	28.2	132	60
9. I think that going to PMSGs is a waste of time	132	60	52	23.6	36	16.4
10. I think that there are obstacles to do PMSGs	130	59.1	50	22.7	40	18.2
11. I see that the financial cost of pre-marital screening is high	66	30	75	34.1	79	35.9
12. Premarital counseling and examination must be done in the case of consanguineous marriage only	116	52.7	48	21.8	56	25.5
Total attitude score	15.7±6.7					

Table (4): Relation between prospective marital individuals ' knowledge, Perception and their attitude toward premarital Screening and genetic counseling (n=220):

Variables	Knowledge level				X ²	P-value	Sig.
	Unsatisfactory (n=153)		Satisfactory (n=67)				
	No.	%	No.	%			
Perception level							
Negative	86	56.2%	16	23.9%	19.5	<0.001	HS
Positive	67	43.8%	51	76.1%			
Attitude level							
Negative	82	53.6%	18	26.9%	13.4	<0.001	HS
Positive	71	46.4%	49	73.1%			

Discussion

Pre-marital screening and genetic counseling (PMSGC) is becoming more and more recognized as a crucial public health intervention in many countries. PMSGC programs are carried out all around the world in prospective marital individuals before marriage to learn about reproductive health and to lessen the burden of hereditary and infectious disorders (Osei-Tim et al., 2020).

So, the study aim was to evaluate perception of premarital screening and genetic counseling among prospective marital individuals in maternal and child health centers at El-Fayoum city.

As regarding knowledge about objectives of premarital screening and genetic counseling, the results of the current study found that, approximately three-quarters of the

studied group know the objectives of premarital screening and genetic counseling before. This result was inconsistent with **Osman et al., (2021)**. That entitled, "Awareness and attitude university students regarding premarital counseling and examination" who reported that, less than three-quarters of the studied group didn't know about the objectives of premarital screening and genetic counseling.

From the researcher point of view, may be due availability of the sources of information about premarital screening and genetic counseling such as media or educational materials related to premarital screening and genetic counseling.

Concerning with knowledge about component of premarital screening and genetic counseling the finding of

the current study showed that, approximately two-thirds of studied group know the component of premarital screening and genetic counseling. This result was on the same line with **Ezzat & Gomaa, (2022)**. That entitled, "Effect of counselling-based program on technical nursing students' perception regarding reproductive health" who reported that, about two-thirds of the participants know the component of premarital screening and genetic counseling.

In relation to knowledge about laboratory tests that are involved in premarital screening services, the study found that about two thirds of studied group knew about laboratory investigation included in premarital screening and genetic counseling (PMSGC). This result was matching with **Sedek, Emam & Abd Elrahim, (2022)**. That entitled, "Effect of Educational Program for Premarital Counseling among technical school student" who report that, about two thirds of study group knew about laboratory investigation included in PMSGC.

Concerning with knowledge about hereditary diseases that are focused by PMSGC the results of the current study found that, two-thirds of studied group don't know hereditary diseases that are focused by premarital screening and genetic counseling program this results opposed to **Mahmood, Sadraldeen, Othman, Shabila, Saleh & Ismail, (2024)**. That entitled, "Knowledge, perception, and attitude toward premarital screening among university students in Kurdistan

region-Iraq" who reports that, more than two-thirds of studied group knew hereditary diseases that are focused by PMSGC program.

As regarding knowledge about personnel who responsible for providing premarital counseling, the results of the current study found that, they three-quarters of studied group didn't know who responsible for providing premarital counseling, this result was in contradiction with **Fattah, (2020)**. That entitled, "Effectiveness of wellbeing instruction on the knowledge and attitude of university students on pre-marriage screening and counseling" who report that, more than three-quarters of study group knew who responsible for providing premarital counseling.

Concerning with knowledge about places that provide premarital screening and genetic counseling services the results of current study found that, about one –third of prospective marital individuals didn't know maternal and child health care centers that provide premarital screening and genetic counseling services, this result in agreement with **Gomaa et al., 2025)**. That entitled, "Awareness of Importance of Premarital Counseling among Students of Kafr El-Sheikh University, Egypt" who report that, about one third of studied group didn't know Places designated to provide premarital counseling and screening in Egypt.

As regarding knowledge about permissible period for a premarital screening before the marriage contract the finding of the current study

revealed that, approximately three-quarters of studied group don't know permissible period for a premarital screening before the marriage contract this results was in agreement with **More, (2021)**. That entitled, "A review of importance of premarital checkup and counselling among young adults "who reported that, approximately three-quarters of studied group don't know permissible period for a premarital screening before the marriage.

In relation to knowledge about period the marriage certificate is valid the results of current study found that, approximately three-quarters of studied group don't know the valid period of the marriage certificate, this results aligned with **Zedan et al., (2022)**. That entitled, "Predictors of premarital screening and genetic counseling knowledge and attitude among deaf and hard hearing females in Tabuk, Saudi Arabia" who reported that, approximately three-quarters of studied group do not know validity of healthy marriage certificate.

As regarding knowledge about Sources of information about premarital screening and genetic counseling (PMSGs) the results of the current study found that, more than half studied group gained information of PMSGs from marriage official then One-third of studied group gained information from friends and relatives while the minority of studied group gained information from internet and social media and only few of them heard from school and faculty this results not aligned with **Alkalash, Badr & Eldeen, (2021)**. That entitled, "Awareness Attitude, and

Satisfaction of Egyptian Adults by Premarital Care Services" who reported that, the majority studied group received their information about PMSGC from the healthcare provider, while the minority studied group received their information from more than one source as, family and relatives, mass media and school.

From the researcher point of view, which may be attributed to the greater trust placed in healthcare provider and marriage official, limited public dissemination of information through communication channels, or the absence of structured health education about premarital screening and genetic counseling in schools and media platforms.

As regarding level of total knowledge score about premarital screening and genetic counseling (PMSGs) the current study found that, approximately two-thirds of studied group had an unsatisfactory level of knowledge about PMSGs, this result was in line with **Sabbah, AbdEl-mohsen & Saad, (2023)**. That entitled, "Awareness of Clients Attending Maternal and Child Health Center Regarding Premarital Counseling" who reported that, more than two-thirds studied group had an unsatisfactory level of knowledge about PMSGs.

Furthermore, these finding was compatible with **Samy, Fahmy & Saleh, (2024)**. That entitled, "Effect of Premarital Counseling on Knowledge and Attitude of Female Technical Students ", who reported that, about two thirds of studied group had unsatisfactory level of knowledge about PMSGs.

From the researcher point of view, the agreement between the results of the current study and previous studies might be due to limited access to health education resources, lack of targeted awareness rising programs about premarital screening and genetic counseling, or lower educational backgrounds that affect their ability to seek, understand, or retain health-related information.

In relation to attitude about neediness for PMSGs the results of the current study found that, approximately three-quarters of the studied group agreed to there is a need for PMSGs this result was similar to **Alkalbani et al., (2022)**. That entitled, "Factors Affecting the Willingness to Undertake Premarital Screening Test among Prospective Marital Individuals" who reported that, about three-quarters of the studied group agree that there is a need for PMSGs. Concerning with attitude about readiness to attend lectures PMSGs the study found that less than half of the studied group agreed to be ready to attend lectures PMSGs this result agreed with **Fattah, (2020)**. That entitled, "Effectiveness of wellbeing instruction on the knowledge and attitude of university students on pre-marriage screening and counseling" who reported that, less than half of the studied group agreed to attend lectures about pre-marriage screening and counseling.

As regarding to attitude about Consanguineous marriage is considered one of the main causes of genetic diseases the study found that less than half of the studied group agreed that, consanguineous marriage

is considered one of the main causes of genetic diseases. This result was in line with **Aljulifi et al., (2022)**. That entitled, "Awareness and acceptance of premarital screening test and genetic counseling program in Riyadh area, Saudi Arabia" who reported that, less than half of the studied group agreed that, consanguineous marriage is considered one of the main causes of genetic diseases.

Concerning with attitude about decision to marry future husband/ future wife after knowing that he /she has genetic or sexual disease, the study found that, about one-third of the participants were willing to cancel their marriage, after knowing that he /she has genetic or sexual disease. On the other hand, **AlOtaiby et al., (2023)**. That entitled, "Comprehension of premarital screening and genetic disorders among the population of Riyadh" who reported that, about one-third of the participants were not willing to cancel their marriage, after knowing that he /she has genetic or sexual disease.

Furthermore, this result was inconsistent with **Almoliky et al., (2022)**. That entitled, "Knowledge and attitude of Engaged and Recently Married Couples toward Premarital Screening: A Cross-Sectional Study" who reported that, more than one-third of the respondents tend to go ahead for marriage in case of positive results.

As regarding attitude about advising future couples to conduct PMSGs the study found that, approximately two-third of the studied group agreed to advise future couples to conduct

PMSGs. This result matched with **Aljulifi et al., (2022)**. That entitled, "Awareness and Acceptance of Premarital Screening Test and Genetic Counseling Program in Riyadh area, Saudi Arabia" who reported that, more than two-third of the studied group agreed to advise future couples to conduct and support PMSGs.

In relation to attitude about going to PMSGs is a waste of time the study found that, approximately two-thirds of the study group didn't agree that, going to PMSGs is a waste of time. This result aligned with **Alhetar et al., (2024)**. That entitled, "Knowledge and Attitudes of Secondary Schools students Towards Premarital Screening and Counseling in Taiz, Yemen" who reported that, more than two-thirds of the studied group didn't agree that, going to PMSGs is a waste of time.

Concerning with attitude about the highness of financial cost of pre-marital screening the study found that, more than one-third of the studied group agreed that, the financial cost of pre-marital screening is high. This result was similar to **Al Eissa et al (2024)**. That entitled, "The perception of genetic diseases and premarital screening tests in the central region of Saudi Arabia" who reported that, more than one-third of the studied group agreed that, the financial cost of pre-marital screening is high.

In relation to attitude about premarital counseling and examination must be done in the case of consanguineous marriage only. The study found that, more than half of the studied group didn't agree that, premarital

counseling and examination must be done in the case of consanguineous marriage only. This result was consistent with **Ahmed & Elkhateeb, (2024)**. That entitled, "Assessment of students' Knowledge and attitude regarding Premarital Examination at Aswan University" who report that, more than half of the studied group didn't agree that, premarital counseling and examination must be done in the case of consanguineous marriage only.

As regarding level of total attitude score, the study found that, more than half of the studied group had a positive attitude to PMSGs. This result was in agreement with **Saleh & Abd El-Kader, (2022)**. That entitled, "University Students Attitude towards the National Premarital Screening Program of UAE" who reported that, more than half of the study group had a positive attitude to PMSGs

Also, this result was congruent with **Abdulrhman et al., (2022)**. That entitled, "Knowledge and attitude of Engaged and Recently Married Couples toward Premarital Screening: A Cross-Sectional Study" who reported that, more than half of the studied group had positive attitude and willingness regarding premarital screening tests.

From the researcher point of view, changing attitude toward PMSGC possibly due to increased awareness of its role in preventing, most opted to prevent the transmission of the diseases to their offspring's, or to ensure for their partner's health and ensure fitness of marriage. However, negative attitude may be due to

limited knowledge, fear of discovering unfavorable results, concerns about social stigma, or misconceptions that such screening could interfere with personal or emotional choices related to marriage also had fears for carrying out the PMS.

As regarding relation between prospective marital individuals' knowledge, and their attitude toward premarital Screening and genetic counseling the study found that, there was a highly statistical significant difference between knowledge level and attitude levels among participants. This result was the same line with **Hamed, Eshra, Ali & Khalil, (2022)**. That entitled, "Perception of Premarital Screening and Genetic Counseling among Future Couples" who reported that, there was a highly statistical significant difference between knowledge levels and attitude levels among study group.

Also, this result was in the same line with **Kaynak & GUNES, (2025)**. That entitled, "Evaluation of young people's knowledge and attitudes about the Premarital Screening Program in Turkey" who reported that, there was a highly statistical significant difference between knowledge levels and attitude levels among study group.

From the researcher point of view, knowledge level plays a crucial role in shaping individuals' attitudes toward premarital screening and genetic counseling services. Also, individuals with greater knowledge about premarital screening and genetic counseling (PMSGC) are more likely to understand its benefits and thus

develop a more positive attitude, while limited knowledge may lead to fear, misconceptions, or disinterest.

Conclusion:

Based on the findings of the current study it can concluded that, two-third of studied group had an unsatisfactory level of knowledge regarding premarital screening and genetic counseling (PMSGS) while only one-third studied group had a satisfactory level of knowledge. Additionally, less than half of the study group had a negative attitude to PMSGS, while more than half of the study group had a positive attitude to PMSGS. Furthermore, there was a significant positive relationship between total knowledge regarding premarital screening and genetic counseling and total positive attitude regarding PMSGS among the studied group. So, the aim of the study was achieved and research questions were answered

Recommendations:

The finding of the present study suggested the following recommendations:

- Design an educational program to raise perception of prospective marital individuals and families about premarital screening and genetic counseling.
- Designing booklet and brochures on premarital screening and genetic counseling and distributing them in MCH centers.

For further research in this field:

- Conducting a long-term research study on premarital screening and genetic counseling and its impact on the health of prospective marital individuals.

References

- Abdulrhman, H., Safe, S. H., Galal, M., Abdu, H., Towfiq, B., Abdullah, S., ... & Sultan, M. A. (2022).** Knowledge and attitude of Engaged and Recently Married Couples toward Premarital Screening: A Cross-Sectional Study. *Inquiry* (00469580), 59.
- Adeyemo, C. O., Ogunmuyiwa, O. E., & Ajibade, O. O. (2022).** Knowledge and Perception of Students about Premarital Genetic Counselling in University of Medical Sciences, Ondo State. *International Journal of Micro Biology, Genetics and Monocular Biology Research*, 6(1), 1-9.
- Ahmed, B. A., & Elkhateeb, S. S. (2024).** Assessment of students' Knowledge and attitude regarding Premarital Examination at Aswan University. *Assiut Scientific Nursing Journal*, 12(46), 73-84.
- Al Eissa, M. M., Almsned, F., Alkharji, R. R., Aldossary, Y. M., AlQurashi, R., Hawsa, E. A., ... & Assiri, A. M. (2024).** The perception of genetic diseases and premarital screening tests in the central region of Saudi Arabia. *BMC Public Health*, 24(1), 1556.
- Al- Ghamdi, F. A. A. H. (2024).** Awareness of premarital screening for genetics and infectious diseases among the College students of Abha KSA. *The Arab Journal of Scientific Research*, 8(8), 1-42.
- Alhetar, S. Z. M., Sobhy, S. I., Shuaib, F. M. N. E. D., Alkubati, S. A., Zoromba, M. A., El-Gazar, H. E., ... & Ahmed, W. A. (2024).** Knowledge and Attitudes of Secondary Schools students Towards Premarital Screening and Counseling in Taiz, Yemen. *Journal of Multidisciplinary Healthcare*, 5641-5651.
- Aljulifi, M. Z., Almutairi, M. A. S., Ahmad, M. S., Abdall, S. M., Alelaiwi, M. M. M., Almutairi, F. L. M., ... & Albaker, A. B. (2022).** Awareness and acceptance of premarital screening test and genetic counseling program in Riyadh area, Saudi Arabia. *Pakistan Journal of Medical & Health Sciences*, 16(02), 875-875.
- Alkalash, S.H., Badr, S.A., & Eldeen, A.G.N. (2021).** Awareness Attitude, and Satisfaction of Egyptian Adults by Premarital Care Services. *Menoufia Medical Journal*. 34(4), p.p. 1284.
- Alkalbani, A., Alharrasi, M., Achura, S., Al Badi, A., Al Rumhi, A., Alqassabi, K., ... & Alomari, O. (2022).** Factors affecting the willingness to undertake premarital screening test among prospective marital individuals. *SAGE open nursing*, 8, 23779608221078156.
- Almoliky, M. A., Abdulrhman, H., Safe, S. H., Galal, M., Abdu, H., Towfiq, B., ... & Sultan, M. A. (2022).** Knowledge and attitude of engaged and recently married couples toward premarital screening: A cross-sectional study. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, 59, 00469580221097424.
- AlOtaiby, S., Alqahtani, A., Saleh, R., Mazyad, A., Albohigan, A., & Kutbi, E. (2023).** Comprehension of premarital screening and genetic

- disorders among the population of Riyadh. *Journal of Taibah University Medical Sciences*, 18(4), 822.
- Dewi, A. T. A., Susanti, A. I., Rinawan, F. R., Gondodiputro, S., & Martini, N. (2022).** Knowledge and attitudes towards premarital screening among adolescents: A study in a university setting. *Althea Medical Journal*, 9(2), 80-85.
- Elhadi, Y. A. M., Alrawa, S. S., Alfadul, E. S., Mahgoub, E. A. A., El-Osta, A., Belal, S. A., ... & Yahia, A. (2023).** Consanguinity and willingness to perform premarital genetic screening in Sudan. *European Journal of Human Genetics*, 1-8.
- Ezzat, N, S., & Gomaa, W. (2022).** Effect of counselling-based program on technical nursing students' perception regarding reproductive health. *Egyptian Journal of Health Care*, 13(2), 1906-1922
- Fattah, H. (2020).** Effectiveness of wellbeing instruction on the knowledge and attitude of university students on pre-marriage screening and counseling. *International Egyptian Journal of Nursing Sciences and Research*, 1(1), 25-34.
- Gomaa, H. M., Eladawi, N., & Haries, R.N. (2025).** Awareness of Importance of Premarital Counseling among Students of Kafr El-Sheikh University, Egypt. *The Egyptian Journal of Community Medicine*, 43(2), 125-134.
- Hafiz, M. N., Suhail, N., Mohammed, Z. M., Elzein, H. O., Almasmoum, H. A., Abass, A. E., ... & Trabelsi, S. (2025).** Awareness and Attitude of the General Population towards Inherited Hemoglobinopathies in the Premarital Screening Program in the Northern Region of Saudi Arabia. *Hematology Reports*, 17(1), 9.
- Hamed, E. M., Eshra, D., Ali, I. K., & Khalil, A. (2022).** Perception of Premarital Screening and Genetic Counseling among Future Couples. *Egyptian Journal of Health Care*, 13(2), 905-923.
- Howard, J., (2020).** Sickle cell disease and other hemoglobinopathies. Goldman-Cecil Medicine, Goldman-Cecil Medicine. 26th ed. Philadelphia, 154
- Kaynak, M., & GUNES, N. A. (2025).** Evaluation of young people's knowledge and attitudes about the Premarital Screening Program in Turkey. *Family Medicine & Primary Care Review*, 27(1).
- Mahmood, K. A., Sadraldeen, G. S., Othman, S. M., Shabila, N. P., Saleh, A. M., & Ismail, K. H. (2024).** Knowledge, perception, and attitude toward premarital screening among university students in Kurdistan region–Iraq. *PLOS Global Public Health*, 4(11), e0003515.
- More, P. (2021).** A review of importance of premarital checkup and counselling among young adults. *Psychol Educ J*, 58, 6369-73.
- Nurafifah, D., Rahayu, S., Cahyati, W. H., & Farida, E. (2025, January).** Health Screening for Premarital Women in Lamongan Regency, Indonesia: Study in 2020-2023. In *Proceedings of*

- International Conference on Health Science, Practice, and Education* (pp. 484-492).
- Osei-Tutu, A., Oti-Boadi, M., Akosua Affram, A., Dzokoto, V. A., Asante, P. Y., Agyei, F., & Kenin, A. (2020).** Premarital counseling practices among Christian and Muslim lay counselors in Ghana. *Journal of Pastoral Care & Counseling*, 74 p.p. 203-211
- Osman, H. T., Baraia, Z. A. A., & Abdelati, I. H. (2021).** Awareness and attitude of university students regarding premarital counseling and examination. *Trends in Nursing and Health Care Journal*, 3(2), 18-43.
- Prismadianto, G., Endrawati, L., & Putra, F. (2025).** The Importance of Educational Attainment and Premarital Counseling in Building Family Harmony and Preventing Domestic Violence to Strengthen National Resilience. *Tafkir: Interdisciplinary Journal of Islamic Education*, 6(2), 305-321.
- ROSHAN, B. S. (2020).** Prevalence of At-Risk Marriages among Couples Attending Premarital Screening (PMS) Programs: A Systematic Review and Meta-Analysis Qatar University. *Medical Journal*, 9(4), 90-95.
- Sabbah, S. A. M., AbdEl-mohsen, A. S., & Saad, A. M. (2023).** Awareness of Clients Attending Maternal and Child Health Center Regarding Premarital Counseling. *Journal of Survey in Fisheries Sciences*, 10(3S), 3909-3925
- Saleh, L. M., & Abd El-Kader, R. G. (2022).** University Students Attitude towards the National Premarital Screening Program of UAE. *European Journal of Environment and Public Health*, 6(1), em0109
- Samy M, E., Fahmy, N.F., & Saleh, N. (2024).** Effect of Premarital Counseling on Knowledge and Attitude of Female Technical Students. *Egyptian Journal of Health Care*, 15(4), 548-560.]
- Sedek, H. I. M., Emam, E, R. A. E., & Abd Elrahim, A. H. (2022).** Effect of Educational Program for Premarital Counseling among technical school students. *Minia Scientific Nursing Journal*, 12(1), 87-98.
- Widodo, R. W., & Manara, M. U. (2024).** Effectiveness of Premarital Counseling in Indonesia: Literature Review. *KONSELI: Jurnal Bimbingan dan Konseling (E-Journal)*, 11(1), 77-86.
- Zalat, M. M., Abo-Alyazeed, A. Y., & El-Metwally, A. N. (2021).** Public awareness and attitudes toward premarital screening for genetic blood disorders in Egypt. *BMC Public Health*, 21(1), 56-65. <https://doi.org/10.1186/s12889-021-10345-6>
- Zedan, S. Z., El-Houfey, A. A., Alqahtani, H., El Sayed, H. A. E., Elgzar, W. T., Essa, R. M., ... & Ibrahim, H. A. F. (2022).** Predictors of premarital screening and genetic counseling knowledge and attitude among deaf and hard hearing females in Tabuk, Saudi Arabia. *Journal of Medicine and Life*, 15(3), 379.