

Effect of Premarital Counseling Regarding Consanguineous Marriage on Nursing Student's Perception and Satisfaction

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ABSTRACT

Context: Consanguineous marriage is a traditional habit in Arab countries leading to higher autosomal recessive genetic disorders.

Aim: To study the effect of premarital counseling regarding consanguineous marriage on nursing students' perception and satisfaction.

Methods: A quasi-experimental design was used to achieve the aim of this study. The study was conducted in the Faculty of Nursing, Ain Shams University, on all third-year unmarried students (178 students). Three data collection tools were used: An Arabic structured interviewing questionnaire, an attitude assessment Likert scale, and a student's satisfaction assessment questionnaire.

Results: The study indicated that nearly three-fourths of the studied sample had total correct knowledge and a positive attitude regarding consanguineous marriage post-intervention. Also, the majority of them satisfied with the application of counseling sessions regarding consanguineous marriage.

Conclusions: A significant improvement of student's perception after counseling sessions was revealed. All students were satisfied with the clarity of the guidelines and teaching methods, and media used. Based on this finding, the study recommended integrating premarital counseling concepts regarding consanguineous marriage at undergraduate university education curriculum.

Keywords: Consanguineous marriage, premarital counseling, perception, satisfaction, nursing students

1. Introduction

Consanguinity is defined as a close blood relationship between people from the same family. It is widely practiced in countries of Asia and Africa, especially with a higher rate in Arab countries, but its prevalence is low in western countries. The higher rate returned to some interactive factors like social, educational, cultural, and religious beliefs (Tadmouri, 2009).

Everyone carries rare recessive genes that, in company with other genes of the same type, are capable of causing autosomal recessive diseases that are strongly associated with consanguinity, which defined as an inherited disorder caused by a mutation in two copies of the transmitted gene from the parent to their child and causing genetically associated mortality in developing countries. Also, the appearance of congenital anomalies to offspring with approximately 30% of undiagnosed cases of mental retardation and increased susceptibility for polygenic or multifactorial diseases as hypertension, diabetes, and cardiac disease (Hamamy, 2003).

Having healthy mothers and children are valued hopes and dreams of families and the main concern of every society. The evidence reveals that promoting women's and men's health before pregnancy can promote their offspring's

health, which is achieved through counseling (Azeem *et al.*, 2011).

According to *American Counseling Association (2015)*, counseling is a process and a relationship between persons that facilitates meaningful understanding of self and environment and change in behavior or attitude resulting in establishment and clarification of goals and values for the future. Also, it is included some types like an individual, group, family, and premarital counseling as an example of couple counseling.

Premarital counseling is a form of therapy designed to help couples enhance their readiness for marriage. Also, it helps partners identify issues in their relationship and equipping them with skills needed to solve present and future conflicts. Moreover, couples express their individual needs, preferences, and expectations regarding marriage and learn to resolve differences in mutually satisfying ways (Bittles & Black, 2016).

Additionally, premarital and genetic counseling for consanguinity is a worldwide activity aiming to diagnose, treat unrecognized disorders, and reduce transmission of diseases to couples which may affect the quality of marriage and the health of future generations. It is crucial to distinguish between families with a known genetic or inherited disorder and no disorder families by taking a

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detailed family history and constructing a four-generation pedigree (including offspring, siblings, parents, grandparents, aunts, uncles, and nieces) (Dyer, 2015).

According to *Medical Oxford Dictionary (2018)*, perception is defined as the ability to derive meaning that derives from the word perceived. It refers to the ability to give meaning to whatever is sensed by sense organs. Also, it is the process whereby people select, organize, and interpret sensory stimulations into meaningful information about their work environment, so students' perception regarding consanguineous marriage is referred to the way they think (knowledge) and how they behave toward it (attitude).

The nurse is the core of the counseling process, so providing high-quality care of premarital counseling services regarding consanguineous marriage require that the nurse must be knowledgeable, skilled, and competent to be capable of providing planned, organized, and effective care for couples for preventing complications of transmitting genetic diseases and increase awareness about harmful consequences of these diseases. Also, it helps to correct misconceptions and misbelieved regarding consanguinity (Atrash, 2006).

2. Significance of the study

Consanguineous marriage is commonly practiced in all communities worldwide with higher frequencies in the Middle East, Asian and African populations, including Egypt, representing 30.9% without paying heed to the detrimental outcome on family health as genetic diseases and congenital anomalies (DHS, 2015). So, increase awareness about the consequences of this marriage is necessary. This particularly real among university students being the common engagement age. The premarital counselor nursing role correct couples' knowledge and enhance their attitude regarding premarital counseling for consanguinity, which consequently reflected in the promotion of couples' health, minimizing maternal, fetal, and neonatal mortality and morbidity.

3. Aim of the study

To investigate the effect of premarital counseling regarding consanguineous marriage on nursing student's perception and satisfaction.

3.1. Research Hypothesis

Nursing students who attended premarital counseling sessions related to consanguinity had a better perception than pre-intervention.

3.2. Operational Definition

Perception is referred to in this study as the student's knowledge and attitude regarding consanguineous marriage.

4. Subjects & Methods

4.1. Research design

A quasi-experimental design was used to achieve the aim of this study. A quasi-experimental design is a research design used to establish a cause-and-effect relationship

between an independent and dependent variable (Thomas, 2020).

4.2. Research Setting

The study was conducted at the Faculty of Nursing, Ain Shams University, which was established in 1980, obtained accreditation for quality from the National Authority for Quality Education and Accreditation on August 21, 2011, which is the first college of Ain Shams University and the second nursing college in the Arab Republic of Egypt, also obtained ISO 9001 at the year 2017.

4.3. Subjects

All unmarried third-year nursing students in the academic year 2018/2019 totaled 178 male and female students who agreed to participate in the study.

4.4. Tools of data collection

Three tools for data collection were used and reviewed by a jury of three specialized professors in the maternity and gynecological nursing field.

4.4.1. Arabic Structured Interviewing Questionnaire

The researcher designed the tool after reviewing the related literature. It included four parts followed gather model as follow:

Part I was concerned with family heredity history. It included four close-ended questions. It included questions regarding the relative degree between the students' parents, family genetic diseases related to consanguineous marriage, types of genetic diseases and congenital anomalies related to consanguineous marriage, and multifactorial genetic diseases related to consanguineous marriage in the student family.

Part II was designated to assess student's level of knowledge regarding consanguineous marriage. It included 24 questions (one open-ended question and 23 close-ended questions) classified into three main parts. The first part is related to consanguineous marriage: Concept, degree, factors of spreading, and risks. The second part concerns genetic diseases related to consanguineous marriage as the relation between a genetic disease and consanguineous marriage and the most common types of genetic disease. The third part was related to premarital counseling concept, importance, premarital investigation for male and female, and consanguineous marriage investigation.

Knowledge scoring system

The scoring system for close and open-ended questions included two scores for complete, correct answers and one score for incomplete and incorrect answers. The total knowledge scores less than 60%= total incorrect, and score more than 60% = total correct.

4.4.2. Attitude Assessment Likert Scale

The researcher designed it to assess student's attitudes regarding consanguineous marriage. The scale is covered ten clear statements such as the preference of

consanguineous marriage for the benefit for the family; low-cost; increase inheritance, share, and transfer the same habits and traditions for future generation; consanguineous marriage may be a cause for congenital anomalies appearance; pregnancy, delivery risk increase controversy, financial burden and finally premarital investigations decrease marriage problems. Each student nurse responded against a three-point assessment scale starting from agree, uncertain, and disagree.

Attitude scoring system

Each statement is measured as follows: Disagree scored by one point, uncertain attitude scored by two points, and agree scored by three points. So, total attitude scores ranged from 1 to 30. Scoreless than 60% (from 1 to 18) were evaluated as negative attitude and score more than 60% (from 19 to 30) as a positive attitude.

4.4.3. Student's Satisfaction Assessment Questionnaire

The researcher designed it. It was used to assess student satisfaction regarding counseling sessions. Each student nurse responded as satisfied, uncertainly satisfied, and unsatisfied. It included seven close-ended questions as counseling session is important, the place is well ventilated, and session time is enough. The instructional supportive guidelines' aim was matched with content, and the guidelines were clear and easily understood; knowledge is advanced. Besides, the counselor's method and media of teaching were clear.

Satisfaction scoring system

Each statement offered three satisfaction scores: One point for unsatisfied, two points for uncertain satisfaction, and three points for satisfaction. The total satisfaction score ranges from 1 to 21. The total unsatisfied score ranges from 1 to 7 (less than 50%), while the total uncertain satisfaction ranges from 8 to 14 (50% to 70%), finally, the total satisfied score from 15 to 21 (more than 70%).

4.5. Procedures

Ethical considerations: Official approval was obtained from the Scientific Research Ethical Committee in the Nursing Faculty at Ain Shams University before implementing the study. Informed consent was obtained from the student after explaining the purpose with the right to withdraw at any time, and there was no harm for them. The counseling sessions were conducted individually in a private room to promote confidentiality for each student.

A jury of three specialized professors in the Maternity and Gynecological Nursing reviewed tools for data collection to test its contents for validity. Reliability was done by using Cronbach's Alpha coefficient test 0.8 score for Arabic structured interviewing questionnaire and attitude assessment Likert scale regarding consanguineous marriage.

An official written approval letter clarifying the purpose of the study was obtained from the Dean of Faculty of Nursing Ain Shams University as approval for data collection to conduct this study.

A pilot study was done on 10% (20 students) to evaluate the study's simplicity, applicability, and feasibility, no modification was done, and those students were not excluded.

Fieldwork: The study was conducted through three phases:

Preparatory phase: Reviewing of the current local and international related literature using books, articles, and scientific periodicals was done by the research team for tool designing. The following steps were done with each group: The purpose of the study was explained, and verbal consent was obtained from each participant; then interviewing questionnaire was first coded.

Implementing phase: The researcher attended the mentioned setting and collected data for six months, three days per week. The researcher explained how to fill a questionnaire to each student. A clarified filling time was taken about 30 minutes and then distributed as a pre-assessment test for their knowledge and attitude assessment Likert scale during a first counseling session.

Second counseling session, the researcher checked myths related to consanguineous marriage, then provided correct information related to concepts, degrees, and consanguinity on maternal and fetal, genetic disease-related consanguinity, and premarital investigation required using Arabic instructional support guidelines with different methods of teaching as (lectures, group discussion).

Third counseling session, the researcher used role-play situations to apply to counsel and finally summarizes all information given, then asked if any student needs an explanation for any question.

Evaluation phase: The post counseling questionnaire was distributed two weeks from the pretest using the same pre-questionnaire sheets template. Finally, the students' satisfaction questionnaire was distributed then collected.

4.6. Data analysis

The collected data were coded, organized, analyzed, and tabulated using the statistical package of social science (SPSS) program version (20). Chi-square test (X^2) and correlation test (r test) were used as a test of significance at P -value ≤ 0.05 . Highly significant at $p \leq 0.01$.

5. Results

Figure 1 refers to the relative degree between studied sample parents. The figure present that 25.8% of students' families were relatives.

Figure 2 illustrates the family genetic diseases due to consanguineous marriage in students' families. The figure illustrates that 11.2% of the students' families had inherited genetic disorders.

Figure 3 displays the autosomal recessive disease and congenital anomalies related to consanguineous marriage in students' families. The table shows that 30% of those affected had Down Syndrome and absence of arm, 10% had sickle cell disease, 20% had thalassemia, and 10% had Favuism.

Figure 4 refers to multi factors genetic disease-related consanguineous marriage. The figure illustrates that 50% of those affected had diabetes mellitus, 40% had hypertension, and 10% had heart diseases.

Table 1 reveals that 41.6% of the studied students have total correct knowledge pre counseling than 71.9% post counseling with a highly statistically significant difference ($P \leq 0.000$).

Table 2 illustrates that 61.8% of the studied sample have a positive attitude regarding consanguineous marriage pre

counseling compared to 74.2% post counseling with a highly statistically significant difference ($P \leq 0.000$).

Table 3 shows that 94.4% of the studied sample was satisfied after counseling with the aim of guidelines was matched with content, clear and easy understanding 100%, method and media of teaching were clear 100% while 79.8% were not satisfied with place of counseling.

Table 4 demonstrates a direct positive correlation between the studied sample's knowledge and attitude regarding consanguineous marriage pre and post counseling.

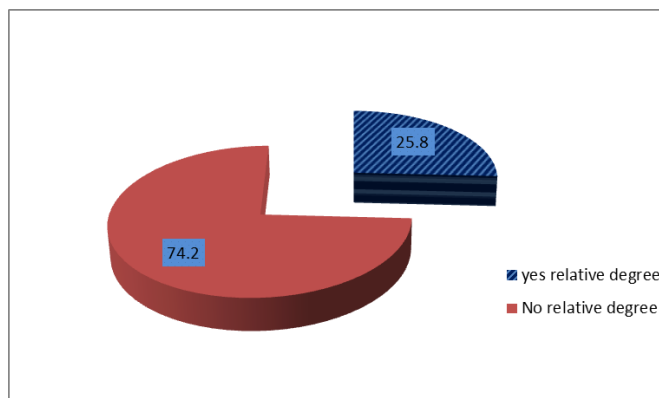


Figure (1): Percentage distribution of studied sample according to a relative degree between their parents (n=178).

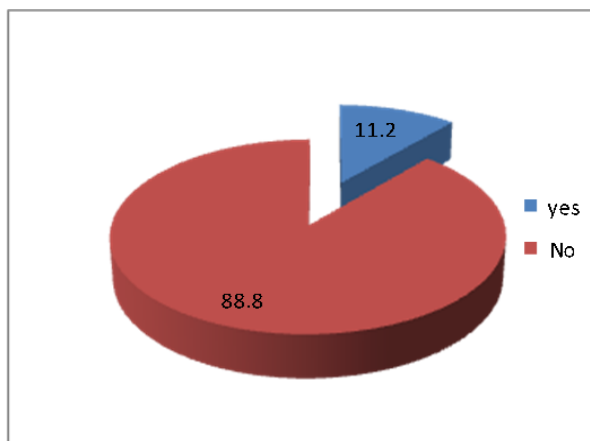


Figure (2): Percentage distribution of family genetic disease related to consanguineous marriage among the studied students (n=20).

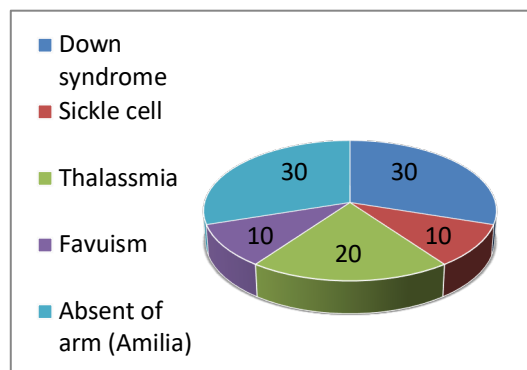


Figure (3): Percentage distribution of single genetic disease and congenital anomalies related to consanguineous marriage among studied students' extended family (n=10).

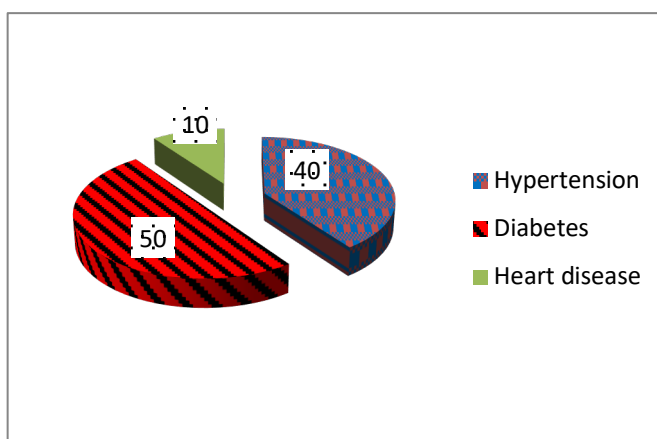


Figure (4): Percentage distribution of multi factors genetic disease-related consanguineous marriage among the studied sample (n=20).

Table (1): Comparison between pre and post counseling of students’ total knowledge score regarding consanguineous marriage (no = 178).

Total knowledge score	Pre		Two weeks post-test		Chi-square	P-value
	No	%	No	%		
Incorrect	104	58.4	50	28.1	16.030	0.000
Correct	74	41.6	128	71.9		

Table (2): Comparison between pre and post counseling of students’ total attitude score regarding consanguineous marriage (no = 178).

Total attitude score	Pre		Two weeks Post-test		Chi-square	P-value
	No	%	No	%		
Negative attitude	68	38.2	46	25.8	19.17	0.000
Positive attitude	110	61.8	132	74.2		

Table (3): Students’ satisfaction regarding premarital counseling about consanguineous marriage (no = 178).

Items	Satisfied		Uncertainly satisfied		Unsatisfied	
	No	%	No	%	No	%
Counseling session						
The counseling session is important	120	67.4	28	4.5	50	28.1
The session place was comfortable and well ventilated	36	20.2	0	0.0	142	79.8
Session time is enough and appropriate	142	79.8	36	20.2	0	0.0
Instructional supportive guidelines						
The aim of guidelines was matched with content	168	94.4	10	5.6	0	0.0
Guidelines were clear and easy understood	178	100	0	0.0	0	0.0
The Knowledge of guidelines was advanced	142	79.8	36	20.2	0	0.0
Counselor						
Method and media of teaching was clear	178	100	0	0.0	0	0.0

Table (4): Correlation between studied students’ knowledge and attitude regarding consanguineous marriage before and after counseling (n =178).

Items	Student's total knowledge score before counseling	Student's total knowledge Score after counseling
Students total attitude score	r= 0.75 P= 0.000	r= 0.95 P= 0.000

6. Discussion

Consanguinity is a traditional habit among Arab countries. The present study finding shows that one-fourth of the studied sample had a consanguinity degree between their

parents. Also, the minority of them had a family history of genetic disease, with fifty percent of those affected by diabetes and more than one-fourth had a single genetic disease as Down syndrome and absence of arm as a congenital anomaly. This finding partially followed *Bittles*

and Black (2010), who reported that more than half of the studied sample had a history of consanguineous marriage, with congenital anomalies representing 20%.

Regarding total knowledge score, the present study illustrates a significant improvement in the total knowledge regarding consanguineous marriage among the studied sample post-intervention compared to pre-intervention. Less than half of the studied sample had total incorrect knowledge pre counseling than around three-fourths of total correct knowledge post counseling. This improvement could be explained by counseling is playing a major role in providing comprehensive, important, and complete information that correct students' knowledge regarding premarital counseling for consanguinity.

This finding was agreed with *Khlat et al. (1986)*, who reported that most of the studied sample had a good knowledge-related consanguinity post-intervention. Additionally, the present study findings contrasted with *Al Amaa et al., study (2008)*, which reported that King Abd Alaziz university students had inadequate knowledge about premarital programs.

While this finding disagreed with *Ibrahim et al. (2011)*, who reported that studied sample knowledge about consanguineous marriage pre-intervention was generally low since only 14%, 5.5% had fair and satisfactory scores compared with one-fourth had satisfactory scores post-intervention.

The differences in the knowledge score between the present study and other studies may be attributed to the difference in the study population since the current study was conducted among nursing students that had a theoretical background from cases facing them at clinical training rather than non-medical students and the general population in other studies.

Concerning studied students' attitudes related to consanguineous marriage, the present study reveals that near two-thirds of the studied sample had a positive attitude toward consanguineous marriage pre counseling compared to three-fourths post counseling. This improvement could be explained as the studied sample's awareness of the negative consequences of consanguineous marriage through counseling sessions changes their attitude regarding consanguine practice.

These findings were consistent with *Alkhalidi et al. (2002)*, who showed that the majority (85%) of Kuwait and Oman university students had a positive attitude toward post premarital program while *Alkindi et al. (2012)* was congruent with this finding and reported that (90%) of studied sample post-intervention expressed negative attitude said that the result of premarital screening does not influence the marriage decision.

Premarital counseling is one of the most important strategies for preventing genetic disorders, congenital abnormalities, and several medical, psychosocial marital problems. Most of the studied students were satisfied with the topic, considered it important, and exhibited their intention for application before marriage. These findings were in the same line with *Esheaba et al. (2018)*, who reported that most of the studied sample was satisfied with

the importance of implementing premarital counseling regarding consanguineous marriage.

Regarding the correlation between studied sample knowledge and their attitude regarding consanguineous marriage after counseling, the present study findings show a positive statistically significant correlation between studied samples' knowledge and their attitude. This finding may be attributed to counseling sessions provided the participants with valuable information that offered the majority of the studied sample the correct knowledge that positively reflected their attitude regarding premarital counseling about consanguinity.

This result agreed with *Bittles and Black (2010)*, who reported a positive, highly statistically significant correlation between total student knowledge and total attitude scores regarding consanguineous marriage post-program. Finally, it was evident from the present study findings that a significant improvement among studied sample knowledge and attitude post-intervention compared to pre-intervention, which supports the current research hypothesis.

7. Conclusion

In conclusion, the study revealed that nursing students who attended premarital counseling sessions related to consanguinity had a better perception than pre-intervention.

8. Recommendations

In the light of the findings of the study, the following recommendations are suggested:

- Integrate premarital counseling concept regarding consanguineous marriage at undergraduate university education curriculum.
- Establish premarital counseling consultant unit at faculty of nursing, Ain Shams University.
- Replicate the study in another setting and on a different sample of non-medical university students.
- Assess practice of premarital counseling provided at early adulthood in a different geographic area.

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