

# Influence of Premarital Counseling Regarding Consanguineous Marriage on Knowledge and Attitude among University Students

<sup>1</sup>Nagia Shawky Abd El-Samie Ebid, <sup>2</sup>Sahar Mossa Soliman,  
<sup>3</sup>Kamilia Ragab Abo-Shabana, <sup>4</sup>Nevin Samir Metwaly

(1) Maternity Nursing & Gynecology Department, Faculty of Nursing, Ain Shams University

(2) Dean Faculty of Nursing, Ain Shams University

(3, 4) Maternity Nursing & Gynecology Department, Faculty of Nursing, Ain Shams University

## ABSTRACT

**Background:** Consanguineous marriage is a tradition habit in Arab countries leading to higher rates of autosomal recessive genetic disorders. **Aim of the study:** to study the influence of premarital counseling regarding consanguineous marriage on knowledge and attitude among university students. **Methods:** A quasi experimental design was used. **Setting:** The study was conducted in (Faculty of Nursing Ain Shams University). **Sample type:** A purposive sample was selected. **Sample size:** 178 students were included in the study. **Tools for data collection:** two tools of data collection were used named Arabic structured-administrated questionnaire sheet and Likert attitude scale. **Results:** the study indicated that three fourth of studied sample had total correct knowledge and positive attitude regarding consanguineous marriage post intervention. **Conclusion:** improvement of student's knowledge and attitude after counselling sessions. **recommendations:** integrate premarital counseling concepts regarding consanguineous marriage at undergraduate university education curriculum.

**Keyword:** Premarital counseling, consanguineous marriage, Genetic disorders

## Introduction

Consanguinity is defined Close blood relationship between people from the same family, is widely practiced in countries of Asia and Africa especially with higher rate in Arab countries but its prevalence is low in western countries. The higher rate returned to some interactive factors like as social, educational, culture and religious believes (*WHO, 2016*).

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 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 appearance of congenital anomalies to offspring with approximately 30% of undiagnosed cases of mental disability and increased susceptibility for polygenic or multifactorial diseases as hypertension, diabetes and cardiac disease (*Hamamy et al., 2016*).

Having Healthy mothers and children are valued hopes and dreams of families and the main concern of

every society. The evidence reveals that promotion of the women and Men`s health before pregnancy can promote the health of their offspring and this achieved through **counseling** (*Elsayed et al., 2017*).

According to (*American Counseling Association, 2015*). Counseling is a process as well as 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 future also it is included some types as individual, group, family and premarital counseling as example of couple counseling.

Premarital counseling is a form of therapy designed to help couples enhance their readiness for marriage also help 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 ways that are mutually satisfying (*Bittles, 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 detailed family history and constructing a four-generation pedigree (including offspring, siblings, parents,

grandparents, aunts, uncles and nieces) (*Dyer, 2015*).

The nurse is the core of 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 for providing planned, organized and effective care for couples for prevention complications of transmission genetic diseases and increase awareness about harmful consequences of these diseases also correcting misconception and misbelieved regarding consanguinity (*Atrash, 2016*).

### **Justification 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 that is represented 30.9% without paying heed to the detrimental outcome on family health as genetic diseases and congenital anomalies so increase awareness about the consequences of these marriage is necessary especially among university students being the common engagement age through premarital counselor nursing role that correct couples knowledge and enhance their attitude regarding premarital counseling for consanguinity which consequently had a reflected bone for promotion couples health, minimizing maternal, fetal and neonatal mortality and morbidity (*DHS, 2016*).

### **Aim of the work**

To study the influence of premarital counseling regarding consanguineous

marriage on knowledge and attitude among university students.

### Research Hypothesis:

University student who attended premarital counseling sessions related to consanguinity had a correct knowledge and positive attitude than pre intervention.

## Subjects and Methods:

### A-Study Design:

A quasi experimental design was used

### B- Setting:

The study was conducted at the Faculty of Nursing Ain Shams University.

### C- Sampling:

#### Sample type:

A purposive sample was selected.

#### Sample size:

Unmarried third academic university students year 2019 totaled 178 male and female students who agreed to participate in the study and fulfill the following criteria.

#### Sample criteria:

Unmarried third academic years students being the common age for engagement

### D-Tools for data collection:

Two tools for data collection were used and reviewed by jury of three specialized professor in maternity & gynecological nursing field:

- **Tool I** Arabic Structured interviewing questionnaire sheet which included four parts.
- **Tool II** (Likert scale).

### Tool I: Arabic Structured interviewing questionnaire sheet:

The researcher was design the tool after reviewing the related literature. It was divided into four parts:

**Part (1):** This part covered the student's general characteristics as name, age, sex, place of residence, mother and father education. It included close ended question from 1-7.

**Part (2):** This part was concerned with student's medical history. It involved one close ended questions no 8.

**Part (3):** This part was concerned with family heredity history. It included two close ended question from 9 to 10.

**Part (4):** This part was designated to assess student's level of knowledge regarding consanguineous marriage which includes concept, types, factors, health problems related, genetic diseases related and premarital investigations. It included 31questions from 11-41 one open ended question and 31 close ended questions.

### Knowledge scoring system:

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

**Tool II (Likert Scale):**

It was designed to assess student's attitude regarding consanguineous marriage. The scale covered 10 clear statements. Each student nurse response agree, uncertain and disagree.

- **Attitude scoring system:**

Three attitudes were offered for each statement: disagree attitude scored by one point, uncertain attitude scored by two points and agree attitude scored by three. So total attitude scores ranged from 1 to 30 (Score less than 60 %, from 1 to 18 were evaluated as negative attitude and score more than 60 %, from 19 to 30 as positive attitude).

**Ethical Considerations:**

An official approval was obtained from the Scientific Research Ethical Committee in the faculty of nursing at Ain Shams University before implementing the study. Informed consent was obtained from the student after explanation the purpose with the right to withdraw at any time and no harm for them. Counseling session was conducted individually in private room to promote confidentiality.

**Administrative design:**

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

**Operational Design:**

- **Preparatory phase:**

Reviewing of the current local and international related literature using

books, articles and scientific magazines was done by the research team for tool designing

- **Pilot study:**

A pilot study was done on 10% (20 student) aimed to evaluate the simplicity and applicability of study, no modification was done and those students weren't excluded.

- **Fieldwork:**

The study was conducted through three phases:

**Phase no 1 Preparatory phase:**

With each group the following steps were done: the purpose of the study was explained and oral consent was obtained from each participant then Self-administered questionnaire firstly was coded.

**Phase no 2 Implementing phase**

The researcher had attended at the mentioned setting and collect data for 6 month three days per week.

The researcher explained how to fill in questionnaire for every student. With clarified filling time was taken about 30 minutes then distributed

It as a **pretest**. Each day five students was interviewed and counseled individually consuming 30 minutes through eight counseling sessions using Arabic instructional supportive guidelines with different method of teaching as (lectures, group discussion) for theoretical part and media as (role play, laptop) for application counseling.

**Phase no 3 Evaluation phase:**

**Post counseling questionnaire** was distributed two weeks from pretest

using the same template of pre questionnaire sheet then collected.

### Statistical design:

The collected data was coded, organized, analyzed and tabulated using statistical package of social science (SPSS) program version (20). Chi-square test (X<sup>2</sup>) and correlation test (r test) were used as test of significance at P-value < 0.05.

### Results

**Table (1):** reveals that 41.6% of studied sample have total correct knowledge pre counselling Compared to 71.9%, post counselling with a highly statistically significant difference.

**Table (2):** illustrates that 61.8%, of studied sample have positive attitude pre counselling Compared to 74.2%, post counselling with a highly statistically significant difference.

**Table (3)** demonstrates that there is a direct positive correlation between studied sample's knowledge and attitude regarding consanguineous marriage where the knowledge decreased lead to decreased attitude and the opposite more knowledge has increased significantly with attitude.

**Figure (1)** refers to relative degree between studied sample parents

**Figure (2)** refers to family genetic disease related consanguineous marriage

**Figure (3)** refers to autosomal recessive disease and congenital anomalies related consanguineous marriage.

**Figure (4)** refers to multi factors genetic disease related consanguineous marriage

**Table (1):** Frequency and relation between total knowledge score regarding consanguineous marriage pre and post counselling (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	.000**
Correct	74	41.6	128	71.9		

Highly significant\*\*

**Table (2):** Frequency and relation between total attitude score regarding consanguineous marriage pre and post counselling (n=178).

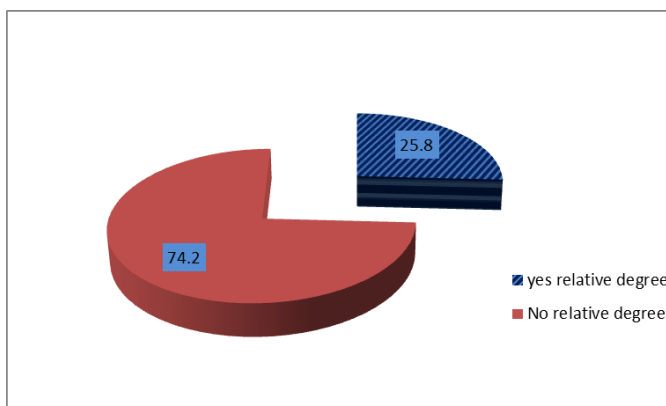
Total attitude score	Pre		Two weeks Post test		Chi-square	P-value
	No	%	No	%		
Negative attitude	68	38.2	46	25.8	19.17	.000**
Positive attitude	110	61.8	132	74.2		

Highly significant\*\*

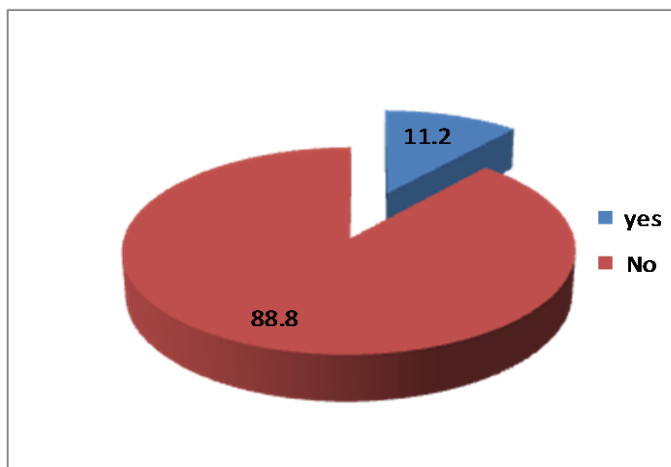
**Table (3):** Correlation between studied sample's Knowledge and attitude regarding consanguineous marriage before &after counselling (n =178)

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

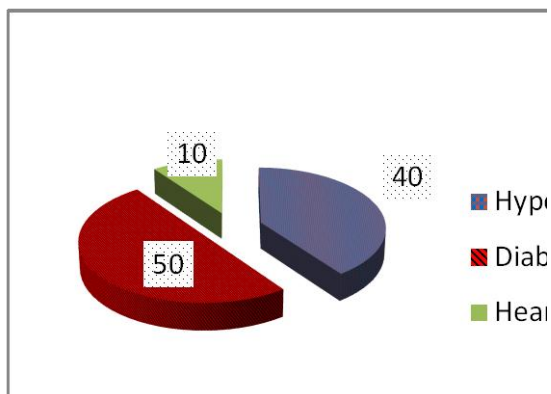
**Figure (1):** Percentage distribution of studied sample according to relative degree between their parents (n=178)



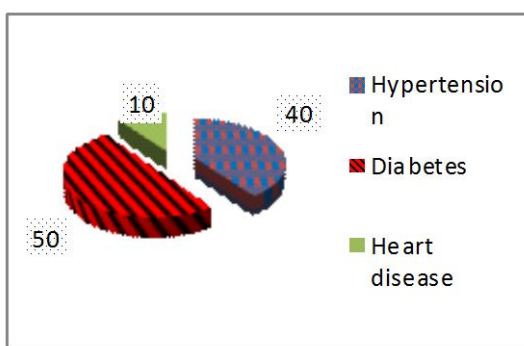
**Figure (2):** Percentage distribution of family genetic disease related consanguineous marriage among studied sample (n=20)



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



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



## Discussion

Consanguinity is a tradition habit among Arab countries. the present study finding showed that one fourth among studied sample had consanguinity degree between parents from second degree with rural area living place since the rural society is somewhat isolated and the family relations are stronger than in urban areas , Also minority of them had history of family genetic disease with fifty percent affected by diabetes and one fourth had and more than one fourth had a single genetic disease as Down syndrome and absence of arm as a congenital anomaly. This finding was partially in accordance with *Bittles and Black (2015)* who reported that more

than half of studied sample had history of consanguineous marriage with congenital anomalies that represent 20%.

Increasing awareness about the relation between consanguinity and genetic disease also investigations required before marriage had an important role in removal consanguinity resulting complications the present study had illustrated that one fourth of studied sample had incorrect knowledge regarding risks of consanguinity pre intervention compared minority of them post intervention, this due to being nursing student had theoretical background from cases facing them at clinical training. This finding was partially agreement with *Palaniyammal, (2016)* who reported

that two third among studied sample had adequate knowledge regarding effects of consanguineous marriage on health post program.

**On the other side** the majority among studied sample had incorrect knowledge regarding diseases related to consanguineous marriage also had incorrect knowledge about premarital counseling and consanguineous marriage investigations pre-counseling compared post counseling. This **due to** absence of premarital counseling content in their educational curriculum and identifying only during marriage.

Similarly, **(Khaled, 2017)** who revealed that majority of Kuwait university student had a poor knowledge about heredity disease related consanguineous marriage and the importance of premarital screening pre intervention. **On the contrary** this finding was disagreed with **(Olwi et al., 2016)** who found that majority of Saudi Arabia collages medical students had a good knowledge about genetic disease related consanguinity pre program. Returned the higher knowledge score for being medical student and presence of heredity disease in their family.

As regard total knowledge score the present study had illustrated a significant improvement in the knowledge regarding consanguineous marriage among studied sample pre-intervention compared post-intervention. less than two-thirds of the studied sample had total incorrect knowledge pre counseling compared to less than three-fourths total correct knowledge post counseling. This improvement could be explained by counseling play a major role in providing comprehensive, important & complete

information which correct students knowledge regarding premarital counseling for consanguinity. This was agreed with **Van, (2016)** as reported that the majority of the studied sample had a good knowledge related consanguinity post-intervention.

Additionally the present study findings was in contrast with **Al Amaa study, (2018)** who reported that Kink Abd Alaziz university students had inadequate knowledge about pre premarital program.

While these finding was disagreed with **Ibrahim, (2017)** who reported that studied sample Knowledge about premarital program regarding consanguineous marriage pre intervention was generally low since only 14%&5.5% of them had fair and satisfactory score compared with one fourth of them had satisfactory score 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.

Therefore the present study findings stressed the importance of reapplication in another setting and another sampling. These findings were agreed with **Olwi et al. (2016)**, who reported that majority among studied sample nursing student had a correct knowledge and positive attitude regarding consanguinity for being a medical student and higher



academic year of education so recommended that the importance of application on another sampling for testing awareness and attitude regarding consanguinity.

Concerning studied samples' **attitude** related to consanguineous marriage, the present study had revealed that majority among studied sample pre and post counseling agreed that consanguineous marriage as causing congenital anomalies then increase financial burden and the only method for control these complications is premarital counseling. this findings was in the same line with (Ola et al., 2018), who found that majority of studied sample agreed that consanguineous marriage as causing congenital anomalies so premarital counseling should be obligatory before marriage for reducing STD and congenital anomalies.

Furthermore two thirds of studied sample had a positive attitude toward consanguineous marriage pre counseling compared to three fourth post counseling. **This improvement** could be explained as studied samples awareness with negative consequences of consanguineous marriage through counseling sessions, changes their attitude regarding consanguinity practice.

These findings were consistent with (Alkhalidi et al., 2015) who showed that majority (85%) of Kuwait and Oman university student had a positive attitude toward post premarital program while (Alkindi et al., 2015) was congruent with this finding who reported that (90%) of studied sample post intervention expressed negative attitude said that the result of premarital

screening not influence the marriage decision.

Premarital counseling is one of the most important strategies for prevention genetic disorders, congenital abnormalities and several medical, psychosocial marital problems so all studied sample satisfied with the topic is important and appeared their Intention for application before marriage. these findings was in the same line with (Ola et al., 2018), that reported majority of studied sample satisfied with importance of implementing premarital counseling regarding consanguineous marriage.

As regard correlation between studied samples' knowledge and their attitude regarding consanguineous marriage after counselling. the present study findings showed that there was positive correlation between studied samples' knowledge and their attitude because counseling sessions provided the participants' with valuable information that attributed to majority among studied sample had a correct knowledge which was reflected a positive attitude regarding premarital counseling about consanguinity.

This result was agreement with **Bittles, (2016)**, who reported that there was a positive highly statistically significant correlation between total student knowledge and total attitude scores regarding consanguineous post program.

Finally it was evident from the present study findings a significant improvement among studied sample correct knowledge pre intervention compared post intervention, this pointed out our attention toward the importance

of utilizing guideline related consanguinity because today student nurse will be tomorrow a professional nurse who would provide competent counselling sessions regarding consanguinity for minimizing practice and related abnormalities.

## Conclusion

In conclusion, the study revealed that a significant improvement of student's knowledge and positive attitude after counselling.

## 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.

### For further research in this field;

- Reapplicate the study in another setting and another sampling at non medical university students.
- Assess practice of premarital counseling among early adulthood at different geographic area.

## Reference

**Abd Al-Azeem, S.T., Elsayed, E.T., El-Sherbiny, N.A., Ahmed, L.A. (2017):** Promotion of knowledge and attitude towards premarital care: an interventional study among medical student in Fayoum

University. Acadimec Journal, Vol.(3), No. 3, pp. 121-128.

**Alama, J (2018):** knowledge regarding the national screening program among university student in western Saudi Arabia .Saudi Med J, Vol. 29(11), pp. 1649-1653.

**Alkhaldi H. (2015):** Attitude to premarital counseling among students of Abha Health Science collage, Saudi Med J Vol. 23(8) : 986-990.

**Alkindi, R., Al Rujaiabi, s., & Al kendi, M. (2015):** knowledge towards premarital screening program. Oman medical journal Vol. 27(4), pp. 291-296.

**American counseling Association (2015):** essential of premarital counseling retrieved from [HTTP://www.huffingtonpost.com/2014/02/22/premarital-counseling\\_n\\_4784568.html](http://www.huffingtonpost.com/2014/02/22/premarital-counseling_n_4784568.html)

**Atrash, H., Johnson, K. and Adams, M. (2016):** Preconception Care for Improving Perinatal Outcomes: The Time to Act. Maternal and Child Health Journal, Vol. 10, pp.3-11.

**Bittles, A. (2016):** Genetic counseling and screening of consanguineous couples and their offspring: recommendations of the National Society of Genetic Counselors. J Genet Couns.; Vol. (2) No.11, pp. 97–119.

**Bittles, A.H. and Black, M.L. (2015):** The impact of consanguinity on neonatal and infant health. Ain Shams Medical Journal Vol.2, pp 737–741.

- Demographic Health Survey, (2016):** Consanguineous marriage percentage located at <http://www.google.Com>
- Dyer, W. (2015):** Principles of counseling, Retrieved from [mhttp://www.huffingtonpost.com/2015/02/22/pre-marital-counseling\\_n\\_4784568.html](http://www.huffingtonpost.com/2015/02/22/pre-marital-counseling_n_4784568.html)
- Hamamy, H. (2015):** Consanguineous marriages in the Arab world. Vol. 3(5), pp. 121-128 Retrieved July 20, 2004, from [http://ambassadors.net/archives/issue\\_14/selected\\_studies3.htm](http://ambassadors.net/archives/issue_14/selected_studies3.htm)
- Ibrahim, N. (2017):** An educational program about premarital screening for unmarried female students in king Abdul-Azizi, Jeddah. *Journal of infection and public Health*, Vol. 4(1), pp. 30-40
- Khaled, N. (2017):** knowledge, attitude and satisfaction of university students regarding premarital screening programs in Kuwait, *European Journal of Environment and public health*, Vol. 1(2), pp. 12-19.
- Ola, M.Hanen, J.andGhada, Q. Merdad, I. and Ramadan, E (2018):**investigating the knowledge, attitude and practice of nursing students regarding a premarital program in in Jeddah, *Journal of Nursing and health science*Vol. 7, pp. 7-31.
- Olwi, D.Merdad, I. and Ramadan, E (2016):** knowledge of genetics and attitudes toward genetic testing among college students in Saudi Arabia . *public Health Genomics*, Vol. 3 No 19, pp. 260-268 .
- Palaniyammal M. S (2016):** Assess the Knowledge Regarding “Effects of Consanguineous Marriage on Offspring” Among Adolescent Girls in Selected Schools at Salem *Imperial Journal of Interdisciplinary Research (IJIR)* Vol-2, Issue-7, 2016 ISSN: 2454-1362, located at <http://www.onlinejournal.>
- Van, M., (2016):** Perception of consanguineous marriages and their genetic effects among a sample of couples from Beirut. *Am J Med Genet*; Vol 25, pp. 299–306.
- World health organization (2016):** consanguineous marriage concepts and factors related in the Arab world, Vol. 2(1), pp. 100-107