# Maternity Nurses Hospitals' Perception Concerning Preconception Risk Factors

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## Abstract

**Objective:** The aim of the study was to assess maternity nurses' hospitals' Perception Concerning preconception risk factors. **Background:** Preconception care means interventions required for maternal and fetal health care and detection of pre-pregnancy risk factors. The present study aimed to determine maternity nurses' Perception in Ain shams maternity &gynecology hospital toward preconception risk factors. **Subject and Methods:** This descriptive study which was conducted among (200) Maternity Nurses working at Maternity & Gynecology Hospitals at Ain Shams University. From of January 2017 and finished at June. Data collection tool was a researcher made 'Structured Interviewing questionnaire to a convenient sample and data were analyzed using SPSS software, descriptive statistics and chi-square test. **Result**:The result showed that nearly to three fourth of maternity nurse's level of total perception regarding preconception risk factors was very good, while more than one quarter of their level of total perception was good .Also less than one fourth of maternity nurse's level of total perception was poor. There were statistical significant relation between maternity nurse`s age, their educational level, their years of experience, and their perception concerning to preconception risk factors. **Conclusion:** The present study findings revealed that nearly to three quarters of the maternity nurses of Ain Shams maternity hospital had very good perception regarding preconception risk factors. While the maternity nurses' perception regarding preconception risk factors found to be affected significantly by their age, level of education and years of experience of their work. **Recommendations:** preconception health care must be involved in the pre-employment orientation program for new nursing staff in the hospital. Also Unique specified instructions through specified protocol for counseling.

**Key words**: Preconception risk factors, maternity nurses, perception.

## Introduction

Preconception health refers to the health of women and men during their reproductive years, which are the years they can have a child. It focuses on taking steps now to protect the health of a baby they might have sometime in the future. However, all women and men can benefit from preconception health, whether or not they plan to have a baby one day. This is because part of preconception health is about people getting and staying healthy overall, throughout their lives. In addition, no one expects an unplanned pregnancy*(CDC, 2014).*

Preconception health care is the medical care a woman or man receives from the doctor or other health professionals that focuses on the parts of health that have been shown to increase the chance of having a healthy baby. Preconception health care is different for every person, depending on his or her unique needs. Based on a person's individual health, the doctor or other health care professional will suggest a course of treatment or follow-up care as needed*(CDC, 2014).*

A new WHO report shows that preconception care has a positive impact on maternal and child health outcomes. Addressed primarily at health professionals responsible for developing national and local health policies, the report provides a foundation for implementing a package of promotive, preventive and curative health interventions shown to have been effective in improving maternal and child health (*Geneva, 2012*)

A wide range of sectors and stakeholders needs to be engaged to ensure universal access to preconception care. The report also guides non-health sectors, foundations and civil society organizations to collaborate with, and support, public health policy-makers to maximize gains for maternal and child health through preconception care *(WHO, 2013).*

Preconception care is the provision of biomedical, behavioral and social health interventions to women and couples before conception occurs. It aims at improving their health status, and reducing behaviors and individual and environmental factors that contribute to poor maternal and child health outcomes. Its ultimate aim is to improve maternal and child health, in both the short and long term *(Geneva, 2012)*.

Opportunities to prevent and control diseases occur at multiple stages of life; strong public health programs that use a life-course perspective from infancy through childhood and adolescence to adulthood are needed. Preconception care contributes to these efforts. Even if preconception care aims primarily at improving maternal and child health, it brings health benefits to the adolescents, women and men, irrespective of their plans to become parents*(Geneva, 2012)*.

There is a menu of effective interventions to address the following health problems, behaviors and risk factors in the preconception period that increase the likelihood of maternal and childhood mortality and morbidity such as Nutritional deficiencies and disorders, Vaccine-preventable infections, Tobacco use, Environmental risks, Genetic disorders, Early pregnancies, unwanted pregnancies, and pregnancies in rapid Succession, Sexually transmitted infections (STIs), including human immunodeficiency Virus (HIV).

And Infertility and sub fertility, Female genital mutilation, mental health disorders, including epilepsy, psychoactive substance use, Intimate partner and sexual violence. These interventions would need to delivered using a mix of methods such as Health education and promotion, vaccination, Nutritional supplementation and food fortification, provision of contraceptive information and services, Screening, counseling and management (medical and social) *(Geneva, 2012)*.

Nurses serve individuals in many capacities including direct patient care, comprehensive health education advocacy for services, and case management. The nursing profession, by definition, diagnoses and treats the human response to actual or potential health problems, provides health counseling and teaching, and provides supportive and restorative care framed within a health promotion/ disease prevention model of care (*CDC, 2014*)

Therefore, nurses are optimally positioned to play a major role in developing and integrating Preconception care (PCC) into both primary and specialty care settings. As the concept of PCC develops further,

nurses must have a major role in assessing preconception risk, providing the appropriate intervention, assuring patient participation, and referring for specialized services when necessary *(CDC, 2014).*

Today, nurses in primary and specialized practice settings can begin to assess opportunities for implementing PCC. Development, review, and distribution of educational materials will be essential to support professional and patient learning. Strategies for nurses in clinical settings include serving on the committees.

That plan, implement, and evaluate evolving practice models; delivering PCC education in a group education model; and implementing an interdisciplinary practice model to best use professional skills. Nurses in educational settings must use every opportunity to disseminate information about implementing PCC during patient encounters *(ACOG, 2014)*.

**Aim of the Study**

**This study was attained through:**

Assessment of maternity nurses hospitals' Perception Concerning preconception risk factors.

**Research Question:**

What are the maternity nurses' hospitals' Perception Concerning preconception risk factors?

**Subjects and Methods**

This study was aimed to assess maternity nurses hospitals' Perception Concerning to preconception risk factors.

**This was attained through:**

Assessment of maternity nurses hospitals' Perception Concerning preconception risk factors.

The methodology followed for achieving this aim was elaborated under the following four main topics namely**:**

**I.** Technical design
**II.** Administrative design
**III.** Operational design
**IV.** Statistical design

**I- Technical design**

The technical design used for the study involved the following items; research design, setting of the study, sample of the study and tools for data collection.

**Research design:**

Descriptive study design was used.

**Research setting:**

This study was conducted all the departments in obstetrics & Gynecology Hospitals at Ain Shams University.

**Research subjects:**

**Type of sample:** A convenient sample.

**Sample size:**

The sample of this study included (200) Maternity Nurses working at Maternity & Gynecology Hospitals at Ain Shams University.

**Sample technique:**

For data collection all available maternity nurses at Maternity & Gynecology Hospitals at Ain Shams University were included. The sample was collected in the predetermined duration that was six months.

**Tools of data collection:**

It was designed by the researcher after reviewing the related current and

previous literature to collect data that cover the aim of the study.

**I. Nurses 'Structured Interviewing questionnaire includes five parts:(Appendix II )**

**Part (1):** This part designed to assess maternity nurses' personal data and clinical experience. It cover their socio-demographic data such as nurse`s age, Years of Experience, Occupation, Name of Word, Marital status(married, divorced, widowed, and single), Duration of marriage, Age at marriage, Educational level and Address(Rural, Urban).

**Part (2):** This part designed to assess medical and surgical history of maternity nurses. It mentioned Heart disease, chronic hypertension, Diabetes Mellitus, Renal infection, Anemia and mention other illnesses that they complained from it. Also mention type of allergy if found,mention name of surgery, mention name of surgery if found and mention the cause of Hospitalizations if they had period of Hospitalizations.

**Part (3):**This part designed to assess obstetrical history of maternity nurses. It covered menstrual history as Age at menarche, Rhythm (regular- Irregular), Amount (Scanty-moderate- heavy), Duration, and Cycle. While this part covered the obstetric history such as no of Gravidity, if there was Follow up during pregnancy and if they had any problems to mentioned toward pregnancy.Also no of parity, if there was Follow up during labor and if they had any problems to mentioned toward labor. And no of Live births, mention history& causes of still births if they had.

**Part (4):** This part designed to assess family history of maternity nurses. It mentioned Hypertension, Diabetes, Multiple pregnancy, Congenital anomalies and Malignancies.

**Part (5):** This part designed to assess maternity nurse's perception concerning preconception risk factors. It consists of six questions as the following:

1.What are the risk factors for a woman before pregnancy?

2.What is the importance of knowing these factors before pregnancy?

3.Did you know the types of these factors?
(Yes)(No).

4.If yes, determine the risk factors for the woman before pregnancy:

• **Environmental Factors:** such as (Poor Sanitation, Environmental Pollution, Poverty, Ignorance, Smoking, Alcoholism, Poor Nutrition and Bad Health Habits).

• **Biological Factors:** such as (Age of Mother, Elderly Primigravida, and Grand multipara, Over Weight, Under Weight and Height of Mother).

• **Medical Obstetrical Maternal Factors:** such as (Anemia, Untreated infection in Childhood & Adolescence, Congenital Anomalies, Age of Marriage, Pre mature rupture of membranes, Pre mature Delivery, Ante Partum Hemorrhage, Multiple Pregnancy and Placental Abnormalities).

• **Medical Obstetrical Fetal Factors:** such as (Mal presentations, Prematurity, Fetal Size, Twins, Cord Complications, Congenital Anomalies, Hydrominos and Fetal Infection).

• **Diseases aggravated by pregnancy** as (Anemia, Diabetes mellitus, Hypertension, Cardiac Disorders, RH Incompatibility and Renal Disease).

• **Factors related to hospital care:** such as (Lack of doctors, nursing, experience among employees, resources, control / follow-up, continuous training, Poor infrastructure and There is no policy of reward and punishment).

5.What is the source of your information?

a. The work. c. The media.

b. Studying. d. Other.

6.What age groups do you need to know these factors؟

❖ **Scoring system**

To assess the maternity nurses if they have any information about preconception risk factors, the score range between very good (80%), good (79%-50%) and poor (<50%).

**Validity & Reliability:**

The vision of tools was reviewed by a group of three expertise's (specialized university Professors) in field of maternity& Gynecological nursing to measure validity and reliability of tools and necessary according to their opinions and comments modifications were done.

## Ethical Consideration:

The ethical research considerations in this study include the following:

• The research approval was obtained from Scientific Research Ethical committee in Faculty of Nursing at Ain Shams University before starting the study.

• The researcher clarified the objective and aim of the study to the participants included in the study.

• The researcher assured maintaining anonymity and confidentiality of the subject data.

• Maternity nurses had informed consent and they are allowed to choose to participate or not in the study and that they have the right to withdraw from the study at any time without panties.

**Administrative design:**

An official approval to conduct this study was obtained from Dean of faculty of nursing Ain Shams University, a letter containing the Title and aim was directed to administrator of the obstetrics & Gynecology Hospitals of Ain Shams University.

**Operational design:**

The operational design includes preparatory phase, Pilot study and field work.

**A. Preparatory phase**

It includes reviewing current and past, local and international related literature and theoretical knowledge of various aspects of the study using books, articles, internet, periodicals and magazines to develop tools for data collection related to educational strategies The developed tools were examined by experts to test their reliability to the study. Researcher made needed modification on tools of data collection after their revising by experts.

**B. Pilot Study**

A pilot study was carried out on 10% of maternity nurses in Maternity & Gynecology Hospitals at Ain Shams University. The pilot study was aimed to test clarity, arrangement of the items, applicability of the data collection tools and time consuming to fill in the tools. After analyzing the results of the pilot study the items were been rearranged and tools modifications were done based on the findings of the pilot study. Some questions were excluded, rephrased and then the final form was developed.

**C. Field Work**

- The process of data collection was carried out in the period beginning of

January 2017 and finished at June 2017

- The researcher attended to all departments of the obstetrics & Gynecology Hospital of Ain Shams University (the study setting) for 2 days per week from 9 a.m. to 2 p.m.

- Approval was obtained orally before talking soci-demographic data and after explaining the purpose of the study.

- At the first the researcher great the nurse, introduced herself, explained the purpose of the study to gain their confidence and trust to convince them to participate in the study and obtained oral approval to involved in the study then started the interview process individually for 20minites by using interviewing questionnaire sheet to assess the maternity nurse`s information.

- The researcher performed assessment of maternity nurse's hospital's perception concerning Preconception Risk Factors at the field of their real working different departments at obstetrics & Gynecology Hospital of Ain Shams University.

- Finally the researcher asked the nurses about their opinions in this study and taken it in mind for recommendations of these study.

**Statistical design**

o Data were analyzed using Statistical Program for Social Science (SPSS) version 20.0. Quantitative data were expressed as mean± standard deviation (SD).Qualitative data were expressed as frequency and percentage.

o **The following tests were done:**

☐ Chi-square($X^2$) test of significance was used in order to compare proportions between two qualitative parameters.

☐ Probability (P-value)

**Significance of the results:**

▪ *P-value<0.05 was considered significant.

▪ **P-value<0.001 was considered as highly significant.

▪ P-value>0.05 was considered non-significant

**Limitations of The study:**

• Interview was interrupted whenever the doctor or the patient asks the nurse about his problems in the department. So the interview questionnaire was taken along time.

## Result

**Table (1):** Number and percentage distribution of maternity nurses according to their socio-demographic data (N=200).

| Socio-demographic data | NO. | % |
|---|---|---|
| **Age(years)** | | |
| ≤30 | 46 | 23 |
| >30-40 | 48 | 24 |
| >40-50 | 77 | 38.5 |
| >50 | 29 | 14.5 |
| **Marital status** | | |
| Married | 170 | 85 |
| Single | 28 | 14 |
| Widow | 2 | 1 |
| **Education level** | | |
| Secondary | 97 | 48.5 |
| Institute | 43 | 21.5 |
| University | 60 | 30 |
| **Residence** | | |
| Rural | 15 | 7.5 |
| Urban | 185 | 92.5 |
| **Years of experience** | | |
| ≤10 | 44 | 22 |
| >10-20 | 63 | 31.5 |
| >20-30 | 74 | 37 |
| >30 | 19 | 9.5 |

**Table (1):**This table shows that the maternity nurse`s age ranged from 40 to 50 years represented (38.5%), also the percentage of their marital status was (85%).While their the education level of secondary nurses represented (48.5%), also their residence in urban areas was (92.5%). Although the percentage of their years of experience ranged from 10 to 20 represented (31.5%).

**Table (2):** Number and percentage distribution of maternity nurse`s level of total perception concerning preconception risk factors (N=200).

| Total Perception | No. | % |
|---|---|---|
| Very Good 80% | 137 | 68.5% |
| Good 79-50% | 51 | 25.5% |
| Poor <50% | 12 | 6.0% |
| Total | 200 | 100% |

**Table (2):**This table reveals that (68.5%) of maternity nurse's level of total perception regarding preconception risk factors was very good, while (25.5%) of their level of total perception was good .Also (6%) of maternity nurse's level of total perception was poor.
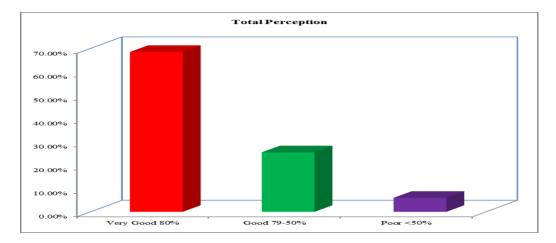
**Fig (1):** Percentage distribution of maternity nurse`s total perception concerning preconception risk factors.



**Table (3):** Relation between maternity nurse's level of total perception concerning to preconception risk factors with their Socio-demographic characteristics (n=200).

| Socio-demographic Data | Total Perception | | | | | | Chi-square test | |
|---|---|---|---|---|---|---|---|---|
| | Very Good (N=137) | | Good (N=51) | | Poor (N=12) | | x2 | p-value |
| | No. | % | No. | % | No. | % | | |
| **Age (years)** | | | | | | | | |
| ≤30 | 19 | 13.9% | 21 | 41.2% | 6 | 50.0% | 41.025 | <0.001** |
| >30-40 | 25 | 18.2% | 18 | 35.3% | 5 | 41.7% | | |
| >40-50 | 68 | 49.6% | 8 | 15.7% | 1 | 8.3% | | |
| >50 | 25 | 18.2% | 4 | 7.8% | 0 | 0.0% | | |
| **Marital status** | | | | | | | | |
| Married | 115 | 83.9% | 46 | 90.2% | 9 | 75.0% | 8.260 | 0.083 |
| Single | 21 | 15.3% | 5 | 9.8% | 2 | 16.7% | | |
| Widow | 1 | 0.7% | 0 | 0.0% | 1 | 8.3% | | |
| **Education level** | | | | | | | | |
| Secondary | 80 | 58.4% | 8 | 15.7% | 9 | 75.0% | 33.388 | <0.001** |
| Institute | 21 | 15.3% | 19 | 37.3% | 3 | 25.0% | | |
| University | 36 | 26.3% | 24 | 47.1% | 0 | 0.0% | | |
| **Residence** | | | | | | | | |
| Rural | 10 | 7.3% | 3 | 5.9% | 2 | 16.7% | 1.654 | 0.437 |
| Urban | 127 | 92.7% | 48 | 94.1% | 10 | 83.3% | | |
| **Years of experience** | | | | | | | | |
| ≤10 | 26 | 19.0% | 11 | 21.6% | 7 | 58.3% | 16.347 | 0.012* |
| >10-20 | 46 | 33.6% | 12 | 23.5% | 5 | 41.7% | | |
| >20-30 | 53 | 38.7% | 21 | 41.2% | 0 | 0.0% | | |
| >30 | 12 | 8.8% | 7 | 13.7% | 0 | 0.0% | | |

**Table (3):**This table illustrates that there were highly statistical significant relation between maternity nurse`s age (p<0.001), their educational level (p<0.001) and their levels of total

perception regarding preconception risk fact their level of total perception regarding preconception risk factors .As well as there was statistical significant relation between maternity nurse`s years of experience (p=0.012) and their levels of total perception regarding preconception risk factors. While there weren`t statistical significant relation between maternity nurse`s marital status (p=0.083), their residence (p=0.437) and their levels of total perception regarding preconception risk factors.

**Discussion**

The present study was aimed to assess maternity nurse's hospitals Perception Concerning preconception risk factors by:

Assessment of maternity nurses hospitals' Perception Concerning preconception risk factors.

Concerning socio-demographic data of the studied sample; more than one third of maternity nurse's age ranged from 40 to 50 years. Also there were about three fourth of nurses were married. While nearly half of them had secondary educational level. Also more than three fourth of them were from urban area. And more than one third of nurses had from 20 to 30 years of experience **(Table 1)**.

Although the present study demonstrated that the majority of maternity nurse`s age ranged from 40-50 years.

Mean while the result of previous study was in accordance with a study conducted by *(Abdelhakam et al., (2017)* who found that the majority of maternity nurse`s age more than 40 years old in his study of "Developing Nursing Management Protocol for Maternity Nurses Regarding Emergency Obstetric Care in Benha Hospitals".

On the other hand the previous study result was disagreement with *(Ramadan et al., (2018)* who reported that more than half of the study samples were aged from 20-30years at his study "maternity nurses' performance regarding noninvasive fetal wellbeing measures in Benha university Hospitals".

Further more the previous study result was in agreement with *(Sardasht et al., (2015)* who showed that the highest frequencies of her the study sample had secondary educational level in his study in Iran "Assessment the quality of preconception care provided in health care centers". As well as it similar to *(Abdelhakem et al., (2017)*in a previous study who reported that the high percentage of study sample had secondary education in her study.

Also the finding of previous study at the same line with *(Ahmed et al., (2017)* who mentioned that the majority of the study sample had work experience about preconception care and associated risk factors in his study in Iraq. As well as it similar to *(Abdelhakem et al., (2017)* in a previous study who stated that maternity nurse's experience was more than 20 years in hisstudy.

Meanwhile the finding of previous study on the opposite side of *(Ramadan et al., (2018)* who mentioned that the majority of study sample had less than five years of work experience at his study in Benha university Hospitals.

In addition the current study illustrated that the majority of maternity nurses were married. The findings of previous study was consistent with *(Khatun et al., (2014)* who showed that the majority of study sample were married, with diploma level of education in nursing degree, had more fifteen years of experience and had more than thirty fife years old respectively in his study "perception of nurses and pregnant women regarding quality of antenatal care in Bangladesh".

Further more the present study revealed that the majority of maternity nurses were from urban area. Also the result of previous study was congruent with *(Ahmed et al., (2017)* who found that the majority of study sample were from urban area in his study in Iraq.

The researcher`s point of view suggested the reason of the highest frequencies of maternity nurse`s level of education, marital status and residence this may due to large and representative sample size which make the study comprehensive. This suggestion supported by *(Ayalew et al., (2017)*.

The result of the current study indicated that; nearly to three fourth of maternity nurses had very good perception regarding preconception risk factors. While it revealed that more than one quarter of them had good perception concerning preconception risk factors. Also this study illustrated that less than one fourth of maternity nurses had poor perception regarding preconception risk factors respectively **(Table 2)**, **(Fig1)**.

While the present study result demonstrated that the majority of study sample had very good perception regarding preconception risk factor. More over the result of previous study in agreement with *(Manisha, (2009)* who stated the majority of respondents had very good perception, more than one quarter of them had good perception and less than one quarter of study sample had poor perception concerning preconception risk factors respectively in her study "Effectiveness of self-instructional module on knowledge of obstetric drugs among nurses working in the maternity unit in India"

At the same line the result of previous study that conducted by *(Mohamed et al., (2013)* who mentioned the majority of participants had higher level of perception in his study in Jordan and Saudi Arabia. As well as it is similar to the result of previous study in agreement which conducted by *(Khatun et al, (2014)* who showed that the

majority of respondents had high level of perception toward preconception risk factors in his study in Bangladesh.

Additionally the result of previous study wasn't consistent with *(Ahmed et al., (2017)* who revealed that the majority of the study sample had fair perception, nearly quarter of them had poor perception and less than one quarter of study sample had good perception concerning preconception risk factors respectively in his study in Iraq.

There are other previous studies were disagree with *(ElBahy et al., (2015)* who found that the majority nurses had poor perception in his study in Port Said hospitals.

In addition the previous study result on converse with *(Ahmed et al., (2015)* who indicated that the level of awareness about preconception risk factors in Sudan, Iran and Nepal is lower than Ethiopia and Egypt in his study "Assess the Knowledge ,practice and attitude of  preconception care at Alshaab and Ahmed Gassim hospitals  in Sudan". As well as it similar to previous study was in contrary with the result which conducted by *(Abdelhakam et al., (2017)* who revealed that the majority of study sample had poor level of awareness in his study in Benha Hospitals.

The result of the present study displayed that; there were highly statistical significant relation between maternity nurse`s age, their educational level, also there was statistical significant relation between their years of experience and their levels of total perception regarding preconception risk factors respectively. Also the result of the present study revealed that there weren`t statistical significant relation between maternity nurse's marital status, their residence and their levels of total perception regarding preconception risk factors **(Table 3)**.

More over the result of the previous study was consistent with *(Ahmed et al., (2017)* who stated that there was significant

relation between levels of awareness of study samples and their level of education, their experience, and their age in his study in Iraq. As well as it is similar to the findings of previous study was conducted by *(Temel et al, (2015)* who stated that there was significant relation between levels of awareness of participants about preconception risk factors and their educational level in his study "Knowledge on Preconception Folic Acid Supplementation and Intention to seek for Preconception care among Men and Women in Urban City in USA".

In addition there are other findings of the previous study was in accordance with *(Ayalew et al., (2017)* who indicated that there was significant relation between study samples `age, their level of education and levels of awareness concerning preconception risk factors in his study in Ethiopia.

Meanwhile the result of the previous study was in contrast with *(Al-Akour et al., (2015)* who showed that there was no relation between levels of awareness of participants and their level of education in his study in Jordon.

Also the findings of previous study were on the opposite with *(Bello et al., (2013)* who reported that there was no significant relation between age and levels of awareness of study sample in his study in Ghana. As well as it is similar to the result of previous study was conducted by *(Gautan et al., (2016)* who mentioned that there was no relation between age and levels of awareness of study sample in his study in Jordon.

The researcher`s point of view suggested several reasons of significant relation between levels of perception of maternity nurses and their level of education, their experience, and their age because the majority of them had suitable work experience to affect on their personality ,communication and decision making due to their long work period in maternity and gynecological hospital. In addition the actual source of their knowledge and information about preconception risk factors. These findings supported by *(Ayalew et al., (2017).*

Also there was no significant association between maternity nurses' marital status, their residence and their levels of awareness regarding preconception risk factors. These findings as a reason of there were no actual relation between marital status and perception about preconception risk factors. As well as it was also depend on the actual source of their information about preconception risk factors.

## Conclusion

The present study findings revealed that nearly to three quarters of the maternity nurses of Ain Shams maternity hospital had very good perception regarding preconception risk factors. While the maternity nurses' perception regarding preconception risk factors found to be affected significantly by their age, level of education and years of experience of their work. On the other hand the current study findings indicated that there were statistically significant relation between nurse's ages, level of education and years of experience of their work with their perception concerning to preconception risk factors. Also these study findings illustrated that there were no statistically significant relation between nurse's marital statuses, their residence with their perception concerning to preconception risk factors.

## Recommendations

**Based on the present study findings the following recommendations are suggested:**

- Preconception health care must be involved in the pre-employment-orientation

program for new nursing staff in the hospital.

- Preconception health care must be included in continuous education Programs for maternity nurses.

- Unique specified instructions through specified protocol for counseling.

- Further more specific study of counselling should do integration of preconception health care with the other health care centers in the same areas geographically.

- Further more studies are needed to explore the possible adverse effects of psychosocial risk factors such as housing and asocial network on the health of future child.

- Further researchers needed to address preconception care directed at men in term of interest that father's health affects the child health too.

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