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PREMARITAL SCREENING AND ITS INFLUENCE ON THE REPRODUCTIVEHEALTH OF EXPECTANT MOTHERS IN KATAGUM LGA, BAUCHI STATE

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Abstract

Premarital screening (PMS) has emerged as an effective public health strategy for the prevention of genetic disorders and sexually transmitted diseases (STDs). The program is designed to identify asymptomatic carriers of inheritable conditions such as sickle cell disease and thalassemia, as well as to detect infections like HIV/AIDS, hepatitis B, and hepatitis C. By offering prospective couples access to this information before marriage, PMS reduces the risk of transmitting these conditions to future generations and minimizes the social and economic burden associated with their management. Furthermore, couples with incompatible results are provided with counselling services, enabling them to make informed decisions about their marital choices, including the possibility of reconsidering marriage plans. Beyond its biomedical benefits, PMS also fosters health awareness, promotes preventive care, and contributes to reducing stigmatization through education and early detection. As a preventive approach, PMS not only safeguards individual and family health but also supports broader public health goals by limiting the prevalence of genetic and infectious diseases within communities.

Keywords: *Premarital Screening, Genetic Disorders, Sexually Transmitted Diseases, Sickle Cell Disease, Public Health*

Introduction

Premarital screening (PMS) is an efficient strategy for the primary prevention of specific genetic disorders and sexually transmitted diseases (STDs) (Ibrahim, Bashawri, Al Bar H., Al
Ahmadi, Al Bar A., Qadi, Milaat, & Feda, 2012). PMS is a screening program offered to couples planning to get married in other to identify carriers of certain genetic disease, e.g Sickle cell disease and Thallassemia. These carriers are usually asymptomatic but can transmit such diseases to their future children if the couple are carriers. It is also used to test certain STDs, e.g, Acquired Immunodeficiency Syndrome (AIDS) and hepatitis B and C, with the aim of reducing the incidence of genetic conditions and sexually transmitted diseases, hence minimizing the associated burden (Alhosain, 2018). Patners incompatible PMS results are usually offered counselling sessions so they can make informed decisions about their marriage, which might include marriage cancellation (Lim, Franceschi, Vaccarella, Ju, Oh, Kong, Kim D., Kim B., Kim J., & Jung, 2009).

Ministry of health (2023) Stated that, Premarital Screening is defined as testing couples who are planning to get married soon for common genetic blood disorder (e.g Sickle cell anemia and Thalassemia), and infectious diseases (e.g Hepatitis B, Hepatitis C and HIV/AIDS).It also has aims to give medical consultation on the odds of transmitting the above-mentioned diseases to the other partner/spouse and children and to provide partners/spouses with options that helps them plan for healthy family.

Premarital Health test (Screening) is also known as premarital physical examination. It is a test conducted to help Doctors determine the overall health status, especially fertility-related diseases, for both Men and Women.Genetic premarital tests (screening) should be done together by couples, and it includes screening for infectious diseases. Genetic pathologies to assess reproductive health, and genetic screening for the Baby. Even if you and your partner are healthy and have no concerning medical history, it is still beneficial to undergo premarital testing as potential risks are not always apparent externally. Moreover, for couples preparing to get married, premarital testing is the best way to identify possible risk and their impact on future health. Identifying risks early on will be crucial for Doctors to implement effective prevention and treatment measures. Additionally, premarital Health tests (screening) can also help you better understand your partners condition (Bocah, 2023).

Premarital screening involves specially design testing for couples who are planning to get married soon. These tests involve screening for conditions that can potentially affect your spouse, or the health of your future children. These include screening for Sexually transmitted infections, genetic blood disorders and other serious medical conditions or infectious diseases (Michalle, 2023).

Premarital genotype screening presents an opportunity for individuals to become informed about their genetic predisposition to diseases and for couples to be aware of the possible genetic characteristics of their unborn children. Hence, if one holds the view that one of the reasons for marriage is procreation, then worrying about genetic compatibility and avoiding genetic inheritance of grave consequence becomes something to strongly consider. The most common genetic diseases include sickle cell disease, cystic fibrosis and Tay-Sach's disease of which sickle cell disease is the commonest.

Premarital screening consists of a comprehensive group of test, especially for those who are planning to get married. According to WHO (2006), reported that 5% of the world population carries genes responsible for haemoglobinopathies and that Sickle cell anaemia is particularly common among people whose ancestors comes from sub-Saharan Africa, India, and Saudi Arabia and Mediterranean countries. Further, over 300,000 babies are born worldwide with sickle cell disease mostly in low- and middle-income countries, with the majority of these births in Africa. Sickle cell disease is one of the commonest genetic disorders in Nigeria, about 24% of the population are carriers of the mutant gene and prevalence (at birth) is 2% i.e. 15,000 children are born with sickle cell disease genotype annually in Nigeria alone. Sickle cell disease contributes to the equivalent of 5% of under five deaths on the African continent, more than 9% of such deaths in west Africa and up to 16% of under five deaths in individual West Africa countries. Haemoglobinopathies are mainly public health problems worldwide, according to WHO, approximately 240 million people are carriers of genetic disease and at least 200,000 affected individuals are born annually. The prevalence of genetic disease is becoming higher, in the society, creating more stress despite the difficulties the people encounter in life (Oyedele, Emmanuel Gaji, & Ahure, 2015).

World Health Organization (2023) Stated that, sexual and reproductive health (SRH) is a field of research, health care, and social activism that explores the health of an individual's reproductive system and sexual

well-being during all stages of their life. The term can also be further defined more broadly within the framework of the World Health Organization's (WHO) definition of health—as "a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity" (WHO, 2012). WHO has a working definition of sexual health as (2006)'"...a state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity (WHO, 2012). Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled." (WHO, 2014). It also includes sexual wellbeing, encompassing the ability of an individual to have responsible, satisfying and safe sex and the freedom to decide if, when and how often to do so. UN agencies in particular define sexual and reproductive health as including both physical and psychological well-being sexuality (Gianotten, Alley, & Diamond 2021). A further interpretation includes access to sex education, access to safe, effective, affordable and acceptable methods of birth control, as well as access to appropriate health care services, as the ability of women to go safely through pregnancy and childbirth could provide couples with the best chance of having a healthy infant. Individuals face inequalities in reproductive health services (Hall, Moreau, & Trussell 2012). Inequalities vary based on socioeconomic status, education level, age, ethnicity, religion, and resources available in their environment. Low-income individuals may lack access to appropriate health services and/or knowledge of how to maintain reproductive health. Additionally, many approaches involving women, families, and local communities as active stakeholders in interventions and strategies to improve reproductive health (Dada,Cocoman, Portela, Brun, Bhattachryya, Tun all, Jackson, & Gilmore, 2023).

WHO (2023) Stated that, reproductive health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and to its functions and processes. Reproductive health implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so.

National institute of environmental health sciences (2023) Stated that, reproductive health refers to the condition of male and female reproductive systems during all life stages. These systems are made of organs and hormone-producing glands, including the pituitary gland in the brain. Ovaries in females and testicles in males are reproductive organs, or gonads, that maintain health of their respective systems. They also function as glands because they produce and release hormones.

European institute for gender equality (2023) Stated that, reproductive health therefore implies that people are able to have a satisfying and safe sex life and that they have the capacity to reproduce and the freedom to decide if, when and how often to do so. Implicit in this last condition are the following: the rights of women and men to be informed; to have access to safe, effective, affordable and acceptable methods of family planning, including methods for regulation of fertility, which are not against the law; and the right of access to appropriate healthcare services to enable women to have a safe pregnancy and childbirth and provide couples with the best chance of having a healthy infant. Reproductive health is a component of reproductive rights.

Objectives

i. To find out the significant difference between educated and non-educated pregnant women attending primary health care in their knowledge on the impact of PHC in Katagum Local Government Area, Bauchi State.

ii. To find out the significant relationship between knowledge and impact of premarital screening amongst pregnant women in Katagum Local Government Area, Bauchi State.

Research Questions

The following research questions were mentioned to be answered in this study

i. Is there any significant difference between educated and non-educatedl pregnant women attending primary health care in their knowledge on the impact of PHC in Katagum Local Government Area, Bauchi State?

ii. Is there any significant relationship between knowledge and impact of premarital screening amongst pregnant women in Katagum Local Government Area, Bauchi State?

Hypotheses

The following research hypothesis were tested in the study.

i. There is no significant difference between educated and non-educated pregnant women attending primary health care in their knowledge on the impact of PHC in Katagum Local Government Area, Bauchi State.

ii. There is no significant relationship between knowledge and impact of premarital screening amongst pregnant women in Katagum Local Government Area, Bauchi State.

Methods

This study investigated on the Impact of Premarital Screening of Pregnant Women Attending Primary Health Care in Katagum Local Government Area, Bauchi State. The following sub headings were discussed in this chapter. Research design, population of the the study, sample and sampling techniques, instrument for data collection, validity of the instrument, reliability of the instrument, data collection procedure, and data analysis.

Descriptive survey research design method used for this study. According to Osuala (2000) descriptive survey research design method, is a design in which group of people or items are studied by collecting and analyzing data from only few people or items considered to be representative of the entire group. Descriptive survey research design method is appropriate for the study because it will collect and organize data at a particular point and time with the intention of describing the nature of existing condition.

The population of this study comprised of all pregnant women attending primary health cares in Bauchi state. The population estimated to be Nine thousand two hundred and twenty-four (9,224) as at 2016/2017 session (Statistics office state ministry of Education Bauchi state). The sample for this study was Two hundred and eighty-four (284) pregnant women attending primary health care in Katagum Local Government Area, Bauchi State. Krejcie and Morgan 1970 suggested that for a population of the study between 9,000 to 9,999, a sample size should not be less than two hundred and eighty (280). The researcher used multi stage sampling procedure to select the participants for the study. The procedure is as follows:

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Stage 1: Simple random sampling technique was used to select two primary health care of different areas in Katagum Local Government Area, Bauchi State, by using a piece of paper were folded carrying "Yes" for selected and "No" for non-selected, then the folded piece of papers were mixed together and shakes vigorously in a container. Then the pregnant women were asked to pick one piece of the paper each, from the container. Those that picked "Yes" were part of the study and those that picked "No" were not part of it.

Stage 2: Proportionate sampling technique was used to chose the number of the research participants that were selected from each of the selected Primary Health Care.

Stage 3: Simple random sampling was used in selecting respondents from each of the selected Primary Health Cares.

The data collection instrument was researcher's developed questionnaire, the questionnaire named as Impact of Premarital Screening on reproductive health of pregnant women attending primary health care, in Katagum Local Government Area, Bauchi State. Section A required information on demographic characteristics of the respondents, section B: Knowledge of youths on Premarital Screening, section C: Attitude of youth on Premarital Screening, and section D: Practice of youths towards Premarital Screening. The questionnaire was of four modified like a scale, 4 points for Strongly Agree, 3 points for Agree, 2 points for Disagree, and 1 point was strongly disagreed.

Frequency count of percentage was used to organize and described the demographic characteristics of the respondents. Chi-square was used to test hypothesis 1 and 2, while independent 1 test was used to test the sub hypotheses 3 and 4, PPMC was used to test hypothesis 5 at 0.05 level of significance version using SPPSS 17.0 version.

Results

This study investigated the impact of Premarital Screening on reproductive health of pregnant women attending primary health care in Katagum Local Government Area, Bauchi State. The data collected for this study were statistically analyzed and is presented below

Table 4.1 Demographic Information of Respondents

Variables		**Frequency** 69	**Percentage**
			18.1
Age	15-20years		
	21-26years	183	48.0
	27-30years	129	33.9
	Total	381	100.0
Gender	Male	203	53.3
	Female	178	46.7
	Total	381	100.0
Tribe	Igbos	83	21.8
	Yoruba	133	34.9
	Hausa	165	43.3
	Total	381	100.0

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Level of Education	No Formal	166	43.6
	Primary	53	13.9
	Secondary	76	19.9
	Tertiary	86	22.6
	Total	381	100.0

Table 4.1 revealed the demographic information of the respondents, the table shows that majority 183(48%) of the respondents are between th age range of 21-26 years, the table also shows that majority 203(53.3%) were male also majority 165(43.3%) were Hausa by tribe. The table also shows that majority 166(43.6%) attended non-formal education.

Hypothesis 1: There is no significant difference in the knowledge of the impact of pre-marital screening among youth in Katagum Local Government Area on the basis of level of education

Table 4.2: Analysis of Variance on the Difference in Knowledge based on Level of Education

Source of Variance	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1363.484	3	454.495	3.639	.013
Within Groups	47090.138	377	124.908		
Total	48453.622	380			

Table 4.2 revealed the result of the analysis of One-way ANOVA on the difference in Knowledge of the impact of pre-marital screening among youth in Katagum Local Government Area, Bauchi State. The table shows that the calculated F-value was 3.639 with the calculated p-value of .013 which is less than .05, therefore, the null hypothesis was rejected. This implies that there is significant difference between the respondents in the knowledge on the basis of level of education. Therefore, the null hypothesis was rejected.

Hypothesis 2: There is no significant relationship between knowledge and practice of premarital screening among youth in Katagum Local Government Area, Bauchi State

Table 4.3 Summary of Pearson Product Moment Correlation on the Relationship Between Knowledge and Practice of Pre-marital Screening

Variables	Mean	Std. Deviation	N	r-cal	Sig	Dec.
Knowledge	2.4541	.67365	381	.136	.008	HO Rejected
Practice	20.2887	1.89476	381			

Table 4.3 revealed the summary of PPMC on the relationship and practice of pre-marital screening among youth in Katagum Local Government Area, Bauchi State. The table shows that the calculated r was .136 with the calculated p-value of .008 which indicate a significant relationship. Therefore, the null hypothesis

was rejected. This implies that a relationship exist between the knowledge and practice of pre-marital screening among youth in the study area.

Discussion

This study investigated the knowledge and practiced of Premarital Screening on reproductive health of pregnant women attending primary health care in Katagum Local Government Area, Bauchi State. The outcome of this study revealed that there is no significant difference in knowledge of the impact of Premarital Screening among youths in Katagum Local Government

Area, Bauchi State. This study is in line with Khaled & Amal (2017) who reported that, in multivariate analysis, education in medical faculties and presence of hereditary disease in the family were significant predictors of knowledge about hereditary disease.

The result of this study also revealed that there is no significant difference between knowledge and practiced of Premarital Screening on reproductive health of pregnant women attending primary health care in Katagum Local Government Area, Bauchi State. This study is in line with Agofure & Danzaria (2020) who reported that, 58.60% of the respondents demonstrated poor knowledge of premarital genotype screening while 57.10% exhibited negative perception towards premarital genotype screening and 63.20% exhibited poor attitude towards premarital genotype screening in Kuma Akko Local Government Area, Gombe State.

Conclusions

The study underscores the importance of premarital screening as a preventive measure for genetic disorders and a critical component of reproductive health for pregnant women. Despite some awareness, there remains a significant gap in knowledge and accessibility of screening services among women in Katagum. Addressing these gaps through education and community engagement is essential for improving the uptake of premarital screening and ultimately enhancing reproductive health outcomes.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. Health Education Initiatives should implement targeted educational programs to raise awareness about the benefits of premarital screening among pregnant women and the general population.
2. The community leaders and stakeholders in sensitize efforts to address cultural beliefs and promote acceptance of premarital screening.
3. The government should develop policies that will support the integration of premarital screening into routine health services and ensure accessibility for all women.
4. Other researchers should conduct additional studies in different regions of Nigeria to explore awareness and attitudes toward premarital screening, utilizing qualitative methods for deeper insights.

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