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Awareness of High-Risk Pregnancy Among Young Adults

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Abstract
A cross sectional study was conducted to find out level of awareness regarding high-risk pregnancy among young adults. The survey was carried out at random locations such as workplaces and colleges where both male and female literate population is most probably found. Using stratified random sampling technique, study subjects were selected (100) and completed the data collecting period over the course of academic year 2023-2024. The required information was collected through self-made questionnaire. The study findings showed that, in general, young individuals either had favourable awareness or were uncertain about many aspects of prenatal care. Majority of the respondent's percent score were higher than 70% of highest possible mean score in reproductive fitness, chronic illness. Nutrition and weight management. The results also show statistically significant level of knowledge of prenatal risk factors

Keywords: prenatal risk factors, young adults

Introduction

High risk pregnancy is defined as any pregnancy which has increased health risks for the pregnant women and her foetus. High risk pregnancy can be caused by many factors including pre-existing disorders like hypertension or diabetes, problems from previous pregnancy.[1]

These elements may be divided into a number of categories, and this study report chose three of those areas to focus on. The first category is reproductive fitness example of this category includes menstrual abnormalities, early marriages, low birth weight babies, marriages lately after the age of 35, Rh incompatibility.[2]

The second category is chronic illness in this category there will be more focus on the medical conditions which will maximize health problems during pregnancy. There are many instances of these conditions, including anemia, high blood pressure, D.M, cancer, heart disease, and STDs like HIV.[3]

The third category is nutrition and weight management, overweight women are more likely to experience gestational diabetes or pre-eclampsia whereas underweight women are more likely to have small, low birth weight babies due to inadequate nutritional demands many a times leading to miscarriages. Neural tube abnormalities and poor fetal bone development can result from low vitamin D and folic acid dietary demands.[4]

Women's knowledge is essential for keeping a balanced diet, spacing out children, receiving regular prenatal exams, identifying problems early, and seeking medical assistance. This is a universal reality. Furthermore, education probably helps women understand the motivational efforts made by health professionals to practice safe parenting. [5]

MATERIALS & METHOD

Study design- cross sectional survey
Sampling method- stratified random sampling
Sample size- 100
Study setting- college, IT firms in Pune
Material- self-made questionnaire

INCLUSION CRITERIA-

1. Age group- 18-35
2. Gender- male and female
3. Literate

EXCLUSION CRITERIA

1. Illiterate
2. Individuals who are not willing to take part in this study

Outcome measure- self-made questionnaire

PROCEDURE

The ethical committee provided its permission. For validation, a questionnaire was created and given to ten physical therapists. The selection of subjects was based on inclusion and exclusion criteria. The participants received an explanation of the questionnaire. Candidates responded to each statement in one of the following modes: strongly agree, agree, not sure, disagree, and strongly disagree. For the positive statements responders received a score of 5 for strongly agree, score of 4 for agree, score of 3 for not sure, score of two for disagree and score of 1 for strongly disagree. The maximum possible total score was: 15×5= 75

The minimum possible total score was: 15 ×1=15

STATISTICAL ANALYSIS

A. Reproductive Fitness (RF)

Table 1. Awareness of Young adults Concerning Reproductive Fitness (n=100)

Statement	Strongly Disagree (%)	Disagree (%)	Not Sure (%)	Agree (%)	Strongly Agree (%)	Mean Awareness Score ± SD
1. **There is no link in between menstrual abnormalities and pregnancy**	**52**	**21**	**15**	**10**	**2**	**1.89 ± 1.12**
2. **Early marriage (before the age of 16) may not always result in poor health for both mother and her child**	**22**	**41**	**13**	**18**	**6**	**2.45 ± 1.19**

3. Low birth weight babies (less than 2500g) are more prone to develop complications than normal weight babies	**3**	**10**	**10**	**49**	**28**	**3.89 ± 1.02**
4. Marriage lately (after 35 years) may increase health risks for pregnancy	**8**	**11**	**18**	**40**	**23**	**3.59 ± 1.19**
5. Marriages between blood relatives can result in foetal abnormalities	**1**	**10**	**10**	**38**	**41**	**4.08 ± 1.00**

B. Chronic Illness (CI)

Table 2. Awareness of Young adults Regarding Chronic Illness (n=100)

Statement	**Strongly Disagree (%)**	**Disagree (%)**	**Not Sure (%)**	**Agree (%)**	**Strongly Agree (%)**	**Mean Awareness Score ± SD**
1. Heart conditions and hypertension do not always affect pregnancy, its course or delivery	23	26	23	17	11	2.67 ± 1.30
2. Diabetes mellitus could affect a pregnant woman's and her and her unborn child's health	9	7	25	37	22	3.56 ± 1.17
3. A pregnant woman with untreated HIV can transmit the disease to baby during pregnancy, labor, birth and breastfeeding	2	9	8	41	40	4.08 ± 1.01
4. Complications are a possible risk for pregnant woman with cancer	4	9	20	46	21	3.71 ± 1.03

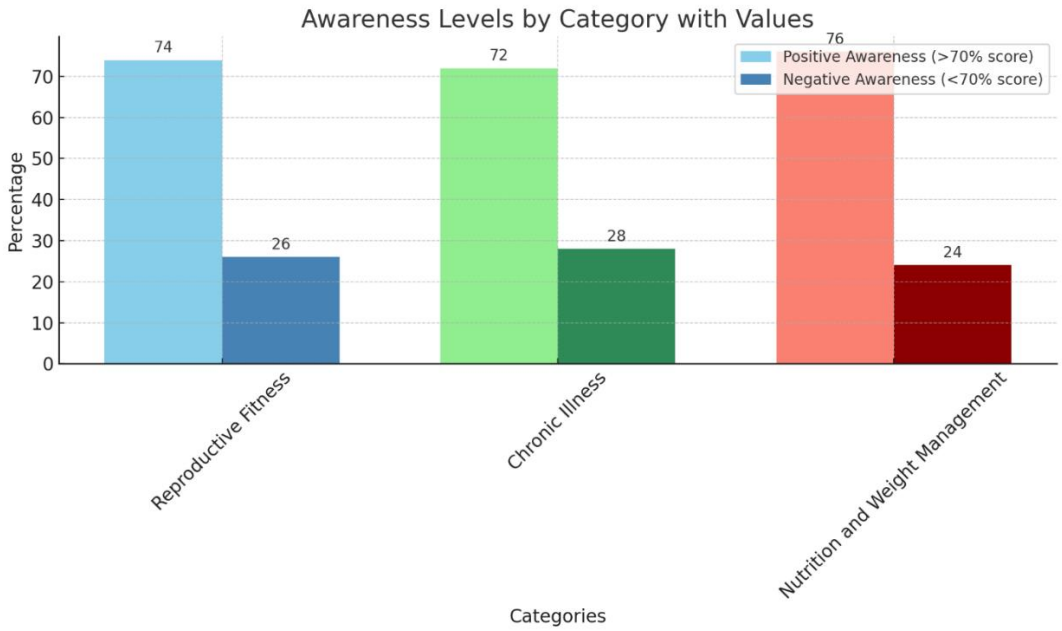
5. There are no health risk for an anaemic woman becoming pregnant	30	37	16	11	6	2.26 ± 1.18

C. Nutrition and Weight Management (NW)

Table 3. Awareness of Young adults Concerning Nutrition and Weight Management (n=100)

Statements	**Strongly Disagree (%)**	**Disagree (%)**	**Not Sure (%)**	**Agree (%)**	**Strongly Agree (%)**	**Mean Awareness Score ± SD**
1. Extreme under-weight in a pregnant woman may harm her and her baby	4	10	22	42	22	3.68 ± 1.05
2. Folic acid is im-portant for the health of a pregnant woman and her baby	5	13	8	48	26	3.77 ± 1.13
3. There is no common link between general nutrition and health of the mother or her child	19	27	27	18	9	2.71 ± 1.23
4. Adequate vitamin D nutritional status during pregnancy is important for foetal bone development	9	5	12	53	21	3.72 ± 1.13
5. Iron is regarded as one of the essential nutrients required during pregnancy	2	4	13	42	39	4.12 ± 0.92

RESULT



GRAPH 1 shows awareness level

A. Reproductive Fitness:
Positive Awareness (>70% score): Approximately 74%
Negative Awareness (<70% score): Approximately 26%
B. Chronic Illness:
Positive Awareness (>70% score): Approximately 72%
Negative Awareness (<70% score): Approximately 28%
C. Nutrition and Weight Management:
Positive Awareness (>70% score): Approximately 76%
Negative Awareness (<70% score): Approximately 24%

DISCUSSION

This study highlighted a significant issue concerning the health of young individuals in future, demonstrating that they generally possessed strong knowledge of many aspects of prenatal care.

In terms of reproductive health awareness ("table 1"), it was unexpected that respondents exhibited favorable awareness about menstrual abnormalities and its effects on pregnancy. However, there are still occasions where there is a lack of awareness about menstruation morbidities, which can lead to dangerous pregnancies. This is consistent with the findings of a comprehensive review on **"Epidemiology of Menstrual Disorders in Developing Countries; A Call for Health Education" conducted by Harlow et al.,** which revealed a lack of awareness. Menstrual morbidities are a significant unmet need in reproductive health services for women in underdeveloped countries. Improving the education of primary care and reproductive health providers regarding the diagnosis and management of menstrual morbidities should receive particular attention.[6]

Low birth weight babies (LBW) babies are at a higher risk of death and sickness shortly after birth, as well as non-communicable diseases throughout their lives. This study **Low birth weight and its associated risk factors: Health facility-based case-control study"** conducted by Anil K. C revealed that the risk

factors for low birth weight were having the kitchen in the same residence, taking fewer than 180 iron tablets while pregnant, having the mother gain less than 6.53 kg during the second and third trimesters, having comorbidities during pregnancy, and having a premature delivery. Maternal health initiatives can encourage pregnant moms to take iron pills throughout their pregnancy, intake of a balanced diet[7]

Late marriage is becoming increasingly popular among both men and women seeking economic empowerment. The average age of marriage has been rising over the last several decades for both men and women worldwide; also, in many developed countries, over half of marriages take place after the age of thirty. late marriage may result in decline in birth rate, abnormality in children and difficult pregnancy, increased generational gap between child and parent. [8] A consanguineous marriage can be distinguished by the degree of relatedness among the spouses: first cousins, double first cousins, "**The Prevalence of Congenital Malformations and its Correlation with Consanguineous Marriages"** by Naeimeh Tayebi stated that Consanguinity may play a significant impact in the high incidence of deformity in children and must be considered for genetic counselling Genetic counselling before marriage should be provided not only to consanguineous couples, but also to any couples with a family history of genetic problems.[9]

In **table no.2** majority of respondents are positively aware about chronic diseases and its negative impact on pregnancy while few are not well aware of its consequences. High blood pressure can be harmful to both the mother and the foetus.

However, some women acquire high blood pressure while pregnant (known as gestational hypertension). In article "**hypertensive disorders of pregnancy**" it is stated that High blood pressure can affect the mother's kidneys and other organs, resulting in low birth weight and premature delivery. [10] Approximately 9% of pregnancies worldwide are afflicted by this common antepartum illness known as gestational diabetes mellitus. This study "**A Comprehensive Review of Gestational Diabetes Mellitus: Impacts on Maternal Health, Fetal Development, Childhood Outcomes, and Long-term Treatment Strategies"** by Vaishnavi S. Nakshine emphasizes that children of GDM-affected mothers face a higher chance of developing illnesses such as obesity, hypertension, and insulin resistance, which can last until adulthood. An integrated approach that combines population-wide preventive management, intensive health education, early detection, and multidisciplinary care programs should be strengthened in order to prevent and control GDM.[11]

There are many cases of HIV positive women being pregnant due to lack of awareness regarding prevention factors. In article **"Pregnancy Outcomes in HIV Infected Women: Experience from a Tertiary Care Center in India"** Vatsla Dadhwal, MD it was found that pre term birth, intra uterine growth retardation, and anaemia were more common among HIV-positive women (9.4%, 9.9%, 5.2%) than in non-infected women (7.6%, 5%, 3.8%). A multidisciplinary team, including an HIV physician, competent obstetrician, and neonatologist, is necessary for optimal maternal and foetal outcomes. Antenatal care and attentive monitoring during pregnancy can improve outcomes for HIV-positive women and their babies.[12]

Cancer-related complications and therapy can have considerable unfavourable impacts on mother and foetal outcomes during subsequent pregnancies. A study using the Scottish Cancer Registry **"obstetrics outcomes in cancer survivors"** by Clark H indicated that obstetrical problems such as post-partum haemorrhage, preterm delivery, and aided delivery were considerably higher among women with cancer than in non-cancer patients. Pregnancy in cancer survivors is a high-risk condition that necessitates specialized care from subspecialties including oncology, obstetrics, paediatrics, and critical care due to much greater maternal and foetal unfavourable outcomes.[13] The World Health Organization (WHO)

defines anaemia in pregnancy as having a haemoglobin (Hb) content of less than 11g/dL. According to global data, 56% of pregnant women in low- and middle-income countries (LMIC) suffer from anaemia. This could occur as a result of a woman being severely anaemic during pregnancy due to increased iron demand, poor diet, poverty, ignorance, and limited access to health care and education. In this study of "**Prevalence of anemia during pregnancy and its association with adverse perinatal outcomes in Madhya Pradesh, India"** by Divya Sinha concluded that There exists a direct correlation between the severity of anaemia and unfavourable perinatal outcomes during pregnancy.[14]

In **table no.3** The majority of respondents are positively aware of nutrition and weight management, as well as their negative impact on pregnancy, while a minority are less or poorly aware of their harmful impacts. A pregnant woman's nutritional condition can be impacted by a number of circumstances, such as her short interpregnancy gap, increased parity, and low socioeconomic position. Low socioeconomic class women are more likely to consume inadequate amounts of food, live in unsanitary housing without proper sanitation, have limited access to healthcare and medication, and this all has an impact on the birth weight of their children. "**Effect of Prenatal Malnutrition on Fetus and Newborn Baby: A Comprehensive Review"** by S Jyoti analysed that maternal under- or overnutrition during pregnancy can result in abnormalities in the body's composition and metabolism as adults. It is important to enhance pregnancy outcomes, encourage growth and healthy child development, lower the risk of chronic diseases, and slow down the aging-related metabolic decline, it is vital to create dietary regimens that optimize nutrition. [15]

Most expectant mothers and medical professionals overlook the benefits of folic acid (FA) supplements during the first trimester of pregnancy. There aren't many studies on pregnant women's knowledge of FA supplementation in India that provide detailed information about their present understanding and its determinants. **"According to Awareness About Folic Acid Supplementation in First-Trimester Pregnant Women of Rural Raipur District, Chhattisgarh, and Its Determinants: A Cross-Sectional Study"** by Anjali pal concluded that despite the fact that the majority of study participants (77.9%) had education levels above high school, it was discovered that they lacked awareness about the use of FA supplements before to and during pregnancy. In addition, health education and talks about the value of folic acid supplementation and NTD prevention can be scheduled on a regular basis during prenatal clinics. Village Health and Nutrition Days (VHNDs) are another occasion when women who are of reproductive age can gather in the community. This will eventually contribute to a decrease in the burden of NTDs among babies by improving women's practices and awareness regarding FA supplementation.[16]

Hypovitaminosis D has been linked to congenital rickets, infantile rickets, hyperbilirubinemia, big fontanelle, neonatal tetany, and enamel abnormalities in newborns.

"Vitamin D Status in Pregnancy: Fetomaternal Outcome and Correlation with Cord Blood Vitamin D 1" by Mamta Gupta suggested that There was a strong link between maternal and foetal (cord blood) vitamin D levels. Thus, vitamin D supplementation in the mother may lessen the unfavourable outcome for the foetus and may assist to mitigate the long-term negative effects of hypovitaminosis D in the infant.[17]

Pregnant Indian women are more likely to experience iron deficiency during their pregnancies. They are unable to eat a healthy diet since India has a higher rate of poverty than other nations, with almost 40% of the population living below the poverty line. **"Iron Deficiency Anemia: Perspectives in Indian Pregnant Women" PV Ingle states that** Patient noncompliance is more common in India, which can lead to anaemia and negatively impact the health of both the patient and the foetus.

Oral therapy is usually the preferred therapeutic option; however, if oral therapy fails or in an emergency, parenteral therapy is indicated. Parental iron treatment is done infrequently, yet it is more effective. As result, the Indian government attempted to remedy the situation by distributing medications and nourishing meals to anaemia sufferers for free or at a cheap cost.[18]

CONCLUSION

It may be concluded from the current study's results that majority young people had positive awareness of prenatal risk factors. Finally, while most young people are aware of most prenatal risk factors, few are still inadequately exposed towards health education. Improving community understanding of prenatal risk factors and their influence on reproductive health, particularly among young, is urgently needed.

LIMITATIONS OF STUDY

1. Small sample size was included in this study
2. Literate population was included in the study

FUTURE SCOPE OF STUDY

1. The study can be done in large sample size.
2. Identify gaps in provider training, communication hurdles, and ways to improve clinical practice and patient education.

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