



Awareness of the Importance of Lifestyle Modification on the Prevention of Gestational Complications in Preconception Care of Women

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Abstract

Background: Preconception care mainly depends on minimising the risks faced before conception, collecting all possible information before conception, and using all sources to improve the reproductive health of pregnant women. Preconception is a great opportunity for early determination of any health risk and to optimise the health of implicit moms and protect the unborn foetus from any type of health risk as well as birth defect. This study presents the best scientific approach method for developing preconception intervention packages under different conditions. **Objective:** To determine the awareness of the importance of lifestyle modification in the prevention of gestational complications during the preconception period. **Methods:** This study was approved by the Ethical Committee and Protocol Committee (protocol no. 600/2022-2023). The subjects of this observational study were women who are primigravidae and reside in Karad, India. Using random sampling, 93 participants who were primigravidae were included. A questionnaire was distributed to individuals within the age range of 21 to 30 years, based on preconception care, lifestyle modification, family support and precautionary measures. **Results:** It was found that out of 91 participants, only 4.3% had excellent knowledge, 8.6% had very good knowledge, 27.96% had good knowledge, 53.76% had fair knowledge and 5.38% had poor education regarding preconception care. **Conclusion:** The awareness among women regarding the importance of lifestyle modification in the prevention of gestational complications during the preconception period was significantly lower.

Keywords: Awareness, Foetus, Preconception Care, Pregnancy

1. Introduction

Preconception Care (PC) refers to any form of intervention or measures taken to improve a woman's health before becoming pregnant, to improve the mother's and the fetus's health. It can be used to improve both the mother's and the child's health expectations¹.

It has been observed that a healthy lifestyle and a proper diet during pregnancy with appropriate nutrition intends to enhance the health of the expectant mothers and newborns, but when women receive exposure to this knowledge during PC this helps women to reduce

health risk factors during gestational period and its complications. Thus, it could contribute further decrease in the overall rates of morbidity and mortality among mothers, especially in women who lack education on health concerns and high family burdens¹.

PC includes educating the women about the modifiable risk factors which include maternal pre-pregnancy weight, smoking and also exposure to passive smoke, alcohol consumption, close-spaced pregnancy, overweight and obesity, sedentary lifestyle, excessive caffeine intake, lack of psychological support, sleep quality, inadequate nutrition, hypertension, lack of physical activity, diabetes

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and reversible postural deformity. It is important that the above risk factors be detected earlier and necessary management of the same be implemented to have a healthy gestational period².

Given that alcohol is an identified teratogen, pregnancy-related alcohol use is associated with preventable maternal morbidity and additionally with malformations and newborn developmental impairments².

As per the National Survey on Drug Use and Health (NSDUH), the danger associated with using illicit drugs such as alcohol, tobacco and illegal drugs is typically so firmly rooted that a considerable number of people continue to use them during pregnancy. According to a survey, 5 per cent of women who are expecting a child have used illegal substances of any kind and nearly 11 per cent said they are currently consuming alcohol. A crucial aspect of PC is addressing these risks and the preventative measures that can be taken².

The health of women and their children is significantly at risk from the use of illegal drugs, alcohol, caffeine and other substances and also from radiation and chemical solvent exposure in the environment. It is important to assist women in lowering significant health risks and identifying significant elements that lead to a healthy pregnancy by recognising substance misuse and environmental history during the preconception period. Research has demonstrated the potential benefits of feasibility prevention and exposure aversion on women and the health of their families².

Preconception training and counselling have a higher chance of enhancing knowledge, self-efficacy, control over risk behaviours, and health-focused control. To assess the impact on undesirable pregnancy results, additional research must be conducted. Reproductive outcomes and health may both improve if the prenatal phase of reproductive risk evaluation is replaced with the preconception phase³. Assuring that women are in optimal emotional and physical well-being at the start of the pregnancy is the aim of PC. The goal of PC is to recognise and manage several modifiable variables that may negatively impact the outcome of a pregnancy⁴.

Improving pregnancy outcomes with PC has two components. The initial one is to provide relevant information to women and their partners, thereby improving knowledge. The second is the modification of individual behaviour corresponding to the knowledge gained in this way⁴.

It is becoming more widely known, that preconception is a great opportunity to start improving women's health and lowering the risk of unfavourable maternal, perinatal and neonatal outcomes during pregnancy⁵.

Regardless of the aim to become pregnant, the preconception period, whether it is before or in between pregnancies offers a suitable opportunity to discuss reproductive intentions, support and encourage well-being, and encourage changes in healthy behaviour. PC includes informing women about the modifiable risk factors, such as the mother's pre-pregnancy weight, alcohol consumption, smoking and exposure to passive smoke⁶. It additionally includes educating them about sedentary lifestyles, excessive caffeine intake, lack of psychological support, poor sleep quality, inadequate nutrition, diabetes, hypertension, and reversible postural disorders. To ensure a healthy gestational period, it is essential that the risk parameters listed above are identified early and that the appropriate therapy is put in place. A variety of risk factors and preconception health determinants have been studied about pregnancy, mother and neonatal outcomes during the last thirty years covering internal health, dental hygiene, habitual health, medical issues, weight, physical exercise, smoking cessation, consumption of alcohol and recreational drugs and preparation for pregnancy. The US has been the origin of preconception health messages, guidelines, and recommendations. From that point, the preconception movement has grown throughout the world and numerous strategies are being implemented to enhance preconception health and related outcomes. Conversely, women also need to understand the need to adhere to a nutritious, well-balanced diet consisting of enough consumption of micronutrients, such as iron supplements. This is particularly important because 40% of women worldwide suffer from anaemia. In addition to this, a healthy diet rich in folate throughout the preconception stage may help shield the developing embryo from neural tube abnormalities. It is advisable that females who are overweight, obese, or diabetic commit to a diet high in vegetables, fibre-rich carbohydrates and cereal grains that are high in polyunsaturated fats⁷. Additionally, some centres provide "Early bird classes", a complete program that assists couples in preparing for motherhood where physiotherapists, dieticians, doctors and other healthcare workers teach couples about pregnancy. Women need to adopt certain behavioural changes, such as tracking their body weight once a week, eating habits and upholding an

optimistic outlook on life. To improve fetal and maternal outcomes, women must be educated about pregnancy complications and symptoms, including depression and anxiety, obesity and excess weight, gestational diabetes, pregnancy-induced hypertension, infections of the urinary tract, low birth weight along with premature delivery and anaemia, in addition to diet and lifestyle changes. Thus, knowledge and awareness of the risks associated with pregnancy and how to avoid them by implementing specific lifestyle changes and adopting appropriate dietary habits will affect a woman’s health for the rest of her life in addition to the gestational time⁸.

A multifaceted, multi-level, multi-strategy approach involving a variety of sectors and health professionals is needed to address the determinants of health in the quest to incorporate preconception wellness programs into the entire continuum of women’s healthcare⁹. This includes instituting systemic initiatives to create a supportive atmosphere and increase the knowledge of the significance of women’s health before pregnancy. Although preconception health influences men and women equally around the world, this review focuses on preconception health for women.

2. Methodology

The Protocol and Ethical Authorities gave their approval for this review. (protocol no. 600/2022-2023). The subjects of an observational study were women who are primigravidae and reside in Karad, India. Using random sampling, 93 participants who were primigravidae were included. A questionnaire was distributed to women within the age range of 21 to 30 years, based on PC, lifestyle modification, family support and precautionary measures. The authorities in the area where the research was carried out granted permission. The participants received an explanation of the study’s methodology. The mode of operation was offline. Subjects were given instructions to fill out the questionnaire. After that, responses were collected. Based on the responses, statistical data was analysed. Results and conclusions were determined.

3. Results

3.1 Category-Wise Awareness (Figure 1)

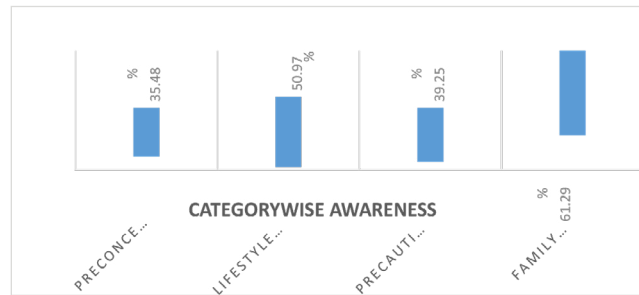


Figure 1. Category-wise awareness.

3.1.1 Preconception Care (Table 1)

Table 1. PC

S. No.	Questions	Yes	No
1.	Do you know what is meant by preconception care?	37.63%	62.37%
2.	Do you think education on preconception care during the reproductive age is important?	95.70%	4.30%
3.	Are you aware that there are programs called “EARLY BIRD CLASSES” that will guide you and provide knowledge about preconception care?	9.68%	90.32%
4.	Are you aware that increased stress levels during the preconception period can have a negative effect on your pregnancy?	31.18%	68.82%

3.1.2 Lifestyle Modification (Table 2)

Table 2. Lifestyle modification

S. No.	Questions	Yes	No
1.	Are you aware that lifestyle modification involves altering longterm habits, typically eating or physical activity and maintaining the new behaviour for months or years?	45.16%	54.84%
2.	Do you think before conception you need to modify your lifestyle which includes healthy eating habits and a healthy behavioural attitude?	55.91%	44.09%

3.	Do you perform any type of exercise at least five times per week?	45.16%	54.84%
4.	Are you aware that incorporating exercise in your routine is also a lifestyle modification?	41.94%	58.06%
5.	Does your diet include vegetables, fruits, cereals, dairy products and adequate sources of protein?	66.67%	33.33%
6.	Are you aware that physical activity will benefit you during your pregnancy period?	46.24%	53.76%

3.1.3 Precautionary Measures (Table 3)

Table 3. Precautionary measures

Sr. No	Questions	Yes	No
1.	Are you aware that certain precautions and measures must be taken before planning for pregnancy?	59.14%	40.86%
2.	Are you aware that excessive caffeine, alcohol consumption, and smoking have an impact on mother and fetal health?	40.86%	59.14%
3.	Are you aware that the low haemoglobin level of conceiving women will have a negative impact on the baby's health?	37.63%	62.37%
4.	Are you aware that taking folic acid supplements before pregnancy and up to 12 weeks of pregnancy can help prevent neural tube effects?	16.13%	83.87%
5.	Are you aware that consuming drugs without a doctor's prescription while planning for conception can have a negative impact on your maternal health?	63.44%	36.56%

3.1.4 Family Support (Table 4)

Table 4. Family support

Questions	Yes	No
Do you feel that you get adequate care, support and cooperation from your partner and your family?	61.29%	38.71%

3.1.5 Interpretation

The above chart shows the percentage according to the categories selected. It shows the percentage of women who are aware of PC is 35.48%. The percentage of women who are aware of lifestyle modifications before pregnancy is 50.97. The percentage of women who are aware of the precautionary measures is 39.25% and the percentage of women who receive adequate family support is 61.29%.

3.2 Awareness Based on Occupation (Figure 2)

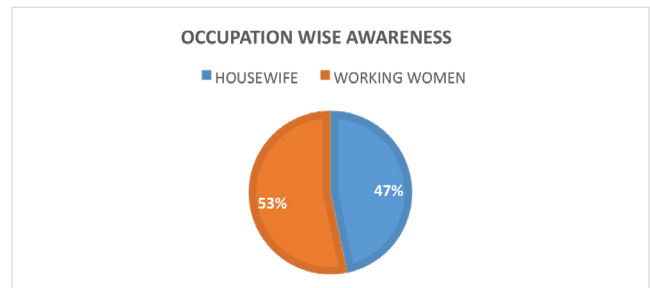


Figure 2. Awareness based on occupation.

3.2.1 Interpretation

The above chart shows the percentage of awareness in housewives and working women, It shows that working women are more aware of PC than housewives, the percentage of housewives is 47% and that of working women is 53%.

3.3 Overall Result (Figure 3)



Figure 3. Overall result.

3.3.1 Interpretation

In the above chart, it was found that only 4.3% had excellent knowledge, 8.6% had very good knowledge, 27.96 had good knowledge, 53.76 had fair knowledge and 5.38 had poor education regarding PC.

4. Discussion

An observational study was conducted aimed at studying the importance of awareness of lifestyle modification for the prevention of gestational complications in PC of women, the participants were women between the ages 21 to 30 years who intend to become pregnant or women who are recently married and do not have a significant level of knowledge about the PC.

PC encompasses any type of intervention or action done to strengthen a woman's health before getting pregnant, with the goal of improving the health of the mother and the fetus. It can improve the mother's and the child's expectations for their health. PC approaches, such as maternal assessments and education on healthy lifestyle (including physical activity, nutrition and dietary supplements like folic acid), general and sexual health, avoidance of high-risk behaviours and immunisations, have been shown to identify and reduce the risk of unfavourable birth outcomes through appropriate management and preventive measures, according to a study by Wain D, Begum J, and Parida SP. The study came to the conclusion that the eligible couples would identify, accept, and put into practice steps to improve their preconception health through preconception treatment and counselling. Finally, it is anticipated that improving maternal nutritional status and birth outcomes will be significantly impacted by the health of the father and mother. Research indicates that engaging in a daily 30-minute exercise regimen during pregnancy can have long-term advantages for a mother's general health and well-being. If this routine is made known to women during PC, it will be simpler for them to maintain during pregnancy¹⁰.

According to a recent study by Kasim R *et al.*, women usually are unaware that they are pregnant until six to eight weeks into the pregnancy i.e., until they miss their first period and take a pregnancy test. These ladies therefore receive their first prenatal checkup during or following this period¹¹.

This study was conducted on women who were planning for pregnancy. In this study, 93 women were involved and awareness about PC was checked.

A study by Livingood WC *et al.* showed that women who receive PC interventions are more knowledgeable about PC and that even short counselling sessions can increase their understanding of the risks associated with preconception, both personally and generally¹².

The patients were given a questionnaire and asked to fill it according to their level of knowledge. The data was analysed accordingly and the results proved that the women had fair knowledge about PC.

5. Conclusion

It was found that only 4.3% of women had excellent knowledge regarding PC 8.6% had very good knowledge, 27.96% had good knowledge, 53.76% had fair knowledge and only 5.38% had poor education regarding PC. Also, it was found that working women had comparatively more knowledge than housewives. This might be because of poor educational or health facilities provided to them during the reproductive ages.

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