



Behavioral Approaches and Motivation of Women in Preconception Care: A Literature Review

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ARTICLE INFO

Keywords: Health Behavior, Women's Motivation, Health Education, Reproductive Counseling

Received : 2 May

Revised : 20 June

Accepted : 20 July

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ABSTRACT

Preconception care is very important and aims to improve pregnancy outcomes and child health, but women's participation in preconception activities still varies. It shows that women's behavior and knowledge still affect their investment in pre-pregnancy health. Various studies indicate that the level of knowledge, behavior, and motivation of women to undergo preconception screening is very low. Factors such as education, access to services, socioeconomic status, partner support, and the quality of health counseling have been proven to influence women's readiness to undergo preconception care. Therefore, it needs to be analyzed comprehensively through a literature review based on the latest scientific evidence, analyzing women's motivation and behavior regarding investment in preconception care and its implications for health intervention strategies. The research method used is a literature review. The analysis shows that women's behavior related to preconception care is influenced by internal factors such as education level, knowledge about pregnancy risks, perception of benefits, and readiness to become a mother. Women's behavior and motivation in undergoing preconception care are influenced by a combination of personal, social, and healthcare system factors. Increasing education, strengthening counseling, and providing psychosocial support have proven to be effective strategies, because outreach and responses from healthcare workers can greatly boost participation

INTRODUCTION

Preconception care is an important health intervention provided to women of reproductive age before pregnancy occurs, with the main goal of improving maternal health and reducing the risk of maternal and neonatal complications. The pre-pregnancy period offers a chance to identify and modify risk factors that can affect pregnancy outcomes, including nutritional deficiencies, smoking habits, alcohol consumption, obesity, anemia, and chronic health conditions. A study (Barrett et al., 2015) highlights that women's behavior and motivation play an important role in their investment in preconception care. Women who are active and informed tend to take proactive steps, like taking folic acid supplements, improving their diet, and managing their lifestyle, while women with low knowledge or no planning have limited participation. This research categorizes women into three groups: "prepared" (proactive and informed women), "poor knowledge" (planned but low information), and "absent pre-pregnancy" (low planning and rejecting health interventions). This pattern emphasizes the need for different intervention strategies for each group to boost the effectiveness of preconception care (Barrett et al., 2015).

In addition, this study also shows that the awareness of the importance of folic acid supplements is very low across all groups, although the 'prepared' group showed higher knowledge compared to the others. This aligns with global evidence emphasizing that health education and access to information are key to increasing women's investment in preconception care. Proper preconception care not only improves maternal health but also has a positive impact on fetal health and prevents the risk of neonatal morbidity.

By understanding the motivations, behaviors, and obstacles women face in accessing preconception care, healthcare workers and policymakers can design interventions that are more targeted and effective. This is important because, even though preconception care packages exist globally, their implementation at the individual level still heavily depends on women's behavior, knowledge, and readiness to participate in healthcare services before getting pregnant.

LITERATURE REVIEW

Preconception care is a series of health interventions given to women and their partners before pregnancy with the aim of optimizing reproductive health, increasing the chances of a healthy pregnancy, and reducing the risk of complications for both mother and baby. This care includes identifying risk factors, providing health education, improving nutritional status, giving folic acid supplements, managing chronic diseases, and making lifestyle changes towards a healthier way of living.

Barrett et al. (2015) emphasized that the success of preconception care isn't just determined by the availability of healthcare services, but is also influenced by women's behavior, motivation, knowledge, and readiness to prepare for pregnancy. Women's behavior towards preconception care varies widely. Based on in-depth interviews with pregnant women and new mothers in the UK, it was found that the decision to invest in health before pregnancy is influenced by personal experiences, risk perception, education level, partner support, and information received from healthcare professionals. Women who understand the

benefits of preconception care tend to be more proactive in making lifestyle changes, like eating nutritious food, quitting smoking, keeping an ideal weight, exercising regularly, and taking folic acid supplements before getting pregnant (Barrett et al., 2015).

Barrett et al. (2015) also grouped women into three categories based on their behavior toward pregnancy preparation. The first group is 'prepared,' which includes women who actively plan their pregnancy and take various steps to improve their health before getting pregnant. The second group is 'poor knowledge,' which includes women who do plan their pregnancy but have limited knowledge about the importance of preconception care, so they haven't taken optimal actions. The third group is 'absent pre-pregnancy,' which includes women who don't prepare before pregnancy, usually because the pregnancy was unplanned or due to a lack of awareness about the importance of health before conception. This grouping shows that every woman has different educational needs and approaches, so health interventions need to be tailored to each individual's characteristics.

Another important finding from Barrett et al. (2015) is that knowledge about folic acid consumption is still low among all groups of women. In fact, folic acid supplementation before pregnancy has been proven to reduce the risk of neural tube defects in fetuses. This low level of knowledge shows that reproductive health education still needs to be improved, especially for women of reproductive age who are planning a pregnancy or could become pregnant..

Besides knowledge factors, Barrett et al. (2015) explained that women's motivation is greatly influenced by social support, previous pregnancy experiences, the quality of communication with healthcare providers, and ease of access to healthcare services. Therefore, healthcare providers, especially midwives, play an important role in providing education, counseling, and guidance to women of reproductive age to help them prepare for pregnancy optimally. Counseling that is done individually, taking into account each woman's social, cultural, and personal needs, is considered more effective in increasing participation in preconception care programs.

Research by Barrett et al. (2015) suggests that preconception care programs shouldn't just provide healthcare services, but also need to boost women's motivation and awareness through ongoing educational approaches. This approach is expected to help women be better prepared for pregnancy, leading to healthier pregnancies, reduced risks of maternal and neonatal complications, and overall improved health for both mothers and children (Barrett et al., 2015).

METHODOLOGY

The study (Barrett et al., 2015) used a qualitative design to explore women's motivations and behaviors regarding investment in preconception care. The participants included 20 pregnant or recently postpartum women recruited from maternity services in London, UK. Participants were selected through purposive sampling to ensure a mix based on pregnancy planning, age, partnership status, ethnicity, and medical conditions.

Data were collected through in-depth interviews that allowed the researchers to get a holistic understanding of women's perspectives on preconception care, their experiences, and the factors that motivate or hinder their participation. The interviews focused on health behaviors before pregnancy, including supplement intake, diet, exercise, and other relevant lifestyle habits.

Data analysis was done using the Framework method, which allows for systematic organization and interpretation of data. The analysis process involves several steps: transcribing interviews, repeated reading to understand the context, identifying main themes, and mapping behavior patterns into categories for women ("prepared", "poor knowledge", and "absent pre-pregnancy"). This method helps identify behavior patterns, obstacles, and motivations of women in pre-conception health investments.

This qualitative approach allows researchers to capture the nuances of individual behavior and motivation that are hard to measure through quantitative methods. As a result, the findings of this study provide deep insights into how women perceive the importance of preconception health, as well as the factors that influence their participation in pre-pregnancy health interventions.

RESULTS

Research findings (Barrett et al., 2015) show that women's motivation and behavior in preconception care vary significantly. Interview analysis identified three main groups:

1. Prepared (Proactive and Informed)

Women in this group actively plan their pregnancies, take supplements like folic acid, improve their diet, and try to reduce health risk factors before getting pregnant. They have a better understanding of the health benefits of preconception care and show a high readiness to participate in healthcare services. This group tends to be receptive to education and welcomes health interventions positively.

2. Poor Knowledge (Planned but Low Information)

Women in this group intend to get pregnant but lack information about pre-pregnancy health interventions. They might refuse or not regularly use supplements, and their awareness of preventable risks before pregnancy is low. The barriers they face include limited access to information, lack of social support, or limited awareness of the importance of pre-pregnancy health.

3. Absent Pre-Pregnancy (Unplanned / Refusing Intervention)

This group shows low planning or unplanned pregnancies. They tend to reject supplements and health interventions before pregnancy, focusing more on pregnancies that have already happened rather than prior prevention.

Awareness of the importance of preconception care is very low, and they are harder to reach with educational interventions or health services.

Besides group classification, this study found that knowledge about folic acid was low across all groups, even in the “prepared” group, which shows the need for better education and counseling. These findings suggest that preconception interventions should be tailored to the characteristics of each group of women, in terms of education, motivation, and access to healthcare services.

This study highlights the importance of healthcare workers in providing accurate information and personalized interventions, as well as the need for an approach that responds to women's needs. Implementing group-appropriate education strategies can boost participation and health outcomes, including preventing neural tube defects, improving nutritional status, and reducing the risk of pregnancy complications.

Table 1. Characteristics of the Articles Analyzed

NO	Author & Year	Participants	Design & Data Collection Methods	Implications	Findings Home
1	Barret G. 2015	20 pregnant women	Qualitative, in-depth interviews	Interventions should be tailored to the characteristics of the group	Three groups: prepared, poor knowledge, absent
2	Stephenso n J. 2014	150 women of childbearing age	Surveys and interviews	Important nutrition education before pregnancy	Diet and supplementation have an effect on pregnancy preparation
3	Dean SV. 2014	Various populations	Literature review	Public health strategy needs to be implemented	Pre-conception interventions improve pregnancy outcomes
4	Lestari, E., Shaluhiyah Z., & Adi, M.S. (2023)	International scientific literature	Scoping review, framework	Intervention from the preconception period	Preconception Health training/education
5	Banhidy F. 2011	2,000 women	Retrospective observational	Folate education must be improved	Folate lowers the risk of neural tube defects
6	Johnsin K. 2006	Doctors and Young Women	Review dan consensus	Standardization of preconception practices	Practical advice for doctors and patients

				needs to be implemented	
7	Jack BW. 2008	Healthcare Professionals	Review literature dan delphi	Implementati on of clinical guidelines is required	Content standards can improve services
8	Lassi ZS. 2014	Various populations	Review literature	Adaptive strategies in every setting	Effective multifaceted interventions
9	WHO 2013	Population of fertile females	Review literature and policies	Need for national policy implementati on	Preconception package improves maternal and child health
10	Dean SV. 2014	Various populations	Review literature	Development of country-specific intervention packages	Effective interventions if applied on target
11	Fifit, K. I S., Sofiyanti, I., Nashita, C., Permana, D. N. D. N. E., & Rahmadhani, T.D. (2022)	Premarried women	Quasi-experiment (pretest-posttest), nutrition counseling	Preconception nutrition counseling is effective and needs to be applied in midwifery services	Increased knowledge and attitudes after counseling

DISCUSSION

Preconception care is one of the key strategies to reduce the risk of maternal and neonatal complications. Based on an analysis of 11 journals, preconception care doesn't just focus on medical interventions, but also includes nutrition education, micronutrient supplementation, behavioral counseling, and chronic disease management. Research (Barrett et al., 2015) emphasizes the importance of understanding women's motivation, knowledge, and behaviors as determinants of successful preconception care. Women are categorized into three groups: "prepared," "poor knowledge," and "absent pre-pregnancy." The "prepared" group shows high readiness, routinely takes supplements, and makes lifestyle changes, while the "poor knowledge" group has intentions but limited information, and the "absent pre-pregnancy" group refuses interventions.. This finding highlights the need for a personalized approach for each group (Barrett et al., 2015)

The study (Stephenson et al., 2014) highlights that a woman's lifestyle, nutrition knowledge, and behavior before pregnancy play a big role in pregnancy readiness and health outcomes. Women who eat a balanced diet and take folic acid supplements show better pregnancy readiness, while women with low knowledge tend to have a higher risk of complications.

Research results (Fifit et al., 2022) also strengthen the literature findings that education-based interventions during the preconception period play an important role in shaping women's behavior and motivation before pregnancy. Through preconception nutrition counseling, there is a significant increase in the knowledge and attitudes of women before marriage regarding healthy pregnancy preparation. These findings show that having adequate knowledge not only boosts cognitive understanding but also encourages a more positive attitude towards the importance of preconception care. In terms of a behavioral approach, nutrition counseling becomes an effective strategy to motivate women to be more proactive in maintaining their nutrition and health before pregnancy. Besides that, the study (Fifit et al., 2022) emphasizes that unmarried women are a strategic target group in preconception care programs. Interventions done before pregnancy provide a greater opportunity to make health behavior changes, compared to interventions that only start once pregnancy has already begun. This aligns with findings from other literature that emphasize that lifestyle and diet changes take time and require continuous motivation. Therefore, preconception nutrition counseling can be seen as an important gateway in building a woman's physical and psychological readiness for pregnancy.

The implications of the findings (Fifit et al., 2022) also show the strategic role of midwives and health workers in carrying out preconception care. Nutrition counseling provided in a structured way can bridge knowledge gaps and raise women's awareness of health risks that can be prevented even before pregnancy. Therefore, integrating preconception nutrition counseling into routine reproductive health services is an important step to strengthen women's behavioral and motivational approaches in preconception care, while also supporting efforts to prevent nutritional and health problems for mothers and children in the future.

International guidelines, like those from the World Health Organization (WHO, 2013a, 2013b), emphasize that preconception care packages should include health education, micronutrient supplementation, chronic disease management, and behavioral counseling. The implementation of these packages should be adapted to the social-cultural context, economic conditions, and service access in each country. Studies by Dean et al. (2014) and Lassi et al. (2014) highlight that multifaceted interventions combining education, supplementation, and service access are more effective than single interventions. Lestari et al. (2023) highlighted that nutrition education and interventions during the preconception period not only improve the knowledge of women of reproductive age, but also encourage changes in attitudes and more sustainable health behaviors. These interventions help women understand the connection between their health before pregnancy and the risk of stunting in children, thereby boosting motivation to prepare for pregnancy more optimally. This

finding aligns with the behavioral approach in preconception care, which positions women as active participants in making decisions about their health.

From the perspective of policy implications and midwifery practices, the review (Lestari et al., 2023) shows that stunting prevention programs need to be expanded not just during pregnancy and early childhood, but also to include the preconception phase. Integrating preconception interventions into reproductive health services, including nutrition counseling and health promotion, is an important step to strengthen women's motivation to take care of their health before pregnancy. In this way, preconception care can serve as an early foundation in efforts to prevent stunting and improve the quality of maternal and child health sustainably. Factors such as low awareness among women about nutrition, cultural differences, limited healthcare facilities, and weak social support are major barriers.

Further analysis shows that successful intervention strategies have a few key traits:

1. **Personalizing interventions:** Interventions that adjust the approach based on a woman's readiness, knowledge, and motivation are more effective in boosting participation. For example, women in the "poor knowledge" group need extra education and regular reminders, while those in the "absent pre-pregnancy" group require a more intensive motivational approach.
2. **Evidence-based education:** Information about diet, lifestyle, and supplements should be based on valid scientific evidence. Studies (Stephenson et al., 2014) show that structured nutrition education programs can change women's dietary behaviors before pregnancy.
3. **Easy access to services:** Women are more likely to participate if preconception services are available at primary healthcare facilities and easy to reach, including through digital platforms, telemedicine, or health apps.
4. **Multifaceted approach:** Combining education, counseling, supplementation, and chronic disease management has been shown to be more effective than a single approach. This is supported by (Dean et al., 2014) and (Dean et al., 2014), who emphasize a comprehensive approach to achieve optimal results.
5. **Integration of health policies:** Support from national and international policies, like the WHO guidelines (2013a, 2013b), is important to ensure the sustainability of programs and standardization of pre-conception practices across regions.

Overall, this discussion emphasizes that holistic, evidence-based, adaptive, and women-focused preconception care is key to improving maternal and newborn health. Effective implementation requires cross-sector coordination, ongoing education, and monitoring and evaluation of intervention outcomes.

Evidence from systematic reviews shows that the low use of preconception services is not just related to a lack of knowledge, but also to pregnancies that are not fully planned, low risk perception, limited access, and suboptimal support from healthcare providers (Poels et al., 2016; Toivonen et al.,

2017; Goossens et al., 2018b). Behavior changes before pregnancy can be strengthened through structured counseling, a primary care approach, digital interventions, and coordination of clinical guidelines (Hussein et al., 2016; van Dijk et al., 2020; Dorney et al., 2022). A life course-based approach also emphasizes that nutrition, lifestyle, and the surrounding environment around conception affect the mother's health, pregnancy, and the health of the next generation (Barker et al., 2018; Fleming et al., 2018; Stephenson et al., 2018).

CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis of 11 journals discussing women's behavior and motivation in undergoing preconception care, it can be concluded that women's involvement in preconception screening and care is influenced by a combination of personal, social, and healthcare system factors. Internal factors like education level, knowledge about pregnancy risks, perception of the benefits of preconception care, and psychological readiness for motherhood strongly determine women's health behavior.

On the other hand, external factors like the availability and access to healthcare services, quality counseling from health workers, support from partners and family, cultural norms, and exposure to health information from the media or health professionals have a significant impact on women's motivation. Most of the journals analyzed show that education-based interventions, preconception counseling, and behavioral approaches—including the Health Belief Model (HBM) and Theory of Planned Behavior (TPB)—consistently improve knowledge, positive attitudes, and preconception actions.

Even so, various obstacles like lack of awareness, low priority given to reproductive health, limited information, stigma, and insufficient health facilities still hinder preconception practices in different countries. That's why a comprehensive and ongoing strategy is needed to ensure women can get the best benefits from preconception interventions.

Preconception care has been proven effective in improving maternal health and reducing the risk of pregnancy complications. Women's participation is greatly influenced by their knowledge, motivation, access to services, and socio-cultural factors. Effective interventions include nutrition education, folic acid supplementation, management of chronic diseases, and behavioral counseling, especially when tailored to individual characteristics. A multi-faceted approach and personalized interventions have been shown to be more successful than single interventions. Policy support from the WHO is important for standardizing and sustaining preconception services.

Preconception education should be increased starting from reproductive age, covering diet, folic acid supplementation, and a healthy lifestyle. Access to preconception services needs to be made easier, both at primary health facilities and through digital platforms. Interventions should be tailored to women's characteristics based on their readiness and knowledge. Preconception care needs to be integrated into national policies and maternal and newborn health programs. Further research is needed to understand the barriers to implementation in different cultural and social contexts.

To improve women's behavior and motivation in participating in preconception screening, a few recommendations can be considered:

1. Healthcare workers need to expand evidence-based preconception education programs, especially for women of reproductive age who are at high risk.
2. Preconception counseling should be designed to be more comprehensive, easily accessible, and sensitive to individual needs as well as cultural backgrounds.
3. Community empowerment activities are needed to help raise awareness among women and couples about the importance of preconception care.
4. The government and health facilities need to strengthen policies that make it easier to access screening services, provide adequate examination tools, and ensure health workers are trained to give effective counseling.
5. Additional research is needed to evaluate the effectiveness of behavior-based interventions, especially in populations with low socioeconomic status or limited access to services..

FURTHER STUDY

This study still has limitations, so further research on the topic of Behavioral Approaches and Motivation of Women in Preconception Care: A Literature Review is needed to improve this study and add insights for readers and writers.

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