

Preconception health is not a man's business : A formative qualitative study on men's roles in preconception health preparation

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ABSTRACT

Background: Issues related to preconception health are always associated with women, whereas men's involvement in maternal and child health services is crucial to prevent maternal and infant mortality and morbidity. Despite its importance, research related to the involvement and role of men in the preconception period is still very limited.

Objectives: The purpose of this study is to explore men's roles in preconception health preparation.

Methods: This formative qualitative research was conducted from October 2023 to July 2024. Participants consisted of 26 premarital couples and staff from three Community Health Centers, a Village Office, the National Population and Family Planning Agency, a Religious Affairs Office, and the Health Office in Bantul Regency, Yogyakarta, Indonesia. Purposive sampling was used to recruit individuals who had direct experience with, or relevant responsibilities in, premarital health services and intersectoral coordination. Data were collected from nine focus group discussions (FGDs) and 15 in-depth interviews, which were then transcribed and analyzed using thematic content analysis.

Results: The role of men in preconception health preparation was low due to a lack of awareness of its importance. Furthermore, men were not directly involved in the existing government's preconception health program. Although men encouraged their partners to prepare for pregnancy, they lacked the awareness regarding the importance of improving their own preconception health, such as through doing exercise, eating a nutritious and balanced diet, and avoiding unhealthy lifestyles. Their preparation tended to focus more on economic and social readiness, while mental preparation was given less attention.

Conclusions: Increasing the role of men in preconception health can be conducted by involving men in preconception care.

KEYWORD: *adult care; holistic care; men's role; preconception health; reproductive health.*

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INTRODUCTION

Preconception health is a golden opportunity to prevent maternal and infant mortality and morbidity, as interventions before pregnancy can optimize health status and reduce the risk of factors that affect pregnancy outcomes (1). Preconception care covers the time before the first pregnancy and between subsequent pregnancies (2). Preconception services aim to improve prospective mothers' and prospective fathers' health. Men's involvement in their partner's reproductive decision-making is essential in achieving reproductive health indicators (3). For this reason, married couples need to be prepared with a healthy reproductive life to go through pregnancy, healthy childbirth, postpartum period, and breastfeeding to produce healthy offspring (4).

Local socio-cultural factors influence the high maternal mortality rate in developing countries. Pregnancy, childbirth, and childcare are considered women's responsibilities, resulting in low male involvement in women's health issues (45%) (5). Men's involvement in maternal and child health services is a manifestation of social change that emphasizes the importance of men's roles and

responsibilities in supporting and ensuring the health of their partners and children (6). Men and women have an equally important role in preconception health, considering that pregnancy success is determined by both roles (7) and determines maternal health and future conception outcomes (8). Preconception health is part of overall health between women and men during their reproductive period. It helps reduce the risk of mortality and morbidity and promotes a healthy lifestyle to increase the chances of having a healthy baby (7,9,10). During pregnancy and breastfeeding, women who are supported by their partners tend to feel more confident in coping with stress and difficulties in the perinatal phase (11).

An increasing number of studies focus on men's role in preconception health. Findings from Adzrikhra et al. indicate that husbands' knowledge and attitudes are significantly associated with the support they provide during preconception preparation. Husbands with better knowledge and attitudes tend to provide more optimal support to their partners, whether emotionally, physically, or through active participation. These findings underscore the importance of men's

involvement in preconception health through family-based education within primary healthcare services (12).

Maternal and child health professionals are seeking to improve men's participation in supporting the health of their partners and children, particularly in preconception care, though this still requires political, programmatic, and professional effort (13). Although the importance of men's involvement in preconception health has been recognized, research specifically exploring men's perceptions, experiences, and barriers to preparing for preconception health in Indonesia remains limited. Most previous studies have focused quantitatively on husbands' knowledge, attitudes, or support, whilst qualitative evidence on why male participation remains low and how engagement strategies can be tailored to the local context is still lacking. This study examines the crucial role of men in preconception health preparation.

MATERIAL AND METHODS

This research involved three Community Health Centers, a Village Office, the National Population and Family Planning Agency, the Office of Religious Affairs, and the Health Department in Bantul Regency, Yogyakarta, Indonesia.

This formative study employed a qualitative design. The research team consisted of authors with extensive experience in qualitative research. The first

author (WS) was a female nurse specializing in adult nursing. The second author (SAA) was a female midwife who specializes in behavioral science and reproductive health and was trained in public health research, and the third author (MR) was a female nurse based in Japan who specialized in women's health.

The study was conducted from October 2023 to July 2024 after obtaining approval from The Research Ethics Commission of Jenderal Achmad Yani Yogyakarta University with the certificate number: Skep/583/KEP/XII/2023. The researchers requested informed consent to the participants, protecting their privacy, and ensuring honest data reporting. Sixty nine participants were selected using a purposive sampling technique to identify and select information-rich participants related to preconception care. Of these participants, 26 were premarital couples, 2 were family health program coordinators at Bantul Regency Health Office, 9 were health workers at the community health center, 2 were staff of the religious affairs office, 2 were staff of the National Population and Family Planning Agency, and 2 were village officers. None of the participants or members of the research team had ever met before the study was conducted. No one dropped out during data collection in the study. No one else was present besides the participants and researchers. Data were collected face-to-face from October 2023 to July 2024

through nine focus group discussions (FGDs) with 26 premarital couples in the Religious Affairs Office, and 15 in-depth interviews with health workers, family health program coordinators at Bantul Regency Health Office, officers from the National Population and Family Planning Agency, and village officers at their respective workplaces. Each FGD and in-depth interview was carried out using a reliable guide and lasted approximately 45 – 60 minutes; the average duration of each in-depth interview was approximately 50 minutes. The same core interview questions were used for all participants, with minor probes adjusted according to the participant's role and experiences. All FGDs and interviews were conducted in Indonesian and audio-recorded. Field notes were taken during and after each data collection session.

The recorded audio was transcribed verbatim and analyzed using thematic analysis using OpenCode 4.02 to identify themes within the data. The researchers followed the six stages of thematic analysis outlined by Braun and Clarke. The analysis included generating initial codes from participants' transcripts, grouping codes with similar semantic meanings, and grouping them to determine the themes.

The researchers utilized the explicit or surface meaning of the data from the transcript to develop the themes rather than through interpretation by the research team. Two coders (WS and SAA) generated the codes, while all authors participated in categorizing and determining the themes. The research team discussed and refined the themes until consensus was reached. Data was further collected and examined with the same step until data saturation was achieved. The study was reported in accordance with the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist.

RESULTS AND DISCUSSION

The characteristics of participants are described in detail in **Table 1**. The total number of participants in the study was 69, and most FGD participants were female (n=28), aged 20-35 years, had a senior high school education, and worked in the private sector. In contrast, most in-depth interview participants were female, aged 36-50 years, had a diploma or bachelor's degree, and were healthcare professionals. This age difference reflects the different roles of the two participant groups, with FGDs involving premarital couples and in-depth interviews involving key institutional informants.

Table 1. Characteristics of research participants

Characteristics	Premarital Couples	Key Informants
Gender		
Male	24	5
Female	28	12
Age		
Age 20-35 years old	52	3
Age 36-50 years old	0	9
Age 51-65 years old	0	5
Level of Education		
Senior High school	40	0
Diploma/Bachelor	12	16
Postgraduate	0	1
Occupation		
Government employees	8	0
Private employees	22	0
Entrepreneur	12	0
Unemployed	10	0
Village officer	0	2
The Office of Religious Affairs officer	0	2
The National Population and Family Planning Agency officer	0	2
Health workers at Community Health Center	0	9
Health Program holder at Health Department	0	2

The role of men in preconception health preparation is still low due to the lack of awareness of the importance of preconception health. Men have not been directly involved in existing government preconception health service programs. Men motivate couples to prepare for pregnancy, but they do not yet have the

awareness to improve preconception health, such as exercise, eating a nutritious and balanced diet, and avoiding unhealthy lifestyles. Men prepare more economically and socially and pay less attention to mental preparation. **Table 2** shows quotations to illustrate findings across the derived themes.

Table 2. Illustration quotes to derived themes

Themes	Quotes
Awareness of men's role in preconception preparation	"More towards women...who will get pregnant later" (Interview with female Ai, 27 years old). "Well, no, if it's a guy, that's a matter of women (pregnancy is a woman's business)" (FGD male BD, 30 years old).
Not preparing for partner's pregnancy	"Haven't thought about it..." (FGD male EY, 28 years old) "Not planning yet" (FGD male AP, 24 years old) "...it's not legally married yet, but when it's legal, I'll think about it." (FGD male IE, 25 years old) "Supporting the women only. Men is just impregnating" (FGD male SY, 21 years old).
Men have not been directly involved in government programs	"...it seems like we are still focusing on working on the women, huh..." (Interview with Head of Health Section of Bantul Health Office, 41 years old). "... (the male prospective groom) wasn't screened..." (Interview with Health Center Laboratory Officer, 59 years old). "...eh, usually it's just a consultation." (Interview with Head of Health Center, 42 years old). "If that told to go outside, so I don't know" (FGD male BD, 30 years old). "I want the guys to get involved too, ma'am, not just delivering things, but also checking and taking care of their health...the most important thing is to earn money..." (FGD female IN, 24 years old).
Lack of male awareness to attend health centers	"Yes, that was because I forced him (to attend the community center), otherwise I don't think it would have happened." (FGD female Ng, 24 years old). "...maybe the female partner is cooperative to come, but the male partner is the one who attend half-heartedly... (interview with Psychologist, 25 years old). "...but men also need to be present...to be healthy, everyone has to be healthy, but sometimes men act like they don't care." (interview with Head of the Office Religious Affairs , 57 years old).
There is no awareness of exercising regularly	"(Male) Yes, that's because I was forced (to do sports), ma'am, if I wasn't forced, I don't think it would have happened." (FGD female Ng, 24 years old). "Yes...sometimes (exercise) if you just feel like it." (FGD male, 28 years old). "You're tired from work, when do you have time?... the important thing is to be able to earn money." (FGD male, 22 years old). "...don't have time to exercise...I work full time every day, so it's not routine." (FGD male NA, 26 years old)". "...sometimes there is laziness (to exercise)... so there is a need of mutual motivation..." (FGD female UW, 25 years old).
There is no awareness of a nutritious and balanced diet	"So far, diet has been regular, there has been no change." (FGD male, 26 years old). "Eat whatever is in the house, if it doesn't suit you, just buy snacks." (FGD male, 24 years old). "...and often eat things that are quite unhealthy..." (FGD female NK, 29 years old).

Table 2. Illustration quotes to derived themes

Themes	Quotes
Difficulty avoiding unhealthy lifestyles	"...it's true that stop smoking is still difficult. If it does not come from their heart, they won't stop." (FGD female RA, 25 years old). "I don't know the effects of cigarettes on fertility. ... " (FGD male MF, 23 years old). "Until now, I usually drink alcohol... 2-3 times a week, depending on who
Financial preparations have not been made	"...the financial is not yet sufficient...still need parental support... not yet able to manage finances." (FGD female NU, 20 years old). "...eh, I don't have any funds to support pregnancy at the moment, she is not yet carrying a child. I will arrange it when she is expecting." (FGD male EY, 25 years old). "... I am not financially ready yet to have children in the near future." (FGD male IE, 25 years old).
Social preparation	"... there is support from my family and from my future husband, ..." (FGD female RA, 25 years old). "co-workers and playmates too. ... more about sharing their experiences (about marriage life) like that" (FGD female NK, 29 years old).
Lack of attention to mental preparation	"I am not mentally ready yet, but, what else to do? I have been dating him for a long time." (FGD female NU, 20 years old). "Yes... Ready or not, just pray to the one above." (FGD female Fi, 25 years old). "If it's a mental readiness, eh, ready or not ready... I trust the Almighty's destiny." (FGD male IE, 25 years old).

Awareness of the Importance of Men's Preconception Health

Men assume that pregnancy is the complete responsibility of women and that men's preconception health has no impact on pregnancy. This situation is most likely influenced by the still-strong patriarchal culture in the study area, which means that men's involvement in preconception preparation is not yet considered important. Furthermore, the fact that preconception services are primarily aimed at women also reinforces the perception that such matters are not men's concern.

Lack of Preparation for Partner's Pregnancy

Men had not prepared for their

partner's pregnancy because they had neither considered nor planned for it. Instead, they were more concerned with economic preparation. They believed that pregnancy preparation was not necessary as they were not legally married yet. Moreover, men perceived that they simply need to support their partners once the woman wants to conceive and felt that their only role is to get her pregnant.

Lack of Men's Direct Involvement in Government Programs

The current preconception health service program delivered through health centers did not directly include men or require them to undergo a health check. Their participation was limited to receiving

consultations; some were even asked to wait outside the room, so they did not have the opportunity to hear the information given to their partners during the consultation. Women expressed their hope for men to be included in the preconception health services.

Lack of Male Awareness to Attend Health Centers

Male awareness of visiting health centers needs to be improved. Men only attended health centers after being coerced by their partners. Even when they participated, prospective grooms were less attentive during the counseling session and tended to be more passive in health preparation before pregnancy.

Lack of awareness of doing regular exercise

Regular physical activity was not a routine part of men's preconception preparation, and some even had to be forced to exercise. Similarly, prospective brides also expected motivation from their partners to exercise regularly.

Lack of Awareness of a Nutritious and Balanced Dietary

It was revealed that men still need to increase their awareness regarding routine consumption of a nutritious and balanced diet during the preconception period. Men still frequently consume unhealthy foods and must pay more attention to their daily

nutritional intake.

Difficulty Avoiding Unhealthy Lifestyles

Male prospective grooms find it difficult to avoid unhealthy lifestyles such as smoking and alcohol consumption. Although female prospective brides have helped remind them to stop smoking, male prospective grooms still find it difficult to stop. Quitting smoking must have a direct intention from the smoker himself. Male prospective grooms do not know the impact of smoking on sperm quality.

Lack of Financial Preparations

Both the brides and grooms-to-be feel that they are not yet financially stable and still rely on their parents for financial support and guidance in managing their finances. In addition, if they immediately have children, they feel the need to be better prepared financially.

Social Preparation

In terms of social preparation, prospective brides and grooms received a lot of social support from their respective families. In addition, they also obtained support from friends and coworkers. Friends provided a space to share experiences about married life.

Lack of Attention to Mental Preparation

Some couples decided to get married after being in a relationship for a long time, even though they felt they were not yet

mentally ready. They accepted the situation, relied on prayer, and left the outcome to God's will.

This finding suggests that some couples entered marriage with limited psychological preparation, which may affect readiness for future family planning. Similar to previous studies, preconception health is often perceived as a woman's responsibility, while men's involvement remains limited. Prior research has also shown that preconception beliefs and intentions differ by gender, with women more often associated with responsibility for health preparation and men more often positioned as secondary supporters. These patterns are consistent with socio-cultural norms that shape shared responsibility in preconception care and may reduce men's motivation to participate actively (14,15).

Men's health during the preconception period also plays a role in determining maternal health and future conception outcomes (8). Preconception health is an integral part of overall health for women and men during their reproductive years. It aims to reduce the risk of morbidity and mortality and promote healthy lifestyles to increase the chances of having a healthy baby (16).

The role of men in preconception health preparation still needs to be improved. Men still need to be aware of the importance of optimizing preconception health. They considered pregnancy to be the full responsibility of women, and they believed that men's preconception health is

not related to pregnancy outcomes. A lack of awareness about the importance of preconception health in men means they have not prepared their partners for pregnancy. Men were more concerned with financial preparation when getting married. They only felt the need to support their partners when their partners wanted to conceive and believed that men's role is simply to get them pregnant. Research findings (17), revealed that men were less actively involved in pregnancy preparation and had less knowledge than women about preconception health. Improving knowledge of the short- and long-term risks of preconception care is a crucial first step toward preventing poor pregnancy outcomes (18).

Prospective brides and grooms lacked an understanding of the concept or the importance of preconception health and have limited access to this relevant information. Consequently, women, their partners, or both need to be more convinced of the significance of the preconception period (19). Men's awareness of preconception health is essential for improving reproductive, pregnancy, and neonatal health. Preconception health is not solely the responsibility of women; men's health status also influences maternal and fetal health during pregnancy (10).

In Indonesia, there are preconception health service programs organized by government institutions such as Community

Health Centers and the Religious Affairs Offices. However, the implementation of these programs remains inadequate. The programs have yet to actively involve brides and grooms-to-be, and their involvement was limited to consultations only. Sometimes men were even asked to wait outside the consultation room so they would not hear the information provided during the consultation session. Increasing the participation of male partners in preconception programs can expand their impact on preventing disease transmission or promoting healthy pregnancy planning. Potential challenges may include a need for more understanding among couples on the importance of preconception care, limited active involvement in pregnancy planning, and even reluctance to seek preconception care.

The Centers for Disease Control and Prevention (2020) emphasized that it is important for men to be aware of their health status and optimize their health before planning a pregnancy, as men's health during the preconception period also determines maternal health and future conception outcomes (8). Preconception health is part of women's and men's overall health during their reproductive years. It is beneficial for reducing the risk of mortality and morbidity and promoting a healthy lifestyle to increase the chances of having a healthy baby (16). Male participation helps detect infertility and sexually transmitted infections (STIs) earlier, followed by

treatment for both partners. In addition, prospective fathers who are at risk for certain genetic disorders are often identified and referred to appropriate specialists. Male involvement increases female partner compliance and improves reproductive health, promoting a healthy pregnancy. Preconception health issues are usually associated with women. However, they are equally important for men. Men's preconception health also plays a role in determining maternal health and the outcomes of future conception (20).

Efforts to improve preconception health should not focus solely on women. Men also need to be involved because fertilization requires sperm. Therefore, sperm quality must be optimized before conception to help increase the chances of a healthy pregnancy. Prospective brides and grooms had carried out physical, mental, economic, social, and knowledge-related preparation, although these preparations were not optimal yet.

In addition, the awareness of prospective brides and grooms to do regular exercise still needs to be improved, and motivation from their partners is required. Light exercise should be at least 30 minutes a day, five days a week, and at least 150 minutes of moderate exercise per week (7). Recommendations for preconception physical activity also need to be optimized. Exercise should be balanced, taking into account the duration, intensity, and frequency of workouts (21). Engaging

in physical activity before pregnancy can help individuals achieve an adequate levels of physical activity during pregnancy compared to those who are less active, thereby helping to better control weight and reduce discomfort during pregnancy (22), lower the risk of gestational diabetes (23) and reduce preeclampsia (24).

It was still difficult for prospective grooms to avoid unhealthy lifestyles such as smoking, and they considered smoking to be unrelated to preconception health. The habit of quitting smoking should begin before pregnancy as a body detoxification (7). Smokers who receive support from their partners and closest family will tend to make efforts to quit smoking (25). Couples planning a pregnancy should be encouraged to avoid unhealthy lifestyles before conception; bad preconception habits, such as caffeine consumption, smoking, and alcohol consumption in both men and women, are associated with poor pregnancy outcomes and maternal health (7). Besides avoiding bad habits, prospective brides and grooms also need to get used to a nutritious and balanced diet, get enough rest, and do physical activities and exercises. Good nutrition before pregnancy plays supports the production of healthy sperm. Preconception diet can affect implantation, placentation, and embryogenesis (26), and prevent anaemia during pregnancy, bleeding, infection, and pregnancy complications (27). Adopting a healthy diet before pregnancy is essential

for optimizing maternal health and improving pregnancy outcomes. This includes limiting saturated fat, sugar, processed foods, and takeaway meals, while increasing intake of lean meat, poultry, fish, fruits, vegetables, and whole grains (28).

Mental health needs to be prepared before marriage because it impacts the continuation of life after marriage. Several studies have found that poor marital relationships and couple tension are predictors of anxiety during pregnancy (29). Optimizing preconception health should consider cultural, individual, social and psychological factors to facilitate positive behavioral change (30). In addition, economic/financial readiness is also needed so that when you have a household and pregnant, there are no economic problems that hurt physical, mental or social health (31, 33).

Gender roles influence individual responsibilities in preparing for pregnancy and influence information-seeking behavior and engagement in health behavior positive preconception (30). The gender transformative approach (GTA) explicitly addresses gender norms and inequalities, improving reproductive health services and contraceptive use. Education on comprehensive sexuality that takes gender and power into account is five times more likely to be successful in preventing unintended pregnancies (34,35). Previous research supports the value of a couples-

based approach because joint participation can strengthen healthy conception practices, improve lifestyle adherence, and promote shared responsibility for family health. Studies of preconception and lifestyle interventions have shown that involving both partners may improve dietary behavior, reduce sedentary time, and increase mutual accountability, although sustained effects remain dependent on context, feasibility, and partner support (28). In the present study, the limited awareness of men's role and the tendency to frame preconception health as a woman's responsibility may help explain why active male involvement remains low. This pattern likely reflects persistent socio-cultural norms, unequal gender expectations, and the fact that preconception services are still more commonly designed for women than for couples. Therefore, a couples-based intervention appears appropriate not only to improve health behaviors, but also to reshape shared perceptions and strengthen engagement before conception.

This study has several limitations. First, it was conducted in a single regency, so the findings may not be fully transferable to other settings with different social and health system contexts. Second, although the study included both couples and key stakeholders, the sample remained relatively small and was recruited purposively, which may limit broader generalization. Third, because the data were based on self-reported perceptions

from FGDs and interviews, responses may have been influenced by social desirability or recall bias.

CONCLUSION AND RECOMMENDATION

Men's involvement in preconception health remains limited and is constrained by low awareness and persistent gendered assumptions that position preconception care primarily as a woman's responsibility. The findings indicate that men's preparation is still largely centered on social and financial readiness, with insufficient attention to health behaviors, service utilization, and mental preparedness. Preconception health strategies should move beyond a women-centered model and systematically incorporate men as active partners in pregnancy planning.

A couples-based approach should be integrated into premarital counseling, primary health care, and community-based reproductive health services to improve men's health literacy, encourage healthy behaviors, and strengthen shared responsibility for preconception preparation. Future research should evaluate the effectiveness of couple-focused interventions in improving male engagement and sustaining preconception health practices across diverse sociocultural settings.

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