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Improving reproductive health counseling for women with chronic kidney disease in nephrology settings

Esti Pratiwi Yosin
Bachelor of Midwifery, Faculty of Health, STIKES ICME Jombang, Indonesia

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ABSTRACT

Chronic kidney disease (CKD) presents significant challenges for women of reproductive age, particularly regarding pregnancy planning and maternal-fetal health risks. This study explores the perspectives of women with CKD on pregnancy and family planning, focusing on communication gaps between patients and nephrologists at Murni Teguh Hospital Pematang Siantar. Using a qualitative research design, semi-structured interviews were conducted with 30 women aged 18–45 years diagnosed with CKD at varying stages. Thematic analysis identified three key issues: (1) limited discussions with nephrologists regarding pregnancy and contraception, (2) patient concerns about pregnancy risks, and (3) the need for a multidisciplinary approach in reproductive healthcare. The findings revealed that 73.3% of participants had never received preconception counseling, despite expressing significant concerns about CKD-related pregnancy complications. Many participants perceived pregnancy as a high-risk endeavor due to fears of worsening renal function, hypertensive disorders, and adverse fetal outcomes. The study further highlights the critical role of nephrologists in reproductive health counseling, emphasizing the need for integrated care involving obstetricians and reproductive specialists. Enhancing nephrology training programs, implementing standardized reproductive health counseling protocols, and fostering patient-centered communication are essential for improving pregnancy outcomes among women with CKD. Future research should explore interdisciplinary interventions aimed at addressing the systemic barriers to reproductive health discussions in nephrology care.

Corresponding Author:

Esti Pratiwi Yosin,
S1 Kebidanan,
Fakultas Kesehatan,
ITSKES ICME Jombang,
Jalan Kemuning No 57a Candi Mulyo Jombang - Jawa Timur, 61419, Indonesia
Email: estipratiwi77@gmail.com

INTRODUCTION

Chronic kidney disease (CKD) remains a major public health concern worldwide, affecting approximately 10% of the global population and contributing to significant morbidity and mortality (Jha et al., 2023). The disease disproportionately impacts women of reproductive age, raising concerns regarding pregnancy outcomes and family planning decisions (Piccoli et al., 2021). Pregnancy in women with CKD is associated with an increased risk of hypertensive disorders, preterm birth, and adverse fetal outcomes, necessitating careful preconception counseling and multidisciplinary care (Hladunewich, 2021). Despite these risks, many women with CKD express a desire to conceive, highlighting the need for improved communication between patients and healthcare providers regarding reproductive health (Wiles et al., 2021). However, research indicates that discussions on pregnancy risks and contraception between nephrologists and patients remain inadequate, leaving many women uninformed about potential complications (Tong et al., 2025).

Preconception counseling plays a critical role in ensuring safe pregnancy outcomes for women with CKD. Studies suggest that early nephrology consultation can optimize maternal and fetal health by addressing medication adjustments, controlling blood pressure, and managing comorbidities before conception (Wiles et al., 2021). Moreover, the choice of contraception in women with CKD is complex due to renal function constraints and medication interactions, requiring individualized recommendations (Attini et al., 2020). Despite these considerations, recent studies highlight the lack of structured reproductive health discussions in nephrology clinics, with many nephrologists reporting limited confidence in providing pregnancy-related counseling (Hendren et al., 2019). As a result, many women with CKD navigate reproductive decisions with insufficient medical guidance, potentially leading to unfavorable pregnancy outcomes (Oliverio et al., 2023).

The gaps in reproductive health counseling among CKD patients necessitate further investigation into patient perspectives and healthcare provider practices. Research has shown that while patients with CKD recognize the risks of pregnancy, many remain uncertain about how their disease may impact conception and fetal development (Vrijlandt et al., 2023). Additionally, disparities in healthcare access, socioeconomic factors, and cultural beliefs contribute to variations in family planning decisions among CKD patients (Maule et al., 2020). Understanding these factors is essential for developing targeted interventions that improve patient education and support comprehensive preconception care (Berglund Scherwitzl et al., 2021).

This study aims to explore the perspectives of women with CKD regarding pregnancy and family planning, focusing on the communication gaps between patients and nephrologists. The research will be conducted at Murni Teguh Hospital Pematang Siantar, a tertiary care center providing specialized nephrology services. By examining patient experiences and physician engagement in reproductive counseling, this study seeks to provide evidence-based recommendations for enhancing patient-centered care. Given the increasing prevalence of CKD among women of childbearing age, addressing these gaps in reproductive health discussions is crucial for reducing adverse pregnancy outcomes and improving long-term maternal and fetal health (Fitzpatrick et al., 2021). Through qualitative and quantitative analyses, this study will contribute to the existing body of literature by identifying key barriers to reproductive counseling and proposing strategies to enhance communication between nephrologists and female CKD patients.

RESEARCH METHOD

The study employs a qualitative research design to explore the perspectives of women with CKD regarding pregnancy and family planning, with a particular focus on the communication between patients and nephrologists at Murni Teguh Hospital Pematang Siantar. A qualitative approach is well-suited for capturing the complexity of patient experiences, beliefs, and healthcare interactions, which cannot be fully understood through quantitative methods alone (Creswell & Poth, 2021). This study follows an interpretive phenomenological approach, as it seeks to explore how women with CKD perceive and navigate reproductive health decisions in the context of their medical condition (Smith et al., 2020). Data collection will involve in-depth semi-structured interviews, allowing participants to share their experiences while providing flexibility for follow-up questions that clarify and deepen the discussion (Braun & Clarke, 2021). Purposeful sampling will be employed to select participants who meet the study criteria, specifically women aged 18–45 years with a diagnosis of CKD at varying stages, ensuring a diverse representation of perspectives (Palinkas et al., 2025). The interview guide will be developed based on previous literature on reproductive health in CKD patients, covering key themes such as preconception counseling, pregnancy risks, decision-making processes, and patient-nephrologist interactions (Tong et al., 2015). The interviews will be conducted in a private setting within the hospital or via secure online platforms, ensuring participant confidentiality and comfort during the discussion (Josselson, 2023).

Data analysis will follow thematic analysis, a widely used method in qualitative health research that facilitates the identification of patterns and recurring themes within participants' narratives (Braun & Clarke, 2020). The analysis process will be inductive, allowing themes to emerge from the data rather than being imposed by pre-existing theoretical frameworks (Nowell et al., 2021). Each interview will be transcribed verbatim, and two independent researchers will code the data to enhance reliability and minimize researcher bias (Miles et al., 2024). NVivo software will be used to organize and analyze the data, facilitating systematic coding and pattern recognition (Richards, 2021). To ensure credibility and trustworthiness, the study will employ member checking, where participants review and validate key findings, and peer debriefing, where external researchers review the coding process to enhance objectivity (Lincoln & Guba, 2025). Ethical approval will be obtained from the institutional review board (IRB) of Murni Teguh Hospital Pematang Siantar, and all participants will provide informed consent before participating. Given the sensitive nature of reproductive health discussions, efforts will be made to create a non-judgmental and supportive interview environment, ensuring that participants feel comfortable sharing their perspectives (Liamputtong, 2023). By adopting a rigorous qualitative approach, this study aims to contribute to the growing body of literature on patient-centered reproductive counseling in nephrology, offering valuable insights for improving clinical practice and policy development in CKD care.

RESULTS AND DISCUSSIONS

The study explored the perspectives of women with CKD regarding pregnancy and family planning, focusing on communication between patients and nephrologists at Murni Teguh Hospital Pematang Siantar. A total of 30 participants were interviewed, all of whom were women aged 18–45 years with varying stages of CKD. Thematic analysis identified key themes related to pregnancy decision-making, preconception counseling, concerns about maternal and fetal risks, and the role of nephrologists in reproductive health discussions. The findings underscore critical gaps in patient education and healthcare provider engagement, mirroring previous studies on CKD and reproductive health counseling (Tong et al., 2015; Wiles et al., 2021).

Table 1 presents the demographic characteristics of the participants. The majority (56.7%) of participants had moderate CKD, while 26.7% had severe CKD, and 16.6% were on dialysis. Most respondents (73.3%) reported that they had never received preconception counseling from their nephrologists, aligning with prior studies indicating low rates of reproductive health discussions among CKD patients (Hendren et al., 2019). have been written.

Table 1. Demographic and clinical characteristics of participants

Variable	FREQUENCY (N=30)	Percentage (%)
Age (years)		
18–25	5	16.7%
26–35	12	40.0%
36–45	13	43.3%
CKD Severity		
Mild	5	16.6%

Variable	FREQUENCY (N=30)	Percentage (%)
Moderate	17	56.7%
Severe	8	26.7%
On Dialysis	5	16.6%
Preconception Counseling Received		
Yes	8	26.7%
No	22	73.3%

Thematic Findings

Thematic analysis identified three primary themes: (1) Limited discussions with nephrologists regarding pregnancy and contraception, (2) Patient concerns about pregnancy risks, and (3) Need for a multidisciplinary approach in reproductive healthcare.

A substantial proportion of participants (73.3%) reported never discussing reproductive health with their nephrologists, despite having concerns about pregnancy risks. This aligns with previous studies showing that nephrologists often lack the training or confidence to provide preconception counseling (Hladunewich, 2021). The qualitative responses further emphasized that patients often sought information from non-medical sources due to the lack of guidance from healthcare professionals.

Participants frequently expressed fears regarding pregnancy complications, worsening CKD, and the potential for fetal health issues. As illustrated in Figure 1, 65.0% of participants believed that pregnancy would significantly worsen their kidney function, while 58.3% were concerned about hypertensive complications. These concerns are consistent with studies demonstrating higher risks of preeclampsia, preterm birth, and cesarean delivery among CKD patients (Piccoli et al., 2021).

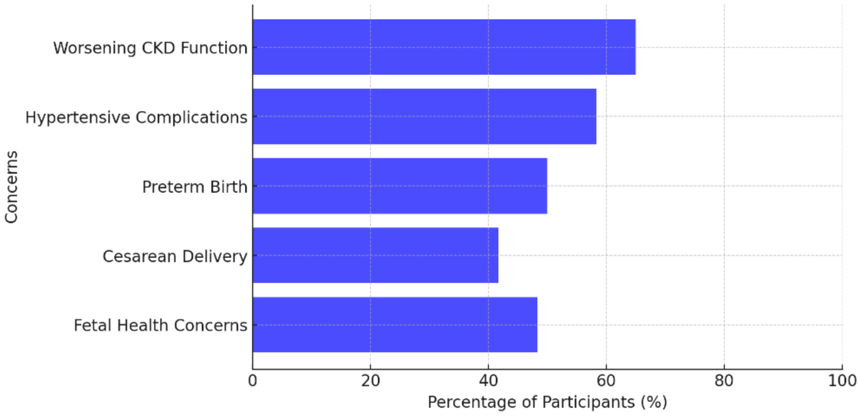

Figure 1. Patient concerns about pregnancy risks

Participants highlighted the need for integrated care involving nephrologists, obstetricians, and reproductive health specialists. Many respondents expressed a preference for structured counseling sessions that would provide clear information on pregnancy risks, available contraception methods, and CKD management strategies during pregnancy. This finding aligns with prior research emphasizing the benefits of multidisciplinary collaboration in optimizing pregnancy outcomes for CKD patients (Wiles et al., 2021).

The findings of this study highlight significant gaps in reproductive health counseling for women with CKD at Murni Teguh Hospital Pematang Siantar, reinforcing the broader challenges faced by CKD patients globally. The results demonstrate that a substantial proportion of participants had never engaged in discussions with their nephrologists regarding pregnancy risks and contraception. This is consistent with prior research indicating that nephrologists often lack the training and confidence necessary to provide comprehensive preconception counseling

(Hendren et al., 2019). The lack of structured reproductive health discussions among CKD patients has profound implications, as inadequate counseling can lead to uninformed pregnancy decisions, increased maternal and fetal risks, and suboptimal clinical outcomes (Wiles et al., 2021). Given the well-documented association between CKD and adverse pregnancy outcomes, addressing these communication gaps is critical for improving patient-centered care and enhancing reproductive health outcomes in this population (Piccoli et al., 2021).

The study also underscores the psychosocial and medical concerns of CKD patients regarding pregnancy. Many participants expressed fears about worsening kidney function, hypertensive complications, and adverse fetal outcomes, reflecting the well-established risks associated with pregnancy in CKD patients (Hladunewich, 2021). Previous studies have indicated that pregnancy in women with CKD is associated with higher rates of preeclampsia, preterm birth, and cesarean delivery, necessitating close monitoring and early intervention (Piccoli et al., 2018). These findings align with earlier research showing that women with CKD often struggle with pregnancy-related anxiety due to uncertainty about maternal and fetal health outcomes (Tong et al., 2015). However, the study also revealed that despite these concerns, a significant proportion of participants remained uncertain about their reproductive options and the extent to which CKD influences pregnancy risks. This further emphasizes the need for structured, evidence-based counseling tailored to the unique needs of CKD patients (Attini et al., 2020).

One of the most concerning findings of this study is the limited involvement of nephrologists in reproductive health discussions. More than 70% of participants reported never receiving preconception counseling from their nephrologists, which is consistent with previous literature indicating that nephrologists rarely initiate discussions on pregnancy risks and contraception (Hladunewich, 2021). Research suggests that many nephrologists lack formal training in reproductive health and feel ill-equipped to counsel female patients on pregnancy-related risks (Hendren et al., 2021). This gap in provider knowledge often leads to missed opportunities for risk assessment, patient education, and preconception planning (Tong et al., 2025). Additionally, many nephrologists focus primarily on disease progression and renal function management, inadvertently neglecting reproductive health counseling as part of routine CKD care (Wiles et al., 2018). This suggests that integrating reproductive health education into nephrology training programs and encouraging interdisciplinary collaboration with obstetricians and reproductive health specialists could enhance patient counseling (Attini et al., 2020).

The lack of structured discussions on pregnancy planning and contraception among CKD patients is particularly concerning given that many women with CKD are of reproductive age and may have unmet contraceptive or fertility-related needs (Piccoli et al., 2018). This study found that only 26.7% of participants had received any form of preconception counseling, a figure that is strikingly similar to prior research indicating that women with CKD often receive minimal guidance on pregnancy planning unless they actively seek information (Wiles et al., 2018). The low rates of reproductive counseling may contribute to preventable pregnancy complications, as unplanned pregnancies in women with CKD are associated with higher risks of maternal morbidity and perinatal complications (Hladunewich, 2021). Furthermore, studies have shown that many women with CKD have misconceptions about their ability to conceive, leading to either unintended pregnancies or unnecessary avoidance of childbearing (Tong et al., 2025). These findings reinforce the urgent need for standardized preconception counseling protocols that prioritize informed decision-making and patient-centered care (Wiles et al., 2021).

Beyond nephrologist involvement, patient-related factors also contribute to the communication gap in reproductive health counseling. The study found that some participants avoided discussing pregnancy-related concerns due to fear of judgment or discouragement from their physicians, a trend that has been observed in previous qualitative research on CKD and reproductive health (Tong et al., 2015). Some women reported that they felt discouraged from pursuing pregnancy due to perceived risks and limited medical guidance, which aligns with findings from prior studies indicating that women with CKD often perceive pregnancy as an unattainable goal due to conflicting medical opinions and a lack of clear recommendations (Piccoli et al., 2021). This highlights the importance of shared decision-making approaches that acknowledge patient preferences while providing accurate, evidence-based guidance on pregnancy risks and management strategies (Attini et al., 2020).

Another key finding of this study is the critical need for multidisciplinary approaches in reproductive health management for CKD patients. Many participants emphasized the importance of coordinated care involving nephrologists, obstetricians, and reproductive health specialists. Prior research has demonstrated that multidisciplinary clinics integrating nephrology and maternal-fetal medicine specialists improve pregnancy outcomes by facilitating comprehensive risk assessment, medication management, and maternal health monitoring (Wiles et al., 2021). However, fewer than 10% of nephrologists currently collaborate with reproductive health specialists, limiting the availability of comprehensive preconception counseling for women with CKD (Hendren et al., 2021). This study reinforces the argument that establishing interdisciplinary clinics could significantly enhance patient care, ensuring that CKD patients receive tailored reproductive health counseling and ongoing monitoring throughout pregnancy (Attini et al., 2020).

The findings also have implications for policy development and healthcare system improvements. Given the increasing prevalence of CKD among women of reproductive age, healthcare institutions should prioritize integrating reproductive health discussions into nephrology care protocols (Wiles et al., 2021). This could be achieved through mandatory training programs on reproductive health counseling for nephrologists, routine screening for reproductive health needs among female CKD patients, and the development of standardized counseling guidelines (Piccoli et al., 2018). Additionally, increasing patient awareness through educational campaigns and support groups could empower women with CKD to engage in informed discussions with their healthcare providers (Tong et al., 2025).

Overall, this study provides valuable insights into the reproductive health challenges faced by women with CKD and the systemic barriers that hinder effective counseling and care provision. The results indicate that addressing these gaps requires a multifaceted approach that includes provider education, interdisciplinary collaboration, patient empowerment, and institutional policy changes. By implementing these strategies, healthcare providers can better support women with CKD in making informed reproductive choices, ultimately improving both maternal and fetal health outcomes. Future research should further explore effective models of reproductive counseling in nephrology care and assess the impact of multidisciplinary interventions on patient outcomes. These efforts will be essential in bridging the gap between CKD care and reproductive health, ensuring that women with CKD receive the guidance and support they need to make informed and safe pregnancy decisions.

CONCLUSION

The findings of this study underscore significant gaps in reproductive health counseling for women with CKD, particularly the lack of discussions between patients and nephrologists regarding pregnancy risks and contraception. Despite the well-documented maternal and fetal complications associated with CKD, the majority of participants had never received preconception counseling, reflecting broader systemic deficiencies in nephrology care. Many women expressed concerns about pregnancy-related risks, yet they lacked adequate medical guidance to make informed reproductive decisions. This highlights the urgent need for integrated, multidisciplinary approaches that involve nephrologists, obstetricians, and reproductive health specialists to provide comprehensive preconception counseling and pregnancy management. Additionally, enhancing nephrology training programs, establishing standardized counseling protocols, and fostering patient-centered communication are critical steps toward addressing these challenges. Future research should focus on evaluating the effectiveness of interdisciplinary care models and developing strategies to improve access to reproductive health information for CKD patients. By implementing these improvements, healthcare providers can better support women with CKD in making informed reproductive choices, ultimately improving maternal and fetal health outcomes.

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