

Postpartum Women' s Contraceptive Decision-Making Preferences and Influencing Factors: A Postprint Study

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Abstract

Background: In recent years, family planning policies in China have struggled to mitigate the trend of annual population decline. The current fertility policies have overlooked the provision of contraceptive services for pregnant and postpartum women, exposing them to risks of unintended pregnancy and short-interval pregnancy.

Objective: To understand postpartum women' s preferences regarding three contraceptive decision-making models (physician-led decision-making, patient autonomous decision-making, and shared decision-making), analyze factors influencing these preferences, and improve contraceptive service provision for postpartum women.

Methods: A questionnaire survey was administered to postpartum women aged 18-45 years who established medical records and delivered healthy live infants at Wuzhong People' s Hospital and Yinchuan Maternal and Child Health Hospital between January and July 2023, and attended postpartum follow-up examinations at (42 \pm 7) days. The questionnaire comprised four main sections: general demographic characteristics of postpartum women; current status of prenatal contraceptive decision-making services; postpartum contraceptive circumstances (including demand for and acceptance of postpartum contraception); and contraceptive decision-making preferences of participants. The Problem-Solving Decision-Making Scale (PSDM) was employed to classify postpartum women' s contraceptive decision-making preferences. Multiple logistic regression analysis was utilized to explore factors influencing contraceptive decision-making preferences.

Results: A total of 650 questionnaires were collected in this study, with 34 excluded due to duplication or severe missing data, yielding 616 valid question-

naires for analysis. Among the 616 postpartum women surveyed, 612 (99.4%) had not received any prenatal contraceptive decision-making services, while only 4 (0.6%) had received such services. Among the 4 postpartum women who received prenatal services, 1 had contraceptive method selection led by a physician (nurse), and 3 preferred autonomous decision-making. A total of 533 (86.5%) postpartum women expressed demand for postpartum contraceptive shared decision-making, and 545 (88.5%) were willing to accept postpartum contraceptive shared decision-making services. Multiple logistic regression analysis revealed that postpartum women's demand for and acceptance of shared decision-making had no influence on preference for physician-led decision-making ($P>0.05$). Compared with preference for autonomous decision-making, acceptance of postpartum contraceptive shared decision-making was a significant factor influencing preference for shared decision-making ($OR=0.231$, $95\%CI=0.062\sim0.864$, $P<0.05$), whereas demand for postpartum contraceptive shared decision-making had no effect on preference for shared decision-making ($P>0.05$).

Conclusion: Postpartum women demonstrate good acceptance of the contraceptive shared decision-making model, yet actual service provision remains inadequate. Efforts should be made to strengthen prenatal education and contraceptive services for postpartum women, promote integration of prenatal and postpartum contraceptive services, and further safeguard maternal and infant health.

Full Text

Preamble

Maternal Preferences in Contraceptive Decision-making: An Analysis of Influencing Factors

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Abstract

Background

In recent years, family planning in our country has struggled to reverse the trend of negative population growth year after year. The current fertility policy

fails to adequately provide contraceptive services to pregnant women at risk of unwanted or early pregnancies.

Objective

To understand mothers' preferences for the three types of contraceptive decision-making (doctor-led, patient-led, and shared decision-making) and to analyze the factors influencing these preferences, with the aim of improving contraceptive service provision for mothers.

Methods

A cross-sectional survey was conducted among women aged 18-45 years who delivered healthy live births between January and July 2023 at Wuzhong People's Hospital and Yinchuan Maternal and Child Health Hospital and attended postpartum follow-up visits at (42 \pm 7) days. The questionnaire consisted of four main sections: general demographic characteristics of the participants, current practices in prenatal contraceptive decision-making services, postpartum contraceptive behaviors (maternal needs and attitudes toward postpartum contraception), and contraceptive decision-making status of respondents (contraceptive preferences). Maternal contraceptive decision-making preferences were assessed using the Problem Solving Decision-Making (PSDM) Scale. Multiple logistic regression analyses were performed to identify factors influencing maternal preferences for contraceptive decision-making.

Results

In this study, a total of 650 questionnaires were collected. After excluding 34 due to duplicate data and significant missing values, 616 valid questionnaires were included in the final analysis. Among these, 612 postpartum women (99.4%) had not received any antenatal contraceptive decision-making services, while only 4 (0.6%) had. Of the 4 women who received such services, 1 relied on doctor- (or nurse-) led decision-making, while 3 preferred autonomous decision-making. A total of 533 respondents (86.5%) expressed a need for shared decision-making in postpartum contraception, and 545 respondents (88.5%) were willing to accept shared decision-making services. Multivariate logistic regression analysis indicated that the need for and acceptance of shared decision-making services had no significant impact on the preference for doctor-led decision-making ($P>0.05$). However, compared with a preference for autonomous decision-making, acceptance of postpartum shared decision-making services was a significant factor influencing the preference for shared decision-making (OR=0.231, 95%CI=0.062-0.864, $P<0.05$). The need for shared decision-making did not significantly affect the preference for shared decision-making ($P>0.05$).

Conclusion

Maternal acceptance of the shared decision-making model for contraception is high, but actual uptake remains low. Antenatal education and contraceptive services for mothers should be strengthened to promote the integration of antenatal and postnatal contraceptive services, further protecting maternal and child health.

Key words

Contraceptive decision-making preferences; Decision making, shared; Family planning; Root cause analysis

Introduction

The WHO recommends that the interpregnancy interval (from delivery to next pregnancy) should be at least 24 months, which could prevent 32% of maternal deaths and 10% of deaths among children aged 0-3 years [?]. However, current clinical contraceptive services primarily focus on the first year postpartum, with relatively insufficient promotion and education about contraceptive knowledge during the prenatal period [?]. Studies indicate that both pregnant women and healthcare providers generally lack adequate awareness of postpartum contraception [?], which often prevents postpartum women from receiving necessary services to extend birth intervals or avoid unintended pregnancies [?]. Currently, domestic research on contraceptive services at 6, 12, and 24 months postpartum is relatively abundant, but studies on contraceptive services within 42 days postpartum are limited [?]. Moreover, postpartum women typically focus on newborn care and their own recovery, resulting in up to 40% of women not returning for postpartum check-ups at 6 weeks postpartum, leading to a serious gap in postpartum contraceptive services [?]. Due to the lack of timely contraceptive counseling during pregnancy, women are less likely to immediately accept contraceptive measures such as intrauterine device (IUD) insertion after delivery [?].

Current contraceptive services include three decision-making models: doctor-led decision-making, patient-led autonomous choice, and shared decision-making (SDM) [?]. In the traditional doctor-led model, healthcare providers make contraceptive decisions directly for patients based on professional expertise, but this model may overlook or misinterpret patients' individual preferences. The patient-led autonomous choice model emphasizes patients making independent decisions based on their own preferences, yet due to insufficient information support and in-depth communication from healthcare providers, this model often results in a simplistic decision-making process with inadequate patient engagement [?]. In contrast, SDM is a collaborative model involving healthcare providers and patients, where both parties discuss the risks and benefits of options and reach consensus while fully considering patients' values and decision-making preferences [?]. However, the application of shared decision-making in obstetrics and gynecology remains limited [?]. Research has found that doctors tend to emphasize informed consent content during consultations, pay less attention to pregnant women's personal preferences, and demonstrate insufficient communication skills [?]. Understanding maternal preferences for different decision-making models in contraceptive counseling is crucial for designing personalized postpartum contraceptive services [?]. This study aims to investigate maternal preferences for contraceptive decision-making and analyze key factors

influencing these preferences.

1. Methods

1.1 Study Subjects

This study enrolled postpartum women attending postpartum follow-up clinics at Wuzhong People's Hospital and Yinchuan Maternal and Child Health Hospital between January and July 2023. Inclusion criteria were: postpartum women aged 18-45 years who had established prenatal records at the study sites and delivered live births, and attended postpartum follow-up visits at (42 ± 7) days. Exclusion criteria included unwillingness to participate, cognitive impairment, lack of autonomy, and other conditions. This was a cross-sectional epidemiological study. Using the formula $N = K \times Q/P$ (with allowable error of 10%, $K=400$, $Q=1-P$) and a postpartum contraceptive rate of 41.8% from literature [?] ($P=41.8\%$), the estimated sample size was 556. Considering a 10% attrition rate, the final sample size was determined to be 612. This study was approved by the Ethics Committee of Ningxia Medical University (Approval No.: 23BRK036).

1.2 Survey Instruments

This quantitative study used a self-designed questionnaire administered to all participants. The questionnaire comprised four main sections: (1) general demographic characteristics; (2) current status of prenatal contraceptive decision-making services; (3) postpartum contraceptive status (maternal needs and acceptance of postpartum contraception); and (4) contraceptive decision-making status (contraceptive preferences). Knowledge of postpartum contraception was measured using a self-developed questionnaire with four multiple-choice questions: two single-choice questions (scored 1 for correct answers, 0 for incorrect or "don't know") and two multiple-choice questions (scored 1 for completely correct answers, 0 for incorrect or incomplete answers). Based on the mean total score (2.76), postpartum contraceptive knowledge level was categorized as high (>2.76) or low (≤ 2.76). Correct understanding of contraceptive decision-making was defined as awareness of all three decision-making approaches (doctor-led, patient-led, and shared decision-making). The Problem Solving Decision-Making (PSDM) Scale [?, ?] was used to assess maternal contraceptive decision-making preferences, consisting of two multiple-choice questions scored on a 5-point Likert scale (1= "doctor only" to 5= "me only"). Mean scores of 1-2 indicated preference for doctor-led decision-making, 3 indicated preference for shared decision-making, and 4-5 indicated preference for autonomous decision-making. The Cronbach's α coefficient for this scale in the current study was 0.892.

1.3 Survey Methods

Surveyors were graduate students majoring in epidemiology and health statistics who had passed pre-survey training and assessment. They explained the survey content and questionnaire to participants in one-on-one sessions and obtained signed informed consent. Completed questionnaires were verified, uniformly coded by designated personnel, and double-entered using EpiData to ensure accuracy.

1.4 Statistical Analysis

Data were analyzed using SPSS 24.0 software. Categorical data were analyzed using χ^2 tests. Multivariate logistic regression analysis was performed to explore factors influencing maternal contraceptive decision-making preferences. All hypothesis tests were two-tailed, with $P < 0.05$ considered statistically significant.

2. Results

2.1 General Demographic Characteristics

A total of 650 questionnaires were collected. After excluding 34 due to duplicate data and significant missing values, 616 valid questionnaires were included in the final analysis. Among the 616 participants, 1 (0.2%) was aged ≤ 20 years, 541 (87.8%) were aged 21-34 years, and 74 (12.0%) were aged ≥ 35 years. Educational attainment: 86 (14.0%) had high school/technical school or below, 206 (33.4%) had junior college, 293 (47.6%) had bachelor's degree, and 31 (5.0%) had graduate degree or above. Monthly income: 132 (21.4%) earned $\leq 3,000$ yuan, 260 (42.2%) earned 3,001-5,000 yuan, 176 (28.6%) earned 5,001-8,000 yuan, and 48 (7.8%) earned $\geq 8,001$ yuan. Employment status: 147 (23.9%) unemployed, 105 (17.0%) unstably employed, and 364 (59.1%) stably employed.

2.2 Prenatal Contraceptive Decision-Making Service Status

Among the 616 participants, 612 (99.4%) had not received any prenatal contraceptive decision-making services, while only 4 (0.6%) had received such services. Of the 4 who received services, 1 had doctor- (or nurse-) led decision-making, while 3 preferred autonomous decision-making.

2.3 Maternal Needs for Postpartum Contraceptive Decision-Making

A total of 533 participants (86.5%) expressed a need for shared decision-making in postpartum contraception, and 545 (88.5%) were willing to accept shared decision-making services. Among those who did not need shared decision-making services, the main reasons included: 263 (49.4%) considered it too troublesome, 257 (48.2%) preferred autonomous decision-making, and 13 (2.4%) lacked understanding of shared decision-making. Among those unwilling to

accept shared decision-making services, 476 (87.3%) believed routine contraceptive services were sufficient, 54 (9.9%) considered it unnecessary, and 15 (2.8%) cited other reasons. These findings indicate that while shared decision-making services are widely recognized, their complexity and necessity require further promotion and optimization.

2.4 Univariate Analysis of Contraceptive Decision-Making Preferences

Among the 616 participants, 39 preferred doctor-led decision-making, 373 preferred shared decision-making, and 204 preferred autonomous decision-making. No statistically significant differences were found in age, education, monthly income, occupation, adverse pregnancy history, gravidity, postpartum contraceptive awareness, postpartum contraceptive knowledge level, correct understanding of contraceptive decision-making, or prior receipt of contraceptive decision-making services across different preference groups ($P>0.05$). However, significant differences were observed in prenatal needs for postpartum contraceptive shared decision-making and willingness to accept prenatal shared decision-making services ($P<0.05$).

2.5 Multivariate Logistic Regression Analysis of Contraceptive Decision-Making Preferences

Using contraceptive decision-making preference as the dependent variable and factors with statistical significance in univariate analysis as independent variables, multivariate logistic regression analysis was performed. Results showed that postpartum contraceptive shared decision-making needs and acceptance had no significant impact on preference for doctor-led decision-making ($P>0.05$). Compared with preference for autonomous decision-making, acceptance of postpartum contraceptive shared decision-making services was a significant factor influencing preference for shared decision-making (OR=0.231, 95%CI=0.062-0.864, $P<0.05$), while need for shared decision-making had no significant effect ($P>0.05$).

3. Discussion

3.1 High Acceptance but Low Application of Prenatal Contraceptive Services

This study demonstrates that although maternal acceptance of prenatal contraceptive services is relatively high, the actual proportion receiving such services is low, with those who did receive services tending toward autonomous decision-making. This tendency may be influenced by cultural background, individual cognitive levels, and healthcare service quality [?]. Research has found that autonomous decision-making lacking professional information support may in-

crease the risk of unintended pregnancy, and inadequate prenatal contraceptive promotion and postpartum service provision seriously affect maternal health [?, ?]. Women do not receive appropriate postpartum contraceptive education and guidance during prenatal registration, prenatal examinations, or postpartum follow-up [?]. In China, postpartum contraceptive services are primarily provided during postpartum home visits and physical examinations. Compared with the postpartum period, the prenatal stage offers more frequent contact with healthcare providers, making it highly suitable for postpartum contraceptive education, counseling, and guidance [?]. Previous studies have also found that increasing postpartum contraceptive counseling or education during pregnancy can promote contraceptive use among postpartum women [?]. Maternal demand for and acceptance of prenatal contraceptive shared decision-making is high, and promoting this model can not only enhance maternal confidence in contraceptive choices but also contribute to more comprehensive and personalized healthcare, thereby improving overall maternal and child health [?]. Therefore, strengthening prenatal contraceptive services for mothers is particularly important.

3.2 Inconsistency Between Maternal Demand and Acceptance of Prenatal Contraceptive Shared Decision-Making

This study found discrepancies between maternal demand for and acceptance of prenatal contraceptive shared decision-making, with some women choosing to accept shared decision-making services even when they felt they didn't need them. This may stem from multiple factors including information asymmetry between mothers and doctors, distrust of medical professional opinions, and unrecognized latent needs [?]. Research indicates that women generally lack prenatal contraceptive knowledge but show strong contraceptive needs and subjective willingness postpartum [?]. Additionally, receiving health education about sexual life and contraception postpartum promotes contraceptive use [?]. Furthermore, personal cultural habits and reliance on medical authority lead some women to comply with healthcare processes [?]. Optimizing the design of shared decision-making services and strengthening health education can better help mothers understand their needs and improve contraceptive service effectiveness.

3.3 Multifactorial Analysis of Maternal Contraceptive Decision-Making Preferences

The results show that among mothers preferring doctor-led decision-making, neither postpartum contraceptive shared decision-making needs nor acceptance of prenatal shared decision-making significantly affected their preference. This may be because these mothers tend to rely on doctors' professional judgment in postpartum contraceptive decision-making, possibly based on trust in medical authority or low self-assessment of their own decision-making capacity [?, ?]. For mothers preferring shared decision-making, acceptance of prenatal shared decision-making significantly influenced their preference, indicating that when

women have opportunities to participate in shared decision-making during the prenatal period, they are more willing to jointly develop contraceptive plans with healthcare providers, which helps reduce risks of unintended and short-interval pregnancies [?]. Conversely, mothers who did not receive shared decision-making services may lack understanding or experience with this model and thus tend to rely on autonomous decision-making, reflecting their emphasis on personal subjective judgment. Although univariate analysis showed significant differences in prenatal needs for postpartum contraceptive shared decision-making across preference groups, this variable did not significantly affect decision-making preferences in multivariate analysis. This may reflect the complex relationship between needs and decision-making behavior. While maternal contraceptive needs are strong, their decision-making preferences are influenced by multiple factors such as personal experience [?], cultural background [?], and trust in doctors. Therefore, need alone is insufficient to directly change maternal decision-making patterns. Future interventions should be individualized and respect maternal initiative in decision-making. For mothers preferring doctor-led decision-making, doctor-patient communication should be enhanced to improve their decision-making confidence. For those preferring shared decision-making, education and promotion of the shared decision-making model should be strengthened to facilitate greater participation. Additionally, healthcare institutions need to establish systematic decision-support systems to help mothers make informed, reasonable choices among multiple options, reducing contraceptive failure and pregnancy risks.

4. Limitations

This study has several limitations. Due to time and resource constraints, it focused primarily on demographic variables affecting postpartum contraceptive decision-making preferences, without comprehensively covering all potential influencing factors. Additionally, maternal contraceptive decision-making may change over time. Although this study focused on contraceptive decision-making at 42 days postpartum, there may be variations at different time points (6, 12, and 24 months postpartum) and potential confounding factors.

Conclusion

This study demonstrates that although maternal demand for and acceptance of prenatal contraceptive shared decision-making is high, actual service application remains low, and maternal decision-making preferences are influenced by multiple factors. Prenatal participation in shared decision-making helps enhance maternal involvement and acceptance of contraceptive plans. Strengthening prenatal contraceptive education and promoting shared decision-making models can improve the effectiveness of postpartum contraceptive services, reduce

unintended pregnancy risks, and protect maternal and child health.

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