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PRECONCEPTION CARE DELIVERY TO WOMEN IN PRIMARY HEALTH UNITS

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ABSTRACT: Introduction: The provision of preconception care for women in Primary Health Care Units is a key strategy for promoting maternal and child health. **Objective:** To describe the provision of preconception care actions to women of reproductive age receiving care in Primary Health Care Units in the eastern region of São Paulo. **Methods**: A cross-sectional, descriptive study was conducted with 464 women aged 18 to 49 years who received care at eight Primary Health Care Units in the Itaim Paulista district. Data were collected through face-to-face interviews, addressing sociodemographic characteristics, reproductive history, and preconception care actions, including assessment of reproductive intention, counseling, and folic acid prescription. **Results:** A socioeconomically vulnerable profile predominated, characterized by low educational level and limited formal employment. Most participants had experienced at least one pregnancy (mean of 2.3 pregnancies). Only about 20% reported having been asked about their intention to become pregnant. Few received counseling or folic acid prescription before conception. Although folic acid use during pregnancy was high, its use in the preconception period was rare. **Conclusion:** A low provision of preconception care was observed in Primary Health Care Units, with gaps in the assessment of reproductive intention and in preventive actions prior to pregnancy. Strengthening these actions in Primary Health Care is essential to reduce inequities and improve maternal and perinatal outcomes.

Keywords: Preconception Care. Women's Health. Health Promotion. Primary Health Care. Reproductive Health.

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Oferta do Cuidado Pré-Concepcional as Mulheres em Unidades Básicas de Saúde

RESUMO: Introdução: A oferta do cuidado pré-concepcional às mulheres em Unidades Básicas de Saúde constitui uma estratégia essencial para a promoção da saúde materno-infantil **Objetivo:** Descrever a oferta de ações de cuidado pré-concepcional a mulheres em idade fértil atendidas em Unidades Básicas de Saúde da zona leste de São Paulo. **Métodos:** Estudo transversal, descritivo, com 464 mulheres de 18 a 49 anos atendidas em oito UBS do distrito do Itaim Paulista. Os dados foram coletados por entrevistas presenciais, abordando características sociodemográficas, história reprodutiva e ações de cuidado pré-concepcional, como avaliação da intenção reprodutiva, orientações e prescrição de ácido fólico. **Resultados:** Predominou perfil socioeconômico vulnerável, com baixa escolaridade e inserção formal no trabalho. A maioria já havia engravidado (média de 2,3 gestações). Apenas cerca de 20% relataram ter sido questionadas sobre intenção de engravidar. Poucas receberam orientações ou prescrição de ácido fólico antes da concepção. Embora o uso de ácido fólico durante a gestação tenha sido alto, no período pré-concepcional foi raro. **Conclusão:** Observou-se baixa oferta de cuidado pré-concepcional nas UBS, com lacunas na avaliação da intenção reprodutiva e na prevenção antes da gravidez. O fortalecimento dessas ações na Atenção Primária é essencial para reduzir iniquidades e melhorar desfechos maternos e perinatais.

Palavras-chave: Cuidado Pré-Concepcional. Saúde da Mulher. Promoção da Saúde. Atenção Primária à Saúde. Saúde Reprodutiva.

Oferta Del Cuidado Preconcepcional A Las Mujeres En Unidades Básicas De Salud

RESUMEN: Introducción: La oferta de atención preconcepcional a las mujeres en Unidades Básicas de Salud constituye una estrategia fundamental para la promoción de la salud materno-infantil. **Objetivo:** Describir la oferta de acciones de cuidado preconcepcional a mujeres en edad fértil atendidas en Unidades Básicas de Salud de la zona este de São Paulo. **Métodos:** Estudio transversal, descriptivo, realizado con 464 mujeres de 18 a 49 años atendidas en ocho Unidades Básicas de Salud del distrito de Itaim Paulista. Los datos se recolectaron mediante entrevistas presenciales, abordando características sociodemográficas, historia reproductiva y acciones de cuidado preconcepcional, como la evaluación de la intención reproductiva, la orientación y la prescripción de ácido fólico. **Resultados:** Predominó un perfil socioeconómico vulnerable, con bajo nivel educativo y limitada inserción formal en el trabajo. La mayoría ya había estado embarazada (media de 2,3 gestaciones). Solo alrededor del 20% informó haber sido preguntada sobre su intención de quedar embarazada. Pocas recibieron orientación o prescripción de ácido fólico antes de la concepción. Aunque el uso de ácido fólico durante

el embarazo fue alto, en el período preconcepcional fue poco frecuente. **Conclusión:** Se observó una baja oferta de cuidado preconcepcional en las Unidades Básicas de Salud, con brechas en la evaluación de la intención reproductiva y en la prevención antes del embarazo. El fortalecimiento de estas acciones en la Atención Primaria es esencial para reducir inequidades y mejorar los resultados maternos y perinatales.

Palabras-clave: Atención Preconceptiva. Salud de la Mujer. Promoción de la Salud. Atención Primaria de Salud. Salud Reproductiva.

INTRODUCTION

When women and couples express the intention to conceive, a set of health-promoting measurescollectively referred to as **preconception care**—should be implemented to optimize the chances of a successful pregnancy. The relevance of these actions prior to conception lies in the fact that adverse maternal and child health conditions may already be present before pregnancy and persist throughout gestation, thereby negatively influencing perinatal outcomes (Poix & Elmusharaf, 2023; São Paulo, 2024).

In this context, preconception care has substantial potential to contribute to the reduction of maternal and infant mortality (Adewole & Odutayo, 2017), the prevention of unintended pregnancies (Kallner & Danielsson, 2016), and the mitigation of complications during pregnancy and childbirth (Chandranipapongse & Koren, 2013). These interventions play a critical role in improving perinatal outcomes, including reductions in stillbirth, prematurity, and low birth weight (Barker et al., 2018). Furthermore, preconception care is essential for preventing vertical transmission of HIV and other sexually transmitted infections (Coll et al., 2016), as well as for reducing risks associated with genetic conditions and harmful environmental exposures (WHO, 2012).

According to Stephenson et al. (2018), preconception care can be delivered at different stages: from the moment individuals decide to conceive, throughout the life course, or during a defined period preceding conception, depending on the nature of the required interventions. This approach encompasses a comprehensive and integrated set of strategies, including the promotion of healthy dietary patterns and micronutrient supplementation; encouragement of physical activity; guidance on medication use; reduction or cessation of tobacco, alcohol, and other substance use; prevention, diagnosis, and management of infectious and chronic diseases; immunization; assessment of occupational and living conditions; genetic counseling; infertility management; and interventions addressing mental health, social vulnerabilities, interpersonal violence, and the prevention of adolescent, unintended, or closely spaced pregnancies (Benedetto, 2019). Additionally, countries may tailor preconception strategies according to their epidemiological and sociocultural contexts, such as addressing Zika virus exposure (Petersen et al., 2016) and providing inclusive guidance for same-sex couples planning pregnancy (Ross, Steele, & Epstein, 2006).

Despite its well-documented benefits, preconception care remains underutilized and insufficiently disseminated among Brazilian women, including those who are planning pregnancy or present conditions that increase the risk of adverse maternal and fetal outcomes, such as diabetes (Borges, 2016; Nascimento, Borges, & Fujimori, 2019). A study conducted in Italy by Bortolus et al. (2017) identified multiple barriers to accessing preconception care, including limited

awareness among both women and healthcare professionals, as well as a low perception of its benefits. These findings are consistent with the international literature, which highlights the limited availability and inadequate integration of preconception care into routine clinical practice across diverse healthcare settings (Asresu et al., 2019; Welshman et al., 2023; Woldeyohannes et al., 2023).

In Brazil, particularly within the context of Primary Health Care (PHC), evidence suggests a limited institutionalization of preconception care, with preventive actions not consistently incorporated into routine care delivery. In light of this scenario, a critical challenge emerges: ensuring that women especially those intending to conceive—are aware of preconception care, recognize health services as appropriate points of access, and are able to receive such care in a timely and equitable manner. Therefore, it becomes essential to understand, within real-world PHC settings, which preconception care actions are effectively delivered to women of reproductive age and to what extent reproductive intention assessment and other preventive practices are implemented prior to conception.

In light of this, the aim of this study was to describe the provision of preconception care actions to women of reproductive age receiving care at Primary Health Care Units (Basic Health Units – UBS) in the eastern region of the city of São Paulo.

METHODS

Study Design and Setting

This is a cross-sectional, descriptive study conducted in accordance with the STROBE guidelines. The study was carried out in eight Primary Health Care Units (Basic Health Units – UBS) located in the eastern region of the city of São Paulo, specifically in the Itaim Paulista district.

This study is part of a larger research project aimed at evaluating the effect of a brief training intervention on healthcare professionals' knowledge and on the provision of preconception care within Primary Health Care services (Nascimento, 2024).

Population and Participants

The study population consisted of women of reproductive age (18–49 years) who were users of Primary Health Care Units (UBS) and reported attending these services on a monthly basis.

Inclusion criteria were: being aged between 18 and 49 years, being a registered user of a UBS, and reporting monthly attendance at the unit, regardless of the reason for consultation.

The decision to include women of reproductive age was based on the need to identify guidance and prescriptions related to preconception care received, allowing for the assessment of the provision of these actions by healthcare professionals before and after the intervention.

Sample size calculation was based on the main study. A prevalence of 16.0% of women who had received some form of preconception care was considered, as reported by Borges et al. (2016). Assuming a statistical power of 95% and a significance level of 5%, a total sample of 452 participants was estimated as necessary (Nascimento, 2024).

Instrument and Variables

A semi-structured questionnaire was developed by the researcher based on recommendations from the World Health Organization and the Brazilian Ministry of Health (WHO, 2012; Brasil, 2016), and adapted to the Primary Health Care context.

The instrument was pre-tested in March 2019 with ten users from a non-participating UBS. No modifications were required, and the pre-test interviews were included in the final sample.

The questionnaire consisted of three sections: Sociodemographic characteristics. sexual and reproductive history, preconception care actions received in the previous three months, including: Assessment of reproductive intention; health guidance received, counseling following rapid pregnancy testing; folic acid prescription

Data Collection Procedures

Data were collected through face-to-face interviews conducted between May 1 and May 31, 2020. Participants were approached randomly at the entrance of the Primary Health Care Units.

A systematic sampling strategy was adopted, in which one out of every five women approached was invited to participate in the study. Interviews lasted approximately 10 minutes and were conducted in settings that ensured participants' privacy and confidentiality. The aim was to identify guidance and prescriptions related to preconception care received at the UBS. Nine women declined participation, citing pain, lack of time, or unwillingness to respond.

Data Analysis

Data were entered into an electronic spreadsheet and analyzed using R software (version 3.6.2). Descriptive analysis was performed for sociodemographic, sexual, and reproductive variables, including the calculation of means, standard deviations, minimum and maximum values. Absolute and relative frequencies were calculated for variables related to preconception care actions.

Ethical Considerations

The study complied with the ethical principles established by Brazilian National Health Council Resolution No. 466/2012. Ethical approval was obtained from the Research Ethics Committee of the School of Nursing at the University of São Paulo, as well as from the institutional bodies.

Confidentiality and data protection were ensured, and all participants provided written informed consent prior to participation.

RESULTS

Social, Demographic, and Reproductive Characteristics of the Women

Among the 464 women who participated in the study, the mean age was 32.2 years. The majority self-identified as mixed race (50.4%), were living with a partner (71.3%), and did not have private health insurance (82.1%). Less than half of the participants were employed (41.2%), and among those who were working, only 21.5% had formal employment contracts. Most participants belonged to the middle socioeconomic class (Class C) (71.5%) and had completed secondary education (58.2%) (Table 1).

Regarding sexual and reproductive characteristics, the women had a mean age of 32.2 years (SD = 8.9) and a mean age at menarche of 12.7 years (SD = 1.7). The mean age at first sexual intercourse was 16.9 years (SD = 2.9), and the mean age at first pregnancy was 21.0 years (SD = 4.9). The majority of participants were currently pregnant or had been pregnant at least once (89.9%), with a mean of 2.3 pregnancies (SD = 1.4) and 1.9 children (SD = 1.3). Additionally, 21.0% of the respondents reported a history of miscarriage or abortion.

Table 1 – Sociodemographic and Reproductive Characteristics of Participants (N = 464)

Variables	Mean (SD)	Min/Max
Age	32,2 (8,9)	18/49
Age at menarche (years)	12,7 (1,7)	7/19
Age at first sexual intercourse (years)	16,9 (2,9)	6/32
Age at first pregnancy (years)	21,0 (4,9)	12/39
Number of children	1,9 (1,3)	0/7
Number of pregnancies	2,3 (1,4)	0/8
Variável	**n**	**%**
Skin color		
White	136	29,3
Brown	234	50,4
Black	80	17,2
Yellow (Asian)	11	2,4
Indigenous	3	0,6
Has a partner		
No	133	28,7
Yes	331	71,3
Paid work		
No	273	58,8
Yes	191	41,2
Signed employment contract		
No	364	78,5
Yes	100	21,6
Health insurance		
No	381	82,1
Yes	83	17,9
Education level		
Illiterate and incomplete elementary school	63	13,6
Complete elementary school	97	20,9
High school	270	58,2
Higher education	34	7,3

Variável	n	%
Economic class		
A	2	0,43
B	59	12,7
C	332	71,5
D e E	71	15,3
Pregnancy planned		
No	47	10,1
Yes	417	89,9
Previous abortion		
No	334	78,6
Yes	91	21,4
Total	464	100

Preconception Care Actions Reported by Women

Regarding preconception care actions reported by the participants, a low frequency of practices related to the assessment of reproductive intention and the provision of guidance prior to pregnancy was observed. Only about one-fifth of the participants reported having been asked by healthcare professionals about their intention to conceive before pregnancy (18.3%). Similarly, 13.3% of women reported having heard about preconception care, and an even smaller proportion (6.2%) stated that they had received specific guidance on this topic. Counseling on preconception care following rapid pregnancy testing was reported by only 1.7% of participants. Among those who had previously been pregnant, 4.1% reported using folic acid prior to conception in their most recent pregnancy, and only 3.8% reported having received a prescription for this supplementation during the preconception period.

Among women who reported having heard about preconception care, the main sources of information were healthcare consultations (36.1%), followed by educational groups (16.6%), the internet (16.6%), educational institutions such as schools and universities (13.8%), private health insurance services (8.8%), and television (5.5%). Regarding sources of information, physicians (33.3%) and nurses (25.0%) were the most frequently cited, followed by family members (11.1%), teachers (11.1%), and friends (2.7%). Concerning folic acid supplementation, 18.8% of respondents reported having received guidance on its importance prior to pregnancy. However, a high prevalence of folic acid use during the most recent pregnancy (82.8%) was observed, contrasting with the very low proportion of women who reported its use before conception (4.1%).

The provision of educational materials was limited, as only 2.2% of participants reported having received any informational material on preconception care. Among the reported types of guidance, the most frequent included requests for laboratory tests (1.3%), folic acid prescription (0.9%), guidance on diet and nutrition (0.8%), contraceptive use (0.4%), and management of comorbidities (0.4%).

Table 2 – Preconception care received by women. São Paulo, Brazil, 2020.

Variables	n	%
Before pregnancy, were you asked by a healthcare professional about your intention to conceive?	85	18,3
Have you ever heard about preconception care (PCC)?	62	13,3
Did you receive any guidance on preconception care (PCC)?	29	6,2
Were you counseled on preconception care (PCC) after a rapid pregnancy test?	8	1,7
In your last pregnancy, did you take folic acid before conception?	19	4,1
Did you receive a prescription for folic acid before conception?	18	3,8

DISCUSSION

This study aimed to describe the provision of preconception care interventions among women of reproductive age attending Primary Health Care Units in the eastern region of São Paulo, Brazil. A total of 464 women participated, with a mean age of 32.2 years. The sample was predominantly composed of mixed-race women, living with a partner, without private health insurance, and mostly belonging to socioeconomic class C, with completed secondary education.

The findings revealed a low provision of preconception care services, as only 18.3% of participants reported being asked about their pregnancy intentions prior to conception, 13.3% had ever heard about preconception care, and merely 6.2% received specific counseling. Preconception folic acid use was reported by only 4.1% of women, although most reported supplementation during their last pregnancy. Health consultations, particularly with physicians and nurses, were identified as the main sources of information. The availability of educational materials and structured guidance was incipient, highlighting the limited institutionalization of preconception care within Primary Health Care (PHC). Most participants had previous pregnancies, with a mean of 2.3 pregnancies and 1.9 children, and 21% reported a history of miscarriage.

The sociodemographic profile of the participants indicates a population experiencing greater social vulnerability compared to the general Brazilian female population, characterized by lower educational attainment, reduced formal employment, limited access to private health insurance, and concentration in lower socioeconomic strata. This context may influence both access to and utilization of preconception care services, reinforcing the strategic role of PHC as the main entry point for promoting such care in socially vulnerable territories.

Regarding reproductive history, participants reported a higher mean number of pregnancies and a higher prevalence of miscarriage compared to national estimates. These findings suggest increased exposure to reproductive risks, underscoring the importance of preconception care in this population, as repeated pregnancies and previous miscarriages are associated with adverse maternal and perinatal outcomes. The selection of PHC units located in areas with lower Human Development Index (HDI) may explain these differences and limits the generalizability of the findings, while enhancing their relevance for urban underserved settings.

The results indicate that reproductive intention assessment is not systematically incorporated into routine care. Only about one-fifth of women reported being asked about their desire to become pregnant, which is consistent with international literature showing that healthcare providers are often unaware of patients' reproductive intentions. Since identifying reproductive intentions

is considered a key entry point for preconception care and reproductive planning, its absence compromises the comprehensiveness of care within PHC.

Beyond demonstrating low coverage, this study suggests that the issue reflects a broader lack of integration and institutionalization of preconception care in PHC practices. The absence of systematic reproductive intention screening indicates a persistent gap between policy recommendations and clinical practice, positioning preconception care as a peripheral component or even a "non-place" within healthcare delivery. This perspective shifts the analysis from a focus on service coverage to the organization of care processes and health service delivery.

The low proportion of women reporting awareness, counseling, or guidance following pregnancy testing indicates that preconception care remains marginal in routine practice. This pattern aligns with both national and international studies reporting similarly low levels of provision and utilization. The discrepancy between high folic acid use during pregnancy and minimal use prior to conception suggests that interventions remain predominantly focused on antenatal care, rather than preventive preconception strategies, thereby limiting their effectiveness in preventing neural tube defects and other adverse outcomes.

Furthermore, the limited provision of educational materials and structured guidance on nutrition, comorbidities, and screening reinforces the notion that preconception care is not yet institutionalized as a standard practice in PHC. Evidence indicates that women who access preconception care tend to have higher income and education levels, highlighting the role of social determinants of health. Thus, the low provision observed in this study may contribute to widening reproductive health inequities, disproportionately affecting those at higher risk.

These findings underscore the need for organizational and educational strategies aimed at systematically incorporating reproductive intention screening and preconception care into PHC routines. Interventions such as professional training, standardized screening tools, and culturally appropriate educational materials may enhance access and promote equity in care delivery, ultimately contributing to improved maternal and child health outcomes in vulnerable populations.

CONCLUSION

This study demonstrates that preconception care remains a peripheral component in the routine practice of the investigated Primary Health Care Units. The low frequency of reproductive intention assessment, combined with limited counseling, preconception folic acid prescription, and educational resources, indicates that preventive actions are still largely restricted to the antenatal period, reducing their potential impact on maternal and child health.

The socioeconomic and reproductive profile of the participants—marked by social vulnerability and increased exposure to reproductive risks—highlights the strategic importance of PHC as a key setting for the institutionalization of preconception care. The absence of systematic actions may contribute to the persistence and expansion of health inequities, limiting access to pregnancy preparation among those who would benefit most.

In this context, there is a pressing need to invest in organizational and capacity-building strategies to support the routine integration of reproductive intention assessment and preconception counseling within PHC services. Professional training, the implementation of standardized screening tools, and the development of accessible and culturally sensitive educational materials

are essential to expand coverage and improve equity. Such efforts are critical to promoting healthier pregnancies and better maternal and perinatal outcomes.

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