

ACCESS TO REPRODUCTIVE PLANNING FOR PRIMARY HEALTH CARE USERS: A COHORT STUDY

ACESSO AO PLANEJAMENTO REPRODUTIVO DE USUÁRIAS DA ATENÇÃO PRIMÁRIA À SAÚDE: UM ESTUDO DE COORTE

ACCESO A LA PLANIFICACIÓN REPRODUCTIVA DE USUARIAS DE LA ATENCIÓN PRIMARIA DE SALUD: UN ESTUDIO DE COHORTE

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ABSTRACT

Objectives: to describe access to reproductive planning for users of Primary Health Care in Belo Horizonte, Brazil, before, during, and after pregnancy, and to analyze whether there are differences according to sociodemographic characteristics. **Methods:** longitudinal study carried out with 220 pregnant women and nursing mothers followed between 2019 and 2022. The characteristics of access to reproductive planning in the periods before, during, and after pregnancy were described. Then, indicators of access to reproductive planning in the two years before pregnancy and six months after birth were compared, using proportions and respective 95% confidence intervals. The data were also analyzed according to race/color, age, and education. Pearson's chi-square test and Fisher's exact test were used. **Results:** only 40.9% of pregnancies were planned, of which 35.6% underwent preconception consultation. In prenatal care, 62.3% received counseling on postpartum contraceptives. In the maternity hospital, only 34.8% received counseling on reproductive planning. After giving birth, more than 70% underwent a postpartum consultation, with counseling on contraception. There was a 65.1% increase in access to contraceptives through the SUS after pregnancy. Women with less education mostly used the SUS to start contraceptives before (88.9%) ($p=0.001$) and after pregnancy (100%) ($p=0.009$). **Conclusion:** there was less access to reproductive planning before pregnancy, with an improvement in some indicators after pregnancy. This fact highlights the need for investments in reproductive planning strategies throughout the entire reproductive period of women.

Keywords: Primary Health Care; Reproductive Rights; Effective Access to Health Services; Pregnant People; Prenatal Care; Postpartum Period; Cohort Studies.

RESUMO

Objetivos: descrever o acesso ao planejamento reprodutivo de usuárias da Atenção Primária à Saúde em Belo Horizonte, Brasil, antes, durante e após a gestação, e analisar se existem diferenças segundo características sociodemográficas. **Métodos:** estudo longitudinal realizado com 220 gestantes e nutrízes acompanhadas entre 2019 e 2022. Foram descritas as características de acesso ao planejamento reprodutivo nos períodos anterior, durante e posterior à gestação. Em seguida, compararam-se os indicadores de acesso ao planejamento reprodutivo nos dois anos anteriores à gestação e seis meses após o parto, por meio de proporções e respectivos intervalos de confiança de 95%. Os dados também foram analisados conforme raça/cor, idade e escolaridade. Utilizou-se o teste qui-quadrado de Pearson e o teste exato de Fisher. **Resultados:** apenas 40,9% das gestações foram planejadas, das quais 35,6% realizaram consulta pré-concepcional. No pré-natal, 62,3% receberam orientações sobre contraceptivos pós-parto. Na maternidade, apenas 34,8% receberam orientações sobre planejamento reprodutivo. Após o parto, mais de 70% realizaram consulta puerperal, com orientação sobre contracepção. Observou-se um aumento de 65,1% no acesso a contraceptivos pelo SUS após a gestação. Mulheres com menor escolaridade recorreram majoritariamente ao SUS para iniciar contraceptivos antes (88,9%) ($p=0,001$) e após a gestação (100%) ($p=0,009$). **Conclusão:** observou-se menor acesso ao planejamento reprodutivo no período anterior à gestação, com melhora de alguns indicadores após a gestação. Tal fato evidencia a necessidade de investimentos em estratégias de planejamento reprodutivo ao longo de todo o período reprodutivo das mulheres.

Palavras-chave: Atenção Primária à Saúde; Direitos Sexuais e Reprodutivos; Acesso Efetivo aos Serviços de Saúde; Gestantes; Cuidado Pré-Natal; Período Pós-Parto; Estudos de Coortes.

RESUMEN

Objetivos: describir el acceso al planeamiento reproductivo de usuarias de la Atención Primaria de Salud en Belo Horizonte, Brasil, antes, durante y después del embarazo, y analizar si existen diferencias según características sociodemográficas. **Métodos:** estudio longitudinal con 220 gestantes y puerperas seguidas entre 2019 y 2022. Se describieron las características de acceso al planeamiento reproductivo antes, durante y después del embarazo. Posteriormente, se compararon indicadores de acceso al planeamiento reproductivo en los dos años previos al embarazo y seis meses después del parto mediante proporciones y sus respectivos intervalos de confianza del 95%. También se analizaron según raza/color, edad y nivel educativo. Se utilizaron la prueba de chi-cuadrado de Pearson y la exacta de Fisher. **Resultados:** solo el 40,9% de los embarazos fueron planificados y, de estos, el 35,6% realizaron consulta preconcepcional. En el control prenatal, el 62,3% recibió orientaciones sobre anticonceptivos posparto. En la maternidad, solo el 34,8% recibió orientación sobre planeamiento reproductivo. Después del parto, más del 70% realizó consulta puerperal con orientación sobre anticoncepción. Se observó un aumento del 65,1%

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en el acceso a anticonceptivos por el SUS después del embarazo. Las mujeres con menor nivel educativo recurrieron mayoritariamente al SUS para iniciar anticonceptivos antes (88,9%) ($p = 0,001$) y después del embarazo (100%) ($p = 0,009$). **Conclusión:** se observó menor acceso al planeamiento reproductivo en el período anterior al embarazo, con mejora de algunos indicadores después del parto, lo que evidencia la necesidad de invertir en estrategias de planeamiento reproductivo a lo largo de todo el período reproductivo de las mujeres.

Palabras clave: Atención Primaria de Salud; Derechos Sexuales y Reproductivos; Acceso Efectivo a los Servicios de Salud; Personas Embarazadas; Atención Prenatal; Período Posparto; Estudios de Cohortes.

INTRODUCTION

Reproductive planning is a series of actions aimed at regulating fertility while ensuring equal rights regarding reproductive choices⁽¹⁾. Realizing these rights requires access to interventions related to both conception and pre-conception care for pregnancy planning, along with access to contraception, which includes evidence-based counseling and modern contraceptives that guarantee free, informed choice^(2,3). Given its strategic role in promoting health, gender equity, and social well-being, reproductive planning is identified as a target within the Sustainable Development Goals (SDGs) set forth by the 2030 Agenda⁽³⁾. In this context, Target 3.7 stands out, as it aims to ensure universal access to sexual and reproductive health services by 2030. This includes family planning, information, education, and the integration of reproductive health into national strategies and programs. Target 5.6 is also significant, seeking to ensure universal access to sexual and reproductive health and reproductive rights as agreed upon in international programs, ensuring that women can exercise their autonomy and make free, informed, and responsible decisions regarding their reproductive lives⁽⁴⁾.

From this perspective, access to health services is a complex concept that varies among authors and evolves over time and across contexts^(5,6). In this study, we have adopted the concept of access as a reference proposed by Aday and Andersen in 1974⁽⁷⁾, which characterizes access not merely as physical entry into the service but as the actual possibility of obtaining appropriate care when needed. This framework closely links access to the use of health services⁽⁷⁾. In the Brazilian context, the Ministry of Health advocates for access to sexual and reproductive health services, including reproductive planning, as a priority area within Primary Health Care (PHC)⁽⁸⁾. These services offer a range of care options throughout the lives of women of reproductive age. Preconception consultations facilitate the identification of risk factors and the provision of health promotion counseling before pregnancy, including advice on when and how to plan for it⁽⁹⁾. Prenatal consultations should include counseling on

postpartum contraceptive use, as research indicates that adherence to contraception is often higher when counseling begins during the prenatal period, particularly regarding long-acting or permanent methods^(4,10,11). Finally, the postpartum consultation integrates care from pregnancy through the postpartum period, ensuring the timely initiation of methods that promote adequate birth spacing⁽²⁾. Nurses play an essential role in all these activities, as their practice involves health education and individualized care aimed at fostering user autonomy⁽¹²⁾.

However, studies reveal a gap between the guidelines established for PHC and their actual implementation in practice^(13,14). Some of the main challenges include: the lack of effective integration of preconception care into routine service delivery, evidenced by the low proportion of consultations involving women who planned their pregnancies and by unsatisfactory preconception health indicators⁽⁹⁾; the failure to prioritize sexual and reproductive health as a core component of primary care services, characterized by a predominantly prescriptive approach to contraceptives lacking adequate individualized counseling, alongside inconsistent consultation quality^(13,14); and the absence of counseling regarding postpartum contraceptive methods during pregnancy, which limits opportunities for the early initiation of methods such as the intrauterine device (IUD)^(2,13). Furthermore, the conventional postpartum consultation model often focuses on infant care and tends to be rigid, delaying discussions on contraception and offering a limited range of methods⁽²⁾. Studies also indicate that reproductive planning consultations are infrequent in PHC settings; when they do occur, the quality of care is often significantly limited, particularly regarding reproductive counseling and the equitable provision of long-acting methods such as IUDs and implants^(15,16,17).

In Brazil, despite the high use of contraceptives among women, which exceeds 80%⁽¹⁰⁾, more than half of pregnancies are unplanned⁽¹⁰⁾. Inequalities are observed regarding access to contraception and the type of method used^(10,16). Women with low levels of education, Black and Brown women, and those living in the North and Northeast regions have less access to contraception and more frequently use short-acting methods, such as the pill and condoms⁽¹⁶⁾. These characteristics are also associated with high rates of adolescent pregnancies and unsafe abortions, leading to a higher risk of maternal and neonatal morbidity and mortality^(4,10,11), highlighting limitations in access to reproductive planning services within the Brazilian context⁽¹⁰⁾.

Given the foregoing and the importance of reproductive planning within a continuum of care spanning women's reproductive lives, including the pre-pregnancy and postpartum periods, this study aimed to describe access to reproductive planning among PHC users in *Belo Horizonte, Minas Gerais*, Brazil, before, during, and after pregnancy, and to analyze potential differences based on sociodemographic characteristics. A longitudinal analysis of this continuum of care is expected to show the main barriers to achieving universal access to sexual and reproductive health services, contributing to the improvement of public policies, the reduction of inequalities, and the safeguarding of sexual and reproductive rights.

METHODS

Study type

This is a longitudinal study that analyzed the reproductive planning of PHC users in Belo Horizonte, MG, in the two years before pregnancy (retrospective data), during and up to one year after the baby's birth (prospective data).

Population, sample, and inclusion criteria

This study was based on the “*Estudo Multicêntrico sobre Deficiência de Iodo no Brasil* (EMDI-Brasil)” - “Multicenter Study on Iodine Deficiency in Brazil (EMDI-Brasil)”, a national survey conducted in 11 municipalities, including Belo Horizonte, funded by the Ministry of Health. It aimed at assessing the iodine, sodium, and potassium nutritional status of Brazilian pregnant women, breastfeeding women, and infants⁽¹⁸⁾. Thus, the study population was defined based on the sample size calculation and the inclusion/exclusion criteria of the EMDI-Brasil project.

Pregnant and postpartum women (up to 90 days after delivery) aged 18 years or older who were users of the Unified Health System (SUS) were included. Only women who exclusively breastfed were included. Women with thyroid disorders (hypothyroidism, hyperthyroidism, Hashimoto's disease, and neoplasms) or a history of thyroid surgery were excluded⁽¹⁸⁾. Women who reported not having sexual intercourse during the follow-up period ($n = 11$) and those who did not answer the reproductive planning questionnaire at baseline ($n = 5$) were also excluded from this study.

The sample size calculation was based on parameters predefined by EMDI-Brasil: a minimum expected iodine deficiency prevalence of 8%, with a relative error of 50% (ranging from 4% to 12%) and a 95% confidence

level, resulting in a simple random sample of 177 individuals per municipality⁽¹⁸⁾. As the study involved a complex sample selected from Family Health Strategy units within each municipality's PHC system, a design effect of 1.5 was applied, increasing the sample size to 266 pregnant women per collection center⁽¹⁸⁾.

Participants were selected using a stratified sampling design involving two-stage random sampling. Basic Health Units (UBS) served as the primary sampling units, while pregnant women receiving care at these units constituted the second stage⁽¹⁸⁾. Due to logistical constraints, pregnant and breastfeeding women were approached during visits to the UBS and invited to participate in the study voluntarily⁽¹⁸⁾. Some breastfeeding women who were unable to complete the questionnaire at the initial contact were interviewed at home by appointment. Figure 1 shows the study population, accounting for the total number of women who participated at baseline ($n = 220$) and at the first follow-up at six months ($n = 116$), while also reflecting losses, refusals, and study-specific exclusion criteria.

Data collection

This study involved three different stages of data collection.

Baseline

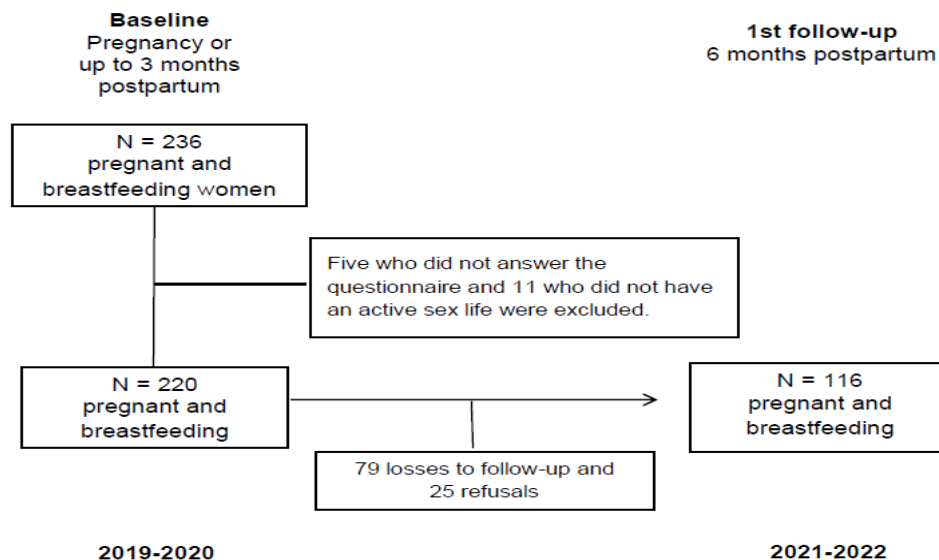
The first phase, designated as the baseline, took place predominantly in person at Basic Health Units (UBS) between January 2019 and March 2021. Due to the COVID-19 pandemic, in-person data collection was suspended in March 2020 and resumed between January and March 2021 through telephone calls lasting about 20 minutes. During this phase, participants completed a questionnaire covering sociodemographic and economic characteristics, lifestyle habits, dietary intake, reproductive history, pregnancy planning, and contraceptive use during the two years before the current pregnancy.

Follow-up

Follow-up was conducted at six months (first wave) and twelve months postpartum (second wave) through telephone calls, between December 2019 and January 2023. For this analysis, only data from the first wave were considered. At six months postpartum, women were asked about their use of contraceptive methods from the baby's birth until the date of the interview.

The data collection instrument for the “Reproductive Planning of Urban Women” project was developed using questions from population-based surveys, such as

Figure 1 – Number of women interviewed at baseline and at the 6-month postpartum follow-up (1st wave), Belo Horizonte, Brazil, 2019–2022.



Source: The authors (2024).

the Demographic and Health Survey and the National Health Survey. To evaluate the instrument, a pilot test was conducted with 20 women (pregnant and breastfeeding), and no need for adjustments to the questionnaire was identified. The data collection team consisted of properly trained undergraduate and graduate nursing students. The Research Electronic Data Capture software was used for data collection.

Variables of interest

To evaluate reproductive planning before, during, and after pregnancy, the study incorporated variables related to sociodemographic and economic characteristics along with reproductive planning.

The sociodemographic and economic characteristics used to describe the study population included: race/color (White; Black and Brown; Asian and Indigenous); age groups (18–25, 26–35, 36–42); years of education (0–9, 10–12, more than 12 years); income in minimum wages (up to one; one to three; more than three); living with a partner (yes, no); and receipt of any government benefit (yes, no).

To characterize the population regarding reproductive history, the following factors were considered: previous pregnancy (yes, no); age at first pregnancy (< 18 years, 18–25 years, > 26 years); parity (1, 2–3, ≥4);

previous abortion (yes, no); and presence of living children (yes, no).

Regarding reproductive planning characteristics, the following aspects were analyzed: before pregnancy, whether the current pregnancy was planned (yes, no); whether a preconception planning consultation occurred (yes, no); and before any contraceptive method was used (yes, no). During pregnancy, the study investigated the provision of counseling on contraceptives to be used postpartum during prenatal visits (yes, no). Postpartum, based on care received at the maternity facility and during the postpartum check-up, the following aspects were analyzed: whether counseling on contraceptive use was provided (yes, no); whether a contraceptive was offered (yes, no); and which type of contraceptive (pill, injectable, intrauterine device, tubal ligation, or vasectomy for the partner). Focusing specifically on the postpartum check-up, the following aspects were evaluated: whether the visit occurred (yes, no); the timing (5–10 days postpartum, 30–60 days, or after 60 days); and the location (UBS, high-risk prenatal clinic, health insurance provider, or private practice). The desire for future pregnancy was also assessed (yes, no).

The use of contraceptive methods before and six months after pregnancy was also investigated, including: type of contraceptive; consultation with a health professional

to initiate the method; whether the consultation took place within the SUS; whether the method used was the woman's choice; attendance at a follow-up appointment after starting the method; receipt of information about methods other than the one being used; and access to the method through the SUS. All these variables were dichotomous, with "yes" or "no" response options.

Data analysis

Initially, a descriptive analysis of the study population was conducted on sociodemographic characteristics and reproductive history, accounting for losses at the first follow-up. Characteristics of reproductive planning before, during, and after pregnancy were subsequently described. To compare contraceptive use before pregnancy and after childbirth, proportions, along with their respective 95% confidence intervals, were estimated for characteristics related to access to reproductive planning. The percentage difference was also calculated for reproductive planning characteristics that showed statistically significant changes, using the formula: $\{[(\text{final value} - \text{initial value}) / \text{initial value}] \times 100\}$. McNemar's test was used to assess differences regarding access, considering only those women who responded at both baseline and the first wave of the study. Finally, characteristics of access to reproductive planning before and after pregnancy were also described according to the study population's race/color, age group, and education level. Pearson's chi-square test and Fisher's exact test were used to analyze statistically significant differences between groups regarding reproductive planning care. All analyses were performed using Stata statistical software, version 14.0.

Ethical aspects

This study followed the ethical recommendations of Resolution 466 of December 12, 2012, issued by the *Conselho Nacional de Saúde*. The project was approved by the Research Ethics Committee of the *Universidade Federal de Minas Gerais* and the *Secretaria Municipal de Saúde de Belo Horizonte* (CAAE: 17380818.4.3001.5140 and CAAE: 80172617.0.2002.5149, respectively). All participants signed the Informed Consent Form before the baseline interview; during the follow-up phase, the form was read aloud, verbal consent was obtained, and the process was documented through recording all calls.

RESULTS

Table 1 presents the characteristics of the women who participated in the study and those who were lost to

follow-up during the initial follow-up period (42.3%). A higher proportion of losses was observed among women who did not live with a partner (37.5%) and those in the 18–25 age group (50.0%). In terms of sociodemographic and reproductive history characteristics, the two groups demonstrated notable similarities. A significant majority were Black or of mixed race, comprising 77.3% of participants. Additionally, 67.1% had completed 10 to 12 years of education, while 46.5% reported an income ranging from one to three minimum wages. Furthermore, 74% of the women were living with a partner. Almost 40% experienced their first pregnancy before turning 18, 66.1% had given birth previously, and 26.1% had undergone an abortion.

In the context of reproductive planning care, it was found that only 40.1% of women had planned their current pregnancy; of those, only 35.6% sought counseling from a health professional. During pregnancy, 62.3% of women received information regarding postpartum contraceptive use. Within maternity hospitals, only 34.8% of women received counseling on reproductive planning, with the IUD being the most commonly offered method (85.7%). The majority of women attended a postpartum check-up (89.6%), with the highest proportion of visits occurring between 30 and 60 days after delivery (67.6%) and at Basic Health Units (86.4%). During these visits, 77.7% of women received advice on reproductive planning, with the most commonly offered contraceptives being the pill (39.2%), injectables (35.1%), and the IUD (20.3%) (Table 2).

When comparing access to reproductive planning services before pregnancy and six months postpartum, a 65.1% increase was observed in the proportion of women accessing contraceptives through the SUS (Table 3). The other characteristics evaluated showed no statistically significant differences (Table 3). Among the 116 women who participated in both the baseline and the first wave of the study, it was found that 24 women who had not used contraception before pregnancy began using a method, while 10 who had previously used a method discontinued its use. Consequently, an increase in contraceptive use was observed in the postpartum period ($p = 0.016$).

When assessing the characteristics of reproductive planning care both before and after pregnancy, stratified by race/color, age group, and education level, it was observed that women with lower educational levels primarily accessed consultations to initiate contraceptive use through the SUS. This was found both before pregnancy (88.9%; $p=0.001$) and after childbirth (100%; $p=0.009$). A higher percentage of Black and Brown

Table 1 - Characteristics of the study population. Belo Horizonte, Minas Gerais, Brazil, 2019–2022.

Sociodemographic characteristics	Baseline (%)	1st Wave (%)	Losses (%)	P-value
Skin Color	n=220	n=116	n=104	0.107*
White	38 (17.3%)	23 (19.8%)	15 (14.4%)	
Black/Brown	170 (77.3%)	90 (77.6%)	80 (76.9%)	
Asian/Indigenous	12 (5.5%)	3 (2.6%)	9 (8.6%)	
Age group	n=220	n=116	n=104	0.052
18 to 25 years old	92 (41.8%)	40 (34.5%)	52 (50.0%)	
26 to 35 years old	107 (48.6%)	65 (56.0%)	42 (40.4%)	
36 to 42 years old	21 (9.5%)	11 (9.5%)	10 (9.6%)	
Education level	n=219	n=115	n=104	0.678
0 to 9 years of study	39 (17.8%)	18 (15.6%)	21 (20.2%)	
10 to 12 years of study	147 (67.1%)	79 (68.7%)	68 (65.4%)	
More than 12 years of study	33 (15.1%)	18 (15.6%)	15 (14.4%)	
Income in the month before the interview	n=142	n=79	n=63	0.239*
Up to one minimum wage	62 (43.7%)	34 (43.0%)	28 (44.4%)	
One to three minimum wages	66 (46.5%)	40 (50.6%)	26 (41.3%)	
More than three minimum wages	14 (9.9%)	5 (6.3%)	9 (14.3%)	
Marital status	n=219	n=115	n=104	< 0.001
Living with a partner	162 (74.0%)	97 (84.3%)	65 (62.5%)	
Not living with a partner	57 (26.0%)	18 (15.6%)	39 (37.5%)	
Government benefit	n=219	n=116	n=103	0.218*
Not receiving benefit	179 (81.7%)	98 (84.5%)	81 (78.6%)	
Receiving benefit	39 (17.8%)	17 (14.7%)	22 (21.4%)	
Not answered	1 (0.5%)	1 (0.9%)	0 (0.0%)	
Reproductive History Characteristics				
Previous pregnancy	n=220	n=116	n=104	0.190
Yes	141 (64.1%)	79 (68.1%)	62 (59.6%)	
No	79 (35.9%)	37 (31.9%)	42 (40.4%)	
Age at first pregnancy	n=141	n=79	n=62	0.853
Less than 18 years	51 (36.2%)	27 (34.2%)	24 (38.7%)	
Between 18 and 25 years	73 (51.8%)	42 (53.2%)	31 (50.0%)	
More than 26 years	17 (12.1%)	10 (12.7%)	7 (11.3%)	
Parity	n=124	n=69	n=55	0.647*
One previous birth	82 (66.1%)	46 (66.7%)	36 (65.4%)	
Two or three previous births	35 (28.2%)	18 (26.1%)	17 (30.9%)	
Four or more previous births	7 (5.6%)	5 (7.2%)	2 (3.6%)	
Previous abortion	n= 138	n=79	n=59	0.811
Yes	36 (26.1%)	20 (25.3%)	16 (27.1%)	
No	102 (73.9%)	59 (74.7%)	43 (72.9%)	
Living children	n=136	n=75	n=61	0.143*
Yes	123 (90.4%)	65 (86.7%)	58 (95.1%)	
No	13 (9.6%)	10 (13.3%)	3 (4.9%)	

* Fisher's exact test

Table 2 - Characteristics of reproductive planning care before, during, and after pregnancy. Belo Horizonte, Minas Gerais, Brazil, 2019–2022.

Before pregnancy	n	%
Pregnancy planning	220	40.9
Yes	90	59.1
No	130	
Consultation with a healthcare professional when planning a pregnancy	90	35.6
Yes	32	64.4
No	58	
Ever used a contraceptive	214	92.5
Yes	198	7.5
No		
During pregnancy	n	%
Counseling on the use of contraceptives after childbirth	114	
Yes	71	62.3
No	43	37.7
After childbirth	n	%
Counseling on RP in the maternity hospital	115	
Yes	40	
No	75	
Contraceptives offered in the maternity hospital	115	
Yes	42	
No	73	
Type of contraceptives offered at the maternity hospital	42	
Intrauterine device	36	
Surgical sterilization	3	
Pill	2	
Other	1	
Postpartum check-up	115	
Yes	103	
No	12	
When the postpartum check-up occurred	102	
5 to 10 days postpartum	28	27.5
30 to 60 days postpartum	69	67.6
After 60 days	5	4.9
Postpartum check-up location	103	

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Table 2 - Characteristics of reproductive planning care before, during, and after pregnancy. Belo Horizonte, Minas Gerais, Brazil, 2019–2022.

Before pregnancy	n	%
Basic Health Units - SUS	89	86.4
High-risk prenatal care – SUS	8	7.8
Health insurance	4	3.9
Private	2	1.9
Counseling regarding reproductive planning in the postpartum check-up	103	
Yes	80	77.7
No	23	22.3
Provision of contraceptives at the postpartum check-up	103	
Yes	74	71.8
No	29	28.2
Contraceptives offered at the postpartum check-up	74	
Pill	29	39.2
Injectables	26	35.1
Intrauterine device (IUD)	15	20.3
Condom	1	1.3
Tubal ligation	2	2.7
Partner's vasectomy	1	1.3
Desire to be pregnant again	113	
Yes	22	19.5
No	91	80.5

women obtained contraceptives from pharmacies before pregnancy (65.8%; $p=0.034$). On the other hand, a greater proportion of women with higher educational levels used the supplementary (private/health insurance) health system for contraceptive initiation consultations before pregnancy (76.9%; $p=0.001$) (Table 4).

DISCUSSION

The findings of this study showed that most pregnancies were unplanned. Among women who did plan their pregnancies, most were unable to access preconception care. The reproductive planning counseling was provided during prenatal care, at the maternity facility, and during the postpartum check-up, though it is concentrated in the postpartum check-up. While the IUD was the

Table 3 - Comparative analysis of access to reproductive planning, use of health services, and care characteristics before and after pregnancy. Belo Horizonte, Minas Gerais, Brazil. 2019–2022.

Variables	Before pregnancy		Up to 6 months after childbirth	
	n	% (CI 95%)	n	% (CI 95%)
Use of contraceptives	201	76.7 (70.1 – 82.2)	115	86.1 (78.4 – 91.8%)
A healthcare professional was consulted before starting the contraceptive method	154	74.7 (67.0 – 81.3)	99	72.7 (62.8 – 81.2)
Access to a SUS consultation to start using contraceptives	95	75.8 (65.9 – 83.9)	72	91.7 (82.7 – 96.9)
Contraceptive method chosen by the woman	124	61.3 (52.1 – 69.9)	71	67.6 (55.4 – 78.2)
Follow-up appointments after starting contraception	91	50.5 (39.9 – 61.2)	72	38.9 (27.6 – 51.1)
Received information about other contraceptive methods besides the one being used	93	75.3 (65.2 – 83.6)	72	73.6 (61.9 – 83.3)
Access to contraceptives through the SUS	154	31.2 (23.9 – 39.1)	99	51.5 (41.2 – 61.7)*

* McNemar's test with p-value = 0.0061

most frequently offered contraceptive in maternity facilities, oral contraceptive pills and injectables predominated in UBS, highlighting barriers to IUD access within the PHC. An increase in access to contraceptives through SUS was observed after the delivery; such access is crucial for women with low levels of education, both before pregnancy and after giving birth.

Based on the findings of this study, there is a notable emphasis on reproductive planning during prenatal and postpartum care^(14,19). While this is positive given the risk of maternal and neonatal complications associated with short interpregnancy intervals^(2,4), studies have highlighted difficulties in accessing contraception before pregnancy^(19,20). In other words, women often only gain access to reproductive planning services after a pregnancy has occurred⁽²⁰⁾, which limits efforts to prevent unintended pregnancies and promote preconception care.

This study not only highlights the low incidence of planned pregnancies but also reveals that among women who planned their pregnancies, only one-third had access to a preconception consultation. Preconception care is fundamental for providing counseling and support that optimizes the health of women and their partners before pregnancy, improves maternal and infant outcomes⁽⁹⁾, and respects different life stages and reproductive choices. A similar finding emerged in São Paulo⁽²¹⁾, where only 15.9% of women received preconception care, point to a gap in services aimed at promoting women's health and preventing health issues across the life cycle. Furthermore, it was observed that women often seek preconception services only when experiencing difficulty conceiving⁽²¹⁾, a factor possibly linked to a lack of information

about preconception health or unawareness of the existence and objectives of such care⁽²¹⁾. Thus, there is evidence of both limited availability of these services and a lack of awareness among women regarding their needs, underscoring the importance of strengthening preconception care within primary health care.

The increase in the use of contraceptives in the postpartum period can be explained by women's greater ease of access to health services during this time, given the recommended maternal and child care practices that foster the patient-provider relationship and facilitate access to contraceptive methods^(19,20). Also, it could be because many women who did not use contraceptive methods before pregnancy had reported a desire to conceive, meaning they did not need contraception at that time, making the subsequent increase an expected outcome. However, some women who used contraceptive methods before pregnancy discontinued their use in the postpartum period; this may place them at risk of unintended pregnancy within a short interval and, consequently, at higher risk of adverse maternal and neonatal outcomes^(2,4,11).

While counseling on reproductive planning is offered during prenatal care, in the maternity hospitals, and during postpartum check-ups, such counseling is most frequently during postpartum consultations, a time considered late, given the recognized benefits of initiating contraceptive counseling during pregnancy^(2,15). It is also noteworthy that the proportion of contraceptive counseling provided in maternity hospitals is low, despite this setting being an opportunity to offer such information to all women. On the other hand, the IUD was the contraceptive most frequently offered at these institutions,

Table 4 – Characteristics of access to reproductive planning before and after pregnancy according to race/color, age group, and education level. Belo Horizonte, Minas Gerais, Brazil, 2019–2022.

2 YEARS BEFORE PREGNANCY																						
Sociodemographic characteristics	Use of MC			Consulted a professional before starting the contraceptive method			Contraceptive initiation consultation			Definition of the contraceptive			Follow-up appointments			Information about other methods			Place where the contraceptive was obtained			
	Yes	No	P-value	Yes	No / Unknown	P-value	SUS	Private/Health insurance	P-value	Women's choice	Health professional	P-value	Yes	No	P-value	Yes	No	P-value	SUS	Pharmacy	Other	P-value
Race	154	47	1.000*	115	39	0.740*	72	23	0.282*	76	48	0.214*	46	45	0.712*	70	23	0.890*	48	98	8	0.034*
White	25 (75.8%)	8 (24.2%)		20 (80.0%)	5 (20.0%)		9 (64.3%)	5 (35.7%)		9 (45.0%)	11 (55.0%)		8 (61.5%)	5 (38.5%)		9 (69.2%)	30.8%		7 (28.0%)	13 (52.0%)	5 (20.0%)	
Black/Brown	120 (76.4%)	37 (23.6%)		89 (74.2%)	31 (25.8%)		60 (78.9%)	16 (21.1%)		61 (63.5%)	35 (36.5%)		36 (49.3%)	37 (50.7%)		57 (76.0%)	18 (24.0%)		38 (31.7%)	79 (65.8%)	3 (2.5%)	
Asian/Indigenous	9 (81.8%)	2 (18.2%)		6 (66.7%)	3 (33.3%)		3 (60.0%)	2 (40.0%)		6 (75.0%)	2 (25.0%)		2 (40.0%)	3 (60.0%)		4 (80.0%)	1 (20.0%)		3 (33.3%)	6 (66.7%)	0 (0.0%)	
Age group	154	47	0.169	115	39	1.000*	72	23	0.305*	76	48	0.590*	46	45	0.098*	70	23	0.432*	48	98	8	0.551*
18 to 25 years old	69 (83.1%)	14 (16.9%)		51 (73.9%)	18 (26.1%)		35 (81.4%)	8 (18.6%)		37 (66.1%)	19 (33.9%)		17 (40.5%)	25 (59.5%)		35 (81.4%)	8 (18.6%)		24 (34.8%)	43 (62.3%)	2 (2.9%)	
26 to 35 years old	72 (72.7%)	27 (27.3%)		54 (75.0%)	18 (25.0%)		31 (73.8%)	11 (26.2%)		33 (56.9%)	25 (43.1%)		22 (55.0%)	18 (45.0%)		29 (70.7%)	12 (29.3%)		21 (29.2%)	45 (62.5%)	6 (8.3%)	
36 to 42 years old	13 (68.4%)	6 (31.6%)		10 (76.9%)	3 (23.1%)		6 (60.0%)	4 (40.0%)		6 (60.0%)	4 (40.0%)		7 (77.8%)	2 (22.2%)		6 (66.7%)	3 (33.3%)		48 (31.2%)	98 (63.6%)	8 (5.2%)	
Education level	153	47	0.545	114	39	0.388*	71	23	0.000*	75	48	0.788	45	45	0.531*	69	23	1.000*	47	98	8	0.066*
Up to 9 years of study	28 (73.7%)	10 (26.3%)		22 (78.6%)	6 (21.4%)		16 (88.9%)	2 (11.1%)		15 (65.2%)	8 (34.8%)		8 (47.1%)	9 (52.9%)		14 (77.8%)	4 (22.2%)		12 (42.9%)	16 (57.1%)	0 (0.0%)	
10 to 12 years of study	104 (78.8%)	28 (21.2%)		74 (71.1%)	30 (28.9%)		52 (82.5%)	11 (17.5%)		49 (61.2%)	31 (38.8%)		29 (47.5%)	32 (52.5%)		46 (74.2%)	16 (25.8%)		33 (31.7%)	65 (62.5%)	6 (5.8%)	
More than 12 years of study	21 (70.0%)	9 (30.0%)		18 (85.7%)	3 (14.3%)		3 (23.1%)	10 (76.9%)		11 (55.0%)	9 (45.0%)		8 (66.7%)	4 (33.3%)		9 (75.0%)	3 (25.0%)		2 (9.5%)	1 (81.0%)	7 (9.5%)	

Continue...

...continuation.

Table 4 – Characteristics of access to reproductive planning before and after pregnancy according to race/color, age group, and education level. Belo Horizonte, Minas Gerais, Brazil, 2019–2022.

Sociodemographic characteristics	6 MONTHS POSTPARTUM																					
	Use of MC			Consulted a professional before starting the contraceptive method			Contraceptive initiation consultation			Definition of the contraceptive			Follow-up appointments			Information about other methods			Place where the contraceptive was obtained			
	Yes	No	P-value	Yes	No / Unkno-wn	P-value	SUS	Private/Health insurance	P-value	Women's choice	Health professional	P-value	Yes	No	P-value	Yes	No	P-value	SUS	Pharmacy	Other	P-value
Race	99	16	0.213*	72	27	0.740*	66	6	0.666*	48	23	0.783*	28	44	0.785*	53	19	0.194*	51	42	5	0.279*
White	22 (95.6%)	1 (4.4%)		15 (68.2%)	7 (31.8%)		13 (86.7%)	2 (13.3%)		11 (73.3%)	4 (26.7%)		6 (40.0%)	9 (60.0%)		9 (60.0%)	6 (40.0%)		11 (50.0%)	8 (36.4%)	3 (13.6%)	
Black/Brown	74 (84.1%)	14 (15.9%)		55 (74.3%)	19 (25.7%)		51 (92.7%)	4 (7.3%)		36 (66.7%)	18 (33.3%)		22 (40.0%)	33 (60.0%)		43 (78.2%)	12 (21.8%)		39 (52.7%)	33 (44.6%)	2 (2.7%)	
Asian/Indigenous	3 (75.0%)	1 (25.0%)		2 (66.7%)	1 (33.3%)		2 (100.0%)	0 (0.0%)		1 (50.0%)	1 (50.0%)		0 (0.0%)	2 (100.0%)		1 (50.0%)	1 (50.0%)		1 (33.3%)	2 (66.7%)	0 (0.0%)	
Age group	99	16	0.516*	72	27	0.090*	66	6	0.098*	48	23	0.646*	28	44	0.485	53	19	0.284	51	43	5	0.491*
18 to 25 years old	34 (85.0%)	6 (15.0%)		24 (70.6%)	10 (29.4%)		24 (100.0%)	0 (0.0%)		18 (75.0%)	6 (25.0%)		7 (29.2%)	17 (70.8%)		18 (75.0%)	6 (25.0%)		18 (52.9%)	16 (47.1%)	0 (0.0%)	
26 to 35 years old	54 (84.4%)	10 (15.6%)		37 (68.5%)	17 (31.5%)		33 (89.2%)	4 (10.8%)		24 (64.9%)	13 (35.1%)		16 (43.2%)	21 (56.8%)		29 (78.4%)	8 (21.6%)		28 (51.9%)	22 (40.7%)	4 (7.4%)	
36 to 42 years old	11 (100.0%)	0 (0.0%)		11 (100.0%)	0 (0.0%)		9 (81.8%)	2 (18.2%)		6 (60.0%)	4 (40.0%)		5 (45.5%)	6 (54.5%)		6 (73.6%)	5 (45.4%)		5 (45.5%)	5 (45.5%)	1 (9.1%)	
Education level	98	16	0.280*	72	26	0.364*	66	6	0.009*	48	23	0.138*	28	44	0.313*	53	19	0.333*	51	42	5	0.619*
Up to 9 years of study	17 (94.4%)	1 (5.6%)		11 (64.7%)	6 (35.3%)		11 (100.0%)	0 (0.0%)		7 (63.6%)	4 (36.4%)		4 (36.4%)	7 (63.6%)		10 (90.9%)	1 (9.1%)		9 (52.9%)	8 (47.1%)	0 (0.0%)	
10 to 12 years of study	6 (82.3%)	5 (17.7%)		47 (72.3%)	18 (27.7%)		45 (95.7%)	2 (4.3%)		35 (74.5%)	12 (25.5%)		16 (34.0%)	31 (66.0%)		32 (68.1%)	15 (31.9%)		35 (53.9%)	27 (41.5%)	3 (4.6%)	
More than 12 years of study	1 (94.1%)	6 (5.9%)		14 (87.5%)	2 (12.5%)		10 (71.4%)	4 (28.6%)		6 (46.1%)	7 (53.9%)		8 (57.1%)	6 (42.9%)		11 (78.6%)	3 (21.4%)		7 (43.8%)	7 (43.7%)	2 (12.5%)	

*Fisher's exact test

aligning with policies promoting highly effective methods during this period⁽⁸⁾, particularly following the Ministry of Health's regulation of postpartum IUD insertion⁽²²⁾. In this context, the *Rede Cegonha* has played an essential role as a government strategy aimed at improving maternal and child health indicators, strengthening access to postpartum contraception, encouraging the use of IUDs after childbirth and abortion⁽²²⁾. Currently, this policy has been transformed and updated by the *Rede Alyne*, established by the Ministry of Health Ordinance GM/MS number 5.350/2024; this network reaffirms the commitment to comprehensive, humanized care, seeking to reduce regional and racial inequalities while consolidating expanded access to safe and effective contraceptive methods within the SUS⁽²³⁾.

Established evidence indicates that individuals with lower educational levels, those living in rural areas, and those in unfavorable economic circumstances exhibit higher rates of unmet contraceptive needs than individuals with higher educational levels, those living in urban areas, and those with better financial standing^(4,10,11). In this study, women with lower levels of education predominantly accessed consultations to initiate contraception through the SUS, both before and after pregnancy, reinforcing one of the System's fundamental principles: the provision of equitable access to healthcare.

Promoting equity, as advocated by the SUS, is essential to ensuring that the most vulnerable women receive priority access to appropriate reproductive planning care. This reinforces the System's comprehensive nature and helps build a more egalitarian and inclusive society. Before pregnancy, Black and Brown women primarily obtained contraceptives from pharmacies, a finding also observed in a population-based cross-sectional study conducted in the country, the National Survey on Access, Use, and Promotion of Rational Use of Medicines, which identified commercial pharmacies as the main source for acquiring contraceptives in Brazil⁽²⁴⁾. However, increased access to these methods through the SUS was observed after pregnancy, reinforcing the hypothesis that care provided during pregnancy, childbirth, and the postpartum period can be a gateway to reproductive planning services.

Increased access to contraception within the SUS following childbirth represents progress. However, the proportion remains low when considering the total population of PHC users. Thus, there is a need to expand and strengthen access to reproductive planning services within the SUS and to improve the quality of contraceptive counseling, particularly given that the aspects of reproductive planning access showing the lowest rates

were the selection of the contraceptive method by the woman and the follow-up consultations after the method was initiated. In this context, nurses play a central role, as health education and care based on an individualized approach, aimed at fostering user autonomy, are inherent to their professional practice⁽¹²⁾. Consequently, they play a fundamental role in reproductive planning services, moving beyond a merely prescriptive or generalized approach⁽¹²⁾. Their counseling efforts not only provide accurate information on contraceptive methods but also enable them to effectively address sexual and reproductive health issues, facilitated by their close, daily contact with the assigned population, contributing to user empowerment and informed decision-making. A patient-centered approach improves reproductive health outcomes and strengthens the bond of trust between health professionals and the community they serve, fostering comprehensive care⁽¹²⁾.

The findings of this study reinforce the importance of ensuring women's rights to information, informed choice, and high-quality counseling in the context of reproductive planning throughout the woman's reproductive life course^(19,20). There is often a disconnect with sexual and reproductive rights when women seek only pharmacy services, as they are unlikely to have access to the counseling and follow-up necessary to ensure free, informed choice and contraception. Another positive result is that the majority of the reproductive planning characteristics evaluated showed proportions exceeding 70%, both before and after pregnancy. While this does not reflect an ideal situation, it does indicate significant progress in safeguarding sexual and reproductive rights and facilitating timely access to reproductive planning services within PHC in the municipality studied. Such progress contributes to achieving the 2030 Agenda SDGs, as equitable access to sexual and reproductive health services reinforces and strengthens the role of PHC in meeting these global goals⁽³⁾.

Limitations

The study experienced a loss to follow-up totaling 104 interviewees, despite the adoption of strategies to minimize such occurrences. Women who did not respond after five attempts were classified as losses. The data collection team faced challenges in locating the women during this sensitive period of their lives. Differential loss was observed among women not living with a partner ($p=0.001$); this may have resulted in a more positive scenario than reality, given that this group is the least likely to access

reproductive planning services, according to findings from previous studies^(20,21).

It is also important to note the memory bias related to questions about the two years preceding pregnancy, as these pertained to the period prior to the last pregnancy. Additionally, data collection occurred during the COVID-19 pandemic, which complicated the gathering of baseline data and extended the timeframe originally planned for the face-to-face interview stage.

Another identified limitation was the study's representativeness within the national context, especially considering the country's significant territorial diversity. The findings, particularly the positive outcomes, were derived from a municipality where PHC coverage reaches 100%, and Family Health Strategy (ESF) coverage is at 81.3%, supported by the implementation of 589 ESF teams⁽²⁵⁾. As a result, the external validity of these findings may be restricted for municipalities that do not have a well-established PHC structure.

Despite these limitations, this study advances the field by tracking women's access at different stages of their journey through the care network, from pregnancy to the postpartum period, and detailing the characteristics of this access more specifically. Finally, it enables a comparison of sociodemographic disparities and an analysis of how the continuum of care for pregnancy, childbirth, and the postpartum period can be an opportunity for women to access reproductive planning services.

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REFERENCES

- Ministério da Saúde (BR). Lei nº 9.263, de 12 de janeiro de 1996. Diário Oficial da União; Brasília: DOU;1996 [cited 2023 Oct 15]. Available from: <https://www.jusbrasil.com.br/legislacao/127240/lei-9263-96>
- Cooper M. Contraception after childbirth in the UK: beyond the COVID-19 pandemic. *BMJ Sex Reprod Health* [Internet]. 2022 [cited 2025 Aug 20];48(2):82-3 Available from: <https://srh.bmj.com/content/48/2/82>
- United Nations, Department of Economic and Social Affairs, Sustainable Development. Transforming our world: the 2030 agenda for sustainable development, A/RES/70/1 [Internet]. New York: United Nations; 2015 [cited 2023 Oct 15]. Available from: <https://sdgs.un.org/2030agenda>
- Starrs A. A Lancet Commission on sexual and reproductive health and rights: going beyond the Sustainable Development Goals. *Lancet* [Internet]. 2015 [cited 2023 Sept 30]; 386(9999):1111-2. Available from: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(15\)00250-0/abstract](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(15)00250-0/abstract)
- Levesque JF, Harris MF, Russell G. Patient-centred access to health care: conceptualising access at the interface of health systems and populations. *Int J Equity Health* [Internet]. 2013 [cited 2023 Oct 03];12(1):18. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC3610159/>
- Travassos C, Martins M. Uma revisão sobre os conceitos de acesso e utilização de serviços de saúde. *Cad Saúde Pública* [Internet]. 2004 [cited 2023 Aug 23];20(2):S190-8 Available from: <https://www.scielo.br/j/csp/a/PkyrsjDrZWwzzPVJJPbbXtQ>
- Aday LA, Andersen R. A framework for the study of access to medical care. *Health Serv Res* [Internet]. 1974[cited 2023 Sept 23];9(3):208-20. Available from: <https://pubmed.ncbi.nlm.nih.gov/4436074/>
- Ministério da Saúde (BR). Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Saúde sexual e saúde reprodutiva. Brasília: Ministério da Saúde; 2013 [cited 2023 Sept 30]. Available from: https://bvsms.saude.gov.br/bvs/publicacoes/saude_sexual_saude_reprodutiva.pdf
- Santos BNS, Araújo FG, Paula TF, Matozinhos FP, Felisbino-Mendes MS. Prevalência dos indicadores de saúde pré-concepcional das mulheres brasileiras em idade reprodutiva. *Ciênc Saúde Colet* [Internet]. 2023;28(11):3367-81 [cited 2023 Sept 30]. Available from: <https://doi.org/10.1590/1413-812320232811.16282022>
- Trindade RE, Siqueira BB, Paula TF, Felisbino-Mendes MS. Uso de contracepção e desigualdades do planejamento reprodutivo das mulheres brasileiras. *Ciênc Saúde Colet* [Internet]. 2021[cited 2023 Sept 30];26(2 supl. 2):3493-504 Available from: <https://doi.org/10.1590/1413-81232021269.2.24332019>
- Nilson TV, Amato AA, Resende CN, Primo WQS, Nomura RMY, Costa ML, et al. Gravidez não planejada no Brasil: estudo nacional em oito hospitais universitários. *Rev Saúde Pública* [Internet]. 2023[cited 2023 Oct 07];57(1):35. Available from: <https://www.scielo.br/j/rsp/a/rLNZV93NLzLDzDSzy7DRyn/?format=pdf&lang=pt>
- Jamille GD, Pontes JA, Assis WALM. Atuação do enfermeiro na prescrição de contraceptivos hormonais na rede de atenção primária em saúde. *Rev Bras Enferm* [Internet]. 2013;66(6) [cited 2023 Oct 07]. Available from: <https://www.scielo.br/j/reben/a/fQNhCRSvmzhFdmYfH9tX6Nx/?lang=pt>
- Paiva CCN, Caetano R. Evaluation of the implementation of sexual and reproductive health actions in Primary Care: scope review. *Esc Anna Nery* (Online) [Internet]. 2020 [cited 2023 Sept 20];24(1):20190142. Available from: <http://www.ean.periodikos.com.br/article/doi/10.1590/2177-9465-EAN-2019-0142>

14. Nasser MA. Avaliação da implementação de ações em saúde sexual e reprodutiva desenvolvidas em serviços de atenção primária à saúde no estado de São Paulo [tese]. São Paulo: Universidade de São Paulo; 2015 [cited 2023 Sept 20]. Available from: <https://teses.usp.br/teses/disponiveis/5/5137/tde-22012016-110316/publico/MarianaArantesNasser.pdf>
15. Silveira LM. Determinantes do início do uso de métodos contraceptivos após o parto em usuárias da Atenção Primária à Saúde [dissertação]. Belo Horizonte: Escola de Enfermagem, Universidade Federal de Minas Gerais; 2022 [cited 2023 Oct 07]. Available from: <https://repositorio.ufmg.br/server/api/core/bitstreams/35fab21f-4077-45fb-8668-eef8436814c5/content>
16. Araújo FG, Abreu MNS, Felisbino-Mendes MS. Mix contraceptivo e fatores associados ao tipo de método usado pelas mulheres brasileiras: estudo transversal de base populacional. *Cad Saúde Pública* [Internet]. 2023[cited 2023 Oct 07]; 39(8):e00229322. Available from: <https://www.scielo.br/j/csp/a/tkJZ6KxbwckZ6ykhv7YkBBM/abstract/?lang=pt>
17. Heller R, Cameron S, Briggs R, Forson N, Glasier A. Postpartum contraception: a missed opportunity to prevent unintended pregnancy and short inter-pregnancy intervals. *J Fam Plann Reprod Health Care* [Internet]. 2015 [cited 2023 Oct 23];42(2):93-8. Available from: <https://srh.bmj.com/content/42/2/93>
18. Silva DLF, Crispim SP, Almeida CCB, Schrubbe V, Azevedo FM, Faria FR, Pizato N, Pereira RJ, et al. Improving pregnant women's iodine intake estimates and its prevalence of inadequacy through the use of salt and seasoning covariates. *Nutrients* [Internet]. 2023[cited 2023 Oct 07];15(4):846. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC9966772/>
19. Moura LNB, Gomes KRO. Planejamento familiar: uso dos serviços de saúde por jovens com experiência de gravidez. *Ciênc Saúde Colet* [Internet]. 2014[cited 2023 Oct 11];19(3):853-63. Available from: <https://www.scielo.br/j/csc/a/zzXK6X3tyzv6xwBbZbsDLrD/?format=html&lang=pt>
20. Cavenaghi S, Diniz Alves JE. The everlasting outmoded contraceptive method mix in Brazil and its legacy. *Rev Bras Estud Popul* [Internet]. 2019 [cited 2023 Oct 20] ;36:1-29. Available from: <https://doi.org/10.20947/S0103-3098a0103>
21. Borges ALX, Santos OA, Nascimento NC, Chofakian CBN, Gomes-Sponholz FA. Preconception health behaviors associated with pregnancy planning status among Brazilian women. *Rev Esc Enferm USP* [Internet]. 2016[cited 2023 Oct 07];50(2):208-15 Available from: <https://doi.org/10.1590/S0080-623420160000200005>
22. Ministério da Saúde (BR). Portaria 1.459, de 24 junho de 2011. Institui, no âmbito do SUS, a Rede Cegonha. *Diário Oficial da União* 2011 [cited 2023 Oct 14]. Available from: https://bvsms.saude.gov.br/bvs/saudelegis/gm/2011/prt1459_24_06_2011.html
23. Ministério da Saúde (BR). Portaria nº 3.265, de 1º dezembro de 2017. Altera o Anexo XXVIII da Portaria de Consolidação nº 2/GM/MS, que dispõe sobre ampliação do acesso ao DIU de cobre no SUS. *Diário Oficial da União*; 2017 [cited 2023 Oct 14]. Available from: https://bvsms.saude.gov.br/bvs/saudelegis/gm/2017/prt3265_07_12_2017.html
24. Farias MR, Leite SN, Tavares NUL, Oliveira MA, Arrais PSD, Bertoldi AD, et al. Utilização e acesso a contraceptivos orais e injetáveis no Brasil. *Rev Saúde Pública* [Internet]. 2016 [cited 2023 Oct 14] ;50(supl.2):14s. Available from: <https://www.scielo.br/j/rsp/a/5cpbxfgGbpCTSHX4dXXyXGK/?format=pdf&lang=pt>
25. Secretaria Municipal de Saúde de Belo Horizonte (BR) Plano Municipal de Saúde 2018-2021. Belo Horizonte: SMS/BH; 2018 [cited 2023 Oct 14]. Available from: <https://prefeitura.pbh.gov.br/saude/informacoes/planejamento-em-saude>