UNIVERSIDADE FEDERAL DO RIO GRANDE DO SUL
FACULDADE DE MEDICINA
PROGRAMA DE PÓS-GRADUAÇÃO EM CIÊNCIAS DA SAÚDE: ENDOCRINOLOGIA

DISSERTAÇÃO DE MESTRADO

AVALIAÇÃO DA PRESCRIÇÃO E DO USO DE ANTICONCEPÇÃO EM MULHERES COM *DIABETES MELLITUS*

CAROLINE REIS GERHARDT

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RESUMO

O *Diabetes Mellitus* (DM) é um importante problema de saúde pública. Planejar a gestação da mulher com DM tem uma grande importância, uma vez que a garantia de uma gestação saudável e de feto viável depende de níveis glicêmicos adequados, além de outros cuidados de saúde. A presente dissertação teve os seguintes objetivos: avaliar a adequação do registro em prontuário de uso de métodos anticoncepcionais (MAC) por pacientes com DM em idade fértil e identificar quais fatores estão associados com a ausência de registro desses medicamentos; descrever os MAC utilizados por pacientes com DM e se a prescrição está de acordo com os critérios de elegibilidade da Organização Mundial de Saúde (OMS). Foi realizado um estudo transversal com revisão de 1.069 prontuários de mulheres com DM atendidas no Hospital de Clínicas de Porto Alegre (HCPA) entre janeiro de 2019 e junho de 2019. Destas, 313 estavam em idade fértil e foram incluídas no estudo, sendo o registro de uso de MAC encontrado em 173 (55,3%) dos prontuários. Na segunda fase do estudo, 270 mulheres, dentre as arroladas, foram entrevistadas. Destas, 201 (74,4%) relataram usar algum MAC. Das 69 (25,6%) que não estavam em uso, 18 não estavam em risco de gestação devido à infertilidade (n = 14) ou relação homossexual (n = 4), restando 51 pacientes férteis com DM em risco de uma gestação não planejada (18,9% do total de entrevistadas). Os métodos mais usados foram os hormonais por via oral (combinado em 34,3% e progesterona isolada em 17,9%). No que diz respeito às contraindicações, 67 (33,3%) mulheres estavam usando método inadequado, ou seja, classificado como categoria 3 ou 4 da OMS para sua condição clínica. Em conclusão, um terço das mulheres com DM em acompanhamento no serviço de endocrinologia de um hospital universitário estão em idade fértil. A ausência de registro de uso de MAC no prontuário de quase metade das participantes sugere que esta abordagem não tem sido realizada, especialmente nas pacientes com mais de 40 anos, cor não branca auto relatada e escolaridade ≤ 11 anos de estudo. O MAC mais utilizado foi o anticoncepcional hormonal combinado. Devido aos riscos de uma gestação em mulheres com DM não compensado, métodos com maior efetividade como o dispositivo/sistema intrauterino ou implante deveriam ser mais recomendados, especialmente em adolescentes e mulheres jovens. Aproximadamente um terço das entrevistadas estava usando MAC inadequado para a sua condição clínica e um quinto estava em risco de uma gestação sem planejamento adequado. Tendo como base esses resultados, melhorias no planejamento familiar de mulheres com DM devem ser instituídas.

Palavras-chave: *Diabetes mellitus*; Fertilidade; Métodos anticoncepcionais; Planejamento familiar

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LISTA DE ABREVIATURAS E SIGLAS

BMI	*Body mass index*
BP	*Blood pressure*
CDC	*Centers for Disease Control and Prevention*
CM	*Contraceptive methods*
DCNT	Doenças crônicas não transmissíveis
DIU-Cu	Dispositivo intrauterino de cobre
DM	*Diabetes mellitus*
HbA1c	Hemoglobina glicada
HCPA	Hospital de Clínicas de Porto Alegre
IUD	*Copper intrauterine device*
IUS	*Intrauterine system*
LADA	*Latent autoimmune diabetes of the adult*
LARC	*Long-acting reversible contraceptives*
MAC	Métodos anticoncepcionais
MEC	*Medical Eligibility Criteria*
MODY	*Maturity-onset diabetes of the young*
NICE	*National Institute for Health and Care Excellence*
OMS	Organização Mundial da Saúde
SUS	Sistema Único de Saúde
UFRGS	Universidade Federal do Rio Grande do Sul
UK	*United Kingdom*
WHO	*World Health Organization*

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1 INTRODUÇÃO

As doenças crônicas não transmissíveis (DCNTs) são as principais causas de morte no mundo, muitas delas prematuras. Estão associadas à perda de qualidade de vida com alto grau de limitação nas atividades de trabalho e lazer, bem como geram impacto econômico negativo para as famílias, comunidade e sociedade em geral (1). O *diabetes mellitus* (DM) é uma das principais DCNTs e tornou-se um importante problema de saúde pública. A prevalência global do DM praticamente dobrou desde 1980, passando de 4,7% para 8,5% na população adulta. Isso é reflexo de um aumento nos fatores de risco associados, como a obesidade (2). O DM pode levar a inúmeras complicações vasculares, neurológicas, renais e oftalmológicas; contribuir para agravos direta ou indiretamente no sistema musculoesquelético e digestório; na função cognitiva e saúde mental, além de estar associado a diversos tipos de neoplasias. (3).

No mundo, existem mais de 199 milhões de mulheres que vivem com a doença. Há uma estimativa que este número aumente para 313 milhões até 2040. O DM é o causador direto de 2,3 milhões de mortes por ano na população feminina mundial (4). Duas em cada cinco mulheres com DM estão em idade reprodutiva, respondendo por mais de 60 milhões de mulheres em todo o mundo (5). A fertilidade das pacientes com DM é semelhante à das mulheres sem essa condição (6) e o planejamento familiar é importante para a saúde física, mental e social das mulheres e de suas famílias. A garantia de uma gestação saudável e de feto viável depende de ajustes terapêuticos para o melhor controle possível da condição clínica (7).

O controle glicêmico adequado é uma das mais importantes intervenções associadas à prevenção de desfechos indesejados na gestação de mulheres com DM. Por isso, essas mulheres devem ser orientadas a planejar as gestações, de modo que os níveis glicêmicos estejam normalizados desde antes da concepção (8). Por outro lado, o DM mal controlado aumenta o risco de anormalidades congênitas, aborto espontâneo, parto prematuro, morte intrauterina, crescimento fetal que leva à macrossomia, hipoglicemia neonatal e hiperbilirrubinemia, bem como muitos outros efeitos deletérios para o feto ou recém-nascido (2, 9-11). A gestação não planejada também pode levar a complicações na gestante com DM, incluindo um risco aumentado de hipertensão e pré-eclâmpsia, bem como o agravamento de complicações degenerativas pré-existentes, como retinopatia ou doença renal (2, 12).

Deseja-se que a hemoglobina glicada (HbA1c) no período pré concepção esteja no alvo, a fim de garantir adequada organogênese. Estudos epidemiológicos indicam que valores de HbA1c menores que 6,5% foram associados a menores taxas de desfechos adversos fetais (13,

14). Para que se possa atingir esses níveis de HbA1c antes da concepção, assim como realizar controle da pressão arterial, troca de medicamentos com potencial teratogênico, avaliação da função tireoidiana e início de ácido fólico, é necessário que a gestação seja planejada (14). Para tanto, essas mulheres devem ter acesso ao planejamento familiar na atenção básica ou especializada. Um estudo visando descrever as complicações fetais do DM avaliou 50 gestantes e observou que nenhuma dessas pacientes planejou a concepção (15).

A utilização de um método anticoncepcional (MAC) eficaz é mandatória durante o período necessário para a compensação do DM em mulheres que desejam engravidar, assim como para todas as mulheres que não desejam a gestação. Isso tem especial importância no nosso meio, visto que somente 26% e 18% dos pacientes com DM tipo 2 e tipo 1, respectivamente, tinham HbA1c no alvo terapêutico de 7% em estudos realizados nas cinco regiões do Brasil (16, 17). Um estudo recente realizado no Serviço de Endocrinologia do Hospital de Clínicas de Porto Alegre (HCPA) demonstrou que dos 602 indivíduos com DM tipo 2 analisados, 374 (62%) eram mulheres e somente 26,8% delas estavam no alvo terapêutico da HbA1c individualizado para a sua condição clínica (7% ou 8%). Sexo feminino e idade mais jovem foram fatores de risco para um pior controle glicêmico (18).

Lacunas são detectadas no planejamento familiar no Brasil, não só no que diz respeito a mulheres com DM. Uma pesquisa de âmbito nacional realizada com 15.575 mulheres de 15 a 49 anos revelou que 53,8% das usuárias de MAC o fazem por conta própria e sem orientação médica, com pouco ou nenhum conhecimento sobre o uso correto. Esse estudo também revelou que pelo menos 50% das gestações não são planejadas (19).

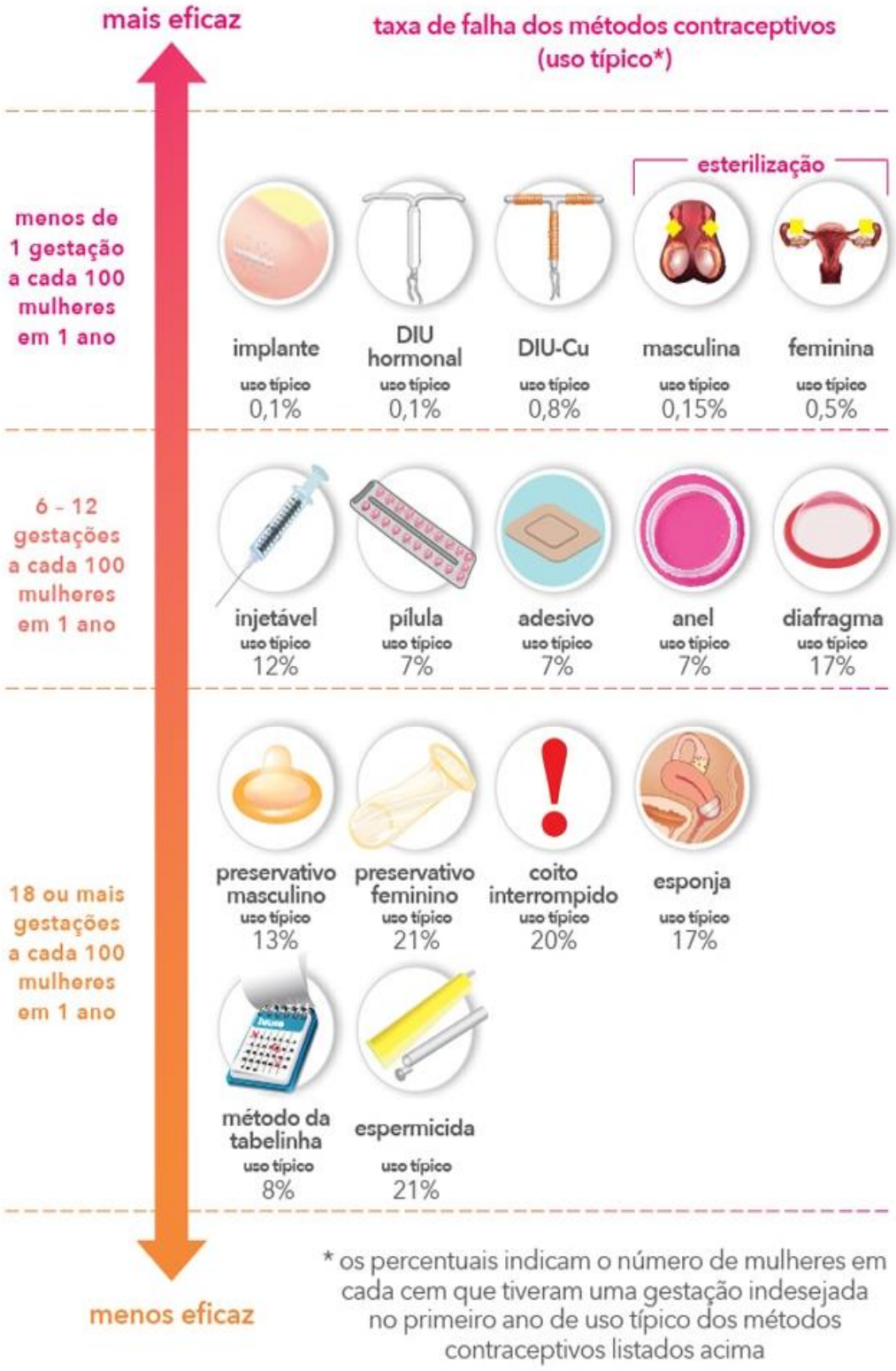
Além dos prejuízos à saúde física da mulher e do feto decorrentes de uma gestação não planejada, ainda existem outras repercussões socioeconômicas, principalmente quando a gestação ocorre na adolescência (13). Meninas brasileiras com renda familiar per capita de US$ 70 ou menos e que engravidaram pelo menos uma vez na adolescência têm maior probabilidade de não concluir o ensino fundamental. É vital que o sistema escolar forneça às meninas e meninos orientação sobre sexualidade e contracepção e os incentive a permanecer na escola. O planejamento familiar nessa fase da vida tem o potencial de determinar os anos de estudo e a renda na fase adulta dessas meninas. Além disso, as políticas públicas devem ser implementadas para encorajar os jovens a voltar para a escola após uma gestação, articulados com políticas destinadas a melhorar a saúde dos adolescentes proporcionando escolha e acesso aos métodos contraceptivos (20).

A atenção em planejamento familiar não implica somente em oferta de métodos e técnicas para a contracepção, mas também a oferta de informações e acompanhamento, num contexto de escolha livre e informada (21). A competência profissional no campo da anticoncepção deve incluir os conhecimentos técnicos, científicos e culturais atualizados, direcionados ao atendimento das necessidades de saúde sexual e reprodutiva das pacientes. Isso inclui habilidade para dar orientação e comunicar-se adequadamente, participando da tomada de decisões quanto aos MACs e acolhendo com respeito a paciente (22, 23).

Quando a necessidade de anticoncepção recai sobre mulheres com DM, os provedores de serviços devem estar preparados para lidar com as particularidades desse grupo de pacientes. Assim, as mulheres com DM têm indicação de usar MAC de alta efetividade e adequados a sua condição clínica, pois determinados MAC podem estar contraindicados em pacientes com longa duração do DM e com complicações micro ou macrovasculares (23-25). Um estudo norte-americano demonstrou que mulheres com DM têm maior chance de não receber aconselhamento e prescrição de MAC do que mulheres saudáveis (52,2% *vs*. 38,0%). Nesse mesmo estudo, entre as mulheres que receberam prescrição de algum MAC, os métodos irreversíveis (esterilização tubária ou histerectomia) foram mais frequentes nas mulheres com DM em comparação com mulheres sem doença crônica (21% *vs*. 11%) (10).

Os motivos da falta de prescrição de MAC em mulheres com DM podem ser atribuídos a diversos fatores. Um deles pode ser relacionado a falta de preparo do profissional de saúde para abordar o tema e auxiliar a mulher na escolha do melhor método. Um estudo brasileiro realizado entre médicos que atuam na atenção primária demonstrou que 75,6% da amostra de profissionais prestava cuidados à saúde reprodutiva e 69,9% conheciam métodos contraceptivos disponíveis no Sistema Único de Saúde (SUS). No entanto, 41,9% relataram dificuldades para escolher com as pacientes o método mais apropriado para cada caso em particular (26). Outro motivo pode ser atribuído à quantidade de itens que devem ser abordados na consulta médica de rotina de mulheres com DM, que incluem, entre outros, controle da hiperglicemia e hipoglicemias, da pressão arterial, lipídios e avaliação de complicações crônicas. Frente a uma grande gama de fatores a serem ajustados, a abordagem da saúde reprodutiva pode ficar em segundo plano (23).

Uma vez identificada a necessidade de contracepção, a escolha do MAC deve ser compartilhada com a paciente, levando em consideração as contraindicações, a segurança e a efetividade do método. A figura 1 demonstra os MACs disponíveis e sua efetividade.



Adaptada de *Committee on Gynecologic Practice Long - Acting Reversible Contraceptive Working Group*, 2015.
Legenda: DIU-Cu: dispositivo intrauterino de cobre, DIU: dispositivo intrauterino.
Uso típico: forma que cada paciente utiliza o método, pode estar de acordo ou não com as orientações, depende de cada paciente.

Figura 1 - Efetividade dos métodos contraceptivos.

Quanto à segurança de cada MAC, é necessário levar em consideração a possibilidade de agravamento da doença pré-existente, da criação de riscos adicionais à saúde e ainda se a circunstância médica pode tornar o método menos eficaz. A segurança do método deve ser avaliada juntamente com os benefícios da prevenção da gestação não desejada (24, 27).

Para melhoria da qualidade e assistência em planejamento familiar, a Organização Mundial de Saúde (OMS) criou em 1996 critérios médicos de elegibilidade (MEC) para uso MAC, indicando a segurança do uso do método no contexto de condições e características de saúde específicas (24). A OMS classificou cada MAC em quatro categorias: Categoria 1: não há restrição ao uso de método anticoncepcional; Categoria 2: as vantagens de usar o método geralmente superam os riscos teóricos ou comprovados; Categoria 3: os riscos teóricos ou comprovados geralmente superam as vantagens de usar o método e Categoria 4: risco inaceitável para a saúde se o método anticoncepcional for usado (24). Os MECs representam ferramentas para auxiliar os médicos a prescrever o método anticoncepcional mais aceitável e seguro para cada mulher individualmente. Embora possa ser útil consultar diferentes MECs para algumas condições complexas, os prescritores devem ter em mente que esses são apenas diretrizes e que seu julgamento clínico deve sempre prevalecer (27).

Mulheres com diagnóstico de DM há menos de 20 anos e sem doença em órgão-alvo, podem usar com segurança todos os métodos de contracepção (24, 28, 29). Para mulheres com DM com complicações micro ou macrovasculares e/ou mais de 20 anos de diagnóstico os métodos são limitados, especialmente os que contêm estrogênio. A tabela 1 demonstra os métodos potencialmente contraindicados conforme a OMS, o Centro de Controle de Prevenção e Doenças (CDC) e o *National Institute for Health and Care Excellence* (NICE) (24, 28, 29). Métodos como os LARCs (do inglês *long acting reversible contraceptives*), sendo exemplo os dispositivos/sistemas intrauterinos ou implante, são opções seguras e efetivas para todas as mulheres com DM. São ideais especialmente para adolescentes e adultas jovens, sendo tão efetivos quanto à esterilização tubária, pois são de longa duração de ação, independem da lembrança de administrá-los, porém são mais facilmente reversíveis (30-34).

Tabela 1 - Descrição de contraceptivos contraindicados para pacientes com diabetes há mais de 20 anos e/ou com lesão micro ou macrovascular

	OMS	**NICE**	**CDC**
Hormonais combinados (oral, injetável, adesivo ou anel vaginal)	3/4	3	3/4
Medroxiprogesterona injetável	3	2	3

OMS: Organização Mundial de Saúde, NICE: *National Institute for Clinical Excellence*, CDC: *Centers for Disease Control and Prevention*

Categoria 2: As vantagens de usar o método geralmente superam os riscos teóricos ou comprovados.
Categoria 3: Condição em que os riscos teóricos ou comprovados geralmente superam as vantagens de usar o método.
Categoria 4: Condição que representa um risco inaceitável para a saúde se o método anticoncepcional for usado.

Pelo exposto, é importante verificar a frequência do aconselhamento para contracepção em pacientes com DM no nosso meio em consultas de endocrinologia, visto que, em grande parte dos casos, o médico endocrinologista é o único profissional da saúde ao qual essas pacientes têm acesso. Ainda, a análise do perfil de pacientes sem aconselhamento para MAC, dos possíveis motivos para a ausência de prescrição e a avaliação da adequação dos métodos usados pode auxiliar no planejamento de políticas públicas de melhor atendimento a essas pacientes.

Dessa forma, esta dissertação tem os seguintes objetivos:

1. determinar a frequência de registo em prontuário de MAC em mulheres com DM em idade fértil;

2. estabelecer os fatores sociodemográficos e clínicos associados com a ausência de registo em prontuário de MAC em mulheres com DM em idade fértil;

3. determinar a frequência e tipo de MAC em uso em mulheres com DM em idade fértil por meio de entrevista;

4. definir a adequação do MAC levando em consideração os critérios de elegibilidade da OMS para uso de contracepção em pacientes com DM.

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2 ARTIGO ORIGINAL

Adequacy of medical files registration and prescription of contraception in women with diabetes: a cross-section study

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Abstract

Introduction: adequate glycemic control is one of the most important interventions to prevent adverse outcomes in pregnancies of women with diabetes mellitus (DM). Therefore, women with DM should be instructed to plan pregnancies, so that blood glucose levels are normalized before conception.

Objective: to describe the adequacy of DM patient's files registry regarding contraception use, the factors associated with lack of registry, the prevalence of contraceptive methods (CM) used by women with DM in reproductive age and if the prescription is in accordance with World Health Organization (WHO) eligibility criteria considering contraindications, comorbidities, and chronic diabetes complications.

Methods: this cross-sectional study was developed in two phases. In the **first phase**, electronic medical records of women with DM who attended the Endocrinology Outpatient Clinic of a tertiary university hospital (Hospital de Clínicas de Porto Alegre) were reviewed to identify women in reproductive age (10-49 years) and to look for contraception method registration. The **second phase** consisted of an interview to collect data regarding contraception in use, as well as comorbidities and chronic DM complications.

Results: From the 1,069 files analyzed, 313 women with DM in childbearing age were identified and included**.** From those, 55.3% had a contraceptive method registered in the medical file. In a second phase, 270 women were interviewed and 201 (74.4%) were using contraceptive methods. Of the 69 patients not on contraception, 51 fertile patients with DM were at risk of an unplanned pregnancy (18.8% of the total interviewed). The most frequently used method was oral hormonal (combined in 34.3% and progestin-only in 17.9%), and 67 (33.3%) women were using a contraindicated method (WHO eligibility category 3 or 4).

Conclusion: In conclusion, one third of women with DM followed at the Endocrinology Outpatient Clinic of a university hospital are of childbearing age. The lack of registration of contraceptive methods use in the medical records of women with DM suggests that this approach has not been adequately performed, especially in patients over 40 years of age, non-white color and education level ≤ 11 years of study. The most used CM is the combined hormonal contraceptive. Due to the risks of a pregnancy in women with uncompensated DM, methods with greater effectiveness such as the intrauterine device/system or implant should be more prescribed, especially in adolescents and young women. Approximately one-third of respondents were using CM inappropriate for their clinical condition and one-fifth were at risk

for an unplanned pregnancy. Based on these results, improvements in family planning for women with DM should be instituted.

Keywords: Contraception; Diabetes mellitus; Family planning, Fertility

Introduction

Chronic medical conditions are the main causes of death worldwide, leading to a high number of premature deaths, impairment in quality of life with a high degree of limitation in work and leisure activities. In addition, they impact the economy of families, communities, and society in general (1). Diabetes mellitus (DM) is an important public health problem, as it is one of the most prevalent non-communicable chronic diseases. In the world, there are more than 199 million women living with the disease. It is estimated that this total will increase to 313 million by 2040. DM is the direct cause of 2.3 million deaths per year in the female population globally (2). Two out of five women with DM are in reproductive age, accounting for more than 60 million women (3).

The planning of a pregnancy, especially in women with specific medical conditions, is of great importance (4). Poorly controlled DM during pregnancy increases the risk of fetal death and other fetal and maternal complications (5). On the other hand, adequate glycemic control is one of the most important interventions associated with the prevention of unwanted outcomes in the pregnancy of women with DM. Therefore, these women should be instructed to plan pregnancies, so that blood glucose levels are normalized before conception (6). Based on epidemiological studies, HbA1c values less than 6.5% are associated with lower rates of adverse fetal outcomes. In order to assure adequate fetal development during organogenesis, this target value is desired in the preconception phase (7, 8).

The pre-gestational preparation of a woman with DM involves a series of interventions besides the optimal HbA1c value and includes evaluation and treatment of microvascular and macrovascular chronic complications (such as laser therapy for diabetic retinopathy before conception, if indicated), switch teratogenic medications to the ones with a safer profile, evaluation and treatment of hypothyroidism and acid folic initiation. As fertility is preserved in women with DM and all these interventions require time to be implemented, effective and safe contraception must be prescribed (9, 10).

The LARCs (long-acting reversible contraceptives) methods, such as intrauterine devices/systems or implants, are safe and effective options for all women with DM. They are ideal especially for teenagers and young adults, being as effective as tubal sterilization, as they are long-lasting, do not rely in remembering to administer, but are easily reversible (11-13).

Despite the importance of contraception in women with DM, they are less likely to receive a prescription than non-DM women (14). This phenomenon may be due to several factors, including, but not limited to, the diabetologist being the only doctor assisting such patients in the majority of cases and not feeling capable to give contraception advice or prescription (15). Also, the medical encounter may be so overwhelmed by the number of patient's comorbidities to be accessed and managed that contraception may be left to a lower priority level (16). Importantly, women with DM using a contraceptive method (CM) may have contraindications based on World Health Organization (WHO) eligibility criteria, due to disease duration, chronic vascular complications, or common comorbidities, such as hypertension and obesity (17).

Therefore, it is important to know the prevalence of women with DM in reproductive age that are at risk of unplanned pregnancy, the factors associated with contraception non-prescription, as well as if the methods used are in accordance with the WHO eligibility criteria. The aims of this study were to describe the adequacy of DM patient's files registry regarding contraception use and the factors associated with lack of registration, the prevalence of contraceptive methods used by women with DM in reproductive age and if the prescription respected contraindications to each method based on patient's comorbidities and chronic DM complications.

Patients and Methods

Study design and ethical aspects

This is a cross-sectional study developed in two phases. In the **first phase**, electronic medical records of women with DM who attended the Endocrinology Outpatient Clinic of a tertiary university hospital (Hospital de Clínicas de Porto Alegre, HCPA) in the period from January 1st, 2019, to June 30th, 2019, were reviewed. Patients' charts were analyzed to identify women in reproductive age (10 to 49 years) (18) and if a contraceptive method was registered. A standardized questionnaire was filled with demographic, clinical and laboratory data. Thereafter, the patients in reproductive age were selected to the **second phase**, which consisted of a structured interview face to face in the period between December 2019 to March 2020 and by phone call from April 2020 to December 2020 due to Covid-19 pandemic restrictions. This project was approved by the HCPA research ethics committee (registered number 07676219.1.0000.5327). Researchers signed a confidentiality agreement, and the interviewed

patients signed an informed consent form. During the Covid-19 pandemic the informed consent form was sent to the patients by WhatsApp™, following instructions of the ethics committee.

Inclusion, exclusion criteria and data collection

The inclusion criteria were women with DM of reproductive age (10 to 49 years) (18). Exclusion criteria were pregnant women or women who had not attended the outpatient clinic for more than 1 year.

The **first phase** questionnaire collected information from patient's charts regarding demographics, DM type, duration, chronic complications, comorbidities, medications on use, with special interest in contraceptive methods. Patients' anthropometry, blood pressure values and laboratory results (HbA1c, creatinine, and albuminuria) were also collected. Hypertension was considered as blood pressure ≥ 140/90 mmHg or use of antihypertensive medications, while obesity was considered body mass index (BMI) ≥ 30 kg/m^2 or above the 95th percentile for participants under 19 years of age. Regarding chronic complications, diabetic retinopathy, diabetic kidney disease (based on albuminuria in two sample > 14 mg/L with or without reduced glomerular filtration rate and/or renal replacement therapy) and peripheral neuropathy were obtained from the electronic medical record. Microvascular disease was considered when the patient had at least one of these complications. Regarding macrovascular disease, cardiovascular disease was obtained by history and/or a stress test and stroke by history and/or imaging studies.

The **second phase** questionnaire was filled during the interview and included details on contraception use, reasons to lack of prescription (such as women not on risk for unplanned pregnancy, as those on menopause, with infertility, on homoaffective relationships, among others), self-declared ethnicity, and a list of contraception contraindications based on WHO eligibility criteria for contraception use (17).

Statistical Analysis

The results are presented as mean (standard deviation), median (interquartile range) and number of cases (%) based on variable characteristics. Continuous variables were analyzed with Student-t test and dichotomous variables were analyzed with the chi-square test. Multivariate analysis, with logistic regression, were built to determine the independent factors associated

with lack of medical files contraception registration. Statistical analyzes were performed using SPSS version 22 (IBM Corp, Armonk, New York, United States), and a $p < 0.05$ was considered statistically significant.

Results

During the study period, 1,069 women with DM attended the outpatient clinic and had the electronic medical records reviewed. Of those, 756 were excluded and 313 (29.3%) women fulfilled the inclusion and did not have the exclusion criteria (Figure 1).

Contraception registry in medical records

Regarding the 313 included women, mean age was 36.1 ± 10.5 years-old and 25 (8%) were adolescents (under 19 years of age). The DM classification was as follows: 174 (55.6%) had type 1, 105 (33.5%) had type 2, 13 (4.2%) had maturity-onset diabetes of the young (MODY), 9 (2.9%) had latent autoimmune diabetes of the adult (LADA), and 12 (3.5%) had other types of DM, such as secondary to cystic fibrosis, pancreatic insufficiency, and DM post-transplant. The mean disease duration was 14.34 ± 9.48 years (minimum-maximum: 1-38 years) and 100 (31.9%) had a DM duration longer than 20 years. Regarding comorbidities and chronic complications, 127 (40.6%) had systemic arterial hypertension, 83 (27%) had obesity, 180 (59.6%) had microvascular disease [diabetes kidney disease n = 135 (43.1%), diabetic retinopathy n = 108 (34.5%) or diabetic neuropathy n = 41 (13.1%)] and 22 (7%) had macrovascular disease [stroke n = 6 (2.8%) or ischemic heart disease n = 16 (7.3%)]. The complete characteristics of patients based on the presence of a contraception description in medical records are depicted in Table 1.

When analyzing the adequacy of contraception registration in electronic medical records, 173 (55.3%) had a contraceptive method described while 140 (44.7%) had no registry of any method in use (Table 1). Patients older than 40 years-old, with type 2 DM, and with comorbidities such as obesity, hypertension and macrovascular disease were more prone to have no registry of a contraceptive method in their medical charts. In addition, non-white color and lower educational level were associated with lack of registration. A multivariate model was built with lack of contraception registry as the dependent variable and age older than 40 years-old, type 2 DM, obesity, hypertension, and macrovascular disease as the independent ones.

Only age older than 40 years (OR = 2.42; 95% CI: 1.43-4.09; p = 0.001), non-white color (OR = 1.92; 95% CI: 1.10-3.33; p = 0.021) and education ≤ 11 years of study (OR = 2.03; 95% CI: 1.03-4.02; p = 0.042) remained statistically associated with non-registration.

Contraception in use and contraindications

In the **second phase**, we were able to contact and interview 270 women (86%). The reasons for absence of interview were as follows: not able to contact after 5 attempts by phone and a telegram message send by conventional mail (n = 26; 8.3%); not able to answer the questions by phone during the Covid-19 pandemic due to deafness (n = 1; 0.3%) or severe cognitive impairment (n = 1; 0,3%); refused to participate (n = 4; 1.3%); death (n = 4; 1.3%) and current pregnancy (n = 7; 2.2%). We compared patients included in the second phase with those not included (supplementary material Table) and groups were similar for most of the characteristics, except for the following: patients not included were most frequently adolescents and with shorter diabetes duration.

From the 270 women interviewed, 201 (74.4%) reported a CM in use. These patients were similar in clinical and laboratory characteristics in comparison with those not on use, with the exception for lower frequency of CM use in adolescents and women with no sexual partner (Table 2). From the 69 participants not on contraceptive use, 14 were infertile (hysterectomy n = 7; menopause n = 5; primary ovarian failure n = 2) and 4 had a homosexual partner, leaving 51 (18.9% of total interviewed) fertile DM patients in risk of unplanned pregnancy. Six patients from this group desired a pregnancy at the moment of the interview and were on non-protected sexual activity. Those patients had poor glucose control with a mean HbA1c of 9.65% ± 1.79% (minimum-maximum: 7.10-11.80%). Other reasons for lack of contraception use were adolescents that did not initiate sexual activity so far (n = 9; mean age 13.77 ± 2.33 years-old; minimum-maximum: 12-18 years-old) and women without a sexual partner at study interview (n = 4).

The CM in use by the 201 patients were combined hormonal in 32.4% (pill: n = 57, 28.4.%; monthly injection: n = 7; 3.5%; patch: n = 1; 0.5%), progestin-only in 17.5% (pill: n = 18; 9.0%; quarterly injection: n = 17; 8.5%;), definitive sterilization in 23.4% (tubal ligation: n = 29; 14.4%; partner vasectomy: n = 18; 9.0%), LARCs 13,5% (Copper intrauterine device: n = 16, 8.0%; intrauterine system levonorgestrel: n = 8; 4.0%; subcutaneous implant: n = 3; 1.5%), male condom in 12.4% (n = 25) and interposed intercourse in 1.0% (n = 2). From these patients, 9 (5%) reported a desire for near future pregnancy and were using combined hormonal

pills (n = 2), oral progestin (n = 1), quarterly injection progestin (n = 2) and male condom (n = 4). Their mean HbA1c was 9.65 ± 2.03% (minimum-maximum: 7.1-13.0%).

Analyzing the sample of 270 women, 221 (81.9%) had micro or macrovascular complication and/or DM duration > 20 years or another comorbidity classified as category 3 or 4 for CM use. The contraindications found are presented in Figure 2. From the 201 patients using a contraceptive method, 67 (33.3%) were using a method that was WHO eligibility category 3 or 4 in her particular case. The contraindications for contraceptives in use are depicted in Figure 3. The most frequent contraindication was microvascular disease (n = 159, 60.5 %).

Contraception and adolescence

Even with a small sample of adolescents included in the **second phase** interview (n = 17; 6.3%), we decided to perform a subgroup analysis considering this subgroup. Mean age was 15.1 ± 2.3 years-old, 11 (64.7%) had type 1 DM, 2 (11.8%) had type 2 DM and 4 (23.5%) other DM types. Mean menarche age was at 11.3 ± 1.2 years-old and mean sexarche age was at 15.6 ± 1.4 years-old. Nine adolescents (52.9%) did not initiate sexual activity so far and were not on contraception. Seven (41.2%) were using a contraceptive method (combined hormonal pill: n = 3; combined hormonal monthly injection: n = 1; quarterly progestin injection: n = 1; intrauterine cupper device: n = 1 and male condom; n = 1) and one had homosexual orientation.

Considering contraception use and sexual activity during adolescence of the whole interviewed sample (adults and adolescents, n = 270), 23.6% (n = 59) initiated a contraceptive method before 15 years-old and 74% (n = 185) before 18 years-old. Also, their sexarche was before 15 years-old in 27.2% (n = 68) and before 18 years-old in 78.8% (n = 197). Most importantly, 4.4% (n = 12) had a pregnancy before 15 years-old and 21.1% (n = 57) before 18 years old.

Discussion

In this sample of women with DM attending an outpatient clinic of a tertiary university hospital, thirty percent were in childbearing age. No registry regarding contraceptive method was found in 45% of the reviewed medical files; age older than 40 years-old and type 2 DM were independent risk factors for lack of registration. During interviews, 74% were actually using a CM, however only the minority (13.5%) were on the most effective methods LARCs and 19% were not protected and at risk for an unplanned pregnancy. Finally, one third of patients on CM had at least one contraindication for its use.

In our study **first phase**, we rely on electronic medical records to evaluate if contraception was discussed with fertile women with DM. This is an indirect way to perform the evaluation since contraception could have been approached in the medical encounter and the physician only did not include the information in visit notes. However, we believe this is a surrogate marker of lack of discussion. In our outpatient clinic, one session of the medical notes includes medications in use; if the question regarding contraception had been formulated during the medical encounter, the information might be there. Our data are in accordance with previous results from a United Kingdom study, which reports that two-thirds the women with DM at childbearing age could not recall a recent discussion specifically about pregnancy, maternal and fetal risks, and contraception in the past year and the most common contraceptive method (65%) was the use of condoms (19). According to Schwarz, women with DM are less likely to receive advice and prescriptions of contraceptive methods than those without chronic diseases (14). The reasons why women with DM receive counseling for contraception less frequently may be associated with several factors, among them: unfamiliarity of the health team about the real contraindications of each method in a patient with DM and the excess of clinical conditions that must be addressed in each medical encounter (20). Another reason for lack of discussion may be extrapolated from our data: women older than 40 years-old are viewed as less fertile. Even though a decrease in fertility is observed as women age (12), contraception in women with DM in this age group acquires higher relevance due to accumulation of pregnancy risks to both women and fetus. Also, non-white color and education level $\leq$ 11 years of study appeared as an independent risk factor for lack of registration.

When women with DM were actually asked about contraceptive methods in our study **second phase**, a higher prevalence of CM use was observed. Seventy-four percent of our sample were using some kind of CM and another 7% were not on risk for pregnancy due to infertility or homosexual partner. Our results are better than previous reports from USA, where

only 37.7% of women with DM were on CM (11). On the other hand, few women from the group of CM users (13.5%) reported the use of LARC, our data are in accordance with previous results from University of Utah Enterprise in Salt Lake City. Among 541 women, only 13% were using LARC (21). LARC methods are excellent to prevent pregnancy, especially in adolescents, women not desiring pregnancies in short-term and in those with inadequate glycemic control and important chronic complications and comorbidities, in which an unplanned pregnancy would lead to an unjustified risk (22). They have the highest efficacy, as well as effectivity because do not rely on daily use, decreasing the rate of failures due to forgetfulness. Despite their safety and effectiveness, LARC are generally underutilized. Only 15.5% of women worldwide use Copper intrauterine device (IUD) and 3.4% subdermal implants (23). WHO agrees that the Copper IUD is entirely suitable for women with type 1 or type 2 DM with no restriction for use, and the advantages of levonorgestrel intrauterine system (IUS) generally outweigh the theoretical or proven risks (17). Further, there are no contraindications to LARCs for adolescents, nulliparous or nursing women. The continuation rates for LARC methods, including Copper IUD, levonorgestrel IUS and implants, are similar or higher than those for pills (23).

The American CHOICE study followed 9,256 women and noted that, after contraceptive guidance, most of them preferred to use LARC. Etonogestrel releasing implant was the method preferred by teenagers and intrauterine devices (IUD and IUS) the favorites of those over 18 years old. Rates of LARC continuity and satisfaction were 86% in 12 months and 77% in 24 months, while other methods (pills, ring, patches and injectable) had continuity rates ranging from 55% to 41% in 24 months. The results indicate that when barriers of cost, access and knowledge are removed, women choose the most effective methods and the least user dependent. They not only choose these methods, but also continue to use them and are very satisfied with their contraceptive choice. Perhaps CHOICE's most encouraging discovery is the potential to impact unwanted pregnancies. Increasing LARC adoption can lower unwanted pregnancy and abortion rates, which ultimately translate into better financial, economic, educational and social situations for women and their families (24).

Another important finding derived from our data is the high prevalence (30.8%) of unappropriated CM use based on the WHO Medical Eligibility Criteria (MEC). Gourdy, in a review article, suggests that combined hormonal contraception with estrogens and progestins should be avoided whatever its route of administration in women with DM who have microvascular complications such as severe retinopathy (ischemic or proliferative), active

macular edema or diabetic kidney disease with persistent proteinuria (25). In cases of DM complicated by cardiovascular or microvascular disease, the risks of prescribing such combination outweigh any advantages and a WHO MEC category 3 or 4 would be granted (17). The UK MEC for Contraceptive Use accepts the use of medroxyprogesterone quarterly, by classifying it as category 2, however Centers for Disease Control and Prevention (CDC) and WHO MEC have considered category 3 for use in patients with DM for more than 20 years or microvascular injury (17, 26, 27) These criteria represent tools helping physicians to prescribe the most acceptable and safest method of contraception for each individual woman. While it may be useful to consult different MECs for some complex conditions, prescribers should always keep in mind that these criteria are guidelines only and that their clinical judgment should always prevail (28). Importantly, contraindications to the eligibility criteria are based on expert opinion, as there are still no studies proving worse outcomes. More studies are needed so that we can understand and know what the real contraindications are.

In our study, of the 201 women interviewed, 51 (18.9%) were at risk of pregnancy. These patients had poor glycemic control with a mean HbA1c of 9.65% ± 1.79%. Pregnancy planning is essential in patients with DM, given the adverse maternal-fetal outcomes of an unplanned pregnancy. Preconception care and counseling for women with pre-pregnancy type 1 or type 2 DM is effective in improving rates of congenital malformations (16). In addition, it may improve the risk of preterm birth, admission to a neonatal intensive care unit, reduces maternal HbA1c in the first trimester of pregnancy, perinatal mortality and small-for-gestational age. A systematic review with meta-analyses showed that women who received preconception care had better HbA1c compared to those who did not attend this clinic, reduced risk of congenital malformations, reduced risk of preterm birth, and perinatal mortality (29).

We had a small sample of adolescents (n = 17; 6.3%), and 10 did not use CM. The reasons were no sexual relations so far in nine and homosexual orientation in one. The other seven patients used a contraceptive method, but only one used a LARC. Of concern, one quarter of our whole sample had a pregnancy during adolescence, which is in accordance with Brazilian data on pregnancy rates in adolescents, which had an improvement in rates recently, but still follows unfavorable (13, 30). Adolescent girls with DM rarely receive education on pregnancy and contraception due to provider limited knowledge, time or discomfort regarding sexual health discussion (15). Stevens-Simon and collaborators evaluated a cohort of 373 participants in a comprehensive, multidisciplinary, adolescent-oriented maternity program with the objective to determine which components of the program would help teenage mothers to delay

subsequent pregnancies. The rate of new pregnancy in the first 6 months after delivery was lower in users of LARC, such as implants (0%), injectable medroxyprogesterone acetate (4%), compared to oral contraceptives (14%) or no method (23%) (31). The frequency and outcomes of pregnancy in adolescents and young adults with type 2 DM was evaluated in TODAY study (32). Despite the universal and frequent recommendation for contraception or abstinence, 10.2% of female participants were pregnant for the average of 3.8 years of study duration. Importantly, these adolescents and young women had poor pregnancy outcomes, with 26.4% of pregnancies ending in abortion, stillbirth, or intrauterine death, and 20.5% of live births having a major congenital anomaly. Notable, in this trial, per protocol, contraception or abstinence was specifically stated to be necessary for participation. The importance of contraceptive use, as well as the importance of delaying pregnancy until the HbA1c was < 6%, was again explained before randomization and verbally emphasized at each subsequent visit. However, a very low number of pregnant participants reported using CM before conception (4.8%) or remembering that they had received DM-specific counseling on adequate contraceptives (13.3%). During the last decade, LARC have been recommended by the American College of Obstetricians and Gynecologists and the American Academy of Pediatrics as a first-line contraceptive option for adolescents and young women. The main reasons to recommend LARC as the first-line choice for adolescents are the safe and reversible characteristics (11). Starting at puberty and continuing in all women with DM and reproductive potential, preconception counseling should be incorporated into routine DM care. Family planning should be discussed, and effective contraception (with consideration of LARC) should be prescribed and used until women's treatment regimen and HbA1c are optimized for pregnancy (33).

Our study had some limitations. It was carried out in a tertiary care outpatient clinic from a university hospital, with the inclusion of probably more complex and severely affected patients. This fact may explain the number of comorbidities and high values of HbA1c observed. Our assessment was performed with cross-sectional data and the results reflect the data during the survey. Data collection was affected by the Covid-19 pandemic, and during this period we performed interviews by telephone, precluding the inclusion of some patients due to incorrect phone numbers. This barrier was especially important for adolescent patients, which were in higher number in the second phase non-included subjects. The study has a variety of strengths. It represents data from most of the patients in fertile age from our institution, as we review all medical charts for a period of 6 months. Besides looking in medical charts, we were

able to interview more than 80% of our population, so our data have external validity and represent the reality of CM use among DM women being seen in the public medical system of Brazil.

Our study has practical implications. Awareness regarding preconception care and contraceptive methods use among women with DM is relevant, as 30% are in the childbearing age and almost 20% are undergoing unprotected sexual activity. Also, a very low number of our cohort were using the most effective methods. Taking our data together, it is important to promote the improvement of contraception options knowledge among our patients, but it might not be restricted to them. An improvement in the literacy regarding this issue urges to be instituted in medical schools, endocrinology residencies and continuing medical education programs in order to provide embracing care for women with DM.

Conclusion

In this sample of women with DM followed in a tertiary endocrinology outpatient clinic, one third were at childbearing age, reinforcing the importance of questioning and evaluating the reproductive health of these patients from menarche to menopause, regardless of the type of DM and comorbidities. The most commonly used CM was combined hormonal, which, according to the WHO criteria, is inappropriate for women with more than 20 years of DM and/or with micro and or macrovascular disease. Few women use the most effective methods, such as LARC, and the ones desiring to get pregnant were not with controlled blood glucose levels. Based on these results, it is necessary to institute improvements in family planning for women with DM, in addition to the implementation of public policies that guarantee access to highly effective and safe contraceptive methods.

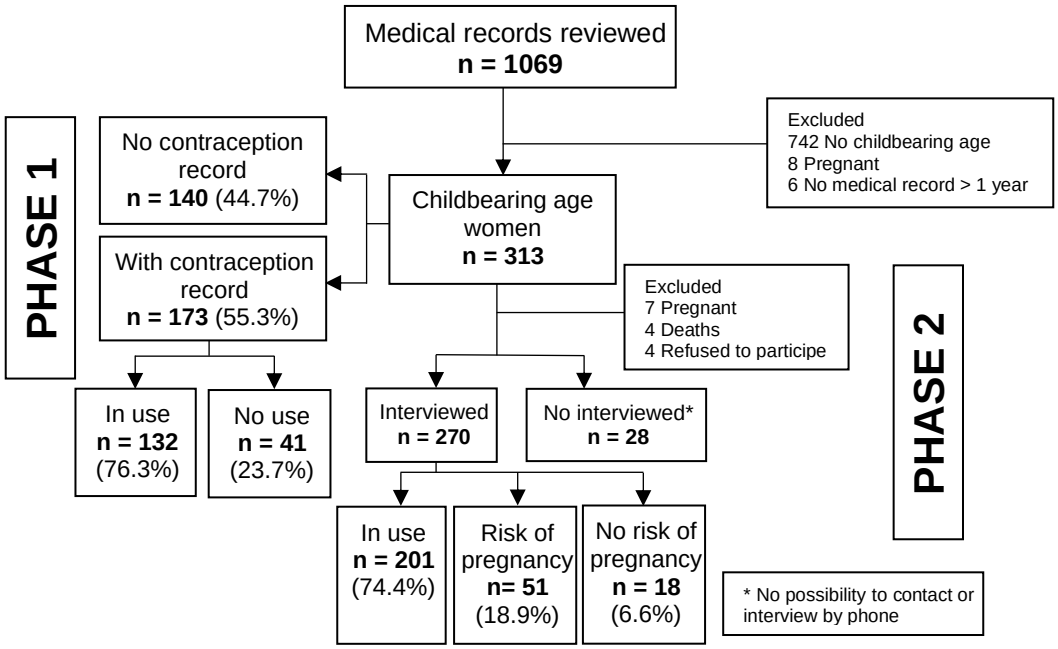
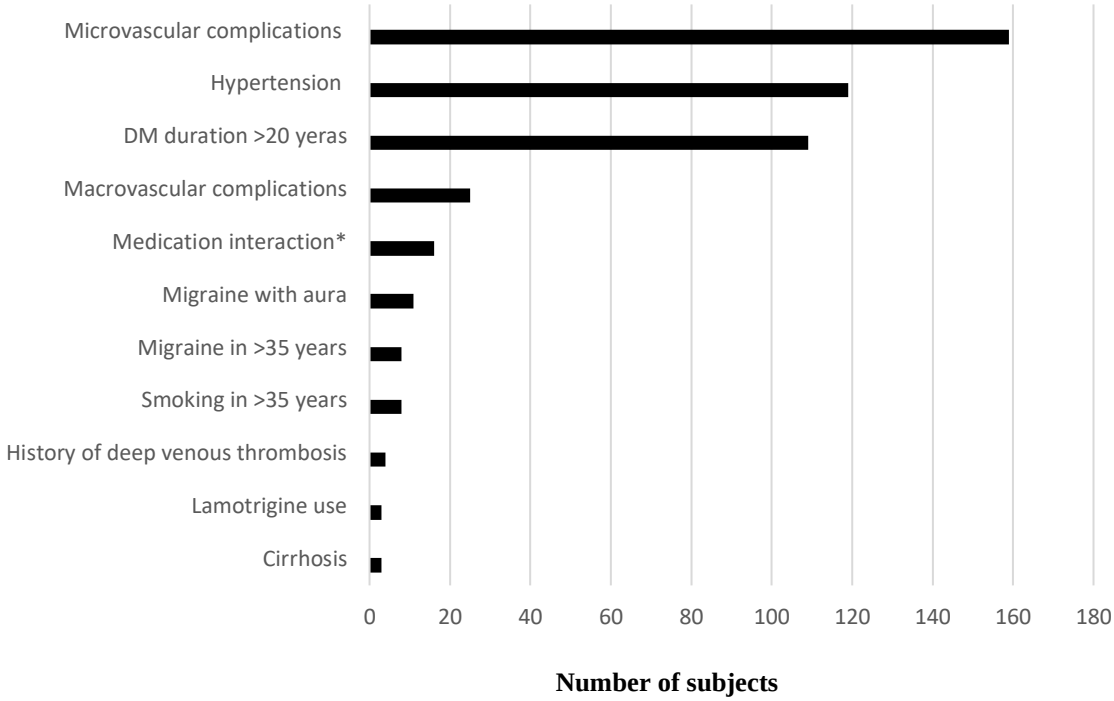


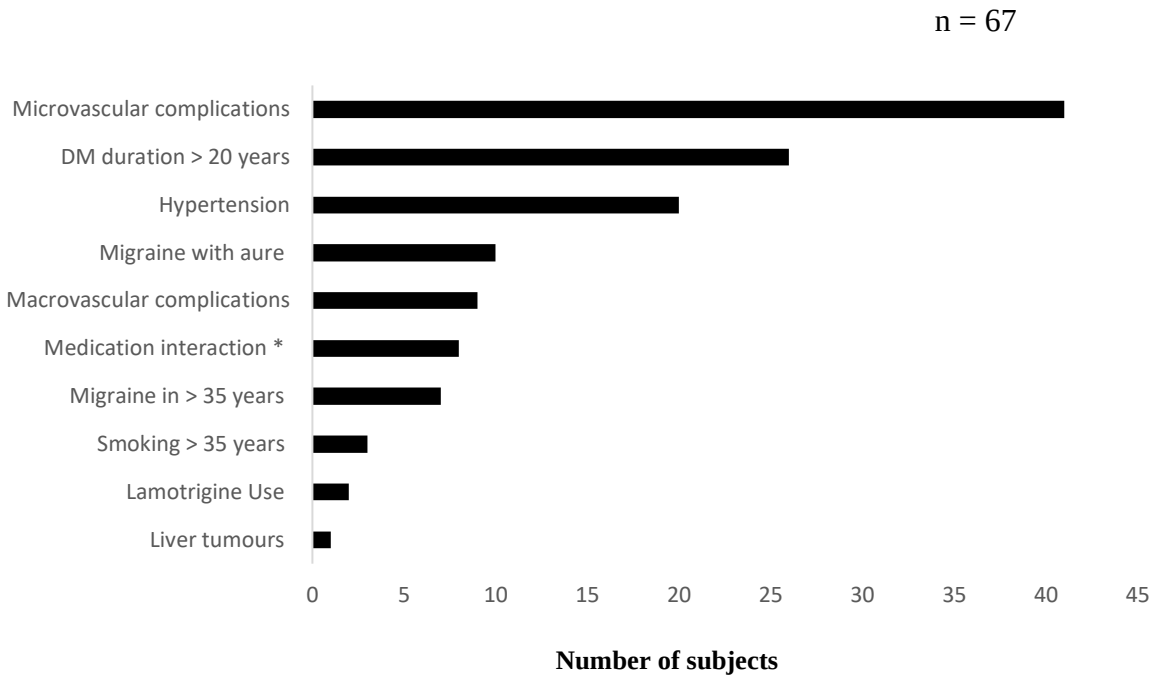
Figure 1. Study flowchart.

n = 270



* Patients on inductors of liver P450 cytochrome, DM diabetes mellitus.

Figure 2. Contraindications for contraceptive category 3 or 4 among 270 interviewed patients.



* Patients on inductors of liver P450 cytochrome, DM diabetes mellitus.

Figure 3. Contraindications for contraceptive medications in use.

Table 1. Characteristics of patients based on contraception description in the medical records

		Contraception on medical records		**p**
	All patients (n = 313)	**Yes (n = 173)**	**No (n = 140)**	
Age (years)	36.1 ± 10.5	**34.2 ± 10.1**	**38.5 ± 10.4**	**< 0.001**
Age ≤ 18 anos, n (%)	25 (8.0)	14 (8.1)	11 (7.9)	1.000
Age ≥ 40 anos, n (%)	146 (46.6)	**60 (34.7)**	**86 (61.4)**	**< 0.001**
With a partner n (%)[#]	134 (49.6)	78 (52.3)	56 (46.3)	0.385
White n (%)[##]	180 (67.4)	112 (76.2)	68 (56.7)	**0.001**
Education level ≤ 11 years, n (%)	214 (79.3)	108 (72.5)	106 (87.6)	**0.004**
DM type, n (%)				**< 0.001**
DM1	174 (55.6)	**115 (66.5) ***	59 (42.1)	
DM2	105 (33.5)	40 (23.1)	**65 (46.4) ***	
MODY	13 (4.2)	7 (4.0)	6 (4.3)	
LADA	9 (2.9)	7 (4.0)	2 (1.4)	
Other**	12 (3.8)	4 (2.3)	8 (5.7)	
DM duration (years)	13 (6-21)	13 (7-21.5)	11 (5-20)	0.118
DM duration ≥ 20 years, n (%)	100 (31.9)	58 (33.5)	42 (30.0)	0.587
Creatinine (mg/dl)	0.72 (0.62-0.87)	0.72 (0.62-0.84)	0.71 (0.61-0.91)	0.937
Systolic BP (mmHg)	123.5 ± 18.2	122.5 ± 16.9	124.7 ± 19.6	0.301
Diastolic BP (mmHg)	77.4 ± 9.6	76.8 ± 9.3	78.2 ± 10.0	0.202
Obesity, n (%)	83 (27)	**38 (22.1)**	**45 (33.3)**	**0.038**
Hypertension, n (%)	127 (40.6)	**57 (32.9)**	**70 (50.0)**	**0.003**
Microvascular disease, n (%)***	180 (59.6)	96 (56.1)	84 (64.1)	0.200
Macrovascular disease, n (%)	22 (7.0)	**6 (3.5)**	**16 (11.4)**	**0.012**

* < 0.05 in x^2 residual analysis
** Cystic fibrosis, pancreatic insufficiency, DM post-transplant
*** n = 302 (96,5%)
[#] Only for those who participated 2ª phase (n = 270)
[##] Only for those who participated in the 2nd phase, minus 3 who did not want to declare their race (n = 267)
DM: Diabetes mellitus
MODY: Maturity-onset diabetes of the young
LADA: Latent autoimmune diabetes of the adult
HbA1c: Glycated hemoglobin
BP: Blood pressure

Table 2. Characteristics of patients based on contraception use (n = 270)

		Contraceptive on use		
	All patients (n = 270)	**Yes (n = 201)**	**No (n = 51)**	**p**
Age (years)	36.5 ± 10.1	36.6 ± 9.4	33.8 ± 12.3	0.140
Age ≤ 18 anos, n (%)	17 (6.3)	**7 (3.5)**	**9 (17.6)**	**0.001**
Age ≥ 40 anos, n (%)	129 (47.8)	95 (47.3)	20 (39.2)	0.383
With a partner [#]	134 (49.6)	112 (55.7)	12 (23.5)	**< 0.001**
White [##]	180 (67.4)	141 (70.5)	30 (61.2)	0.279
Education level ≤ 11 years, n (%)	214 (79.3)	158 (78.6)	42 (82.4)	0.692
DM type, n (%)				0.281
DM1	152 (56.3)	116 (57.7)	28 (54.9)	
DM2	90 (33.3)	60 (29.9)	21 (41.2)	
MODY	11 (4.1)	11 (5.5)	0 (0.0)	
LADA	8 (3.0)	7 (3.5)	1 (2.0)	
Other**	9 (3.3)	7 (3.5)	1 (2.0)	
DM duration (years)	13.5 (6.8-22)	14 (6.5-22)	12 (6-21)	0.357
DM duration > 20 years, n (%)	109 (40.4)	81 (40.3)	18 (35.3)	0.622
HbA1c (%)	9.28 ± 2.08	9.26 ± 2.11	9.23 ± 2.02	0.918
Creatinine (mg/dl)	0.72 (0.62-0.87)	0.71 (0.62-0.82)	0.74 (0.59-0.95)	0.708
Systolic BP (mmHg)	122.8 ± 18.3	121.8 ± 16.9	127.1 ± 23.2	0.082
Diastolic BP (mmHg)	77.0 ± 9.28	76.7 ± 8.6	78,1 ± 12.1	0.487
Obesity – n (%)	76 (28.7)	57 (28.8)	14 (28.6)	1.000
Hypertension, n (%)	119 (44.1)	90 (44.8)	21 (41.2)	0.761
Microvascular disease, n (%)***	159 (60.5)	121 (61.7)	27 (55.1)	0.493
Macrovascular disease, n (%)	26 (9.6)	19 (9.5)	6 (11.8)	0.817

** Cystic fibrosis, pancreatic insufficiency, DM post-transplant
*** n = 263 (97,4%)
[#] n = 267 (98,9%)
[##] n = 264 (97,8%)

DM: Diabetes mellitus
MODY: Maturity-onset diabetes of the young
LADA: Latent autoimmune diabetes of the adult
HbA1c: Glycated Hemoglobin
BP: Blood pressure

Supplementary Table. Characteristics of patients according to inclusion or not in the second phase of the study

		Inclusion in second phase		p
	All patients (n = 313)	**Yes (n = 270)**	**No (n = 43)**	
Age (years)	36.1 ± 10.5	36.6 ± 10.1	33.1 ± 12.2	0.083
Age ≤ 18 anos, n (%)	25 (8.0)	**17 (6.3)**	**8 (18.6)**	**0.012**
Age ≥ 40 anos, n (%)	146 (46.6)	129 (47.8)	17 (39.5)	0.400
DM type, n (%)				0.814
DM1	174 (55.6)	152 (56.3)	22 (51.2)	
DM2	105 (33.5)	90 (33.3)	15 (34.9)	
MODY	13 (4.2)	11 (4.1)	2 (4.7)	
LADA	9 (2.9)	8 (3.0)	1 (2.3)	
Others**	12 (3.8)	9 (3.3)	3 (7.0)	
DM duration (years)	13 (6-21)	**13.5 (6.8-22)**	**10 (3-16)**	**0.005**
DM duration > 20 years, n (%)	100 (31.9)	90 (33.3)	10 (23.3)	0.254
HbA1c (%)	9.32 ± 2.12	9.28 ± 2.08	9.59 ± 2.37	0.398
Creatinine (mg/dl)	0.72 (0.62-0.87)	0.72 (0.62-0.87)	0.72 (0.60-0.88)	0.931
Obesity – n (%)	83 (27)	76 (28.7)	7 (16.7)	0.149
Creatinine (mg/dl)	0.72 (0.62-0.87)	0.72 (0.62-0.87)	0.72 (0.60-0.88)	0.931
Hypertension, n (%)	127 (40.6)	113 (41,9)	14 (32.6)	0.324
Microvascular disease, n (%)***	180 (59.6)	159 (60.5)	21 (53.8)	0.542
Macrovascular disease, n (%)	22 (7)	19 (7)	3 (7)	1.000

** Cystic fibrosis, pancreatic insufficiency, DM post-transplant
*** n = 302 (96,5%)
DM: Diabetes mellitus
MODY: Maturity-onset diabetes of the young
LADA: Latent autoimmune diabetes of the adult
HbA1c: Glycated Hemoglobin
BP: Blood Pressure

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3 CONSIDERAÇÕES FINAIS

Nosso estudo tem implicações práticas e apresenta dados com validade externa, representando a realidade do uso de métodos anticoncepcionais por mulheres com *diabetes mellitus* (DM) atendidas na rede pública de saúde do Brasil. A conscientização sobre os cuidados pré-concepcionais e o uso de métodos anticoncepcionais entre as mulheres com DM é relevante, pois 30% estão em idade reprodutiva e quase 20% dessas estão em atividade sexual desprotegida. Além disso, um percentual baixo destas pacientes estava em uso de métodos com maior efetividade, como dispositivo/sistema intrauterino ou implante.

Tendo em vista os dados obtidos, é notória a necessidade de promover o conhecimento sobre anticoncepção nas pacientes com DM, tanto para a equipe assistente, quanto para a população envolvida. Uma melhora na abordagem dessa temática necessita ser instituída em faculdades de medicina, residências em endocrinologia e programas de educação médica continuada, a fim de oferecer um atendimento abrangente à mulher com DM.

Políticas públicas direcionadas a adolescentes e mulheres com DM devem ser instituídas a fim de garantir o acesso a métodos contraceptivos seguros e eficazes. A prática de "*Advocacy"*, termo do inglês que significa defesa e argumentação em favor de uma causa ou um processo de reivindicação de direitos que tem por objetivo influir na formulação e implementação de políticas públicas que atendam às necessidades da população (1), se aplica de forma adequada (2). Os profissionais de saúde envolvidos no atendimento dessas pacientes, assim como sociedades científicas relacionadas com o DM e organizações civis de pacientes tem o dever de influenciar e promover essas mudanças.

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