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NURSING ASSISTANCE IN PRIMARY HEALTH CARE FOR PREGNANT WOMEN WITH GESTATIONAL DIABETES: INTEGRATIVE REVIEW

Assistência de enfermagem na atenção primária à saúde a gestantes com diabetes gestacional: revisão integrativa

Asistencia de enfermería en atención primaria de salud a mujeres embarazadas con diabetes gestacional: revisión integrativa

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ABSTRACT

Objectives: to analyze the evidence available in the literature on nursing care in Primary Health Care for the glycemic control of pregnant women diagnosed with gestational diabetes mellitus. **Methods:** an integrative review study carried out in Pubmed, Scopus, Web of Science, LILACS and CINAHL databases, in August 2022. The search was performed in a paired manner. **Results:** nine studies were selected that provided information on nursing care for the control of gestational diabetes mellitus. The following categories emerged: strategies to improve care/intervention outcomes and professionals' perceptions of interventions to improve health care. **Conclusion:** interprofessional team communication, use and access to material, professional and educational resources, encouraging adherence to treatment and individualized care can be useful for the proper management of gestational diabetes.

DESCRIPTORS: Primary Health Care; Nursing Care; Nursing; Pregnant Women; Diabetes, Gestacional.

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RESUMO

Objetivos: analisar as evidências disponíveis na literatura sobre a assistência de enfermagem na Atenção Primária à Saúde para o controle glicêmico de gestantes com diagnóstico de diabetes mellitus gestacional. **Métodos:** estudo do tipo revisão integrativa realizada nas bases de dados Pubmed, Scopus, Web of Science, LILACS e CINAHL, no período de agosto de 2022. A busca foi realizada de forma pareada. **Resultados:** foram selecionados nove estudos que trouxeram informações sobre a assistência de enfermagem para o controle do diabetes mellitus gestacional. Emergiram as seguintes categorias: estratégias para melhorar os resultados do cuidado/intervenção e percepções dos profissionais frente às intervenções para melhorar os cuidados à saúde. **Conclusão:** a comunicação da equipe interprofissional, a utilização e acesso aos recursos materiais, profissionais e educacionais, estímulo à adesão ao tratamento e atendimento individualizado podem ser úteis para o manejo adequado do diabetes gestacional.

DESCRITORES: Atenção Primária à Saúde; Cuidados de Enfermagem; Enfermagem; Gestante; Diabetes Gestacional.

RESUMEN

Objetivos: analizar las evidencias disponibles en la literatura sobre los cuidados de enfermería en la Atención Primaria de Salud para el control glucémico de las gestantes con diagnóstico de diabetes mellitus gestacional. **Métodos:** estudio de revisión integradora realizado en las bases de datos Pubmed, Scopus, Web of Science, LILACS y CINAHL, en agosto de 2022. La búsqueda se realizó de forma pareada. **Resultados:** se seleccionaron nueve estudios que trajeron información sobre los cuidados de enfermería para el control de lo diabetes mellitus gestacional. Surgieron las siguientes categorías: estrategias para mejorar los resultados de la atención/intervención y las percepciones de los profesionales sobre las intervenciones para mejorar la atención de la salud. **Conclusión:** la comunicación del equipo interprofesional, el uso y acceso a los recursos materiales, profesionales y educativos, fomentando la adherencia al tratamiento y la atención individualizada pueden ser útiles para el manejo adecuado de lo diabetes gestacional.

DESCRIPTORES: Atención Primaria de Salud; Atención de Enfermería; Enfermería; Mujeres Embarazadas; Diabetes Gestacional.

INTRODUCTION

Primary Health Care (PHC) is characterized by a set of individual and collective actions that include health promotion and protection, disease prevention, diagnosis, treatment and rehabilitation, seeking to develop comprehensive care and people's autonomy.[1]

In the context of Women's and Children's Health, PHC must offer quality care, in which the bond established between professionals and pregnant women is essential for their adherence to the Prenatal Care Program.[2]

Access to the program is fundamental for comprehensive care for pregnant women, in which their capture for the beginning of prenatal care should include disease prevention, health promotion and treatment of problems that may occur in the gestational and postpartum period.[2] The timely initiation of this care contributes to early diagnosis and appropriate interventions to prevent damage to the health of women and the fetus, contributing to the reduction of high morbidity and mortality rates.[2]

Among the early diagnoses during this period is Gestational Diabetes Mellitus (GDM), a metabolic disease, in which there is carbohydrate intolerance, diagnosed for the first time during pregnancy, not fulfilling diagnostic criteria for Diabetes Mellitus (DM) outside pregnancy.[3] It is responsible for high rates of morbidity and mortality, especially macrosomia and fetal malformations, which increases the rate of surgical deliveries, birth trauma and increased mortality.[3]

Pregnant women need specialized care, in addition to the support provided within their territories and, eventually, even in secondary or tertiary referral services in units that provide specific care.[4] However, it is the coordination of PHC that enables pregnant women to remain linked to the area, so that care, even if shared, should continue to be provided by the unit of origin, through medical and nursing consultations.[4]

In view of the numerous complications that GDM can cause to the mother and child binomial, the importance of interprofessional care is emphasized, focusing on welcoming, accountability and bonding, in which nursing can play a relevant and fundamental role, based on singularity and integrality.[4-5] In this context, we aimed to analyze the evidence available in the literature on nursing care in PHC for the glycemic control of pregnant women diagnosed with GDM.

METHOD

This is an Integrative Review (IR) study that followed the following steps: 1) definition of the review question; 2) search and selection of primary studies; 3) extraction of data from primary studies; 4) critical evaluation of the primary studies included in the review; 5) synthesis of the review results and 6) presentation of the review.[6]

The study protocol was registered in the Figshare repository in June 2022, under the registration: https://doi.org/10.6084/m9.figshare.20069465.v2.7.

In step 1, the formulation of the guiding question was based on the PICO strategy (acronym for Patient-Intervention-Comparison-Outcomes) to describe the following elements: P (population) pregnant women with gestational diabetes; I

(intervention) nursing care in Primary Health Care; C (comparison) does not apply to the study and O (outcome of interest) glycemic control.8 Thus, the question of this IR is presented: "What evidence is available in the literature on nursing care in PHC for glycemic control of pregnant women with GDM?".

Regarding step 2, primary articles were included in Portuguese, English and Spanish, published from May 1, 2011 to July 31, 2022 and excluded review articles; single case study method; expert opinion; research protocols; experience report; letter to the editor and pilot study.

The search was conducted in August 2022 in the following databases: PubMed (digital biomedical and health sciences archives of the US National Institutes of Health), Scopus (Elsevier), Web of Science, LILACS (Latin American and Caribbean Health Sciences Literature) and CINAHL (Cumulative Index to Nursing and Allied Health Literature). For the searches, descriptors controlled by Medical Subject Headings (MeSH), Descriptors in Health Sciences (DeCS) and CINAHL Subject Headings combined with keywords were used. In addition, in order to ensure a broad search, the descriptors were combined with the help of the Boolean operators AND and OR as shown in Table 1.

After cross-referencing, the studies were transported to the EndNote Basic reference manager software and then to the Rayyan QCRI web application of the Qatar Computing Research Institute, which were independently selected and analyzed by two reviewers and in case of disagreement regarding the inclusion of studies, a third reviewer was contacted.[9-10]

In stage 3, to extract information from the included studies, a script prepared by the authors was used, subjected to face and content validation, which includes the following items: study identification, methodological characteristics, main results and conclusion.[11]

In step 4, the critical appraisal tool for quantitative studies was used to evaluate the studies and classify the levels of evidence.[12] For qualitative studies, the methodological evaluation tool for qualitative studies called Critical Appraisal Skills Program (CASP) was used, which has the Qualitatve Research Checklist, with ten items.[13]

The selected studies were classified according to the framework proposed by the authors, which assesses the level of evidence of each study and allows the researcher to analyze different types of methods.[14] According to these authors, the clinical question can be: (a) of significance (with five levels of evidence), (b) of prognosis, prediction or etiology (with five levels of evidence) and (c) of intervention, treatment or diagnosis/diagnostic test (with seven levels of evidence).[14]

RESULTS AND DISCUSSION

A total of 1,864 publications were found in the databases, with 182 duplicate records and 113 excluded because they were secondary studies (reviews), resulting in 1,569 selected articles. Of these articles, 1519 were excluded that did not meet the inclusion criteria, 50 were selected as eligible, of which nine were not included because it was not clear the

Chart 1- Combination of controlled and uncontrolled descriptors that composed the search strategies. Alfenas, Minas Gerais, Brazil, 2022.

Database	Search
PubMed, Scopus, Web of Science	("Pregnant Women" OR "Gravidity" OR "Gestation") AND ("Diabetes, Gestational" OR "Diabetes Mellitus, Gestational" OR "Diabetes, Pregnancy Induced") AND ("Nursing care" OR "Primary Care Nursing" OR "Public Health Nursing" OR "Primary Nursing" OR "Primary Health Care" OR "Health Promotion" OR "Health Education" OR "Prenatal Care")
CINAHL	("Expectant Mothers") AND ("Diabetes Mellitus, Gestational") AND ("Nursing Care" OR "Primary Health Care" OR "Community Health Nursing" OR "Primary Nursing" OR "Health Promotion" OR "Health Education" OR "Prenatal Care")
LILACS	
(Portuguese)	("Gestantes" OR "Gestação") AND ("Diabetes Gestacional" OR "Diabetes Induzida pela Gravidez") AND ("Cuidados de Enfermagem" OR "Enfermagem de Atenção Primária" OR "Enfermagem em Saúde Pública" OR "Enfermagem Primária" OR "Atenção Primária à Saúde" OR "Promoção da Saúde" OR "Educação em Saúde" OR "Cuidado Pré-Natal")
(Spanish)	("Mujeres Embarazadas" OR "Embarazo") AND ("Diabetes Gestacional" OR "Diabetes Inducida por Embarazo") AND ("Atención de Enfermería" OR "Enfermería de Atención Primaria" OR "Enfermería en Salud Pública" OR "Enfermería Primaria" OR "Atención Primaria de Salud" OR "Promoción de la Salud" OR "Educación en Salud" OR "Atención Prenatal")
(English)	("Pregnant Women" OR "Gestation") AND ("Diabetes, Gestational" OR "Diabetes, Pregnancy Induced") AND ("Nursing Care" OR "Primary Care Nursing" OR "Public Health Nursing" OR "Primary Nursing" OR "Primary Health Care" OR "Health Promotion" OR "Health Education" OR "Prenatal Care")

Source: created by the authors (2022).

participation of the nursing professional and 32 because the actions were related to the secondary care level, including nine articles (Figure 1).

The flowchart proposed by the recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) was used to present the selection path of the studies, as shown in Figure 1.[15]

Of the nine included studies, one (11.11%) was published in 2011,[16] and the same number in 2019,[17] 2020,[18] 2021[19] and 2022[20] respectively, while two (22.22%) in 2014[21-22] and 2018.[23-24]

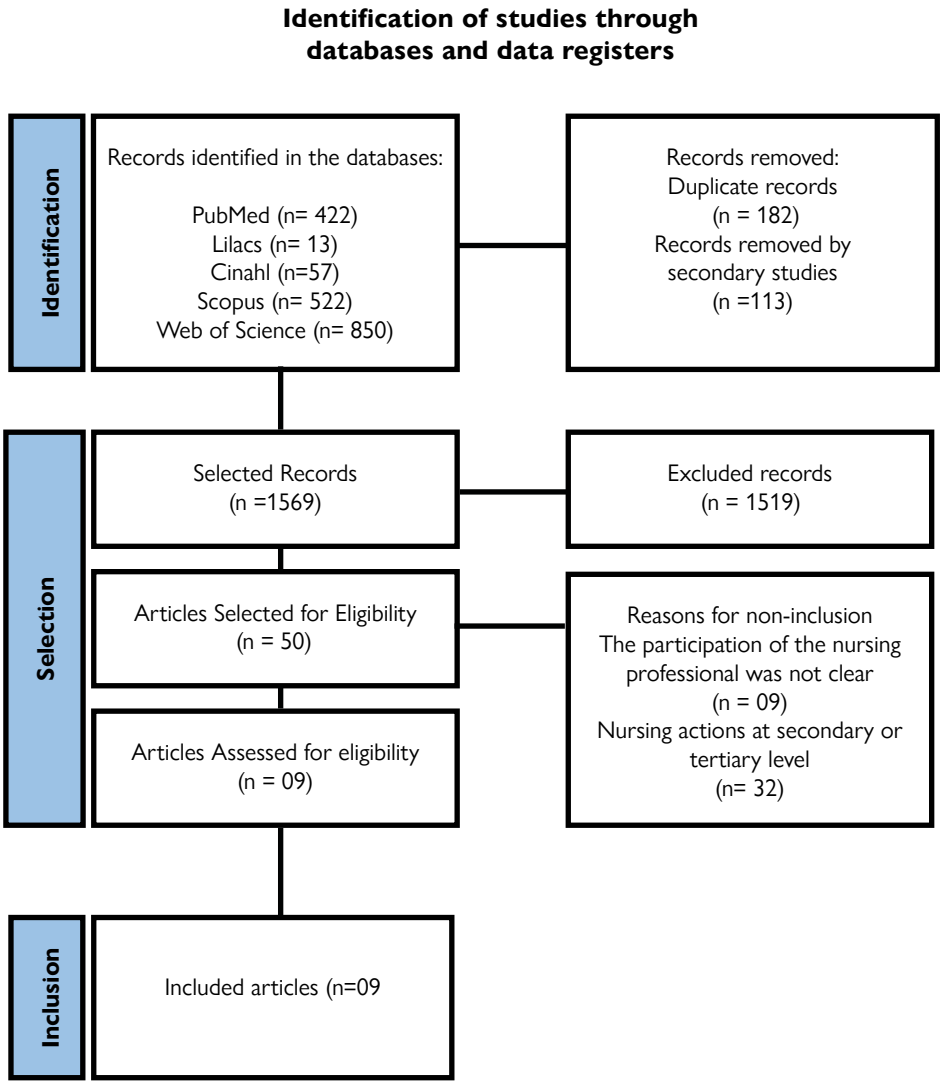
Regarding language, all articles were published in English, and the countries of development of the articles were: two (22.22%) in Australia21-22 and Morocco[18,24], while one (11.11%) in the United States[17], Iran[23], Norway,[19] New Zealand20 and Sweden.[16]

Regarding the type of clinical question, seven (77.77%)[16-21,23] of the included studies were of significance (a) and level of evidence II, while among those classified as intervention, treatment or diagnosis/diagnostic test (c), one (11.11%) presented level of evidence II[24] and one (11.11%) level of evidence VI.[22]

The information collected from the articles is presented in the form of a table (Chart 2) with the following characteristics: article identification, database in which they were found, author(s), year of publication, level of evidence, objective and conclusion.

Regarding the analysis of methodological quality, articles 1, 2, 4, 6, 7, 8 and 9 met the questions of the proposed items of the CASP instrument13. In relation to the instrument for critical evaluation of quantitative studies12, articles 3 and 5 obtained a good evaluation in methodological rigor, that is, they answered positively to the questions of the instrument.

Figure 1- Combination of controlled and uncontrolled descriptors that composed the search strategies. Alfenas, Minas Gerais, Brazil, 2022.



Source: Prisma flowchart according to Page, Mckenzie, Bossuyt, Boutron, Hoffmann, Mulrow, et al. (2020).

The studies were discussed according to the following categories:

I.Strategies to improve care/intervention outcomes

In the context of care for women with GDM, health professionals have been searching for innovative ways of care, i.e. strategies that can implement care and result in better health conditions for the mother-child binomial.

An effectiveness implementation trial performed screening and management of GDM at the primary level of care, where women were referred for testing to an external labo-

Chart 2- Data regarding the identification of the article, the database in which they were found, the authors, the year of publication, the type of study, the level of evidence, the objective and the conclusion. Alfenas Minas Gerais, 2022.

Id/Base/ YearId/Base/Year	Title	Authors	Type of study	NE	Objective	Conclusion
1 PubMed 2011	"Mission impossible"? midwives' experiences counseling pregnant omenwith gestational diabetes mellitus.[16]	Persson M, Hörnsten A, Winkvist A, Mogren I.	Qualitative	II(a)*	Exploring the experiences of midwives in providing antenatal care and counseling to pregnant women with GDM	The midwives reported conflicts during the meetings, so they sought to intensify surveillance of the mother and fetus mother and fetus, motivating necessary changes in lifestyle and self-management.
2 Web of Science 2014	Diabetes nurse educators' experiences of providing care for women, with gestational diabetes mellitus, from disadvantaged background.[21]	Carolan, M.	Qualitative	II(a)	To explore the experiences of nurses in caring for women with GDM from disadvantaged backgrounds and to gather information that would help in the development of an educational program.	The nurses sought to connect with the women in their care and make the educational content understandable and meaningful
3 Web of Science 2014	Improving health service delivery for women with diabetes in pregnancy in remote Australia: survey of care in the Northern Territory diabetes in pregnancy partnership.[22]	Edwards L, Connors C, Whitbread C, Brown A, Oats J, Maple-Brown L, et al.	Descriptive quantitative	VI(c)**	To assess the current provision of health services for Northern Territory women with GDM by surveying the views and practices of health professionals in the screening and management of GDM.	Several challenges have been identified in providing healthcare to a high-risk population, however many healthcare professionals report following new guidelines in conducting screening of this population
4 Web of Science 2018	Self-care education needs in gestational diabetes tailored to the iranian culture: a qualitative content analysis.[23]	Kolivand M, Keramat A, Rahimi M, Motaghi Z, Shariati M, Emamian M.	Qualitative	II(a)	Determining women's needs as a first step towards formulating a self-care guide suitable for Iranian culture.	According to the needs pointed out, self-care educational programs should prioritize physical activities, mental health, religious beliefs and the role of the family

5 Pubmed 2018	Detection and initial management of gestational diabetes through primary health care services in Morocco: an effectiveness implementation trial.[24]	Utz B, Assarag B, Smekens T, Ennassiri H, Lekhal T, Ansari NE, et al.	Randomized controlled	II(c)	To test the hypothesis that early detection and management of GDM in primary care would reduce the incidence of macrosomia and lower birth weight of newborns.	Detection of GDM and antenatal care at primary health care facilities may have a positive impact on newborn birth weight, but results are inconclusive.
6 Web of Science 2019	Perspectives on barriers and facilitators in caring for women with gestational diabetes in rural Appalachia.[17]	Chertok IRA, Silk JJ, Kulasa KA.	Qualitative	II(a)	Explore the perspectives of health care providers in rural Appalachia who care for pregnant women with GDM, including management facilitators and barriers	Lack of understanding and perception of the risks of GDM were barriers to care. Communication, teamwork and cultural consideration facilitate care
7 Pubmd 2020	Implementation of a new program of gestational diabetes screening and management in Morocco: a qualitative exploration of health workers' perceptions.[18]	Utz B, Assarag B, Lekhal T, Damme WV, Brouwere V.	Qualitative	II(a)	To assess the acceptability of health care providers following a locally adapted screening and management approach for GDM through antenatal care services at the primary level of care.	Nurses adapted dietary recommendations to women's socioeconomic context and felt more empowered for the detection and management of GDM
8 Web of Science/2021	Women's experience with receiving advice on diet and self-monitoring of blood glucose for gestational diabetes mellitus: a qualitative study.[19]	Helmersen M, Sorensen M, Lukasse M, Laine HK, Garnweidner-Holme L.	Qualitative	II(a)	To explore how women with GDM experience dietary counseling and self-monitoring of blood glucose received in primary health care and secondary health care.	Immigrant women felt that PHC midwives provided them with sufficient dietary advice, while Norwegian women sought the secondary care service
9 Web of Science 2022	Midwifery awareness of diabetes in pregnancy screening guidelines in Aotearoa New Zealand.[20]	Chepulis L, MorisonB, Tamatea J, Paul R, Wolmara L,Martis R.	Descriptive quantitative	II(a)	Exploring midwives' knowledge of the New Zealand Ministry of Health's GDM screening guidelines	New Zealand's GDM screening guidelines are not well implemented. Education about the importance of screening for all women is needed

Source: created by the authors (2022). *(a) level of evidence of significance **(c) level of evidence of intervention, treatment or diagnosis/ diagnostic test.

ratory, which delayed diagnosis and subsequent care.[24] In the intervention group, nurses tested women for GDM, either by fasting blood glucose before 24 weeks or oral glucose tolerance test (OGTT) of 75 g in the second trimester of pregnancy. In case of GDM detection, the pregnant women received nutritional counseling and were followed up four or two times a month until eight weeks postpartum through the health center.[24] The results of this study positively impacted neonatal birth weight and maternal weight gain, showing that the intervention group had no complications at delivery (86.4%) and neither for the newborn (84.8%), most were born at the appropriate gestational age (59.3% between 40 and 42 weeks of gestation) and vaginal delivery (79.7%). The study shows the importance of early screening and management approach that enables interventions through PHC.[24]

In another study, health professionals identified the following risk factors for GDM: personal history of abnormal glucose tolerance, Aboriginal or Torres Strait Islander ethnicity, family history of diabetes or GDM, obesity and previous macrosomia.[22] With regard to antenatal care, the most commonly used screening test for GDM was the 75 g TTOG, in addition to random blood glucose level, glycated hemoglobin, fasting blood glucose and the 50 g TTOG.[22]

In a study of midwives, participants agreed that screening for glycated hemoglobin should be completed before 20 weeks.[20] However, there was a divergence between the statements of professionals, who reported having no challenges in screening for GDM, and women, who complained of side effects when performing the test, such as vomiting, malaise, in addition to the time of performance and accessibility to the test.20 Other midwives reported that women expressed feelings of "anguish" or "fear" when confirming the diagnosis of GDM.[20] When asked what could make GDM screening easier, most midwives said they would like to see feasible and effective alternatives to TTOG and better handouts/resources made available to women.[20] Others suggested streamlining screening by including only one test for GDM rather than two as recommended.[20]

According to the Brazilian Society of Diabetes (SBD) guideline, screening for GDM should occur at the first prenatal visit without knowledge of a previous diagnosis of DM.[3] It is recommended to request fasting plasma glucose, with the aim of detecting DM and GDM, in which the additional request of glycated hemoglobin can be considered.[3] It is recommended that the diagnostic investigation of GDM be performed between the 24th and 28th week of gestation, by performing the TTOG, with measurement of fasting plasma glucose, 1 and 2 hours after ingestion of 75 g of anhydrous glucose for all without previous diagnosis of DM, regardless of the presence of risk factors.[3]

A qualitative study identified four themes: awareness and skills (knowing about diabetes, training and empowerment of mothers, continuity and quality, information resources), lifestyle (healthy eating, physical activity), mental health (counseling, interaction, spirituality and religion) and supportive family (the unique role of the husband, the psychological atmosphere at home).[23] The study reveals needs for educational interventions in the domains: health promotion, quality of life, interpersonal relationships, mental health, religious interests and self-care applied in the home/family context. The diverse needs brought by pregnant women demonstrate the importance of Person-Centered Care.[23]

The term "Person-Centered Care" is most appropriately used in PHC and refers to professional partnerships with patients based on interaction and understanding of the needs and problems they experience.[25]

In this understanding, in addition to performing tests and Person-Centered Care, professionals can guide their care through instruments, as pointed out in a study that validated an instrument to assist in the nursing consultation of pregnant women with GDM.[26] It was considered valid to favor the promotion of quality of life, adoption of life habits and self-care practices, in addition to glimpsing emotional, psychological and social aspects that can influence endocrine changes in pregnancy.[26]

In this sense, in relation to strategies to improve the results of care/intervention are: the use of early tests (TTOG, fasting glycemia and glycated hemoglobin), importance to mental health, lifestyle, family support and interpersonal interaction between professional and pregnant woman.

II.Professionals' perceptions of interventions to improve health care

Assessing the perceptions of health professionals can contribute to understanding facilitators and barriers to the care of women with GDM. In a study involving nurses with postgraduate degrees in diabetes education and care, professionals reported challenges such as work overload and the high number of women with limited literacy and English language skills, as well as cultural factors, which corroborated lower adherence to treatment.[21] The importance of nurses in health education is emphasized, who must pay attention to the limitations of understanding of their target audience, so that they can provide more accessible guidance and thus facilitate the successful self-management of GDM.[21]

In addition, professionals highlighted as challenges for the provision of care: high rates of staff turnover, long distances in accessing health services, little provision of preconception and postpartum care.[22] In this survey, the opinion on improvements for the services provided were: implementing education for local health professionals, need for more telephone or video conferences and hiring for increased visits to clients, bringing this as benefits for the care of pregnant women with GDM.[22]

Such care may confer additional workload due to more targeted care for GDM. This was a challenge pointed out in another study by nurses.[18] Although they reported difficulties in screening and managing GDM, they understand the importance of communication and collaboration, which helps in reorganizing the service and gaining motivation.[18] In addition,

this interaction is essential for a positive response to GDM, since partners and family played a crucial role in accepting the condition and ensuring follow-up of the pregnant woman.[18]

In a study conducted with midwives, it was highlighted that the experiences in caring for and counseling pregnant women with GDM increased the pressure on them because they saw it as their obligation to control and monitor pregnancy complications, initiate and motivate the necessary changes in lifestyle and encourage self-management with their own care, even if they needed to use the argument of fetal well-being as a strategy to increase adherence to treatment.[16] The midwives emphasized the importance of maintaining a paternalistic and respectful relationship, as well as understanding the life situation of the pregnant woman and empowering her to follow the regimen, although some preferred not to commit to the responsibilities about GDM, delegating this function to other professionals.[16]

They play a relevant role in promoting the health of these pregnant women. By considering the influence of popular knowledge and the family context for the adoption of healthy eating practices, strategies are established that allow the approximation between scientific knowledge and the culture of pregnant women and family members.[27]

In addition, a study addressed the perception of women with GDM about the care provided by health professionals.[19] Pregnant women highlighted them as important sources for GDM-related counseling, demonstrating satisfaction in the guidance for self-monitoring of blood glucose and experiencing effective counseling in PHC services.[19] However, the research pointed out the lack of communication between professionals and that, despite the provision of written material, they wanted direct guidance and associated this with the lack of time during prenatal consultations, which hindered more individualized counseling.[19]

Regarding other gaps, one of them was the barrier of interprofessional communication, bringing this as one of the main challenges found in the research. In addition, other challenges were mentioned, such as: limited resources (education, finances, transportation, adequate food and health services) and lack of adherence to recommendations, lack of time and specialists; cultural influences, including normalization of DM and food culture (poor eating habits).[17] Another point addressed was collaborative care, including accessibility to accessible professional resources (local and online) that helped in the management and screening of GDM.[17]

The studies included in this category showed different perceptions regarding interventions to improve care, which included barriers and weaknesses, such as: work overload, cultural factors that corroborate lower adherence to treatments, limited resources, failure in interprofessional communication, difficulties in screening and management of GDM. To this end, the professionals pointed out as facilitating strategies: more accessible guidelines, collaborative care, including accessibility to professional resources (local and online), family involvement, improvement and interprofessional collaboration, emphasizing the importance of the nursing team's commitment to care for pregnant women with GDM.

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CONCLUSION

This study highlighted the main strategies to improve care/intervention outcomes and professionals' perceptions to improve health care for pregnant women with GDM. Nursing care actions in Primary Health Care for glycemic control involve communication of the interprofessional team, use and access to material, professional and educational resources, stimulation of adherence to treatment and individualized care.

Knowing the effective strategies for monitoring and managing GDM and understanding the professionals' vision in this context can contribute to better glycemic control and quality of life, as well as the reduction of complications and maternal/fetal morbidity and mortality. Thus, the synthesis of the knowledge produced by this review can subsidize the nursing team in the elaboration of the shared care plan for women with GDM in PHC.

As a limitation of the study, this review included results from international research, in which the health system may have a different organization with regard to PHC, in which not all people have access to the health service, differing from the current national model-SUS. Thus, new research is suggested that focuses on the pre-gestational and postpartum cycle, at all levels of health care and to increase research on the subject in national nursing.

REFERENCES

1. Ministério da Saúde (BR). Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Política Nacional de Atenção Básica. [Internet]. 1. ed. Brasília: Ministério da Saúde; 2012 [acesso em 23 de agosto 2022]; Disponível em: https://bvsms.saude.gov.br/bvs/publicacoes/politica_nacional_atencao_basica.pdf.

2. Ministério da Saúde (BR). Protocolos da Atenção Básica: Saúde das Mulheres/ Ministério da Saúde, Instituto Sírio-Libanês de Ensino e Pesquisa. [Internet]. 1. ed. Brasília: Ministério da Saúde; 2016 [acesso em 20 de julho 2022]; Disponível em: https://bvsms.saude.gov.br/bvs/publicacoes/protocolos_atencao_basica_saude_mulheres.pdf.

3. Zajdenverg L, Façanha C, Dualib P, Golbert A, Moisés E, Calderon I, et al. Rastreamento e diagnóstico da hiperglicemia na gestação. Diretriz Oficial da Sociedade Brasileira de Diabetes [homepage na internet]. 2022 [acesso em 10 de novembro 2022];1(1). Disponível em: https://diretriz.diabetes.org.br/rastreamento-e-diagnostico-da-hiperglicemia-na-gestacao/.

4. Ministério da Saúde (BR). Secretaria de Atenção Primária à Saúde. Departamento de Ações Programáticas. Manual de gestação de alto risco. [Internet]. 1. ed. Brasília: Ministério da Saúde; 2022 [acesso em 23 de outubro 2022]; Disponível em: https://portaldeboaspraticas.iff.fiocruz.br/wpcontent/uploads/2022/03/manual_gestacao_alto_risco.pdf.

5. Almeida CAPL, Fernandes DR, Amorim FM, Veras JMMF, Oliveira ADS, Carvalho HEF, et al. O enfermeiro docente e o diabetes mellitus gestacional: o olhar sobre a formação. Enferm. foco (Brasília). [Internet]. 2019 [acesso em 18 de setembro 2022]; 10(1). Disponível em: https://doi.org/10.21675/2357-707X.2019.v10.n1.1954.

6. Mendes KDS, Silveira RCCP, Galvão, CM. Revisão integrativa: método de pesquisa para a incorporação de evidências na saúde e na enfermagem. Texto & contexto enferm. [Internet]. 2008 [acesso em 13 de julho 2022];17(4). Disponível em: https://doi.org/10.1590/S0104-07072008000400018.

7. Vieira IFO, Carvalho BMP, Gurgel, MDSL. Nursing assistance in primary care for glycemic control of pregnant women with gestational diabetes: integrative review. Figshare. [Internet]. 2022 [cited 2022 nov 05]. Available from: https://doi.org/10.6084/m9.figshare.20069465.v2.

8. Hastings C, Fisher CA. Searching for proof: creating and using an actionable PICO question. Nurs Manage. [Internet]. 2014 [cited 2022 feb 05];45(8). Available from: https://doi.org/10.1097/01.NUMA.0000452006.79838.67 .

9. EndNote basic. [homepage na internet]. 2022 [cited 2022 jul 05]. Available from: https://endnote.com/product-details/basic/.

10. Ouzzani M, Hammady H, Fedorowicz Z, Elmagarmid A. Rayyan-a web and mobile app for systematic reviews. Syst. rev. [Internet]. 2016 [cited 2022 jun 05];5(210). Available from: https://doi.org/10.1186/s13643-016-%2003844.

11. Polit DF, Beck CT. Fundamentos de pesquisa em enfermagem: avaliação de evidências para a prática da enfermagem. Porto Alegre: Artmed; 2019.

12. Law M, Stewart D, Pollock N, Letts L, Bosch J, Westmorland M. Formulário de revisão crítica–estudos quantitativos. Tradução Raquel E. Luz, Marisa C. Mancini, Rosana F. Sampaio. Belo Horizonte: Universidade Federal de Minas Gerais. [Internet]. 1998 [acesso 2021 abr 19]. Disponível em: https://www.canchild.ca/system/tenon/assets/attachments/000/000/367/original/Form_Quantitativo.pdf.

13. Healthcare BV. Critcal Appraisal Skills Programme (CASP). [Homepage na internet] 2013 [cited 2022 jun 05]. Available from: http://www.casp-uk.net/casp-tools-checklists.

14. Melnyk BM, Fineout-Overholt E. Evidence based practice in Nursing & Healthcare: A Guide to best Practice. Philadelphia: Wolters Kluwer; 2019.

15. Page MJ, Moher D, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. PRISMA 2020 explanation and elaboration: Updated guidance and exemplars for reporting systematic reviews. BMJ. [Internet]. 2021 [cited 2022 may 12];372. Available from: https://doi.org/10.1136/bmj.n160.

16. Persson M, Hörnsten Å, Winkvist A, Mogren I. "Mission impossible"? Midwives' experiences counseling pregnant women with gestational diabetes mellitus. Patient Educ Couns. [Internet]. 2011 [cited 2022 may 10]; 84(1). Available from: https://doi.org/10.1016/j.pec.2010.06.008.

17. Chertok IRA, Silk JJ, Kulasa KA. Perspectives on Barriers and Facilitators in Caring for Women with Gestational Diabetes in Rural Appalachia. MCN Am J Matern Child Nurs. [Internet]. 2019 [cited 2022 may 12];44(5). Available from: https://doi.org/10.1097/nmc.0000000000000552.

18. Utz B, Assarag B, Lekhal T, Damme WV, Brouwere V. Implementation of a new program of gestational

diabetes screening and management in Morocco: a qualitative exploration of health workers' perceptions. BMC Pregnancy Childbirth. [Internet]. 2020 [cited 2022 may 12]. Available from: https://doi.org/10.1186/s12884-020-02979-9.

19. Helmersen M, Sørensen M, Lukasse M, Laine HK, Garnweidner-Holme L. Women's experience with receiving advice on diet and Self-Monitoring of blood glucose for gestational diabetes mellitus: a qualitative study. Scand J Prim Health Care. [Internet]. 2021 [cited 2022 jun 12];39(1). Available from: https://doi.org/10.1080%2F02813432.2021.1882077.

20. Chepulis L, Morison B, Tamatea J, Paul R, Wolmarans L, Martis R. Midwifery awareness of diabetes in pregnancy screening guidelines in Aotearoa New Zealand. Midwifery. [Internet] 2022 [cited 2022 aug 19];106. Available from: https://doi.org/10.1016/j.midw.2021.103230.

21. Carolan M. Diabetes nurse educators' experiences of providing care for women, with gestational diabetes mellitus, from disadvantaged backgrounds. J Clin Nurs. [Internet]. 2014 [cited 2022 may 19]; 23(9-10). Available from: https://doi.org/10.1111/jocn.12421.

22. Edwards L, Connors C, Whitbread C, Brown A, Oats J, Maple-Brown L, et al. Improving health service delivery for women with diabetes in pregnancy in remote Australia: survey of care in the Northern Territory Diabetes in Pregnancy Partnership. Aust N Z J Obstet Gynaecol. [Internet]. 2014 [cited 2022 may 05];54(6). Available from: https://doi.org/10.1111/ajo.12246.

23. Kolivand M, Keramat A, Rahimi M, Motaghi Z, Shariati M, Emamian M. Self-care Education Needs in Gestational Diabetes Tailored to the Iranian Culture: A Qualitative Content Analysis. Iran J Nurs Midwifery Res. [Internet]. 2018 [cited 2022 may 07];23(3). Available from: https://doi.org/10.4103/ijnmr.ijnmr_108_17.

24. Utz B, Assarag B, Smekens T, Ennassiri H, Lekhal T, El Ansari N, et al. Detection and initial management of gestational diabetes through primary health care services in Morocco: An effectiveness-implementation trial. PLoS ONE. [Internet]. 2018 [cited 2022 may 22];13(12). Available from: https://doi.org/10.1371/journal.pone.0209322.

25. Starfield B. Is patient-centered care the same as person-focused care? Perm J. [Internet]. 2011 [cited 2022 may 03];15(2). Available from: https://doi.org/10.7812%2Ftpp%2F10-148.

26. Filgueiras TF, Silva RA, Pimenta CJL, Filgueiras TF, Oliveira SHS, Castro RCM. Instrument for nursing consultation to pregnant women with diabetes mellitus. Rev Rene (Online). [Internet]. 2019 [cited 2022 may 03];20(1). Available from: https://doi.org/10.15253/2175-6783.20192040104.

27. Junges CF, Ressel LB, Monticelli M. Amongst wishes and possibilities: eating habits of pregnant women from an urban community in Southern Brazil. Texto Contexto Enferm. [Internet]. 2014 [cited 2022 jun 03];23(2). Available from: https://doi.org/10.1590/0104-07072014000210013.