

# Educational actions for preventing pregnancy-related complications

## *Ações educativas para prevenção de complicações relacionadas à gestação*

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### RESUMO

**Objetivo:** identificar e descrever as evidências científicas sobre o uso de estratégias educativas na prevenção das complicações na gestação. **Método:** trata-se de uma revisão integrativa, realizada de abril a julho de 2018. Foram selecionados artigos em português, inglês ou espanhol. **Resultados:** amostra final constituiu de 27 artigos, que emergiram cinco categorias: indicadores de qualidade e satisfação da gestante na assistência pré-natal, educação em saúde, estudos de revisão na literatura, instrumento de orientação e relato de experiência profissional. **Conclusão:** a construção e utilização de tecnologias em saúde na prática assistencial ao pré-natal de baixo e alto risco podem viabilizar aos profissionais uma assistência de qualidade e contribuir positivamente com os indicadores de mortalidade materno-fetal.

**Descritores:** Complicações na Gravidez; Educação em Saúde; Cuidado Pré-Natal; Promoção da Saúde.

### ABSTRACT

**Objective:** to identify and describe the scientific evidence on the use of educational strategies for preventing complications during pregnancy. **Method:** this is an integrative review, which was performed from April to July 2018. We selected papers in Portuguese, English or Spanish. **Results:** the final sample consisted of 27 papers, which arose five categories: quality indicators and satisfaction of pregnant women in prenatal care, health education, literature review studies, guidance tool and professional experience report. **Conclusion:** the development and use of health technologies in low-risk and high-risk prenatal care practices can allow professionals to provide a quality care and contribute positively to maternal-fetal mortality indicators.

**Descriptors:** Pregnancy Complications; Health Education; Prenatal Care; Health Promotion.

### NOTA

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## INTRODUCTION

Prenatal care is essential during gestation, making it possible to provide guidelines and early detection of preventable changes and complications, improving indicators of maternal and infant morbidity and mortality <sup>(1)</sup>. An international report pointed to global maternal mortality (MM), with an estimated 303,000 deaths in 2015, with developing countries with the highest rates <sup>(2)</sup>. The Ministry of Health (MS) states that the objective of prenatal care is to ensure the development of gestation, allowing delivery of a healthy newborn, with no impact on maternal health, including addressing psychosocial aspects and educational and preventive activities <sup>(3)</sup>.

In the improvement of maternal and child indicators, the Brazilian Ministry of Health implemented the Prenatal and Birth Humanization Program (PHPN), with strategies to improve access, coverage and quality of prenatal care and delivery and puerperium care <sup>(4)</sup>. In the perspective of acting directly in the prevention of pregnancy-related complications, the MS points out the importance of pregnant women and companions having contact with education activities, asking questions and sharing experiences that are not normally discussed in formal consultations, in doctors' offices, with nurses or dentists <sup>(5)</sup>.

Thus, the assistance of nurses during the pregnancy-puerperal cycle is essential in the preservation and maintenance of maternal-fetal health, with legal support and technical-scientific knowledge. The main role of the nurses is to guide women and their families on the importance of prenatal care, to carry out educational activities and to identify some warning signs for immediate intervention <sup>(6)</sup>. Therefore, the use of educational material can be a relevant tool for this professional with regard to health promotion, teamwork and the best indicators of care <sup>(7)</sup>. In this context, the present study aimed to identify and describe the scientific evidence on the use of educational strategies in the prevention of complications during pregnancy.

## METHOD

An integrative review of the literature, carried out between April and July 2018. The stages for the development of the study were: identification of the problem and definition of the relevant hypothesis or question; establishment of criteria for inclusion and exclusion; definition of the information to be extracted from the selected studies; evaluation of included publications; interpretation and presentation of the knowledge synthesis <sup>(8)</sup>. The guiding question was: what are the educational actions for pregnant women during prenatal care in the prevention of complications during pregnancy?

The search for articles was carried out in the

electronic databases of the National Library of Medicine (PubMed), Latin American and Caribbean Literature in Health Sciences (LILACS), Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Scientific Electronic Library Online (SciELO). We used the Health Sciences Descriptors (DeCs): Pregnancy, Health Education, Prenatal Care and Health Promotion and Medical Subject Headings (MeSH): Pregnancy, Health Education, Prenatal Care and Health Promotion, these being integrated through the operator boolean "and".

The inclusion criteria were: articles in the Portuguese, English or Spanish languages and published between 2013 and 2018. Duplicate articles or articles that were not available in full were excluded and did not respond to the proposed objective.

The articles were selected, grouped into analysis categories, and forwarded to the EndNote reference manager. We used instruments to collect data about the information considered important for this study, such as: authors, title, periodical, year of publication, country, location database, objective, method, main results and conclusions or recommendations. After the steps, 27 articles were included (Figure 1).

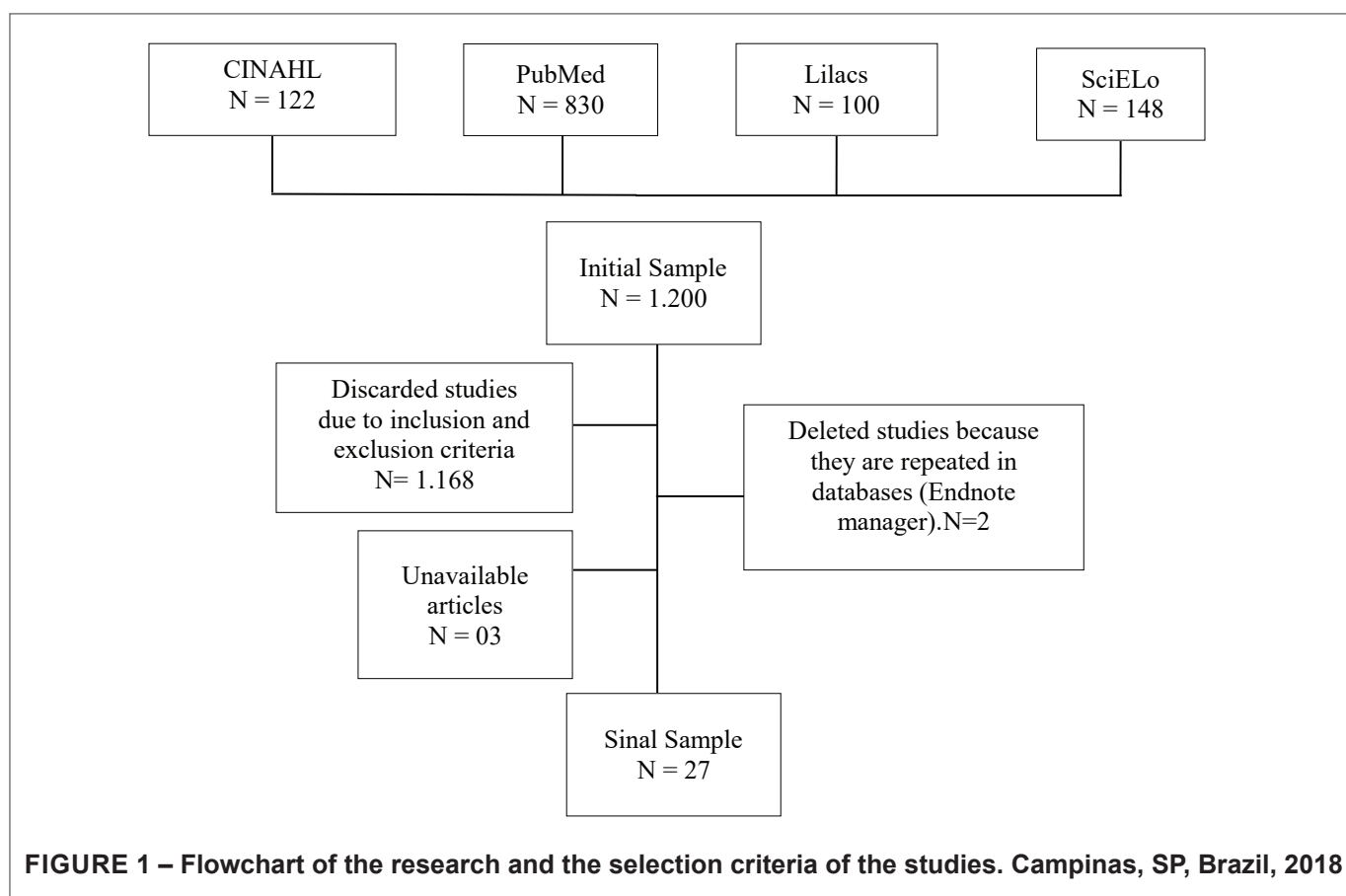
## RESULTS

The results show different contexts for the prevention of complications during pregnancy, with direct strategies during prenatal care, especially educational technologies in this period, beliefs and practices of pregnancy, perceptions of pregnant women about educational practices, the understanding of pregnant women about signs of possible dangers during pregnancy, the importance of pregnant women groups in prenatal care and knowledge of prenatal care professionals. The publications were between 2013 and 2018, coming from 11 countries, with different methodological approaches (Table 1). The studies were grouped into five categories.

## DISCUSSION

The guidelines and discussions of health professionals during prenatal care contribute to better indicators, according to the results of the surveys included in this literature review. The selected studies investigated the indicators of quality and satisfaction of pregnant women in prenatal care <sup>(10,15-17,20-21,23,28-31,34-35,37)</sup>, health education <sup>(13-14,18-19,24,27,32-33)</sup>, literature reviews <sup>(22,25-26)</sup>, the guidance instrument <sup>(11)</sup> and the report of professional experience <sup>(36)</sup>.

The sample consisted of 17 derived articles <sup>(9-12,14-15,18-19,21-22,28-33)</sup>, a single descriptive or qualitative study <sup>(35)</sup>. These were classified with level of evidence six; three systematic reviews of descriptive studies <sup>(20,23-24)</sup>, with evidence five; three other well-designed case-control or cohort studies



**TABLE 1 – Distribution of scientific articles according to author, objective, country of origin, design, level of evidence and conclusions, Campinas, SP, Brazil, 2018**

AUTHORS	OBJECTIVES	COUNTRIES	TYPE OF STUDY	EVIDENCE LEVELS	CONCLUSIONS
Carneiro et al. <sup>(9)</sup>	Evaluate new educational tool for hypertension prevention	Brazil	Methodological and quantitative	VI	Construction of the final version of the educational tool to prevent hypertension in pregnancy
Howlett et al. <sup>(10)</sup>	Investigate beliefs and practices regarding alcohol consumption during pregnancy	England	Descriptive	VI	Most women positively viewed alcohol screening during pregnancy.
Alves et al. <sup>(11)</sup>	Identify the perceptions of pregnant women about the use of an educational technology	Brazil	Descriptive and quantitative	VI	The strategy contributed to the teaching-learning process. The group showed great acceptance and desire to participate again
Silva et al. <sup>(12)</sup>	To know the experience of pregnant women in the participation of educational activities developed during prenatal care	Cuba	Qualitative	VI	The pregnant women recognize the importance of the educational activities, the clarification of doubts, the topics addressed and the clear language of the professionals as some of the factors that stimulate the participation in these activities.
Sekoni, Aderibigbe e Akande <sup>(13)</sup>	To investigate the effect of health education on the willingness to undergo HIV testing among the prenatal participants	Nigeria	Experimental	IV	Being aware of the availability of the HIV test in the hospital is a changing element in the willingness to undergo the test.
Rahman et al. <sup>(14)</sup>	Explore community perceptions of components of Behavior Change Communication, Improving Motherhood, Neonatal, and Child Survival	Bangladesh	Qualitative	VI	Interventions were well accepted, with the appreciation of daily life by community members and interaction with health workers

Fernandes et al. <sup>(15)</sup>	To analyze the knowledge, concerns and beliefs of a group of pregnant women about prenatal care	Brazil	Qualitative	VI	The knowledge and the preoccupations went through the categories: physical characteristic and organic functions of the concept, the sex of the concept, establishment of the bond mother-concept, revelations of the ultrasound examination; and influence of superstitious beliefs on gestation
Khan et al. <sup>(16)</sup>	To evaluate the effect of breastfeeding counseling	Bangladesh	Experimental and randomized	II	Breastfeeding counseling increased the duration of breastfeeding by 60 days.
Khoramabadi et al. <sup>(17)</sup>	To evaluate the effects of training in the health belief model on eating behaviors.	Iran	Randomized clinical trial	II	One month after the intervention, mean scores of knowledge, perceived severity, and perceived benefits on eating habits in each group were significantly higher in the intervention group
Hernández-Betancur e Vásquez-Truisi <sup>(18)</sup>	To describe the perceptions about the satisfaction of pregnant women regarding the nursing care received during prenatal care	Colombia	Phenomenological	VI	Prenatal care and education strengthened feelings of acceptance and identity in the role of motherhood, increasing maternal-fetal bonding
Lima <sup>(19)</sup>	To describe the experience of pregnant women in low-risk prenatal care at the nursing clinic	Brazil	Qualitative	VI	The experiences broadened the view on the importance of nurses, on the management of services and the promotion of educational actions and health care of pregnant women
Frayne e Hauck <sup>(20)</sup>	Explore the Determinants of a Healthy and Pleasant Pregnancy	Australia	Systematic review	V	Health professionals can help assist prospective parents in promoting health by providing appropriate resources for disease prevention, lifestyle risks, and management of chronic health concerns
Lori et al. <sup>(21)</sup>	Explore the understanding and recognition of pregnant women about signs of danger in pregnancy, childbirth and baby care	Ghana	Qualitative	VI	Women identified signs of danger in pregnancy and in the newborn but found it difficult to interpret and operationalize information received during antenatal consultations, indicating that health education did not translate into adequate health behaviors
Henriques et al. <sup>(22)</sup>	To verify the contributions and potentialities of a group of pregnant women as a complementary benefit to prenatal care	Brazil	Exploratory and qualitative	VI	The group acted as an effective complementary tool, as it allowed a safer and more informed experience of the pregnancy-puerperal cycle
Camillo et al. <sup>(23)</sup>	Identify evidence about the perceptions of pregnant women and puerperas about the actions of health education in primary care	Brazil	Systematic review	V	It evidenced the need to rethink the care of this public in primary care; the role of mediator and facilitator of the nurse
Silva, Lima e Osório <sup>(24)</sup>	To analyze the impact of educational strategies developed in low-risk prenatal care	Brazil	Systematic review	V	Educational practices contribute to favorable obstetric outcomes by minimizing women's doubts and desires during the gestation process, preparing them for childbirth and postpartum, having to incorporate the factors mentioned into work processes.
Adams et al. <sup>(25)</sup>	Evaluate a brief, low-cost and sustainable educational intervention entitled Centering Progressing Oral Health Promotion.	United States	Near-experimental	III	Oral health education and skills development activities can be effective in improving the quality of life and health of pregnant women

Abdulai et al. <sup>(26)</sup>	Assessing knowledge and awareness of HBV among pregnant women	Ghana	Cross-sectional	IV	There is a low level of knowledge and awareness of HBV. This could potentially undermine effective prevention and control of HBV in Ghana. Hepatitis B education needs to be included in health promotion activities
Domingues et al. <sup>(27)</sup>	To evaluate the knowledge, practices and attitudes of professionals in the public service network and to identify the main barriers to the implementation of care protocols for syphilis management during pregnancy	Brazil	Cross-sectional	IV	Barriers related to knowledge and familiarity with care protocols, difficulties in approaching STDs, user issues and organizational context were verified
Pohlmann et al. <sup>(28)</sup>	To know the model of healthcare used in prenatal care in Family Health Strategy units.	Brazil	Qualitative and exploratory	VI	The biomedical model remains the most used in prenatal care and health education developed by the educational groups is reaffirmed as a strategy to overcome the care model
Lindsay et al. <sup>(29)</sup>	To explore the perceptions and experiences of Latin American Spanish and Portuguese-speaking women regarding their first child in relation to patient-provider communication and counseling on gestational weight gain and physical activity during pregnancy	United States	Mixed, qualitative study	VI	The results suggest the need for greater integration of communication and counseling on nutritional gain and physical activity in prenatal care services to promote weight gain among low-income Latina women
Brondani et al. <sup>(30)</sup>	To analyze the perceptions of pregnant women and puerperas about experiences in the waiting room	Brazil	Discriptive and qualitative	VI	The formation of groups intermediated by the problematizing dialogue, aiming to promote the reciprocity of learning and teaching, focusing on the expanded conception of health, is a relevant point in the waiting room space
Silva et al. <sup>(31)</sup>	Evaluate educational practices according to the "Ten Steps to the Success of Breastfeeding" in the Human Milk Bank	Brazil	Descriptive	VI	The relevance of the health professional's role in encouraging skin / skin contact, and exclusive and on-demand breastfeeding
Queiroz et al. <sup>(32)</sup>	To describe the changes in the care of nurses after the implementation of a group of pregnant teenagers in prenatal care, based on the expectations and experiences of pregnant adolescents	Brazil	Discriptive and qualitative	VI	The considerations and the suggestions contributed to guide the nurses in the development of the group and make it a strategic area of care and support
Heberlein et al. <sup>(33)</sup>	To develop a framework of prenatal experiences for women and to compare experiences in individual and group prenatal care	United States	Exploratory and qualitative	VI	It was important to: reduce pregnancy-related stress; develop confidence and knowledge to improve health; prepare for labor, birth and newborn and have supportive relationships
Santos et al. <sup>(34)</sup>	Offer space for exchange of experiences and construction of joint knowledge of pregnant women and health professionals	Brazil	Descriptive, experience report	VII	The experience of health promotion with pregnant women, serving to show the importance of creativity and the renovation of the nursing professional and the team in the implementation of integral care
Patra, Arokiasamy Golji <sup>(35)</sup>	To examine whether the report of maternal health complications is defined by the level of women's health knowledge	India	Descriptive and qualitative	VI	Women with higher levels of health knowledge reported more complications in pregnancy and postpartum and used more health services

(13,26-27); and the others, in smaller number, with level of evidence two (16-17); level of evidence three (25); and level of evidence seven (34). The results of the studies with a level of evidence above two are not considered “strong evidence” by evidence-based practice (36), thus little contributing to the construction of guidelines in practice.

Most of the studies were carried out in Latin America (55%) and others in other continents: Asia (15%), North America (11%), Africa (11%), Europe (4%) and Oceania (4%). The increase of investigations on prenatal education in the prevention of complications favors the professional knowledge and the improvement of indicators in health education. A Brazilian study pointed to difficulties experienced by early-stage nurses related to prenatal care, mainly to knowledge activities, as well as activities that require skills (37), which proposes this review in the search for better evidences and professional updating.

The studies that evaluated quality indicators about the professional conduct or knowledge of pregnant women from prenatal activities indicated: good interaction and community relationship with health professionals, which contributes to the exchange of information (14); the current presence of alcohol in pregnancy, even in developed countries (10); women’s understanding of information related to pregnancy complications (15); prenatal orientation on the increase in the mother-newborn bond and the role of motherhood (18); the improvement of the indicators in prenatal care, with the increase in the experience between professionals and the community (19).

A study in Ghana (Africa) showed that women were able to identify the signs of risks during pregnancy, but there was difficulty in interpreting the systematization of prenatal care (21). However, another study (26) showed low level of knowledge of pregnant women about the prevention and control of hepatitis B transmission in the said country. In Nigeria (13), a study showed increased knowledge and HIV testing after education of pregnant women during prenatal care.

The information, through a pregnant women group, showed effective health education strategies (28), which promotes the exchange of information and mutual experience among the participants. Another study sought information to guide the groups of pregnant teenagers (32), contributing with language directed to the needs of this population. Brazilian authors (27) verified difficulties for pregnant women in the knowledge and familiarity of operational and organizational processes in prenatal care.

The transmission of knowledge, confidence and better preparation for labor and delivery were also mentioned in an American study (33). The information on nutrition and weight control were presented as topics that weren’t mentioned often and need further

discussion (18). However, an Indian study showed that women with a higher level of health knowledge do not necessarily predict lower pregnancy complications or their identification (35).

Health education strategies in the prevention of complications of pregnancy did not diverge in the studies analyzed. In general, they were carried out through direct orientations, groups and / or information tools. The approach, direct and individual education, was highlighted by the contribution of information to pregnant women, but it was pointed out that primigravidae were the most benefited in this type of action (12).

Complications and counseling on maternal nutrition and breastfeeding increased the duration of breastfeeding by 60 days compared to the routine care group performed in prenatal care (16). The importance of breastfeeding counseling and the role of the professional in the promising outcomes related to the puerperium is highlighted (31). Oral health education was cited as important for pregnant women and quality of life (25).

In an Iranian study (17), the application of an education model based on “health beliefs” contributed to the transmission of information to pregnant women, when compared to the indicators of the control group. Another study highlighted prenatal education for collective information and proved to be effective, allowing safer experience of the pregnancy-puerperal cycle (22). The use of an educational game and group dynamics were strategies that contributed to the teaching-learning process, as well as the formation of education groups at the reception of health services, problematizing issues on gestation (11,30).

One study (9) built an instrument for education in the prevention of hypertension during pregnancy. Gestational hypertension disorders are a major public health problem in several countries, which makes the education of pregnant women important for the improvement of specialized services, early diagnosis and prior management of possible related complications (38).

Trained health professionals are considered determining resources to reduce pregnancy complications, as well as their practices, and should be continually adequate and adapted to the local reality (20,23-24).

## CONCLUSION

No studies were found emphasizing the importance of educational actions in high-risk prenatal care, since at this level of care the pregnant women need specialized care, focused on knowledge to prevent complications during pregnancy.

Thus, it is necessary to build and use health technologies in low-risk and high-risk prenatal care

practice, since this strategy enables professionals to offer quality care and contributes positively to maternal-fetal mortality indicators.

This review presented limitations: some studies did not detail the practice utilized and also the period of educational action during the pregnancies, which could lead to a better use of the technologies studied; the

methods outlined and the approaches encountered did not support the elaboration of a meta-analysis.

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