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Health education strategies targeting maternal and child health

A scoping review of educational methodologies

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Abstract

Background: Health education during pregnancy is important to improve maternal and children outcomes. However, the strategies must be specifically designed for each context and demographic characteristics. Our objective was identify health education strategies targeting pregnant women with the intention of improving results of pregnancy at an urban level.

Methods: We conducted a scoping review of the literature to answer the question: "what health education strategies targeting pregnant women were reported by primary healthcare teams or the community promoting health in pregnancy, childbirth, postpartum and childhood?" Potential eligible studies were selected using PubMed, Web of Science, LILACS and SciELO by 2 reviewers.

Results: From a total of 3105 articles, 23 were deemed eligible. We identified 9 educational methodologies focusing on different outcomes of pregnancy, birth or maternal wellbeing.

Conclusions: It is important that health education strategies continue after childbirth, independent of the strategy. All the strategies presented in this review are suitable for transfer with a moderate chance of success of implementation or improvement of current education methodologies. Further research is required on health education, including a higher number of patients.

Abbreviations: MeSH = medical subject headings, PCC = population, concept, and context, PHC = primary healthcare, PRISMA = Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

Keywords: health education, pregnant women, primary health care

1. Introduction

The provision of health education during pregnancy has been shown to be an important aspect of prenatal care. This approach has been associated with a broad variety of maternal and child outcomes including reduced prematurity and low birth weight, and increased rates of initiation and continuation of breastfeeding.[1–4]

Considering the potential outcomes of health education schemes targeting pregnant women, health teams must strive to incorporate and perform educational activities to prepare pregnant women for childbirth and the postpartum period.[3] However, it is crucial to understand that there are multiple contexts, and pregnant women represent multiple demographic groups. The strategies must be specifically designed to provide the desired outcomes for different target groups.[5]

The Policy Transfer Framework can help health teams to implement or improve educational activities. Policy makers, as well as health teams, must evaluate the local, regional and national characteristics of both the area where educational strategy was initially developed, and to where it will be transferred. The desired degree of transfer (copying, emulation, mixture or inspiration) must be assessed along with possible constraints on the transfer process (past-implemented policies; institutional feasibility and economic, ideological, technologic, bureaucratic and cultural contexts). Although the Policy Transfer Framework is often used to analyze policies that have already been transferred, it can help to assess variables that may influence the incorporation and development of strategies.[6]

The aim of this scoping review was to identify the educational strategies aimed toward pregnant women with the focus of improving results during pregnancy, birth, postpartum and childhood. The review was designed to help urban primary healthcare (PHC) teams in the process of policy transfer including

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the implantation, implementation and improvement of pregnancy health education schemes.

2. Methods

The methodology of a scoping review was selected because it is an appropriate approach to provide information to policy makers where a full systematic review is needed. Ethical approval was not required, because the study was a literature review and there was no contact with patients.

A scoping review retains important characteristics of a systematic review, such as systematization, transparency and reproducibility, at the same time identifying the nature and extent of the scientific evidence relating to a theme.[7,8] Considering the similarities between scoping and systematic reviews, we used the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist wherever possible during our investigations.

We used the protocol described by Peters et al[9] to carry out a scoping review. The protocol consists of 4 distinct stages:

1. identification of the scoping review question,
2. development of the inclusion criteria,
3. definition of the search strategy, and
4. summarizing the results.

2.1. Scoping review question

The research question was constructed using the elements of Population, Concept and Context (PCC), as suggested by the protocol.[9] The studied population was pregnant women, the concept was health education strategies and the context were the urban community or PHC teams. Therefore, we developed the following research question: "What health education strategies targeting pregnant women were reported by PHC teams or the community to promote health in pregnancy, childbirth, postpartum, and childhood?"

2.2. Eligibility criteria

Studies were included if they met the following criteria:

1. the reported methodologies were developed to promote health education,
2. the health education methodologies targeted pregnant women,
3. the health education methodologies were developed at community level or by PHC teams,
4. the studies should be written in English, Spanish, or Portuguese,
5. the methodologies of the evaluation of health education were reported and
6. the health education methodologies were developed at an urban level.

The urban level was selected because rural populations have different characteristics from urban ones and present other outcomes. Rural populations often require a higher number of educational actions and we believe they should be analyzed separately.

2.3. Search strategy

The electronic databases PubMed, Web of Science, LILACS and SciELO were searched to identify potentially eligible reports. The Medical Subject Headings (MeSH) was used to select the search descriptors. The Boolean operators "AND" and "OR" were used to enhance the search strategy through several combinations. Based on the PCC elements, the follow search phrase was constructed: ("Pregnant Women" OR "Pregnancy" OR "Antenatal") AND ("Health Education" OR "Primary Prevention" OR "Health Promotion" OR "Prenatal Education") AND ("Program Development" OR "Program Evaluation" OR Intervention OR Project OR Program OR Strategy) AND ("Maternal-Child Health Centers" OR "Family Health" OR "Primary Health Care" OR "Community Health Centers" OR "Prenatal Care"). We did not determine the beginning of the search period. The identification of studies was performed in May, 2017.

The electronic search strategy returned a total of 3151 records. These records were exported using EndNoteX7 and duplicates were deleted, initiating by software and completed with manual identification. The studies were selected for 2 reviewers (*[blinding];* Cohen kappa of 0.775, indicating substantial inter-rater reliability) that analyzed, in duplicate, all the titles and abstracts of the studies in the first moment, and after reviewers read complete papers. Disagreements were resolved by discussion and final inter-rater agreement was 100%.

2.4. Charting the results

Data were charted to identify themes and key issues from each study. In line with Peters et al,[9] the following data were collected: author(s), year of publication, country of origin, aims of the study, study population, research design, details of health education intervention (frequency, intervals between meeting, person or group responsible to promote health education) and outcomes. The 2 reviewer extracted data from reports in duplicate.

3. Results

In total, 3003 papers were excluded by title and abstract reading, leaving 148 papers for full text review. The authors *[blinding]* independently read the full text papers. The final search output was 23 papers (Fig. 1). Thus, the present review analyzed the health education strategies directed toward pregnant women that were identified in 23 published reports. However, there are likely to be methodologies beyond the published literature, in the form of unpublished strategies used by PHC teams. It is important to remember that there may be strategies that are not included in this paper due to the inclusion criteria.

The specific interventions, populations and outcomes that were measured differed between studies (Table 1). The strategies reported were organized initially according to the methodology design. We identified nine educational methodologies: community-based,[10–16] lecture- or class-based,[17–21] school-based,[22] home-based,[23] and group-based approaches;[24–26] as well as games,[27] mobile health (mHealth),[28] website information[29] and individual education.[30] The included studies were either targeted at pregnant women living in nonspecific areas or directed to specific populations (adolescents, first time mothers, mothers of single babies, low income groups, mothers living in disadvantaged or vulnerable communities or ethnic minorities). Seventeen out of the 23 studies were conducted in high-income countries.[10,12,14,16,17,19,20–25,27–29,31,32] The only 6 studies that were not from high-income countries were carried out on

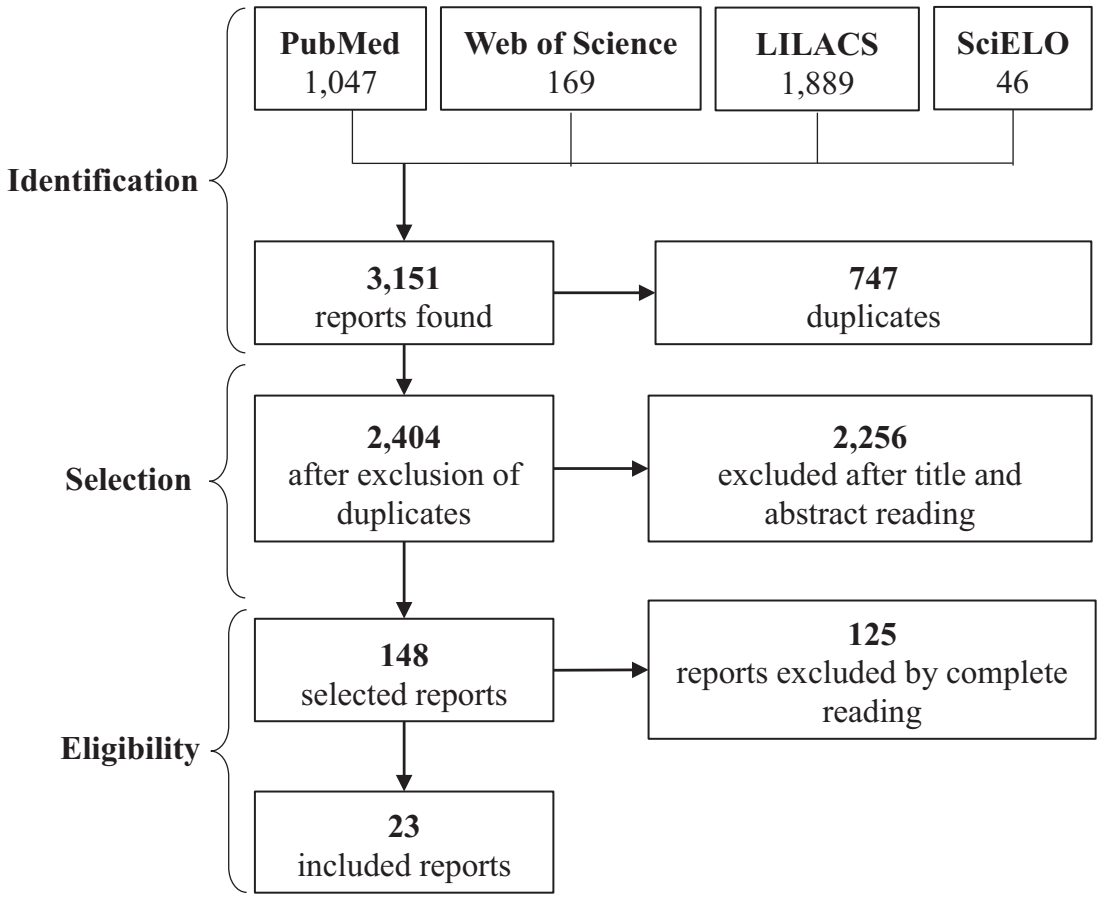

Figure 1. PRISMA flow diagram showing the literature search and selection of studies.

Table 1

Location, target population, and design of the reports included in this study.

Source	Location	Target population	Design	N
Evaluation of Effectiveness				
Jones and Mondy (1990) [10]	United States	Adolescents	Community-based	210
Volpe and Bear (2000) [27]	United States	Adolescents	Games	91
Turan and Say (2003) [11]	Turkey	First-time expectant mothers	Community-based	100
Chang et al (2004) [17]	South Korea	Mothers of single babies	Lecture/Class-based	49
Hoddinott et al(2009) [24]	United Kingdom	Nonspecific	Group-based	Not informed
MacArthur et al(2009) [12]	United Kingdom	Nonspecific	Community based	1140
Evans et al(2012) [28]	United States	Low income groups	mHealth	123
Doyle et al (2014) [23]	Ireland	Disadvantaged community	Home-based	115
Bahri et al (2015) [18]	Iran	Nonspecific	Lecture/Class-based	80
Brasington et al (2016) [13]	Egypt	Nonspecific	Community-based	1602
Guo et al (2016) [31]	United States	Nonspecific	Multiple strategies	2709
Adams et al(2017) [25]	United States	Nonspecific	Group-based	49
Aba and Kömürcü (2017) [30]	Turkey	Adolescents	Individual	35
Observational studies and non-empirical reports				
Burkhalter and Marin (1991) [19]	Chile	Nonspecific	Lecture/Class-based	Not informed
Zimmerman (1999) [32]	United States	Ethnic minorities	Multiple strategies	188
Barnet et al (2007) [14]	United States	Adolescents	Community-based	44
Kaste et al (2007) [20]	United States	Vulnerable population	Lecture/Class-based	60
Rosen et al (2008) [21]	United States	Nonspecific	Lecture/Class-based	105
Griswold et al (2013) [22]	United States	Adolescents	School-based	28
Hernando et al (2016) [29]	Spain	Nonspecific	Website	63
Empirical and mixed methods				
Vasconcelos et al (2007) [26]	Brazil	Nonspecific	Group-based	12
Coskun and Karakaya (2013) [15]	Turkey	Poor and mostly illiterate	Community-based	965
Little et al (2013) [16]	United States	Japanese women	Community-based	42

N = number of pregnant women in the population who received educational intervention.

Table 2

Characteristics and main results of the educational activities from the reports included in this study.

Source	Frequency of activities	Number of meetings	Duration of each meeting	Responsible for activities	Observed outcomes
Breastfeeding					
Burkhalter and Marin (1991) [19]	Monthly	Four meetings	Not informed	Nursing staff	- Increased exclusive breastfeeding rates;
Zimmerman (1999) [32]	Not informed	Not informed	Not informed	Nutritionist	- Increased initiation of breastfeeding - Increased continuation of breastfeeding
Rosen et al (2008)[21]*	One time	Not informed	Two hours	Certified lactation counselor	- No increase in initiation of exclusive breastfeeding - Increased continuation of breastfeeding at 6 months
	Weekly	Not informed	Two hours	Certified lactation counselor and pediatrician	- No increase in initiation of exclusive breastfeeding - Increased continuation of breastfeeding at 6 months;
Turan and Say (2003) [11]	Twice per week	Eight meetings	Two hours	Nurse, facilitator and trained community member	- Increased initiation of breastfeeding in the first two hours - Increased continuation of exclusive breastfeeding
MacArthur et al (2009) [12]	Must be performed between 24 and 28 weeks of gestation	Two meetings	Not informed	Trained peer support workers	- No increase in rates of initiation of breastfeeding
Hoddinott et al (2009)[24]*	Weekly	Ten meetings	Not informed	Health professional	- Not increase in rates of breastfeeding
Volpe and Bear (2000) [27]	Weekly	Three meetings	Not informed	Nurse	- Increased initiation of breastfeeding
Beliefs and Behaviors					
Coskun and Karakaya (2013)[15]*	Not informed	Not informed	Not informed	Trained peers	- High rates of appropriate health behaviors concerning safe motherhood;
Brasington et al(2016) [13]	Not informed	Not informed	Not informed	Community health workers	- Promote behaviors associated with better health outcomes;
Evans et al (2012) [28]	Not applied	Not applied	Not applied	Not applied	- Almost threefold increase in the belief that mothers were prepared for motherhood - Increased belief that drinking alcohol during pregnancy will harm the unborn baby
Knowledge					
Kaste et al (2007) [20]	One time	Not informed	45 minutes	Pediatric Dentist	- Increased knowledge from the information presented
Bahri et al (2015)[18]†	Twice per week	Six meetings	Two hours	Not informed	- Improved oral health beliefs and behaviors in the short-term, which decreased on follow-up
Brasington et al (2016) [13]	Not informed	Not informed	Not informed	Community health workers	- Increased knowledge of the pregnancy danger signs;
Coskun and Karakaya (2013)[15]*	Not informed	Not informed	Not informed	Trained peers	- Increased knowledge and skills relating to self-care and rate of receiving health care
Adams et al (2007) [25]	One time	Not informed	Two hours	Trained intervention facilitators	- No observed differences in knowledge and self-care
Griswold et al (2013) [22]	Weekly	Nine meetings	Not informed	School nurse	- Improved knowledge regarding prenatal care, labor and birth;
School outcomes					
Jones and Mondy (1990) [10]	Not informed	Eight meetings	Not informed	Trained nonprofessional volunteers	- Improved levels of return to school
Barnet et al(2007)[14]*	Biweekly	Not applied	Not applied	Trained volunteers	- Increased continuation of schooling
Gestational outcomes					
Jones and Mondy (1990) [10]	Not informed	Eight meetings	Not informed	Trained nonprofessional volunteers	- Increased prenatal visits - Increased gestational age at birth
Griswold et al (2013) [22]	Weekly	Nine meetings	Not informed	School nurse	- Increased school attendance - Increased compliance with prenatal care
Aba and Kömürcü (2017) [30]	Each section was performed with five weeks of intervals	Six meetings	35–45 minutes	Not informed	- Higher level of prenatal adaptation
Mother outcomes					
Adams et al (2017) [25]	One time	Not informed	Two hours	Trained intervention facilitators	- Improved maternal oral health; - No observed differences in brushing or flossing - Slight improvement in the self-reported importance of oral health
Little et al (2013) [16]	Monthly or biweekly	Ten meetings	Two hours	Women group	- Women felt well prepared for labor and birth - Low scores of depression, anxiety and stress
Doyle et al (2014) [23]	Not informed	Six meetings	Not informed	Trained professionals	- Increased spontaneous onset of labor - Reduced rates of caesarean section;
Vasconcelos et al (2007) [26]	Weekly	Eleven meetings	Not informed	Nurses	- Increased self-confidence, security and feelings of calm
Hoddinott et al (2009)[24]*	Weekly	Ten meetings	Not informed	Health professional	- No differences in maternal satisfaction or social support
Barnet et al (2007) *	Biweekly	Not applied	Not informed	Trained volunteers	- Improved adolescent mothers' parenting attitudes and beliefs
Hernando et al (2016) [29]	Not applied	Not applied	Not applied	Not applied	- Increased security of health care
Aba and Kömürcü (2017) [30]	Each section was performed with five weeks of intervals	Six meetings	35–45 minutes	Not informed	- Higher levels of postpartum adaptation in the first's weeks - No observed differences in the mothers' perceptions of their babies;
Baby outcomes					
Burkhalter and Marin (1991) [19]	Monthly	Four meetings	Not informed	Nursing staff	- No increase in birth weights
Turan and Say (2003) [11]	Twice per week	Eight meetings	Two hours	Nurse, facilitator and trained community member	- Highest probability of attending check-ups within 7 days after birth
Guo et al (2016)[31]*	Not informed	Not informed	Not informed	Trained, paraprofessional	- Increased birth weight - Increased gestational age at birth
Chang et al (2004) [17]	Weekly	Four meetings	Two hours	Midwifery and maternity nurse	- Improved Maternal-Fetal Attachment and Self-Efficacy (anticipation, fear and preparation of childbirth) scores

* Program continued after birth;

† Included activities targeting the family and/or community

mothers from Brazil[26] (upper-middle income), Turkey[11,15,30] (upper-middle income), Egypt[13] (lower-middle income) and Iran[18] (upper-middle income).

We observed wide range of outcomes which we organized into seven topics: breastfeeding, beliefs and behaviors, knowledge, school outcomes, gestational outcomes, mother outcomes, and baby outcomes (Table 2). Similarly, a wide variety of educational characteristics was found between the strategies (frequency, number and duration for each strategy). Regarding the educator (person or people responsible for the development of health

education activities), it was observed that activities were mostly planned with health professionals and paraprofessionals (or non-professionals) in mind, indicating that progressive inclusion of persons or groups from the community is occurring where health education is being developed. The characteristics of health education ranged from one-time interventions to monthly engagements, with a maximum of 11 actions in the course of one program.[26] Only 8 studies reported the duration of the health education program.[11,16–18,20,21,25,30]

Improved breastfeeding outcomes were observed where health educational strategies were conducted by nurses[11,19,27] or nutritionists.[32] Higher school results were observed among volunteers who were trained to deliver the programs.[10,14] The number of reports relating to the other outcomes that we studied (baby, mother, gestational, knowledge and beliefs and behaviors) was too few to draw conclusion about their relation to health education.

Twelve themes were identified amongst health education strategies: breastfeeding, nutrition, birth, childcare, family planning, physical activity, maternal health, anxiety, social support, drug abuse, oral health, and baby development. The topics mostly addressed in the articles included in the present study, regardless of the methodology used, were breast feeding, nutrition, and birth.

4. Discussion

This scoping review identified 23 articles which reported and assessed health education strategies targeted towards pregnant women. The articles described different methods with diverse characteristics and maternal/child health outcomes.

Education activities that start during the antenatal period and continue postpartum appeared to be more effective than methods which focused on education during pregnancy only.[3] This review highlighted that educational activities which continued after birth[14,15,21] were associated with better outcomes in terms of breastfeeding continuation at 6 months, appropriate health behaviors, improved knowledge of health care and school continuation. Only 1 included article did not report improved outcomes with the continuation of health education activities into postpartum.[24] The educational strategy reported by Hoddinott et al[24] was designed using a group-based methodology and delivered via 10 weekly meetings conducted by health professionals.

A systematic review by Lumbiganon et al[4] indicates that there is insufficient evidence to conclude which is the most effective method of education to improve breast feeding outcomes. Therefore, health education initiatives designed to increase such outcomes (initiation or continuation of exclusive breastfeeding) could be designed using different strategies, as presented by Burkhalter and Marin,[19] Zimmerman,[32] Rosen et al,[21] Turan and Say,[11] MacArthur et al,[12] Hoddinott et al[24] or Volpe and Bear.[27] It is important to consider the different results of initiation and continuation of exclusive breastfeed presented, including negative results in some cases.

One of the health education strategies that reported negative results for the initiation of breastfeeding was that designed by MacArthur et al.[12] They used trained peer support workers to perform 2 sessions between 24 and 28 weeks gestation. The rates of initiation of breastfeeding did not increase following this strategy when the peer supporter had contact once or twice with the pregnant women.[33] Therefore, the negative outcome observed by MacArthur et al[12] may not indicate the inadequacy of community-based methodologies, rather that such strategies require increased contact with mothers.

A lower number of health education activities seems to limit the potential positive results,[33] although this cannot be generalized and so the number of activities must be planned according to the intended outcomes and particular educator that is involved. For example, the strategy proposed by Burkhalter and Marin[19] which included 4 monthly meetings was not sufficient to increase birth weights; while the methodology of Chang et al,[17] comprised of 4 weekly meetings, produced improvements in the mothers' feelings of self-efficacy.

The systematic review developed by Silva et al[3] indicated that health education strategies conducted by group-based or home-based methodologies and guided by professionals or non-professionals have contributed to reduced prematurity, reduced low birth weights and increased prevalence of exclusive breastfeeding. Three of the studies included in this review described group-based strategies.[24–26] Two of them observed negative results on the rate of breastfeeding[24] and knowledge or self-efficacy,[25] but 1 showed improved results regarding oral health.[25] The third study evaluated group-based methodologies using a qualitative approach and showed that this was effective in increasing feelings of self-confidence, security and calm among the women.[26] Only one study that discussed a home-based strategy was included. This methodology was designed to use trained professionals to carry out 6 visits[23] and was seen to be associated with improved obstetric outcomes. Although the results of this strategy were different to those indicated by Silva et al,[3] it reinforces the benefits of home-based approaches.

The systematic reviews published by McFadden et al,[34] Balogun et al[35] and Silva et al[3] did not find that health education programs developed to be delivered by either health-care professionals or healthcare non-professionals differed in their impact on breastfeeding or obstetric outcomes. In the present review, the reports of Jones and Mondy,[10] Turan and Say,[11] MacArthur et al,[12] Brasington et al,[13] Barnet et al,[14] Coskun and Karakaya,[15] Little et al,[16] Adams et al[25] and Guo et al[31] used non-professionals to promote health education, and the majority observed good outcomes, reinforcing the importance of including community members or peers in educational processes.

Community-based strategies were reported by Jones and Mondy,[10] Turan and Say,[11] MacArthur et al,[12] Brasington et al,[13] Barnet et al,[14] Coskun and Karakaya[15] and Little et al.[16] Although we found this methodology to be the most frequently implemented strategy, some outcomes—such as breastfeeding—showed no evidence of improvement with this approach.[35] However, this observation should not discourage policy makers from using community-based methodologies, as more studies and systematic reviews are necessary to draw firm conclusions about the effectiveness of this strategy.

Traditional methods of health education—lectures and classes—were evaluated by Burkhalter and Marin,[19] Chang et al,[17] Kaste et al,[20] Rosen et al[21] and Bahri et al.[18] In general, these reports showed good results for increase ingrates of exclusive breastfeeding and knowledge; improving oral health, beliefs and behaviors in the short-term and increased continuation of schooling and self-efficacy of mothers. However, lectures have been criticized for their low effectiveness and the lack of participant interaction.[36] Furthermore, more pro-active methodologies have the potential to adapt to different educational

needs, both for mothers looking for more information and for those requiring other resources.[37]

A limitation of this scoping review was that a significant proportion of the studies included were developed in high-income countries. Links between the design of the intervention and the observed results should therefore be carefully analyzed by policy makers from low- and middle-income regions and populations, prior to their implementation in the region.

Few of the studies that we found reported the educational characteristics (frequency, number of actions and duration), which could impede the policy transfer process and limited the analysis that was able to be carried out in the present review. These details are crucial in order to increase maternal and child outcomes, which are likely to be influenced by the intensity of the interventions.[33] Thus, it is important that researchers be careful to make publish their work, providing the characteristics of health education strategies meticulously.

5. Conclusions

This review was designed to identify health education strategies that can improve maternal and child outcomes. The articles included revealed that different methods were associated with specific characteristics of pregnant women and gestational, obstetric and child outcomes. Possibly the most important result was the finding that the continuation of health education strategies after child birth contributed to improved maternal and child outcomes, particularly in regard to breastfeeding.

Specific studies correlating health education strategies during pregnancy to the improvement of maternal and child health were not developed by or found in this scoping review. Thus, research on health education is still required, including a higher number of patients. Reviews similar to the one presented in this study should be developed in rural populations, which present different characteristics from urban ones.

Considering the aspects involved in the Policy Transfer Framework (characteristics of where the educational strategy was developed and where it will be transferred, intended degree of transfer and possible constraints on the transfer process), we conclude that all of the strategies analyzed in this review are suitable for transfer. Thus, there is a wide range of health education methodologies, and policy makers can use them according to the outcomes desired.

Author contributions

Conceptualization: Álex Moreira Herval, Danielle Peruzzo Dumont Oliveira, Viviane Elisângela Gomes, Andrea Maria Duarte Vargas.
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References

[1] Renfrew MJ, McCormick FM, Wade A, et al. Support for healthy breastfeeding mothers with healthy term babies (Review) Support for healthy breastfeeding mothers with healthy term babies. Cochrane Libr 2012;5: doi: 10.1002/14651858.CD001141.pub4.
[2] Dyson L, Mccormick FM, Renfrew MJ. Interventions for promoting the initiation of breastfeeding. Cochrane Collab 2008;132:68.
[3] Silva EPda, Lima RTde, Osório MM. Impacto de estratégias educacionais no pré-natal de baixo risco: revisão sistemática de ensaios clínicos randomizados. Cien Saude Colet 2016;21:2935–48.
[4] Lumbiganon P, Martis R, Laopaiboon M. Lumbiganon P, et al. Antenatal breastfeeding education for increasing breastfeeding duration. Cochrane Database of Systematic Reviews. Chichester, UK: John Wiley & Sons, Ltd; 2011;CD006425.
[5] Gilbert GG, Glen G, Sawyer RG, et al. Health Education: Creating Strategies for School and Community Health. Massachusetts: Jones & Bartlett Learning; 2015.
[6] Dolowitz DP, Marsh D. Learning from abroad: the role of policy transfer in contemporary policy-making. Governance 2000;13:5–23.
[7] Arksey H, O'Malley L. Scoping studies: towards a methodological framework. Int J Soc Res Methodol 2005;8:19–32.
[8] Grant MJ, Booth A. A typology of reviews: an analysis of 14 review types and associated methodologies. Heal Inf Libr J 2009;26:91–108.
[9] Peters MDJ, Godfrey CM, Mcinerney P, et al. Methodology for JBI scoping reviews. Joanna Briggs Insitute 2015;53:0–24.
[10] Jones ME, Mondy LW. Prenatal education outcomes for pregnant adolescents and their infants using trained volunteers. J Adolesc Heal Care 1990;11:437–44.
[11] Turan JM, Say L. Community-based antenatal education in Istanbul, Turkey: effects on health behaviours. Health Policy Plan 2003;18:391–8.
[12] MacArthur C, Jolly K, Ingram L, et al. Antenatal peer support workers and initiation of breast feeding: cluster randomised controlled trial. Bmj 2009;338:b131–131.
[13] Brasington A, Abdelmegeid A, Dwivedi V, et al. Promoting healthy behaviors among egyptian mothers: A quasi-experimental study of a health communication package delivered by community organizations. PLoS One 2016;11:1–9.
[14] Barnet B, Liu J, DeVoe M, et al. Home visiting for adolescent mothers: effects on parenting, maternal life course, and primary care linkage. Ann Fam Med 2007;5:224–32.
[15] Coşkun A, Karakaya E. Supporting safe motherhood services in diyarbakir: a community-based distribution project. Matern Child Health J 2013;17:977–88.
[16] Little SH, Motohara S, Miyazaki K, et al. Prenatal group visit program for a population with limited english proficiency. J Am Board Fam Med 2013;26:728–37.
[17] Chang SB, Park S, Chung CW. Effect of Taegyo-focused prenatal education on maternal-fetal attachment and self-efficacy related to childbirth. J Korean Acad Nurs 2004;34:1409–15.
[18] Bahri N, Tohidinik HR, Bahri N, et al. Educational intervention to improve oral health beliefs and behaviors during pregnancy. J Egypt Public Health Assoc 2015;90:41–5.
[19] Burkhalter BR, Marin PS. A demonstration of increased exclusive breastfeeding in Chile. Int J Gynecol Obstet 1991;34:353–9.
[20] Kaste LM, Sreenivasan D, Koerber A, et al. Pediatric oral health knowledge of African American and Hispanic of Mexican origin expectant mothers. Pediatr Dent 2007;29:287–92.
[21] Rosen IM, Krueger MV, Carney LM, Graham JA. Prenatal breastfeeding education and breastfeeding outcomes. MCN Am J Matern Child Nurs 2008;315–9.
[22] Griswold CH, Nasso JT, Swider S, et al. The prenatal care at school program. J Sch Nurs 2013;29:196–203.

[23] Doyle O, McGlanaghy E, Palamaro-Munsell E, et al. Home based educational intervention to improve perinatal outcomes for a disadvantaged community: A randomised control trial. Eur J Obstet Gynecol Reprod Biol 2015;180:162–7.
[24] Hoddinott P, Britten J, Prescott GJ, et al. Effectiveness of policy to provide breastfeeding groups (BIG) for pregnant and breastfeeding mothers in primary care: Cluster randomised controlled trial. BMJ 2009;338:388–92.
[25] Adams SH, Gregorich SE, Rising SS, et al. Integrating a nurse-midwife-led oral health intervention into centering pregnancy prenatal care: results of a pilot study. J Midwifery Womens Health 2017;62:463–9.
[26] Vasconcelos CTM, Machado M, de FAS, et al. Educação em saúde a gestantes utilizando a estratégia grupo. Rev da Rede Enferm do Nord 2016;8: doi: 10.15253/REV RENE.V8I3.5340.
[27] Volpe EM, Bear M. Enhancing breastfeeding initiation in adolescent mothers through the breastfeeding educated and supported Teen (BEST) Club. J Hum Lact 2000;16:196–200.
[28] Evans WD, Wallace JL, Snider J. Pilot evaluation of the text4baby mobile health program. BMC Public Health 2012;12:1.
[29] González Hernando C, García Alonso MM, Vázquez Fernández ME, et al. Vol 19. Difusioń Avances de Enfermería. 2016. https://dialnet.unirioja.es/servlet/articulo?codigo=5621096. Accessed October 18, 2018.
[30] Aba YA, Kömürcü N. Antenatal education on pregnant adolescents in turkey: prenatal adaptation, postpartum adaptation, and newborn perceptions. Asian Nurs Res (Korean Soc Nurs Sci) 2017;11:42–9.
[31] Guo Y, Pimentel P, Lessard J, et al. A community-based home visitation program's impact on birth outcomes. MCN, Am J Matern Nurs 2016;41:16–23.
[32] Zimmerman DR. You can make a difference: increasing breastfeeding rates in an inner-city clinic. J Hum Lact 1999;15:217–20.
[33] Ingram L, MacArthur C, Khan K, et al. Effect of antenatal peer support on breastfeeding initiation: a systematic review. CMAJ 2010;182:1739–46.
[34] McFadden A, Gavine A, Renfrew MJ, et al. Support for healthy breastfeeding mothers with healthy term babies. Cochrane Database Syst Rev 2017;2:CD001141.
[35] Balogun OO, O'Sullivan EJ, McFadden A, et al. Interventions for promoting the initiation of breastfeeding. Cochrane Database Syst Rev 2016;11:CD001688.
[36] Wodarski JS, Feit MD. Adolescent preventive health and team-games-tournaments: five decades of evidence for an empirically based paradigm. Soc Work Public Health 2011;26:482–512.
[37] Baron R, te Velde SJ, Heymans MW, et al. The relationships of health behaviour and psychological characteristics with spontaneous preterm birth in nulliparous women. Matern Child Health J 2017;21:873–82.