DOI: 10.15253/2175-6783.20192041341
www.periodicos.ufc.br/rene

Original Article

Effects of technology on knowledge, attitude and practice of pregnant women for childbirth

Efeitos de tecnologia no conhecimento, atitude e prática de gestantes para o parto

Ivna Silva Andrade[1], Régia Christina Moura Barbosa Castro[1], Karla de Abreu Peixoto Moreira[1], Cristina Poliana Rolim Saraiva dos Santos[1], Ana Fátima Carvalho Fernandes[1]

Objective: to evaluate the effects of educational video on the knowledge, attitude and practice of pregnant women for active childbirth. **Methods:** a quasi-experimental study, developed in ten basic family health units, with 167 pregnant women in the last trimester, through a built and validated instrument to survey knowledge, attitude and practice. In the Intervention Group, the research was applied, accompanied by an educational session, with video exposure. For the Control Group, routine prenatal investigation and consultation were applied. **Results:** the Intervention Group presented greater adequacy in knowledge, attitude and practice, with significant statistics in all variables, highlighting the influence of educational video for active childbirth. **Conclusion:** the use of educational video stood out positively as educational technology for knowledge, attitude and practice of pregnant women in relation to active childbirth.
Descriptors: Parturition; Obstetric Nursing; Educational Technology; Health Promotion.

Objetivo: avaliar os efeitos de vídeo educativo sobre o conhecimento, a atitude e a prática de gestantes para o parto ativo. **Métodos:** estudo quase experimental, desenvolvido em dez unidades básicas de saúde da família, com 167 gestantes no último trimestre, por meio de instrumento construído e validado para levantamento do conhecimento, da atitude e prática. No Grupo Intervenção, a investigação foi aplicada, acompanhada de sessão educativa, com exposição de vídeo. Para o Grupo Controle, a investigação e a consulta pré-natal de rotina foram aplicadas. **Resultados:** o Grupo Intervenção apresentou maior adequação em conhecimento, atitude e prática, com estatísticas significativas em todas as variáveis, destacando a influência do vídeo educativo para o parto ativo. **Conclusão:** o uso de vídeo educativo se destacou positivamente como tecnologia educacional para conhecimento, atitude e prática de gestantes em relação ao parto ativo.
Descritores: Parto; Enfermagem Obstétrica; Tecnologia Educacional; Promoção da Saúde.

[1]Universidade Federal do Ceará. Fortaleza, CE, Brasil.

Autor correspondente: Cristina Poliana Rolim Saraiva dos Santos
Rua R, 176, Parque Montenegro II, José Wálter, CEP: 60751-400. Fortaleza, CE, Brasil. E-mail: polianarolim@yahoo.com

Received: June 8th 2019; Accepted: Aug. 20th 2019.

Introduction

The pregnancy-puerperal cycle causes changes in women, so health care should focus on the quality of life of pregnant women, avoiding future complications, so the importance of high quality prenatal care, with multidisciplinary team monitoring, ensuring, at the end of pregnancy, the birth of a healthy child and maternal well-being. The Brazilian Health Department proposes public policy that contemplates improving access, coverage and quality of prenatal care, childbirth care and the mother and child binomial, guaranteeing citizenship rights, aiming at humanization of decent care to the woman-baby-family triad, based on ethical and solidarity behaviors[1].

However, in the evolution of health care, the tendency is the use of educational technologies as tools to increase knowledge and promote improvements in the quality of life of users, since these devices act as mediation devices for facilitators in the dissemination of health, information and training, besides being perceived as a way of approximation between individuals, family, society and health professionals, based on strategies that guarantee the principles of the Unified Health System[2-3].

Classified into three categories, technologies can be harsh when using technological equipment, instruments, standards and routines; mild-harsh, comprises all well-structured knowledge in the health process as models of care, theories; and mild, using the technologies of relations, production, communication, reception, bonds and autonomisation[4-5].

Specifically for women in the pregnancy-puerperal cycle, these technologies include the physiology of the female body, healthy practices in pregnancy, childbirth and the postpartum period, appropriate and inappropriate conduct during this period, better forms of self-care, addressing their needs. For nurses, educational technologies are necessary in daily clinical practice, as they help in the process of communication and interaction between professionals, and the women and family members, in stimulating, clarifying and orienting to positively impact the experience of motherhood[3-6].

Even with a large literature on the subject, the use of educational technologies to assess knowledge, attitude and practice regarding active childbirth is still limited, making the present study relevant, since many expectations, doubts and uncertainties coexist about this kind of delivery. Thus, the objective was to evaluate the effects of educational video on the knowledge, attitude and practice of pregnant women for active childbirth.

Methods

Quasi-experimental study, composed of intervention group (IG) and non-equivalent control group (CG), with pre-test/post-test design, conducted in 10 Basic Family Health Units, in the city of Eusébio, Ceará, Brazil. The sample from these two territories was divided into two groups: one territory constituted the intervention group and the other the control group, as they were distant from each other. The choice of 10 units was due to the fact that both territories comprise the largest number of pregnant women.

The study population consisted of 550 pregnant women registered in the referred units that underwent prenatal examination, in the months intended for data collection. For the sample calculation, we used the formula for case-control studies, designed to determine if an exposure is associated with an outcome[7], considering the odds ratio of 1.75, the probability of lack of experience around 20.0%, relative accuracy 10.0% and significance level 5.0%. Applying these values in the formula, we obtained n=84 for each of the groups.

For the selection of participants, the following inclusion criteria were adopted: pregnant women in the third trimester; perform prenatal consultation on the days scheduled for data collection and reside in the municipality where the research was conducted.

Exclusion criteria were: referral for cesarean section, since the video is aimed at preparing for normal delivery, with the need to evaluate the evolution and completion of the parturient for this mode of delivery; and mothers with hearing and visual impairment that prevented her from participating in the educational intervention and answering the evaluation form.

The educational video applied lasted 27 minutes, the result of a doctoral thesis from the Graduate Program of the Federal University of Ceará, Brazil[8]. The exposure of this material occurred through a group approach, carried out by the researcher in one of the Basic Health Units, which provided audiovisual resources, silent auditorium, with air conditioning and the capacity to comfortably accommodate 10 people, so that all the information passed on could be captured. In total, 15 groups were performed until the total of the sample size was calculated, i.e., 84 pregnant women in each group.

The contents covered in the video are: knowledge of pregnancy month by month, physical exercises with ball and horse, breathing, massage, presence of companion, guidance of professionals in prenatal and positions facilitating labor and delivery.

For data collection, a Knowledge, Attitude and Practice (KAP) survey was prepared and content validated on preparation for and delivery of active childbirth, with assessment questions ranging from adequate to inadequate, totaling seven questions, by reviewing and analyzing the state of the art on the subject. This was validated by three judges, nurses, doctors, with research published in the area, involved in maternal health care and teachers of an undergraduate nursing course. The instrument was analyzed regarding the presentation form and the elaborated content. The suggestions sent were read and the changes in the questions were made, as well as in the categories of the answers and regarding the withdrawal and/or addition of some questions.

In the category about knowledge, the guiding question was: what characterizes an active birth? The question: What do you think is important to do to have an active birth? Answer the question to unveil the attitude.

With the recruitment of pregnant women, the invitation to participate in the study was made. Upon acceptance and signature of the Informed Consent Form, the groups were formed. In the IG, consisting of 84 pregnant women, there was a routine prenatal consultation, with subsequent exposure of the educational video and interview with a form on KAP about the preparation for active delivery and its performance; For the CG, with 83 pregnant women, the same procedures as the IG were used, except for the educational video exposure, totaling 10 meetings.

The database was developed using the Statistical Package for the Social Sciences statistical program, version 20.0. The exploratory analysis of the data consisted of descriptive statistical tests, absolute and relative frequency, presented through tables. To analyze the correlation of sociodemographic and obstetric variables with knowledge, attitude and practice, Fisher's test was used. Regarding the evaluation of the answer categories (knowledge, attitude and practice) and the studied group, the Chi-square test was used.

The study was conducted according to the norms of Resolution 466/12 on research involving human subjects and approved by the Research Ethics Committee of the Federal University of Ceará, according to opinion nº 1,148,019.

Results

The study participants totaled 167 pregnant women, distributed between IG (84 pregnant women) and CG (83 pregnant women), most of whom were between 20 and 30 years old (59.8%), living with a partner (86.8%), schooling time was less than 12 years (65.2%), primiparous women (48.5%), with prenatal onset still in the first trimester (92.2%).

Regarding the assessment of the adequacy of knowledge, attitude and practice of the groups, it can

be seen that the IG had the highest adequacy of the requirements, with statistical significance in almost all variables, totaling a result of 50, 62 and 71.4%, respectively, when associated with the group that received the technology (p=0.001, p=0.044 and p=0.054).

Table 1 shows the assessment of the level of knowledge of the groups in question, when asked about what characterizes an active birth. Comparing the CG and IG responses, it was found that the adequacy was higher in the second group, whose video technology was applied. The answers most cited by the pregnant women of IG were the active participation of the mother (57.1%) and the free choice companion (42.9%). Opposing the responses considered inadequate, women in the CG showed lack of knowledge about the vertical position (95.2%) and privacy at the time of giving birth (89.2%) as important points for active childbirth.

Table 1 – Groups' assessment of the level of knowledge about active childbirth

What characterizes an active birth?	Control		Intervention	
	Suitable n (%)	Inappropriate n (%)	Suitable n (%)	Inappropriate n (%)
Active participation of mother	34.9	65.1	57.1	42.9
Companion Participant	14.5	85.5	42.9	57.1
Use of vertical position	4.8	95.2	11.9	88.1
Privacy at birth	10.8	89.2	26.2	73.8
Use of non-pharmacological therapies for childbirth	15.7	84.3	13.1	86.9
Don't know or don't remember	30.1	69.9	25.0	75.0

In Table 2, when asked what they considered important to do to have an active childbirth, the item most answered by the pregnant women of the IG was breathing (76.2%), followed by the use of the ball and the horse (45.2%). The lack of knowledge of women in the CG deserves attention, as most did not report important practices at the moment of delivery, such as ambulation (84.3%) and vertical position (89.2%).

Table 2 – Groups' assessment of attitude level regarding active childbirth

What do you think is important to do to have an active birth?	Control		Intervention	
	Suitable n (%)	Inappropriate n (%)	Suitable n (%)	Inappropriate n (%)
Breath	60.2	39.8	76.2	23.8
Ambulation	15.7	84.3	28.6	71.4
Vertical position	10.8	89.2	20.2	79.8
Use of ball and horse	34.9	65.1	45.2	54.8
Don't know or don't remember	20.5	79.5	10.7	89.3

Table 3 showed statistical significance in the variables active mother participation (p=0.005), free choice companion participation (p=0.000) and privacy at birth (p=0.016), which corresponded to variables related to level of knowledge about active childbirth. Regarding the attitude level, there was a difference between the groups in the item breath (p=0.031). The variables related to the practice of active delivery were not statistically significant.

Table 3 – Evaluation of the categories questioned regarding knowledge, attitude and practice in both groups

Question	p*
What characterizes an active birth?	
Active participation of mother	0.005
Participation of the free choice companion	0.000
Use of vertical position	0.161
Privacy at birth	0.016
Use of non-pharmacological therapies for childbirth	0.665
If your delivery was normal, what were your attitudes	
Breath	0.159
Ambulation	0.565
Vertical position	1.000
Use of the ball and horse	1.000
Don't know or have no opinion	1.000
Type of delivery	
What type of delivery intended (Attitude)	0.861
What type of delivery had (Practice)	0.497

*Chi Square Test

Discussion

With implications for nursing practice and health, the results showed that the use of educational technology through video contributes to the development of critical-reflexive attitude of pregnant women, besides contributing to the knowledge about the parturition process.

The findings found in this study are supported by other studies that also show promising results when it comes to accessing information for knowledge about the best mode of delivery, non-pharmacological measures during delivery, better birth conditions for the baby, postoperative recovery in childbirth[9-11].

Maternity researchers from Minas Gerais, Brazil, showed that among 40 parturient, the most registered care in delivery care were breathing exercise, sprinkling, walking, position changes (crouched, sitting, squatting), massages and Swiss ball[12], similar results found in the study.

Given this care, the characteristics of care practices positively affect the quality of health care, as they perceive this event as a natural physiological process. The understanding that humanization and quality of care for women are enhanced through the adoption of non-pharmacological methods for pain relief reinforces, according to a study with 119 mothers of public maternity, a reference in maternal and child care in the state of Ceará, Brazil[11,13].

More and more childbirth care practices and services are influenced by the roles played by the parturient, the professionals who assist her and the environment where the event occurs. Places with care focused on the physiology of birth and delivery in which obstetric and midwifery nurses have autonomy to develop skills to promote normal birth, allow the use of good practices, providing comfort, tranquility, less anxiety and reduction of abusive practices[14].

In this context, in a study conducted in a medium-sized maternity hospital in the state of Rio Grande do Sul, Brazil, it was observed that pregnant women give importance to the knowledge acquired through previous personal experiences, reports and experiences of family members and knowledge shared throughout the years life trajectories, when they spoke of how the desire for the current type of birth was awakened[11].

However, often, when humanized care is not materialized, as mentioned in a study conducted in seven public maternity hospitals in the Midwest of Minas Gerais, it is indicated that the choice of the route of delivery was not the choice of the parturient, but rather by the determination of the health professional, disregarding the humanized care at this moment[10].

From this perspective, the practice of adequate technologies in childbirth care, based on a humanized care model, with emphasis on scientific evidence, rescuing the empowerment of women through the use of non-medicated labor pain relief practices and respecting delivery physiology, cause less harm to mother and baby and may allow women to feel more autonomous at delivery[4,15-16].

In Brazil, the Health Department highlights the Public Policies on Women's Health Care, regulating the right to reproductive planning and humanized attention to childbirth and postpartum pregnancy, as well as the right to safe birth and growth and healthy development. Proposals that seek to qualify the services offered by the Unified Health System from family planning, pregnancy confirmation, prenatal, delivery and postpartum, considering 28 days after delivery[17].

Understanding that prenatal care aims to reduce maternal and fetal morbidity and mortality, care should be received from the gestational period to the minute of delivery. In addition, prenatal care is not only based on appointments and exams, but also includes the implementation of strategies that involve the reception and the recognition of health needs that contribute to the establishment of bonds between the pregnant woman and the health team[18].

Thus, the birth plan appears as another ally to the active participation of the pregnant woman during the parturition process. Therefore, a plan is designed for the couple, an educational instrument that informs

about all the alternatives available in childbirth care, with or without irregularities. The plan may be changed according to service practices, which will enable women to have autonomy in choosing the mode of delivery and, at the same time, be a protagonist of their own history[11].

Conclusion

The findings of this study indicated that video-type educational technology had a successful effect on the knowledge, attitude and practice of pregnant women about active childbirth, standing out as an ally in the implications for nursing practice and health.

Acknowledgments

To the Conselho Nacional de Desenvolvimento Científico e Tecnológico, for granting a Research Productivity scholarship to Ana Fátima Carvalho Fernandes, process nº 301943/2017-6.

Collaborations

Andrade IS contributed to the project conception, data analysis and interpretation and writing of the article. Castro RCMB and Moreira KAP collaborated with relevant critical review of the intellectual content. Santos CPRS and Fernandes AFC contributed to the writing of the article and final approval of the final version to be published.

References

1. Possati AB, Prates LA, Cremonese L, Scarton J, Alves CN, Resse LB. Humanization of childbirth: meanings and perceptions of nurses. Esc Anna Nery. 2017; 21(4):e20160366. doi: http://dx.doi.org/10.1590/2177-9465-ean-2016-0366
2. Mangini FNR, Kocourek S, Silveira LV. Serviço social e tecnologias de saúde: o desafio da subversão democrática. Serv Soc Saúde. 2018; 17(1):65-94. doi: https://doi.org/10.20396/sss.v17i1.8655203
3. Quental LLC, Nascimento LCCC, Leal LC, Davim RM, Cunha ICBC. Educational practices with pregnant women at a primary health care. Rev Enferm UFPE on line. 2017; 11(Supl. 12):5370-81. doi: https://doi.org/10.5205/1981-8963-v11i12a23138p5370-5381-2017
4. Duarte MR, Alves VH, Rodrigues DP, Souza KV, Pereira AV, Pimentel MM. Care technologies in obstetric nursing: contribution for the delivery and birth. Cogitare Enferm. 2019; 24:e54164. doi: http://dx.doi.org/10.5380/ce.v24i0.54164
5. Sabino LMM, Brasil DRM, Caetano JA, Santos MCL, Alves MDS. Uso de tecnologia leve-dura nas práticas de enfermagem: análise de conceito. Aquichan. 2016; 16(2):230-9. doi: http://dx.doi.org/10.5294/aqui.2016.16.2.10
6. Barbosa EMG, Sousa AAS, Vasconcelos MGF, Carvalho REFL, Oriá MOB, Rodrigues DP. Educational technologies to encourage (self) care in postpartum women. Rev Bras Enferm. 2016; 69(3):545-53. doi: http://dx.doi.org/10.1590/0034-7167.2016690323i
7. Polit DF, Beck CT. Fundamentos de pesquisa em enfermagem: avaliação de evidências para a prática da enfermagem. Porto Alegre: Artmed; 2018.
8. Moreira KAP. Tecnologia educativa para a promoção do conforto, privacidade e autonomia da gestante para um parto ativo [Internet]. 2014 [citado 2019 ju 13]. Disponível em: http://www.repositorio.ufc.br/bitstream/riufc/21935/1/2016_tese_isandrade.pdf
9. Silva AS, Oliveira CCC, Brito ECC, Castro e Silva TB, Evangelista DR. Conhecimento das gestantes acerca das medidas de alívio da dor durante o parto. Rev Enferm Atual [Internet]. 2019 [citado 2019 Jun 5];87(Supp):1-7. Disponível em: https://revistaenfermagematual.com.br/index.php/revista/article/view/221/122
10. Oliveira VJ, Penna CMM. Every birth is a story: process of choosing the route of delivery. Rev Bras Enferm. 2018; 71(suppl 3):1304-12. doi: http://dx.doi.org/10.1590/0034-7167-2016-0497
11. Prates LA, Timm MS, Wilhelm LA, Cremonese GO, Schimith MD, Ressel LB. Being born at home is natural: care rituals for home birth. Rev Bras Enferm. 2018; 71(suppl 3):1324-34 doi: http://dx.doi.org/10.1590/0034-7167-2017-0541

12. Dias EG, Ferreira ARM, Martins AMC, Jesus MM, Alves JCS. Eficiência de métodos não farmacológicos para alívio da dor no trabalho de parto normal. Enferm Foco [Internet]. 2018 [citado 2019 Jun 5];9(2):35-39. Disponível em: http://revista.cofen.gov.br/index.php/enfermagem/article/view/1398/442

13. Melo LPT, Pereira AMM, Rodrigues DP, Dantas SLC, Ferreira ALA, Fontenele FMC, et al. Representações de puérperas sobre o cuidado recebido no trabalho de parto e parto. Av Enferm. 2018; 36(1):22-30. doi: http://dx.doi.org/10.15446/av.enferm.v36n1.63993

14. Gonçalves LD, Silva JC, Rodrigues MS. Boas práticas na assistência ao parto: implicações do plano de parto. Rev Bras Ciênc Vida [Internet]. 2018 [citado 2019 Jun 5];6(n. esp):1-27. Disponível em: http://jornal.faculdadecienciasdavida.com.br/index.php/RBCV/article/view/747/32

15. Souza RG, Silva AK, Rodrigues JMS, Kawakame PMG. Educação em saúde sobre o uso de tecnologias não invasivas para alívio da dor no trabalho de parto. PECIBES [Internet]. 2018 [citado 2019 Jun 5];4(2):57-101. Disponível em: http://www.seer.ufms.br/index.php/pecibes/article/view/6946/5104

16. Guida NFB, Pereira ALF, Lima GPV, Zveiter M, Araújo CLF, Moura MAV. Compliance of nursing care practices with technical recommendations for normal birth. Rev Rene. 2017; 18(4):543-50. doi: http://dx.doi.org/10.15253/2175-6783.2017000400017

17. Ministério da Saúde (BR). Rede cegonha [Internet]. 2017 [citado 2019 Jun 5]. Disponível em: http://portalms.saude.gov.br/saude-para-voce/saude-da-mulher/rede-cegonha

18. Mayor MSS, Herrera SDSC, Araujo MQA, Santos FM, Arantes RV, et al. Avaliação dos Indicadores da Assistência Pré-Natal em Unidade de Saúde da Família, em um município da Amazônia Legal. Rev Cereus [Internet]. 2018 [citado 2019 Jun 5];10(1):91-100. Disponível em: http://ojs.unirg.edu.br/index.php/1/article/view/2079/636