

Development and validating an educational booklet for childbirth companions*

CONSTRUÇÃO E VALIDAÇÃO DE MANUAL EDUCATIVO PARA ACOMPANHANTES DURANTE O TRABALHO DE PARTO E PARTO

CONSTRUCCIÓN Y VALIDACIÓN DE MANUAL EDUCATIVO PARA ACOMPAÑANTES DURANTE EL TRABAJO DE PARTO Y EL PARTO

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ABSTRACT

Objective: the article describes the steps in producing and validating an educational booklet for childbirth companions. **Method:** methodological study conducted in 2011 consisting of the following steps: situational assessment; establishing brochure content; content selection and referencing; drafting the text; design of illustrations; layout; consultation of specialists; consultation of target audience; amendments; proofreading; evaluation using the Flesch Reading Ease Formula. The topics portrayed the sequence of events involving support from gestation to the postpartum period. **Results:** the concordance rate among companions was greater than or equal to 81.8% for the topics organisation, writing style, presentation and motives. The overall Content Validity Index of the booklet was 0.94. The booklet was classified as *easy reading* or *very easy reading* according to the results of the Flesch Reading Ease Formula. **Conclusion:** the presentation and content of the manual were validated for use with the target audience by the specialists and representatives of the target audience.

DESCRIPTORS

Humanizing delivery
Social support
Technology
Obstetric nursing
Validation studies

RESUMO

Objetivo: Descrever o processo de construção e validação de um manual educativo para acompanhantes durante o trabalho de parto e parto. **Método:** Pesquisa metodológica, realizada em 2011, seguindo as etapas: diagnóstico situacional; levantamento do conteúdo; seleção e fichamento do conteúdo; elaboração textual; criação das ilustrações; diagramação do manual; consulta a especialistas; consulta ao público-alvo; adequação do manual; revisão de português e avaliação do Índice de Legibilidade de Flesch (ILF). Foram elaborados tópicos que retrataram o suporte do período gestacional ao pós-parto. **Resultados:** Entre os acompanhantes, houve concordância mínima de 81,8% nos tópicos organização, escrita, aparência e motivação. O Índice de Validade de Conteúdo (IVC) Global do manual educativo foi de 0,94. A partir do ILF, os tópicos do manual corresponderam à leitura *Muito Fácil* ou *Fácil*. **Conclusão:** Considera-se o manual validado por especialistas e representantes do público-alvo quanto à sua aparência e conteúdo.

DESCRITORES

Parto humanizado
Apoio social
Tecnologia
Enfermagem obstétrica
Estudos de validação

RESUMEN

Objetivo: Describir el proceso de construcción y validación de un manual educativo para acompañantes durante el trabajo de parto y el parto. **Método:** Investigación metodológica, realizada en 2011, siguiendo las etapas: diagnóstico situacional; relevamiento del contenido; selección y registro del contenido; elaboración textual; creación de las ilustraciones; diagramación del manual; consulta a expertos; consulta al público meta; adecuación del manual; revisión de portugués y evaluación del Índice de Legibilidad de Flesch (ILF). Fueron planteados los tópicos que retrataron el soporte desde el período gestacional hasta el posparto. **Resultados:** Entre los acompañantes, hubo concordancia mínima del 81,8% en los tópicos organización, escrita, apariencia y motivación. El Índice de Validade de Contenido (IVC) Global del manual educativo fue de 0,94. Desde el ILF, los tópicos del manual correspondieron a la lectura *Muy Fácil* o *Fácil*. **Conclusión:** Se considera el manual validado por expertos y representantes del público meta en cuanto a su apariencia y contenido.

DESCRIPTORES

Parto humanizado
Apoio social
Tecnología
Enfermería obstétrica
Estudios de validación

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INTRODUCTION

Historically, pregnant women received care and support from traditional healers, midwives or godmothers, other women who they trusted and family members who were present during the whole labour and delivery process. However, in recent decades, the provision of continuous support for women during labour has become more of an exception rather than a rule.

Continuous support, also known as one-to-one support, consists of the presence of a carer, doula, health professional or someone who is part of the pregnant woman's social network during all stages of childbirth the provision of physical assistance and emotional support, and instruction on relaxation and coping techniques⁽¹⁾.

A growing number of studies have shown the benefits of continuous support during labour. A systematic review of 21 randomized clinical trials showed that the presence of a companion from the pregnant woman's social network contributes towards an increase in the prevalence of spontaneous vaginal births and a decrease in the prevalence of caesarean sections and instrumental vaginal births. There was also a reduction in the need for the use of intrapartum analgesia and the duration of labour, and women were less likely to report dissatisfaction or negative perceptions towards giving birth and less likely to have a baby with a low five-minute Apgar score⁽¹⁾. Furthermore, participation of the baby's father in childbirth was shown to enhance the mother's feelings of control, strengthen bonding and guarantee wider support⁽²⁾.

In light of the benefits of the presence of a companion during childbirth, the Brazilian government created the Law 11108/2005, changing Law 8080/1990 that created Brazil's Unified Health System (SUS, acronym in Portuguese) and guaranteeing women the right to companionship during labour, birth and the immediate postpartum period within in the SUS⁽³⁾.

Despite existing legislation and the recognition of the importance of companionship during childbirth, there are a number of obstacles to ensuring that this happens in practice, including inadequate physical space, lack of acceptance among certain categories of health professionals, and the fact that pregnant women often do not demand their rights⁽⁴⁾. Another impediment is the limited number of measures taken to promote the autonomy of the companion accompanying the pregnant woman during this period. A study conducted in a maternity clinic in the State of Ceará with 59 companions that were present during childbirth showed that none had received relevant training or instructions⁽⁵⁾.

It is known that the quality of support provided by a companion is almost always proportional to his or her capacity to make an active contribution to the process of childbirth, and therefore the development of appropriate educational resources to provide guidance to companions on how to improve their role and provide effective support

during childbirth is important. The development of educational resources can promote changes in behaviour and generates feelings of competence and confidence, thus facilitating the provision of appropriate support⁽⁶⁾.

Educational resources include information booklets, which may be classified as soft technology, since they involve the structuration of knowledge applied to healthcare⁽⁷⁾. Information booklets aid users to memorise information and help guide health education activities.

Given the importance of developing educational resources in the field of obstetrical nursing and the support given to women by a companion during childbirth, the objective of the present study is to describe the steps in producing and validating the information booklet *Preparing yourself for attending a natural birth: what should you know?*

METHOD

This work consists of a methodological study conducted in 2011 of the stages involved in producing, evaluating and improving an information booklet for use during prenatal care to provide guidance to birth companions intending to give support during childbirth⁽⁸⁾.

The process was based on common steps involved in producing healthcare information booklets as shown in Figure 1 below⁽⁹⁾.

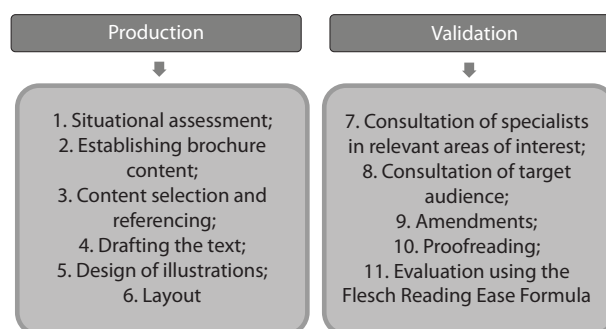


Figure 1- Steps followed in producing the information booklet

We carried out a situational assessment of knowledge of labour support techniques among 62 childbirth companions of women who had recently given birth in the Assis Chateaubriand Maternity School. Convenience sampling was used to select companions who had been present during birth between May and July 2011. Companions of women who had had caesarean sections were excluded.

After this step, a bibliographical survey was conducted which resulted in the selection of 12 scientific articles, five dissertations from the Coordination for the Improvement of Higher Education Personnel (CAPES, acronym in Portuguese) database, 12 text books, five Ministry of Health booklets and three non-governmental organisation websites. The following keywords were used for this search: mechanism of birth,

humanised childbirth, pain relief during vaginal birth, and birth companion. The aim of this selection was to gather all relevant information that may be useful in producing the booklet, categorised in the following groups: anatomy of the female reproductive system; signs and symptoms of labour; mechanism of birth; non-pharmacological methods to ease pain; and basic notions of citizenship. These topics were selected based on the knowledge needs highlighted by the situational assessment. After referencing, eight booklet topics were finally selected.

Illustrations were designed based on reflective reading, whereby the author makes suggestions to the graphic designer on how to represent situations and main topics addressed by the manual drawn from the referenced material. All illustrations were drawn by hand and completed using an ink drawing pen. The drawings were then scanned and sent to the researcher for approval. Approved drawings were completed by digital painting using Adobe Photoshop version 12.0. Page layout was designed using CorelDraw version 15.0.

After the production process, the information booklet was evaluated by health professionals specialising in one or more of the following relevant areas: women's health, obstetrics, health technology, and/or validation of educational tools in the relevant area of interest. Nine specialists were consulted in accordance with the recommendations found in the literature⁽¹⁰⁻¹¹⁾. Inclusion criteria used by previous validation studies were adapted for use in this study⁽¹²⁻¹³⁾ and an initial selection of specialists was made using snowball sampling based on the requisites outlined in Chart 1. Those specialists that achieved a score of five or over were preselected⁽⁸⁾. After preselection, the research team analysed the professionals' *Curriculo Lattes*, a standard *curriculum vitae* contained in the Lattes Platform maintained by the National Council of Scientific and Technological Development (CNPq, acronym in Portuguese) to verify whether the specialist met the study's selection criteria. Fifteen specialists were invited to participate, however only nine responded the questionnaire within the stipulated deadline.

Chart 1 - Criteria used for selecting specialists in nursing, post-graduate programme in nursing at the Federal University of Ceará, Fortaleza, Ceará 2011

Item	Score
Thesis or dissertation in the area of interest	2 points/work
Undergraduate thesis or specialisation in the area of interest	1 point/work
Participation in groups/projects in the area of interest	1 point
Teaching experience in the area of interest	0.5 points/year
Practical work experience in the area of interest	0.5 points/year
Supervisor of academic works in the area of interest	0.5 points/work
Author of two articles in the area of interest published in journals	0.25 points/work
Participation in examining panels of works in the area of interest	0.25 points/work

Thirty women receiving prenatal care at the Lygia Barros Natural Birth Centre (CPN, acronym in Portuguese) with appointments in September 2011 were contacted by telephone. The women were asked to invite a companion to participate in the study and education intervention. Nineteen pregnant women were invited, of which eight had not yet thought of a companion. Eleven women accepted the invite to participate in the study but did not turn up to the sessions. A total of eleven women and their respective companions turned up to the training sessions (four in the first session and seven in the second). The training sessions were conducted in the CPN by a researcher and three master's degree students, lasted an average of 60 minutes and consisted of the following stages: welcome activity; group reading of the booklet; highlighting of words or illustrations that were difficult to understand; evaluation of the information booklet; and discussion of suggested amendments.

Two tools were used during data collection, one directed at specialists, and another directed at the target audience. The first tool was adapted from a method used by a validation study of an information booklet regarding post-operative self-care among women who had undergone a mastectomy which included information about the evaluator/specialist and the booklet items being evaluated (objectives, structure, presentation and relevance of the strategy). The answers to the questions were presented in the form of a Likert rating scale⁽¹⁴⁾, ranging from one (*Totally Inadequate*) to four (*Totally Adequate*). The second tool was adapted from a study of the production and validation of information material for health service users that underwent the papanicolaou test that characterised the target audience and the booklet items being evaluated (objectives, layout, writing style, presentation and the motives behind the production of the booklet)⁽¹⁵⁾. In this case, questions were answered *yes* or *no*. Both tools provided space for suggestions for improving the material.

The validation process used two of the methods adapted from the studies mentioned above⁽¹³⁾. With respect to the first method, an item was validated under the following circumstances: when at least half of the specialists gave a score of 4 = *totally adequate*, and the rest of the group of specialists gave a score of over 1 = *totally inadequate*; or when specialists gave a score of 2 = *partially adequate*, or 1 = *totally inadequate*, but offered suggestions for improving the booklet which were later adopted in the revised version⁽¹³⁾.

The second method used the Content Validity Index (CVI). The CVI measured the concordance between the scores given by the members of the panel of specialists for a given item⁽¹⁶⁾. The literature recommends a cut-off point of at least 0.78 when material is evaluated by over six specialists, which was the case in this study⁽¹⁷⁾. The overall evaluation of the manual was based on the sum of the CVIs of each item divided by the number of items evaluated⁽¹⁷⁾.

With regard to the consultation of the companions, items were validated where the concordance rate for the option *yes* was 75% or over. Those items where the concordance rate was less than 75% were revised.

The Readability Index (RI), related to the level of schooling necessary to understand a given text, was then calculated using the Flesch Reading Ease Formula⁽¹⁸⁾ and the Microsoft Word Grammar Checker for Brazilian Portuguese (ReGra, acronym in Portuguese), which analyses the syntactic structure of a given sentence. A score of between 50 and 100 (*easy reading to very easy reading*) was considered acceptable. The test was undertaken for each topic after the final amendments to the text were made. A score below 50 meant that the text had to be rewritten by reducing sentence size and replacing words. After this process, the booklet was revised by a specialist proofreader.

This study was approved by the Research Ethics Committee at the Federal University of Ceará (application number 67/2011). Participants signed an informed consent form and were assured confidentiality, privacy and anonymity regarding all collected information, according to the rules of the National Health Council Resolution 196/96 on research involving human beings⁽¹⁹⁾.

RESULTS

Steps in producing the information booklet

The situational assessment showed that the birth companions had heard of the following main labour support techniques: quiet and private birth environment (42 = 67.7%); adequate lighting (20 = 32.3%); proper positioning for pain relief (31 = 50.0%). Despite knowledge of these techniques, the support given during delivery was limited to continuous presence (62 = 100%); encouraging words (51 = 82.3%); touching (43 = 69.4%); and massage (36 = 58.1%). Only 25 of the companions that were interviewed (40.3%) had any knowledge of their rights and duties.

During writing, the author attempted to organise information to portray the sequence of events involving the

woman and her companion from preparing to go to hospital to leaving the delivery room for the joint accommodation. The booklet contained the following topics: a few days before birth (physiological and behavioural changes); getting to know the female body (external and internal anatomy of the female reproductive organs); labour signs and symptoms; arriving at the maternity hospital (the functions of the healthcare professionals that attend delivery); pain relief techniques during childbirth (physical and emotional support); how does a natural birth happen? (the mechanism of birth); rights and duties of expectant mothers and companions; basic notions of citizenship (maternity and paternity leave; registering the birth of a new baby).

The final version of the booklet contained 44 pages and included 38 illustrations. Two characters were developed (a woman and her birth companion) exclusively for the booklet to facilitate picturing the sequence of events. Figure 2 shows the cover and one of the topics covered by the booklet.



Figure 2 – The cover and one of the topics covered by the booklet.

Consultation of specialists in the area of interest

Seven of the nine specialists that evaluated the manual had completed master's degrees or had a PhD in nursing, of which six were higher education teachers. The specialists scored between 7.0 and 116.0, based on the selection criteria mentioned above. This large variation is due to the large amount of scientific articles produced by teachers of postgraduation programmes compared to registered practical nurses. Table 1 shows the opinions of the specialists regarding the objectives, structure, presentation and relevance of the booklet.

Table 1 - Opinions of the specialists regarding the validation criteria - Fortaleza, State of Ceará 2011

1. Category	Validation					
	I	PA	A	TA	NA	CVI*
Objective						
1.1 Coincides with the companion's needs.	-	-	3	5	1	0.88
1.2 Is consistent with the labour support process.	-	-	3	6	-	1
1.3 Can circulate within the scientific community in the field of obstetrics.	-	-	3	6	-	1
1.4 Meets the objectives of organisations that work with humanised childbirth and presence of a companion in the delivery room.	-	-	2	7	-	1
Structure and presentation						
2.1 The information booklet gives appropriate guidance to companions that intend to be present at childbirth.	-	-	3	6	-	1
2.2 The messages are presented clearly and concisely.	-	-	7	2	-	1

Continua...

1. Category	Validation					
	I	PA	A	TA	NA	CVI*
2.3 The information presented is scientifically correct.	-	-	3	6	-	1
2.4 The material is socially and culturally appropriate for the proposed target audience.	-	-	4	5	-	1
2.5 The proposed content follows a logical sequence.	-	2	2	5	-	0.77
2.6 Information is well structured in terms of syntax, conjugation and spelling.	-	3	4	2	-	0.66
2.7 The writing style is appropriate to the level of knowledge of the target audience.	-	1	6	2	-	0.88
2.8 The information contained in the cover and inside cover, acknowledgements and/or preface is consistent.	-	-	3	6	-	1
2.9 The titles and text of the topics are a suitable size.	-	-	2	7	-	1
2.10 The illustrations are meaningful and sufficient.	-	1	3	5	-	0.88
2.11 The booklet has a suitable number of pages.	-	-	3	6	-	1
Relevance						
3.1 The topics portray key aspects that need to be reinforced.	-	-	1	8	-	1
3.2 The booklet proposes that the learner should acquire knowledge about labour support techniques.	-	-	1	8	-	1
3.3 The booklet addresses relevant aspects of how a birth companion should prepare him/herself.	-	1	1	7	-	0.88
3.4 The booklet could be used for educational activities carried out by health professionals.	-	-	1	8	-	1

I. Inadequate; PA. Partially Adequate; A. Adequate; TA. Totally Adequate; N.A. Not Applicable
 * Content Validity Index

All the items of the objective and relevance categories received a satisfactory evaluation and the proposed objectives were met without the need for any amendments to the booklet content.

With respect to the structure and presentation categories, the following items required amendments and were validated only after including the suggestions made by the specialists: item 2.2 was not considered *totally adequate* by at least half of the specialists; item 2.5 was considered *partially adequate* by two specialists; item 2.6 was not considered *totally adequate* by at least half of the specialists

and was considered *partially adequate* by three specialists, and the CVI was < 0.78; and item 2.7 was not considered *totally adequate* by at least half of the specialists and was considered *partially adequate* by one specialist. The overall CVI of the booklet was 0.94, confirming the validation of the presentation and content categories by the specialists.

Consultation of the target audience

Eleven companions evaluated the organisation, style of writing, presentation and motives behind the production of the booklet (Table 2).

Table 2 - Evaluation of the organisation, writing style, presentation and motives behind the production of the booklet by the birth companions - Fortaleza, State of Ceará 2011

Category	Option 1		Option 2		Option 3	
	N	%	N	%	N	%
1. Organisation						
1.1 Did the cover catch your eye? 1.yes/ 2.no/ 3.don't know	9	81.8	2	18.2	-	-
1.2 Does it adequately cover the subject in question? 1.yes/ 2.no/ 3. don't know	10	90.9	1	9.1	-	-
1.3 Are the topics presented in an appropriate sequence? 1.yes/ 2.no/ 3. don't know	11	100	-	-	-	-
1.4 Is the content on each topic adequate? 1.yes/ 2.no/ 3. don't know	9	81.8	2	18.2	-	-
2. Writing style						
2.1 With respect to understanding the sentences, are they: 1.easy to understand/ 2.difficult to understand / 3. don't know	11	100	-	-	-	-
2.2 Is the written content: 1.clear/ 2.confusing/ 3. don't know	11	100	-	-	-	-
2.3 Is the text: 1.interesting/ 2.uninteresting/ 3. don't know	11	100	-	-	-	-
3. Presentation						
3.1 Are the illustrations: 1.simple/ 2.complex / 3. don't know	11	100	-	-	-	-
3.2 Do the illustrations complement the text? 1.yes/ 2.no/ 3. don't know	11	100	-	-	-	-
3.3 Are the pages and sections well organised 1.yes/ 2.no/ 3. don't know	11	100	-	-	-	-
4. Motives						
4.1 Do you think that the birth companions that read this booklet will understand what it is about? 1.yes/ 2.no/ 3. don't know	10	90.9	1	9.1	-	-
4.2 Did you feel motivated to read the booklet to the end? 1.yes/ 2.no/ 3. don't know	10	90.9	1	9.1	-	-
4.3 Does the booklet address the relevant aspects of how a birth companion should prepare him/herself for the birth? 1.yes/ 2.no/ 3. don't know	11	100	-	-	-	-
4.4 Does the booklet propose that the learner should acquire knowledge of labour support techniques? 1.yes/ 2.no/ 3. don't know	11	100	-	-	-	-

Since the concordance rate for all items was over 75%, the organisation, writing style, presentation and motives categories were validated.

Amendments to the booklet

In order to validate the booklet, amendments to certain items within the structure and presentation categories, based on the suggestions made by the panel of specialists, were necessary.

Item 2.6, which related to the grammatical aspects of the booklet, was considered *Partially Adequate* or *Adequate* by more than half the specialists, resulting in a CVI of 0.66. This item was validated after including the amendments based on suggestions made by the specialists, revision of the final version and inclusion of all of the proof-reader's suggestions.

Amendments to the following items were also requested by the specialists in order to validate the booklet: item 2.2 (clarity and conciseness of the presentation of the messages); item 2.5 (the logical sequence of the content); and item 2.7 (whether the writing style is appropriate to the level of knowledge of the target audience). The specialist's suggestions mainly consisted of replacing expressions with another word or expression and rewriting parts of the text: replace *in this manual you will find out more* with *Here the companion will find information on*; replace *spouse* with *husband*; replace the expression *pulled* with *stretched*; replace *abdomen* with *stomach*; replace *diversity of professionals* with *different types of professionals*; replace the term *provide* with *offer*; replace *minimise* with *reduce* and replace *disconnect* with *detach*. These items were validated after complying with all the suggestions.

With respect to item 2.3, regarding the scientific basis of the information presented, a comment was made regarding *go to hospital when contractions come every five minutes*, recommending that the booklet should include an observation about the mode of transport and estimated journey time from home to the maternity hospital. This is important since journey time may increase depending on the mode of transport and traffic congestion.

Item 2.10 (illustrations are meaningful and sufficient) was considered *Partially Adequate* or *Adequate* by four specialists. Suggestions to replace, reposition or change ten illustrations were duly adopted.

Although the booklet was positively evaluated by the birth companions, the content of certain topics was negatively evaluated by two participants (item 1.4) who suggested making the texts of the topics *a few days before birth* and *arriving at the maternity hospital* more concise. These topics were revised and made more succinct.

After amending the content, a professional proof-reader carried out a final revision of the Portuguese and final corrections based on this professional's suggestions were made to the text.

The Flesch Reading Ease Formula

The booklet received scores of between 50 and 94, which means that it was classified as *easy reading* or *very easy reading*. None of the topics received a score below 50 (*difficult reading* or *very difficult reading*).

DISCUSSION

It is known that lack of knowledge, difficulty memorising information and the vulnerability of the target audience are just some of the factors that justify the development of educational resources⁽²⁰⁾. Educational resources that give dynamism to educational activities (individual or group) are therefore becoming ever more important.

The situational assessment of the knowledge demands of the target audience and final evaluation by the birth companions gave greater direction to the content and resulted in a number of improvements to the presentation of the booklet. A well produced booklet that contains easily understood information improves the knowledge and feeling of satisfaction of the target audience⁽¹⁴⁾. The authors therefore sought to include relevant information using plain language and concise sentences. With respect to the illustrations, we sought to bring the characters closer to reality, with facial expressions that showed real feelings such as satisfaction, concern, pain and relief. The use of figurative illustrations in well known settings facilitates communication with the reader⁽²¹⁾.

It is known that the use of labour support techniques should not be considered to be a strictly followed protocol, since women have the freedom to choose whether they prefer continuous support from a companion during childbirth⁽²¹⁾. The booklet therefore aimed to present information and also justify the importance of support and pain relief techniques for women by showing their advantages.

The nine specialists considered the material to be a relevant and fitting tool for working with birth companions, consistent from an educational perspective and appropriate for the scientific community in the field of obstetrics. The organisation, writing style, presentation and motives behind the production of the booklet were also positively evaluated by the target audience.

During the performance of their activities, nurses should give priority to health education that considers the real needs of the population, using dynamic activities that promote interest and active learning⁽²²⁾. Texts should therefore be written to be socially and culturally appropriate for the proposed target audience.

The participation of specialists and representatives of the target audience may increase the credibility and acceptability of educational resources, while recognising knowledge limits and accepting other forms of knowledge is crucial for effective health education⁽²³⁻²⁴⁾.

Ease of reading using the Flesch Reading Ease Formula was classified as *Very Easy* and *Easy*. Ease of reading of a given educational material is important for overcoming possible learning difficulties due to low levels of schooling. The level of the women and companions that participated in this study was ascertained from practical experience in obstetrics and previous research on this theme^(5,13). This experience and previous access to this audience facilitated the transmission of scientific knowledge by using language that is clear and simple and easily comprehensible for the target audience.

CONCLUSION

This study shows that the educational booklet *Preparing yourself for attending a natural birth: what should you know?* can contribute towards preparing birth companions for attending a natural birth, thus facilitating the provision

of comprehensive and humanised care and encouraging the active participation of the birth companion during childbirth.

The booklet was validated after carrying out the modifications requested by the specialists and representatives of the target audience. However, an evaluation of the impact of the booklet on the behaviour of the birth companion during childbirth is beyond the scope of this study and warrants further research.

One of the limitations of this study is the fact that the booklet was not evaluated by a communications specialist. The development of other educational resources is recommended, such as videos, pamphlets, education packs, and hypermedia, to disseminate information to this target audience. Bearing in mind that knowledge is neither finite nor inflexible, we also suggest that annual revisions are made to the booklet to reflect scientific innovations and new birth companion knowledge demands.

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