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Preview Notes



Innovation in prenatal guidance from the Healthy Gestation application: a methodological study

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ABSTRACT

Aim: to develop a mobile smartphone application as a tool for joining prenatal consultations. **Method:** it is an applied methodological study, in the form of technological production for validation of the application, elaborated between January and October 2017, in which the steps of analysis, design, development, implementation and evaluation were followed. Initially, an integrative review was carried out on the subject and then, with the outline of an organization chart to guide the construction of the tool and obtaining the product. **Expected Result:** it is expected that this tool contributes to sustainable development by reducing neonatal and maternal deaths, mainly due to direct obstetric causes; thus, generating greater adherence to consultations on the part of pregnant women and better quality of prenatal care.

Descriptors: Technology; Prenatal Care; Pregnancy; Nursing.

SITUATION PROBLEM AND ITS MEANING

Recent estimates by the World Health Organization (WHO) have shown that, by 2015, approximately 303,000 women and adolescents worldwide have died from complications related to the pregnancy-puerperal cycle. About 99% of maternal deaths were from preventable causes, such as bleeding, hypertension, infections, and other complications⁽¹⁾.

With a view to reducing the number of gestational-related deaths and risks of stillbirths, WHO issued recommendations to improve the quality of prenatal care and increase the number of consultations for at least eight meetings of the pregnant woman with the health team. This is because only 64% of pregnant women have four or more prenatal consultations to receive care and guidance on the gestational period, delivery and puerperium⁽¹⁾.

In this context, technological innovations are a strong ally in the health sector, especially when health promotion and the prevention of diseases are sought, without, however, forgetting the assistance offered by health professionals.

Thus, the use of information and communication technologies (ICT), such as smartphones and tablets, appears as a new possibility for the teaching-learning processes in health.

In the area of nursing, the development and use of ICTs have grown and are breaking barriers to access to education. This time, technology influences the world around men, manifesting itself through knowledge and health skills related to the use of these technological resources of free access to professionals and users of the Unified Health System (*Sistema Único de Saúde* – SUS)⁽²⁾.

AIM

Develop a mobile smartphone application as a tool for joining prenatal consultations.

METHOD

This is an applied methodological study, in the form of technological production for application validation. The research is the result of a doctoral project, a study centered on SUS users. An information technology, which is a guiding resource for question and answer guidelines and images and videos dealing with anatomophysiological changes, fetal development, prenatal, delivery, and breastfeeding orientations, has been developed with a focus on care of pregnant women and newborns. Moreover, it has a dynamic agenda on the prenatal routines, with consultation date and time, completion of the virtual pregnant woman's notebook and the menu *Fale Conosco* (Talk to Us), through which the pregnant women will be able to speak with the researcher when necessary.

An integrative review was carried out in the Latin American and Caribbean Literature on Health Sciences (LILACS), Science Direct, CINAHL and Medline databases, as well as consultation on legislation related to prenatal care in Brazil and manuals of the Ministry of Health. The review was operationalized through the following search terms present in the Descriptors in Health Sciences (*Descritores em Ciências da Saúde* – DeSC) and Medical Subject Heading (MeSH): "pre-natal", "gravidez", "tecnologia", "aplicativo", "saúde da mulher", "enfermagem", "prenatal", "pregnancy", "technology", "APP", "women's health" and "nursing". The intersection between the descriptors occurred by the Boolean operator AND.

The application was developed using the Android Studio tool, using the Java Server Faces-JSF programming language, which is a JAVA framework for the Web, supported by the Spring and Hibernate frameworks. The SQLite database was the adopted option for the management of the registered data. The developed system was named "Healthy Gestation", and its creation period was from January to October 2017.

The development of the technological product was based on the Contextualized Instructional Design (*Design Instrucional Contextualizado* – DIC) model, which uses a sequential approach to the stages of multimedia construction and consists of the intentional action of planning, developing and applying specific didactic situations, incorporating mechanisms that favor contextualization⁽³⁾. The phases of: analysis, design, development, implementation and evaluation were obeyed.

The tool development emerged from a cooperative work with the union of knowledge and knowledge sharing of nursing and the logic of informatics, in order to meet the needs of pregnant women. The Metr pole Digital Institute of the Federal University of Rio Grande do Norte (UFRN) participated in the development of the technological part.

The project was submitted and approved by the Research Ethics Committee of UFRN under protocol CAAE No. 76787917.0.0000.5537 and Opinion No. 2.356.769. The content of the application will be validated by judges from the area of women's health and information and communication technology.

EXPECTED RESULTS

Faced with high maternal mortality rates in Brazil, it is expected that the study will contribute to sustainable development, reducing maternal neonatal deaths mainly due to direct obstetric causes, greater adherence to the consultations and quality of prenatal consultations.

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