Training of nurses and nursing residents to collect umbilical cord and placenta blood in a maternity-school: subsidies for the implementation of collection of the umbilical cord and placenta

ABSTRACT

Objective: to analyze the training process of nurses and nursing residents to collect umbilical cord and placenta blood. Method: descriptive-exploratory study with a qualitative approach. The search scenario will be the maternity-school of the Federal University of Rio de Janeiro/UFRJ. The target population will be the nurses and nursing residents allocated in the Obstetric Center. Data collection will be done during the evaluations of the workshops through pre-test instrument, post-test instruments and for the evaluation of the workshops from September to November 2014. The research had the project approved by the Ethics Committee in Research, under number 722172. Expected results: it is intended the training of the nurses and nursing residents to carry out the collection of umbilical cord and placenta blood for obtaining stem cells.

Descriptors: Umbilical cord Blood; Stem Cells; Nursing.

RESUMO


RESUMEN

Objetivo: analizar el proceso de capacitación de los enfermeros y residentes de enfermería para la recolección de sangre del cordón umbilical e placentario. Método: estudio descriptivo-exploratorio, con enfoque cualitativo. El escenario de la investigación será la Maternidad-Escola de la Universidad Federal de Rio de Janeiro/UFRJ. La población alvo será compuesta por los enfermeros y residentes de enfermería alocados en el Centro Obstétrico. La recolección de datos será hecha durante las evaluaciones de las oficinas mediante instrumentos pre-teste, post-teste e instrumentarios para la evaluación de las oficinas de septiembre a noviembre de 2014. La investigación tuvo el proyecto aprobado por el Comité de Ética en Investigación con el número. Resultados esperados: se pretende entrenar y capacitar a los enfermeros y residentes de enfermería para la realización de la recolección de sangre del cordón umbilical e placentario para obtener células-tronco. Descriptores: Sangre del Cordón Umbilical; Células-Tronco; Enfermería.
INTRODUCTION

Scientific and technological advances have brought relevant contributions to health area, with the implementation of new resources and new techniques of treatment and, consequently, life extension. In this context, there is the Transplantation of hematopoietic stem cells, which has been developed, mainly in the last twenty years, as an important method in treatment of hematologic, hereditary, oncological and immunological diseases.¹

Technology as process that includes every method whose function involves the training of individuals or groups to perform certain function or activity, as well as the management of services/products or personnel or even, the promotion of any kind or human approach. The elements that characterize the process include: training, management and human approach. In this sense, the Ministry of Science and Technology, the Ministry of Health and funding agencies have invested substantial resources in the research with cell therapy, having one of the requirements for the country to continue developing in this area.²

The Ordinance RDC 153³, of June 14, 2004, determines the technical regulation for hemotherapeutic procedures, including the collection, processing, testing, storage, transportation, quality control and the use of human blood and its components, obtained from the venous blood from the umbilical cord, placenta and bone marrow. The COFEN Resolution 304/20054 aims to standardize the role of the Nurse in the collection of umbilical cord and placenta blood. For performance in this activity, the nurse must go through specific training, developed by Banks of Placental and Umbilical Cord Blood-BPUCB. He will develop specific activities only in institutions that are in line with article 5 of the law 11,105/2005⁴ and must also be attentive to his Civil and Administrative Liability, determined by chapters 7 and 8 of the law 11,105/200.

When there is option to donate PUCB to public banks, confidentiality, the gratuity of the donation, the voluntary character and the lack of financial compensation must be respected. The service allows ensuring donor protection, provide all information concerning the donation process, risks involved, laboratory testing and set up security to the receiver.⁵

The PUCB donator for conventional transplantation shall comply with the specific legislation in force and respect the ethical precepts about the matter. Obtained cells are available to any person in need, through the use unrelated allogeneic or allogeneic akin, when the relation is the first degree with the unborn and the bearer of pathology to justify the treatment and medical procedure. Stored cells can also be used by the donor (autonomous transplant), provided that there is compatibility and are still available on the public network.⁶

The records and documents relating to the pregnant donor include personal data, family members (presence of disease in the family in maternal parents, maternal and paternal grandparents, including if there is relationship between the biological parents of the unborn), ethnic data of relatives (nationality and race), information that could identify situations involving high risk for contamination of blood-borne diseases, history of previous pregnancies (quantity, parity, abortion), exposure to risk factors (tattoos, piercing, drug use, blood transfusions, sexual contact during pregnancy with risk groups, risk pregnancy among others), historical monitoring of pregnancy (number of prenatal consultations, gestational age, infections, fever, among others), vaccination history, achieved in prenatal serologic tests (syphilis, HIV, malaria, chagas, among others), resulting
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The research will be developed on the basis of the 12 phases in the research-action: exploratory phase, research issue, placement of issues, the place of theory, hypotheses, seminar, field of observation, sampling and qualitative representativeness, data collection, learning, formal and informal knowledge, action plan and external publication. The first steps of this research have already started due to demand of the unit and this pre-project.

The Maternity-School of UFRJ is the place where the research is being performed, inserted into a qualitative model of study which is in the process of collecting data, following a sequence of analysis of documents of the institution to build the profile of donors and workshops for the training of nurses and nursing residents to collect umbilical cord and placenta blood.

The Maternity-School of UFRJ is part of a network of hospitals in the city of Rio de Janeiro and has as its target audience 2.1 Programmatic area pregnant women that encompass the 19 neighborhoods: despite the low risk prenatal care, this is a reference to high-risk and risks related to gestational diabetes, gestational hypertension, pregnancy, teenage pregnancy and high-risk of the fetus also having the fetal medicine department and NICU. It is also participates in the “Stork Network” of municipality of Rio de Janeiro. This institution has been invited to participate to be INCA collection center that, after the training of nurses and nursing residents, will make the collection of umbilical cord and placenta blood at the Maternity-School of UFRJ. After the training and implementation of the service, the capacity of generating blood bags from umbilical cord and placenta at the Maternity-School of UFRJ may meet the demand of 40% established for the Municipality of Rio de Janeiro.

Descriptive study with qualitative approach based with prerogatives of the research-action which is characterized for being a kind of research participant engaged, as opposed to traditional research, which is considered as “independent”, “non-reactive” and “objective”. As the name implies, research-action seeks to unite the research to action or practice that is, developing knowledge and understanding as part of the practice. It is, therefore, one way to research in situations that also is a practical person and wants to improve the understanding of it.

from the 4 ABO typing, RhD (blood typing) and research of irregular antibodies. Also it is necessary a permission for consultation of the medical records of the donor to obtain clinical data and medical records of relatives with potential importance for the transplant procedure and authorization to store samples of cells, plasma, serum and deoxyribonucleic acid (DNA) of the donor for testing that may be required in the future.6

By this, the object of the research is the training of nurses and nursing residents to collect umbilical cord and placenta blood at the Maternity-School of UFRJ. Therefore, the following research question was elaborated: how to teach nurses and nursing residents for collecting cord and placenta blood from this, the following objectives were elaborated:

- To analyze the training process of nurses and nursing residents to collect umbilical cord and placenta blood in the Maternity School of UFRJ;
- To describe the training process of nurses and nursing residents to collect umbilical cord and placenta blood in the Maternity School of UFRJ;
- To outline the epidemiological profile of possible donors of placental and cord blood in the Maternity School of UFRJ.

METHOD

Descriptive study with qualitative approach based with prerogatives of the research-action which is characterized for being a kind of research participant engaged, as opposed to traditional research, which is considered as “independent”, “non-reactive” and “objective”. As the name implies, research-action seeks to unite the research to action or practice that is, developing knowledge and understanding as part of the practice. It is, therefore, one way to research in situations that also is a practical person and wants to improve the understanding of it.
The target population is composed by the nurses and nursing residents allocated in the obstetric Center, childbirth assistance, located on the 2\textsuperscript{nd} floor of the main building of the Maternity-School, with a delivery room with four beds PCP (pre-birth/childbirth/immediate postpartum), a single room PCP, three surgical rooms, a recovery room and a room for newborn care.

In the sample, the inclusion criteria for the participation of the research will be the signature of nurses and nursing residents of the term free and informed consent.

In the exploratory phase, the collection of socio-demographic data of the possible donors will be obtained in service records, with subsequent statistical simple analysis, for the recognition of the scenario for the training. The subsequent steps concerning the seminar, field of observation, sampling, qualitative representativeness, data collection, learning, formal and informal knowledge, and action plan are daily analyzed, considering the procedural character of the action-research. At the end of the study, the results of the service will be analyzed on the basis of goals set initially in project. That will be held in September, October and November, 2014 through workshops for the training of nurses and nursing residents.

The qualitative data will be obtained through the description of subjective perception contained in the pre-test instruments, post-test instruments, and an instrument for evaluation of the workshops as well as through the minutes of meetings of work and recording of audio which will be evaluated to support the qualitative data based on complementarity proposed by Minayo.\textsuperscript{8} And, to achieve the second objective of the research, will be made a documentary survey in chart to build the profile of donors of the maternity.

This training will involve theoretical and practical content, the first to happen in the unit and will be offered to all nurses from the Obstetric Center, and will address the following contents: concepts, didactic material, application of a pre-test and a post-test assessment form and an instrument for evaluation of workshops in practice module\textsuperscript{10} which will take place in the Obstetric Center, these workshops will be held in training previously scheduled with nurses and nursing residents.

As for the ethical aspects of the research, the principles of Resolution 466/12\textsuperscript{11} were used, which allows the study from the individual and the collective perspective, references of bioethics, such as autonomy, non-malfeasance, beneficence, justice and equity, among others, which aims to ensure the rights and duties that relate to research participants, the scientific community and to the State. The participants of the research, after accepted to participate, will be asked to sign the informed consent for participation in two ways, one for the participant and the other for the researcher.

In October 2013, the proposed research project was presented to the Division of Nursing and the General Direction of the Maternity-School of UFRJ, both helping the research project.

Participants will be informed about the objectives of the research, anonymity and freedom to interrupt their participation in any time of the research, which was submitted on the Brazil Platform and forwarded to the Ethics Committee in Research (CEP) of the Maternity-School of UFRJ, being approved in the first semester of 2014, under the CAAE Protocol 32229914.0.0000.5275.

**EXPECTED RESULTS**

It is intended to teach the nurses and nursing residents to carry out the collection of umbilical cord and placenta blood for obtaining stem cells which can meet the demand of 40\% to the Municipality of Rio de
Janeiro and also to create a protocol for collecting umbilical cord and placenta blood to the Maternity-School of UFRJ with regulating the professional practice of nursing and their legislation.

REFERENCES


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