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Knowledge of pregnant women on neonatal metabolic analysis. June 5 health center. La libertad 2014-2015

LASCANO, Carmen*†

Universidad Estatal Península de Santa Elena

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Abstract

This research has as main objective to identify the degree of knowledge that they have pregnant women on newborn metabolic screening Health Center on June 5 Neonatal screening or test called the right heel is to give small heelstick, if the result of the study reveals that the baby has a congenital disease, the family will be informed and oriented for further treatment and care necessary for the case. a methodology for quantitative, descriptive and cross-sectional design was applied. The technique that was used is the survey with a questionnaire that was appointed a universe of 64 pregnant women. In the results it manifests that 61% has a deficit of knowledge about the importance of Neonatal Metabolic Screening due to limited school education of the population, while 16% related it to the prevention of communicable diseases, 14% others, and 12% with disability and early death. 66% do not know the means of diagnosis for metabolic diseases, 20% believe that the best alternative is the test Right Foot, 11% other media and 3% vaccines. 67.2% do not know the consequences of not taking the test, 22% associate it with physical disabilities and 11% other. It is therefore necessary to consider a proposal for the dissemination of the Neonatal Screening in the field of Health Post "on June 5," where talks will provide a specific simple language, to help pregnant women to a better understanding of Right Foot program.

Neonatal metabolic screening, pregnant women, knowledge

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* Correspondence to Author (email: clascano@upse.edu.ec)
† Researcher contributing as first author.

Introduction

Congenital Metabolic Diseases (CMD) or Congenital Metabolism Errors (CME) are alterations in the DNA coding sequence variation, generating damage that has maladaptive consequences for the individual; they are monogenic diseases due to deficiencies or absence of a protein, that causes metabolic blockades and they are manifested clinically by toxic effect of the accumulated metabolite. At the world-wide level it has been demonstrated that 20 to 30% of the cases of Hospital pediatric mortality is based on a genetic disease. Analyzes of infant morbidity are even more striking; Between 2% and 3% of all newborns are congenital malformations, about 60% of miscarriages are caused by an embryonic genetic disorder, and 1.5% of all admissions to a general university hospital in the United States are Due to genetic diseases (statistics of the OPS_OMS). (1)

It is estimated that the incidence is 1 per 3,000 live births (LB) and 1 per 5,000 LB when there are screening programs. In developed countries, it constitutes 10% of pediatric hospitalizations and 37% of these pathological diseases can manifest in the neonatal period, 95% in the first year of life with slow progression encephalopathy. Neonatal screening in Ecuador takes place from 2011 as a state policy through the program of Neonatal Screening Right foot, under the rectory of the Ministry of Public Health. Which is aimed at early detection and thereby reduce neonatal morbidity and mortality from metabolic diseases. (2) In the province of Santa Elena, from 2011 of the Neonatal Metabolic Screening project to actual days, 12,241 tests for the early identification of metabolic diseases in neonates were carried out in all health centers. In 2013, in Santa Elena have been detected 4 positive cases: 3 of hypothyroidism and 1 of adrenal hyperplasia.

June 5 Health Center is located in La Libertad canton, attending an average of 10 pregnant women weekly, who after childbirth must return to the health post to perform the screening test on their newborn. Pregnant women attending the outpatient clinic of the Health Post June 5 present a lack of knowledge about the National Neonatal Metabolic Screening Program, as well as the deficit in the culture of prenatal care for pregnant women, which downplay this test necessary to assess the health status of newborns.

For this reason, it is necessary to formulate and implement a diffusion program on Neonatal Screening on right foot in order to apply to every newborn through the different media and in the various public sectors of the inflow sector of Health Center and thereby achieve the early detection of disabilities or death.

Neonatal Metabolic Screening

It is a set of studies which are performed in a necessary way to every newborn through obtaining drops of blood from the heel of the right foot of the neonate and collected on the Guthrie card with the aim of preventing, diagnosing and treating errors on time Innate metabolism that can cause over time mental retardation and other diseases that can even lead to death. (3)

Throughout the world, there have been cases of people who developed intellectual disabilities due to a metabolic alteration which, if it was detected from birth of the child, It could be avoided.

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Neonatal Metabolic Screening Classes

In basic neonatal metabolic screening, the four most prevalent diseases are found in each country. The sample is obtained from the right heel of the newborn foot. The semi-expanded sieve is performed by puncture of the right foot and can identify from six to twenty genetic diseases. The enlarged metabolic screening is carried out in developed countries and it is able to detect diseases such as acylcarnitines innate metabolism errors, organic acidemias, derivatives of the oxidation of the acids Fatty, congenital hypothyroidism, cystic fibrosis, galactocemia, adrenal hyperplasia which together form more than 21 diseases. (4)

Neonatal Metabolic Screening Techniques

Before collecting blood drops from the newborn, informed consent will be needed and the baby will need to be with the mother to perform the test. Extraction should be performed by the designated nursing staff for this function. To take the sample requires the Guthrie card which has 6 circles and asks for the data with the information of the newborn such as: date of birth, name, sex, gestational week in which was born, date of birth, birth weight, hospital where the baby was born, pediatrician, hospital or laboratory in which the study is to be performed, if it is an initial or confirmatory test. (5) The following steps are followed:

1. The baby should be kept upright so that the heel of the right foot is slightly elevated relative to the heart so that blood flow is continuous and clotting of the sample is prevented.

2. Heel puncture of the right foot is the way in which there are few problems to get the blood drops of the newborn, puncture in the lateral portion of the right foot never on the arch of the foot, of the Posterior curvature of the heel, or the central part of the foot. The depth of the puncture should be up to 2.4 mm and also not punctured in a place that has been punctured previously because it could be infected.

3. To obtain a sample of the newborn, warm the puncture site for 3 to 10 minutes with a soft cloth and moistened with warm water. The selected area of the right heel is then cleaned with 70% alcohol and wait until dry, if alcohol is exceeded, it should be dried with sterile gauze. To perform the puncture, hold the heel with the index finger and the left hand, and place the lancet perpendicular and perform the puncture.

4. If the lancet with which you do the puncture will enter a depth of more than 2.4 mm increases the risk of injury to the bone, that is why it is recommended to put the lancet parallel to the baby's heel, and to prick at a low angle since alone It is necessary to reach the capillary blood. The first drop to be removed should be cleaned with a dry sterile gauze and allow to form another large blood drop and place the filter paper allowing this drop to soak in the circle with a single application to a height of 3mm. To achieve more bleeding, it is advisable to press lightly on the puncture site.

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5. Fill in the remaining circles in the same way as in the previous step. Some substances or materials such as talc, alcohol, fat or dust can cause test results to fail. When all the circles on the card are already present Complete, it is necessary to dry them, in the drying tower alternately and in opposite direction, in a place at room temperature, without excess humidity during a time of two hours and that is when the metabolites are fixed and where they meet the appropriate conditions to be sent to the central laboratory .The card is save after drying in the envelope, checking the contents of the card.

Sample and optimum time

Blood drops should be collected on a filter paper card and indispensable from the fourth day until the 30th day of the newborn, and the card is required to complete the data correctly. The accepted samples are initiated to process and that which does not plasma with the necessary conditions is reported quickly so that a new sampling of blood drops was carried out.

Child (1 to 3 months). Medical assessment and sampling if required.

Child (older than 1 year). medical evaluation. (6)

Diseases detected by neonatal metabolic screening. Through the neonatal metabolic screening test, metabolic alterations can be revealed that, even without presenting symptoms, can affect the development of the child, which is why it is necessary to detect it on time to apply the appropriate treatment for the purpose of avoiding disabilities. The diseases can be detected are detailed below:

Congenital adrenal hyperplasia. It is a group of diseases where one of the causes is the deficiency of the enzymes that are involved in the origin or formation of the steroids reason why it produces an insufficiency in the elaboration of cortisol. This enzymatic bypass causes an increase in the preceding metabolites. The symptoms and signs of the disease are manifested later on the absence of secretion of cortisol and increase of androgens. (7)

Congenital hypothyroidism. It is a disorder of the thyroid gland due to insufficient elaboration of the thyroid hormone, or to a condition in its receptor, this anomaly can appear from the birth, although the signs and symptoms do not appear immediately, but after a time of operation of the thyroid gland, the disease may be "acquired" or caused by congenital defects that appear later. It is a disorder of the thyroid gland due to insufficient elaboration of the thyroid hormone, or to a condition in its receptor,

Galactosemi. It is caused by an alteration of a gene, due to the insufficiency of an enzyme called galactose-1 phosphate uridiltransferase. This is indispensable to transform the galactose of dairy foods into glucose. Usually, the body transforms galactose-1-phosphate uridyltransferase into glucose, which is then used to get energy. In the pathology, galactose is concentrated in the blood, causing changes in some organs such as the liver, kidneys, central nervous system, if this disease is not identified in time can become deadly. (8)

Phenylketonuria. It is a disease that is characterized by a congenital malfunction of the metabolism, which originates from a lack or insufficiency of the enzyme hepatic phenylalanine hydroxylase (PAH), this enzyme is responsible for transforming the phenylamine in tyrosine.

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Thus, if levels of phenylalanine increase, this protein can affect the nervous system, causing neuropsychiatric complications, and mental retardation.

Nursing care process

It is the way that guides the nursing professional to orderly, scientific, and humanistic work, focused on synchronously analyzing the developments and changes in the course or status of the patient, family and community chosen by the nurse or nurse. It is the method that guarantees quality care and warmth, for those who need care, in order to achieve rehabilitation, maintenance and improvement of health. The process of nursing care consists of five phases:

Assessment: Equivalent to the collection and analysis of information.

Diagnosis: identification of actual and potential problems, and data analysis.

Planning: the objectives are set and a plan of action is determined.

Implementation: means the implementation of the action plan.

Evaluation: detects the effectiveness of the plan and identifies the needs for change

Objectives

Main objective

To determine the level of knowledge that pregnant women have about Neonatal Metabolic Screening "right foot" at the Health Post June 5. La Libertad.

Specific objectives

To identify the knowledge of pregnant women about the importance and diagnostic means of the procedure of Neonatal Metabolic Screening.

To identify the consequences of noncompliance with the neonatal metabolic screening test in newborns.

To determine the knowledge of pregnant women about the metabolic diseases detected by the neonatal screening program.

To determine the knowledge of health personnel about the metabolic screening test.

Design a proposal for the implementation of the neonatal screening program.

Materials and methods

The research was descriptive because it is generally known the degree of knowledge that mothers who attend the June 5 Health Center on the neonatal screening program. It is transversal because the variables were observed and analyzed in a given period. It is quantitative, work with statistical methods it is sought to determine the degree of knowledge that pregnant women have on the test of the neonatal metabolic sieve. The bibliographical was also used because it allowed to gather information from books, magazines, encyclopedias, records and other documents referring to the subject of the Neonatal Metabolic Screening study To carry out this research, 64 pregnant women were taken from "June 5" Health Center. And to measure the variables Knowledge deficit of pregnant women on neonatal metabolic screening was taken as a sample to the same universe of study, being a minimum but demonstrative number, the results and interpretations were made through bars and statistical graphs.

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Results

You will see the information about level of knowledge of pregnant women and the diagnostic procedure of Neonatal Metabolic Test.

Alternatives	Quantity	Percentage
To prevent transmissible illness	10	16
To prevent disable and death	6	9
Others	9	14
Don´t know	39	61
Total	64	100

Table 1 Importance of neonatal metabolic screening Instrument: Survey

The chart shows that 61% of pregnant women do not know about the importance of screening, while 16% do so to prevent transmissible diseases, 14% answered that for other reasons, and only 9% answered correctly . As it is shown, the knowledge deficit of pregnant women in this subject, that, It is determined that screening is essential to prevent intellectual disability or death, consequently achieve a better prognosis of life, give the appropriate treatment, avoid emotional costs and economic benefits for the family (9).

Alternatives	Quantity	Percentage
Right foot test	13	20
Vaccine	2	3
Ultrasound	0	0
Others	7	11
Don´t know	42	66
Total	64	100

Table 2 Diagnostic means to detect metabolic diseases Instrument: Survey

As can be shown in the above chart, it is estimated that 66% of women who are pregnant do not know the diagnostic means of this test, only 20% know that it is the "Right Foot Test", 11% answered that they know other means, 3% By vaccines and the 0% answered that by ultrasound. Therefore the pregnant women's misunderstanding about this test was determined. It is concluded that it is used to detect metabolic diseases from an early age, it is also known as the right heel test or "right foot", which allows identifying and perform treatment prior to irreversible injuries from childhood or adolescence. (10)

Alternatives	Quantity	Percentage
Physical disability	14	22
Intellectual disability and death	0	0
Others	7	11
Don´t know	43	67
Total	64	100

Table 3 Consequences of not doing the right foot exam Instrument: Survey

The chart shows that 67% of pregnant women do not know the consequences of not doing the right foot exam, 22% say that it is physical disability, 11% other consequences and 0% does not answer the correct answer, it is necessary to inform with a specific and deep language about the consequences of the Metabolic Screening. It is concluded that in this procedure the sample is analyzed, to determine the existence or not of a metabolic alteration in the infant that can be the cause of intellectual disability. For this reason, it is recommended that mothers take their newborn child to the health establishment, from the fourth day of birth to the Neonatal Metabolic Screening test. (11)

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Conclusions

In the present study, a low level of knowledge of pregnant women was detected on the Neonatal Metabolic Screening procedure due to the limited (primary) school education of the population.

It was determined in the pregnant women, the lack of knowledge about the importance and means of diagnosis of Neonatal Metabolic Screening, although some received the information, did not understand it due to their level of preparation

Pregnant women do not know about the consequences of not doing the "Right Foot" test where it is inferred that this causes intellectual disabilities or the death of the infant or adolescent. Consequently, pregnant women have a low level of knowledge about the main metabolic diseases detected by this test.

Health workers give talks about these diseases, but patients do not consider it important.

Recommendations

To the staff of the Health Center June 5, to improve the information capacity of pregnant women through the planning of talks to pregnant women as part of prenatal care. Include in the lectures of the Neonatal Metabolic Screening test the importance of performing the test on the newborn with specific language specific for pregnant women.

Inform pregnant women of the consequences of Neonatal Metabolic Screening and in this way optimally control metabolic alterations to prevent intellectual disabilities in children and adolescents.

Apply the proposal to train about the National Neonatal Metabolic Screening Program so that they can efficiently inform pregnant women how to motivate them to attend with their newborns to perform the right foot test.

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