Knowledge of the mothers of hospitalized children in a university hospital regarding diarrhea

Conhecimento das mães de crianças internadas em um hospital universitário acerca da diarreia

Conocimiento de madres de niños hospitalizados en hospital universitario acerca de la diarrea

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This qualitative research aimed at identifying the knowledge of the mothers regarding diarrhea. It was conducted with eight mothers of hospitalized children in a university hospital located in Santa Cruz, Rio Grande do Norte, Brazil, in 2012. Data were collected through open interviews and the analysis was based on Bardin. The categories emerging from the analysis were: understanding diarrhea and preventing/treating diarrhea. Regarding the understanding of diarrhea, mothers conceptualize and understand it from the symptoms, habits/eating mistakes and/or cultural beliefs. Concerning the prevention and treatment of the disease, the mothers highlight hygiene and home cleaning as preventive measures, as well the importance of home and hospital care measures. The interviewees have basic knowledge of pathology, further studies are necessary in order to define the current gap between the knowledge of mothers and recurrence of diarrhea cases, resulting in hospitalization and expenses with unnecessary treatment.

Descriptors: Nursing; Diarrhea, Infantile; Paediatrics; Health Promotion.
Introduction

Diarrhea is epidemiologically inserted as an important cause of child morbidity and mortality in children under five years old. This reality is especially present in countries under development, it is the most frequent pathology in infants under six months old who do not follow exclusive maternal breastfeeding\(^1\).

The World Health Organization (WHO) shows a global reduction of the mortality caused by diarrhea in the last two decades, dropping from 5 to 1.5 million. In Brazil, data have shown a reduction in the number of cases of hospital morbidity caused by diarrhea diseases\(^2\), this picture is attributed to the insertion of the country in the world policy for the reduction of child mortality caused by diarrhea diseases. In this scenario the following items are highlighted: the Commitment Schedule for the Health of the Child and Reduction of Mortality; Kangaroo-mother project; Family Health Strategy (FHS); Therapy of Oral Rehydration; enhancing the coverage of vaccination against measles and rotavirus; policy of exclusive maternal breastfeeding up to six months old. Added to these targets there is important improvement of the conditions of sewage system of poor urban areas and in the water treatment\(^3\). The Health Department has also implemented the Monitoring of the Acute Diarrhea Diseases (MADD) aimed at implanting the Epidemiological Surveillance in health units at all levels of care, in the State and County Health Departments; besides enabling the health professionals for this control\(^4\). So, nursing has an important role in the implementation of the mentioned policy, once they work as health educators, acting in the promotion of health and prevention of diarrhea, once this is a preventive disease with social and environmental characteristics\(^5\).

However, although these policies are implanted throughout the country, the northeastern region, followed by the northern region, still present the highest rates of diarrhea in the country. In the northeastern region of Brazil, the risk of death by the mentioned morbidity in children under five years old is around four to five times higher than in the southern region, which represents approximately 30% of the total number of deaths during the first year of life\(^2\).

Particularly in Santa Cruz, RN, Brazil, a county where the present study was made, there is a reduction of child deaths\(^6\), however, the frequent hospitalizations due to diarrhea diagnosis still persist. During the year of 2012, there was a monthly average of thirty children hospitalized in this county, according to the data provided by the hospitalization sector of the Ana Bezerra University Hospital (ABUH).

This reality is experienced by the multi professional team of the mentioned hospital, has brought collective discussion on the knowledge of the mothers concerning child diarrhea. The restlessness of identifying the knowledge the mothers have on such morbidity comes from the consideration that the mothers, main protagonists in the daily care of their children, at some moment of their children’s lives, participated in the processes of health education, whether in the hospital or in basic attention.

It is necessary to highlight the importance of the study for the health team who provide assistance to the children attacked by diarrhea diseases, concerning the search of strategies for the reduction of the rates of this disease, and, consequently providing a reduction of the child morbi-mortality. Therefore, describing the knowledge of the mothers concerning diarrhea becomes important to the extent that it offers conditions for reflection of the health team regarding their practice. This reflection aims at contributing for the interruption of the model of transmission of knowledge in the process of health education, and at collaborating for the rupture of technical, biological and fragmented paradigm.

So the following question emerges in the research: What knowledge on diarrhea do the mothers of hospitalized children in a pediatric ward have? Consequently, this research is aimed at identifying the knowledge the mothers have on diarrhea.
Method

It is a descriptive study with qualitative approach, made in a University Hospital in a county of Santa Cruz, RN, Brazil. The subjects of the study were eight mothers with their hospitalized children in a pediatric ward attacked by diarrhea. This number is justified due to theoretical saturation. The interviewees were selected at random after analysis of the medical records of the children with diarrhea diagnosis. The criteria of inclusion were women who presented physical and emotional conditions for the interview.

Data were collected through interviews with three guiding questions: what do you understand by diarrhea? What do you do so that the baby will not have diarrhea? When the baby has diarrhea, what do you do for him to get well? The data collection was made in a private room of the pediatric ward of the mentioned hospital, with an average length of time of forty minutes. In order to guarantee secrecy and anonymity of the mothers, colors were chosen to name them.

The interviews were recorded with the agreement of the mothers and later on fully transcript and submitted to Bardin’s analysis of contents, following three stages: pre-analysis, analytical description and referential interpretation(7).

The pre-analysis phase was the organization of the statements. Afterwards, in the stage of analytical description, there was the analysis of the statements, generating codification and categorization. The last stage of the analysis was aimed at interpreting the statements following the bibliographical survey made on the theme.

The research was approved by the Committee of Ethics in Research of the Universidade Federal do Rio Grande do Norte, according to legal opinion number 81176 and by the administration of the hospital, complying with resolution 196/96 of the National Council of Health(9).

Results

Characteristics of the subjects of the study

The interviewed mothers were between 22 and 32 years old. Regarding their marital status, two were married; three were single; and three reported to be in a stable union. Their schooling was from 6 to 12 years. Their monthly income was low, most of them living in the urban area of the city, in a district called Paraíso. A neighborhood of around fifteen thousand inhabitants. The average population of the county of Santa Cruz is approximately thirty five thousand inhabitants which made the Paraíso district the largest one in the city(9).

Regarding their occupation, four reported to be farmers; two housewives; one a cashier assistant; and one a cleaning lady. Their family income ranged from R$ 57,4614 reals to two minimum wages, of the eight mothers, five received Bolsa Familia (family monetary assistance) a program of the Federal Government of direct transference of money, which benefits families in a situation of poverty and extreme poverty all over the country(10).

According to the analysis of the study, two theme categories appeared: Understanding diarrhea, Preventing/treating diarrhea. These two categories will be discussed as follows.

Discussion

The studied subjects live in a region characterized by urban agglomerate, and a study made about diarrhea shows this factor as a risk for mortality, once the indicators of basic sewage in this context may not be efficient to identify the subjects who experience situations of risk for diarrhea. Such study also observed that the risk of diarrhea in children is almost 15 times higher than among those who live in adequate conditions of housing and sewage(11).
Understanding diarrhea

In this category it is observed that, for the mothers, diarrhea is conceptualized and understood from the symptoms, food mistakes/habits and/or cultural beliefs.

So, according to the following recordings, the statements of the women showed a direct association with the symptoms: Poop is just water (Pink). The child is pooping a lot (Violet). The child is pooping a lot, and the poop is very liquid, with fever (Green). The baby is pooping a lot (Silver). When he is vomiting and pooping a lot (Blue). It is rather liquid, he doesn’t want to eat, very sleepy, has fever (Violet). Serious disease because the child is getting dehydrated (Orange). And then, when dehydration comes he may have infection and diarrhea (Beige).

The statements show that the mothers identify diarrhea from liquid and frequent evacuation and this is described in different ways by the subjects. Some also mentioned that when the child gets sick he shows other signs and symptoms: lethargy, vomits and fever, which can lead to a more severe condition such as dehydration and infection.

Their vision is according to the conceptualizing described in the literature, once diarrhea is the increase of the frequency of evacuation of hydro contents in the feces with or without fever, vomits which may lead to dehydration, which is the loss of body liquid, presenting irritability or lethargy, reductions of cutaneous elasticity, increased cardiac frequency and sunken eyes and fontanelles\(^{[12]}\).

So it is observed that the mothers conceptualize diarrhea correctly, knowing how to describe some of the main signs and symptoms of acute diarrhea, such as soft feces and the increase of evacuations. They mention fever as a sign of diarrhea, showing more accurate knowledge of the disease, therefore, recognizing the symptoms of the diarrhea at home is not a difficult task for them and it can favor the early recognition of the complications and consequent hospitalization.

Another factor which cause diarrhea, in the vision of the mothers, are the eating habits. They believe that when a child has diarrhea it is because they had contact with spoiled, wrongly manipulated or industrialized food, or still, contaminated by flies. They also related the pathology to fruits and vegetables with agro toxic agents. The following statements confirm the above mentioned: food that is overdue given to the child, vegetables which contain a lot of poison (Blue). Industrialized food (Blue). Leaving the food uncovered, then the flies come and there is contamination from elsewhere (Blue). Offensive food then he had diarrhea, I can’t explain well (Lilac).

The women also believed that diarrhea comes from fat food or food that was never eaten by their children before. They refer to this food added to the immaturity of the children’s body as a trigger factor of the pathology under question, shown as follows: I don’t feed her with pasta because she is too young (Violet). He has a weak body, children have a weak body, because it is very strange, children eat anything which causes diarrhea (Green). The children have weak intestines because they are too young (Green). Things she doesn’t get along with, things she has never eaten (Silver).

The literature shows that the etiology of diarrhea comes from several causes and among these, the introduction of food that may be contaminated by pathogens and that it is associated to the lack of active immunity of the children, causing disorders of the digestive tract\(^{[13]}\). Added to these causes, the early weaning and the inadequate introduction of the transition food both regarding caloric offer, as well as the preparation of the food once they favor nutritional deficiencies and the exposition to potential enteropathogens\(^{[14]}\).

Consequently, when analyzing the statements of the interviewees, it is noticed that the women have clear knowledge as to the causes of diarrhea and also understand the aggravating factors of the pathology such as, for example, the immaturity of the children’s body.

It is outstanding that the statements mentioned have similarities with other studies made in Brazil, once the maternal perception is reproduced concerning the causes of diarrhea, once they associate the disease to food mistakes/habits (badly cooked or
fat food), contaminated water, contamination of food by flies and dirt\(^{(14)}\).

Particularly related to water, some circumstances are listed which contribute to its contamination, such as lack of cleaning of home water reservoirs, transportation and storage in inadequate containers and wrong practices of hygiene. These are some of the situations which are considered risky for child diarrhea, especially when there is the turning from exclusive maternal breastfeeding to the introduction of new food\(^{(10)}\). In this study, there was no reference regarding water contamination, probably due to the fact that the mothers do not know the relation between its contamination and the outbreak of diarrhea.

Regarding the cultural aspects, a mother believes that diarrhea is related to the process of tooth growing, once the parents, grand-parents and neighbors transmit this belief. The following statement shows this fact: *I always think diarrhea comes when the teeth are growing, I know it, because this comes from the old people* (Beige).

Through that statement, it is observed that the knowledge of the mothers concerning diarrhea has a cultural character; meaning that the teachings and the experiences lived by their family members and community, when transmitted, influence the individual conceptions and representations about the theme. The cultural belief of the interviewee does not differ from the conceptions of other women regarding the etiology of child diarrhea. The presence of liquid evacuation in the period of tooth growing is reported in other studies, and also other beliefs are mentioned, for example, evil eyes\(^{(15-16)}\).

In this sense, the comprehension of the concept of culture for the health professionals is instrumental, whether in the functioning of teaching assistential activities or even in research. The premise is that everybody has culture, including values, symbols, rules and practices that are shared by those who belong to a group inside that context. So, particular behavior and thoughts regarding the experience with disease, health and treatment are sustained by social cultural contexts. Understanding this relation is important for the health professionals once they will develop the so-called cultural competence, which will contribute for the assistance and health education in a holistic manner\(^{(17)}\).

### Preventing/treating diarrhea

In this category, two other important aspects are pointed: prevention and treatment of the pathology. The prevention of diarrhea emerged intensely in the statements of the mothers. All of them reported the care with hygiene and home cleaning as measures of precaution for child diarrhea. These considerations are made from the following statements: *I cut my nails, I care whether they have washed their hands at the right time* (Blue). *Cleaning up, I don't have animals at home to avoid dirt and dust* (Violet). *I sanitize the food in order not to provoke diarrhea* (Green). *I take good care of her sanitization* (Lilac).

From the mother’s statements preventive conceptions regarding the daily care of their children emerge, such as: baths, hand washing and keeping the nails clean. Care with the house is also referred to, once they describe how they keep the house clean, keeping animals away from the family home. These conceptions do not differ from the ones described in literature, once the personal hygiene of the children is mentioned as an important factor of protection to health for all the diseases including diarrhea\(^{(18)}\).

Regarding the measures of treatment, the mother report what they do when the children are attacked by this disease. Such aspects are shown as follows: *I give them bananas because people say they make the poop harder* (Pink). *I gave them tea because some people say that it is good* (Beige). *I gave them serum because it hydrates* (Blue). *I looked for a doctor* (Orange). *I go straight to the hospital not to stay at home waiting while the children are getting worse and I give them medicine without prescription* (Violet). *I take him to the hospital* (Pink). *I only give her a lot of water, tea, coconut water, fruit, vegetables and I bathe her a lot* (Silver). *I breastfeed* (Pink).

Another aspect found in the reports of the mothers was concerning the treatment of diarrhea, which is made through home measures and hospital care. This is the most common home care: the use
of tea, coconut water, homemade serum, fruit and vegetable. The mothers also reported attitudes involving medical and hospital care, for example Pink and Violet, who mentioned the search of health services as the first step to take.

The attitudes of these mothers probably reveal the confidence they have on the solutions provided by the health services and professionals. In those statements, it is possible to find the manners of treatment of diarrhea based which are based on: correction of the dehydration and the electrolyte imbalance, fighting against malnutrition; inadequate use of medicine; prevention of complications(19).

As to dehydration there are plans A, B and C, which depend on the degree of dehydration of the child. Plan A is for patients with diarrhea without signs of dehydration. The treatment is at home, with the use of a solution of oral rehydration salt (ORS) and liquid available at home. Plan B is for patients with diarrhea and signs of dehydration, the patients must be treated with ORS according to the weight of the child. Plan C is for patients with diarrhea and severe dehydration and requires hospitalization(19).

To fight dehydration the increase of liquid ingestion is recommended, such as homemade serum, soups and juices; keep the usual food, especially maternal milk and correct occasional food mistakes. As to the use of the correct medication, this will depend on the etiological agent which caused the diarrhea. And to prevent complication it is necessary to treat dehydration conveniently with the use of a therapy of oral or venous rehydration, adequate diet and the use of antimicrobials medicine, when prescribed(19).

Maternal breastfeeding was considered by the mother as an important strategy in the prevention of diarrhea, and this practice is highlighted as an indicator of decrease of hospitalization(20). So, when analyzing Pink’s statement, to prevent and treat diarrhea provide maternal milk, this behavior is correct and must be widely stimulated by the health professionals.

This finding is not a surprise, once considering the information transmitted by the media as well as the policies and actions of protection and incentive to this practice, deflagrated in the country from the 90’s on, as a rule of commercialization of the substitute for maternal milk, child friendly hospitals, human milk bank, kangaroo mother method, the mothers are expected to mention breastfeeding, linking it to the prevention of diseases(21).

Currently, the Breastfeed and Feed Brazil Strategy, launched in 2012, is aimed at qualifying the process of work of the health professionals of basic attention in order to reinforce and stimulate the promotion of maternal breastfeeding and healthy food for children under two years old in Brazil(22).

When implementing the protection and incentive to breastfeeding, the nursing mothers who need to go back to work must not be excluded so, education and preventive actions with the mothers who will start working out of their homes must be prioritized. So, the practice of milking, the sensitization of the head officers in the institutions, as well as the availability of adequate venue for the collection and storage, while the nursing mother is working are some of the necessary strategies to guarantee the continuity of breastfeeding and prevention of early weaning(23).

Final Considerations

The study shows that the knowledge that the mothers of hospitalized children in a pediatric ward of a teaching hospital located in the country side of the state of Rio Grande Norte, Brazil, have on diarrhea, is based on two central themes: understanding diarrhea and preventing/treating diarrhea. Regarding the comprehension of diarrhea, the mothers conceptualize and understand it from the symptoms, food errors/habits and/or cultural beliefs. As to prevention and treatment of the disease, the mothers show the care of hygiene and home cleaning as measures of precaution for child diarrhea, as well as the importance of home measures and hospital care. Regarding home care they highlight the use of tea, water, coconut water, homemade serum, fruits and vegetables. The mothers
mentioned the adoption of attitude that involve medical and hospital care, through the correction of the dehydration and hydro electrolyte imbalance.

So, the report shows similarities of the mothers regarding these important aspects of the mentioned pathology such as: basic notions of diagnosis, prevention and treatment. Consequently, there is a dichotomy between the knowledge of the mothers on child diarrhea and the outbreak of the disease, despite the fact that these mothers have basic knowledge, the children continuing getting sick and having the need of hospitalization.

Therefore, it is highlighted that only having the knowledge on the disease was not able to avoid it, once the social economical aspect and the levels of the family schooling may be interfering in the prevention of the disease, once the mothers and children come from places which are characterized by bad environmental conditions such as the lack of basic sewage, lack of drinking water, inadequate conditioning and disposal of trash, as well as by low family income. These factors predispose the outbreak of the mentioned morbidity, so new studies are necessary to better solve the problem. Researches which can evaluate actions of education in health made by health professionals are also necessary once it is known that the effectiveness of the orientations also depends on the need to know the context and culture of the population to be worked with, so that the actions will be actually implemented.

It is highlighted that there was limitation in the mentioned study, considering that it was made in an infirmary of a hospital unit, therefore with small scope, regarding the number of other health services of the county.

Collaborations

Rego AP, Lima SP, Costa MCM, Santos LMC, Medeiros WR and Cavalcante ES contributed for the conception, analysis and interpretation of the data, writing of the article and final approval of the version to be published.

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