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INTEGRATIVE LITERATURE REVIEW ARTICLE

# PREVENTION OF INFANTILE DIARRHEA: INTEGRATIVE LITERATURE REVIEW

## PREVENÇÃO DA DIARREIA INFANTIL: REVISÃO INTEGRATIVA DE LITERATURA

### PREVENCIÓN DE LA DIARREA INFANTIL: REVISIÓN INTEGRADORA DE LITERATURA

*Antonia Marlla Manuella de Andrade Carneiro[1], Emanuelle Freitas Patriota[2], Jonas Sâmi Albuquerque Oliveira[3], Maximina Gláucia Carvalho Guimarães Pires Gomes[4], Soraya Maria de Medeiros[5], Sandra Michelle Bessa de Andrade Fernandes[6]*

**ABSTRACT**

***Objective:*** to evaluate the evidence available in the literature on the prevention of infantile diarrhea. ***Method:*** this is an integrative review study considering the period from 2000 to 2010, in Portuguese, Spanish, and English, using the following descriptors: child, diarrhea, immunization, and prevention. Analytical axes were used for the prevention of diarrhea: socioeconomic conditions, vaccination, and breastfeeding. We selected 28 papers. ***Results:*** the studies showed that the increase in the families' purchasing power, combined to the increased coverage of water supply and adequate sewage disposal, garbage collection, and health care services are related to the incidence of infantile diarrhea and its worsening. With regard to vaccination, the identification of rotavirus serotypes is crucial for the improvement of the vaccine in Brazil, as a means for preventing diarrhea. Exclusive breastfeeding until six months of life revealed itself as another important way of preventing the disease. ***Conclusions:*** although infantile diarrhea has been extensively explored in the literature reviewed, it became clear that in recent years there has been a decrease in the number of publications, although one finds out that it is still the cause of high infantile morbidity and mortality rates. ***Descriptors:*** pediatric nursing; diarrhea, infantile; review.

**RESUMO**

***Objetivo:*** avaliar as evidências disponíveis na literatura sobre a prevenção da diarreia infantil. ***Método:*** trata-se de estudo de revisão integrativa com delimitação de período entre 2000 e 2010, em português, espanhol e inglês, utilizando os seguintes descritores: criança, diarreia, imunização e prevenção. Utilizaram-se eixos de análise para a prevenção da diarreia: as condições socioeconômicas, a vacinação e a amamentação. Foram selecionados 28 artigos. ***Resultados:*** os estudos demonstraram que o aumento do poder aquisitivo das famílias, em conjunto com maior cobertura do abastecimento de água e adequação do esgoto sanitário, coleta de lixo e serviços de saúde estão relacionados à incidência e ao agravamento da diarreia infantil. Em relação à vacinação, a identificação de sorotipos do rotavírus é fundamental para o avanço da vacina no Brasil, como forma de prevenção da diarreia. O aleitamento materno exclusivo até os seis meses de vida revelou-se outra importante forma de prevenção da doença. ***Conclusões:*** apesar de a diarreia infantil ter sido bastante explorada na literatura consultada, evidenciou-se que nos últimos anos houve uma diminuição no número de publicações, embora se constate que ela ainda é responsável por altos índices de morbidade e mortalidade infantil. ***Descritores*:** enfermagem pediátrica; diarreia infantil; revisão.

**RESUMEN**

***Objetivo:*** evaluar las evidencias disponibles en la literatura acerca de la prevención de la diarrea infantil. ***Método:*** esto es un estudio de revisión integradora con delimitación de periodo entre 2000 y 2010, en portugués, español e inglés, utilizando los siguientes descriptores: niño, diarrea, inmunización y prevención. Fueron utilizados ejes de análisis para la prevención de la diarrea: las condiciones socioeconómicas, la vacunación y la lactancia. Fueron seleccionados 28 artículos. ***Resultados:*** los estudios demostraron que el aumento del poder adquisitivo de las familias, combinado con una mayor cobertura del abastecimiento de agua y adecuación del alcantarillado sanitario, recogida de basura y servicios de salud está relacionado con la incidencia y el agravamiento de la diarrea infantil. Con relación a la vacunación, la identificación de serotipos del rotavirus es crucial para el avance de la vacuna en Brasil, como un medio de prevención de la diarrea. La lactancia materna exclusiva hasta los seis meses de vida se reveló como otra forma importante de prevenir la enfermedad. ***Conclusiones:*** a pesar de la diarrea infantil tener sido bastante explorada en la literatura consultada, se hizo evidente que en los últimos años hubo una disminución en el número de publicaciones, aunque se constate que ella sigue siendo responsable por elevados índices de morbilidad y mortalidad infantil. ***Descriptores:*** enfermería pediátrica; diarrea infantil; revisión.

[1]Undergraduate nursing student at Universidade Potiguar (UnP). Natal (RN), Brazil. E-mail: marlla_manuella@yahoo.com.br; [2]Undergraduate nursing student at Universidade Potiguar (UnP). Natal(RN), Brazil. E-mail: manuzinhafp@hotmail.com; [3]Nurse. Professor nursing Departamento of Centro de Ciências da Saúde at Universidade Federal do Rio Grande do Norte (UFRN) and nursing professor at Universidade Potiguar (UnP). Master's degree obtained from the Graduate Program in Nursing of UFRN. Natal (RN), Brazil. Research tutor. E-mail: jonassamiufrn@yahoo.com.br; [4]Nurse Degree at Pontifícia Universidade Católica Betim (PUC Betim). Betim (MG), Brazil. Nursing specialist in Family Health Universidade Federal de Minas Gerais (UFMG). Belo Horizonte (MG), Brazil. E-mail: maximinaenf@gmail.com; [5]Professor of Departament de Enfermagem of Centro de Ciências da Saúde at UFRN and of the Graduate Program in Nursing of UFRN. Ph.D obtained obtained from the Graduate Program in Nursing of Universidade de São Paulo (USP). Natal (RN), Brazil. E-mail: sorayamaria@digi.com.br; [6]Professor of Escola de Enfermagem de Natal of UFRN. Master's degree obtained from the Graduate Program in Nursing of UFRN. Natal (RN), Brazil. E-mail: michellebessa@hotmail.com

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## INTRODUCTION

Infectious diarrhea is a disease that affects a large part of the infantile population. The conditioning and determining factors of this pathology are multiple ones, as they are related to varying conditions according to the characteristics of each region.

According to data from the Brazilian Health Ministry, 29,491,078 cases of acute diarrheal diseases (ADDs) were notified in the country between 2000 and 2010. The South, Central-West, and Northeast Regions had an increased incidence of diarrhea in 2006, when the first one presented 13 cases per 1,000 live births (LBs), the second one, 25 cases per 1,000 LBs, and the last one, 28 cases per 1,000 LBs. The North Region presented a higher incidence in 2008, with 33 cases per 1,000 LBs, and in 2009 the region with the highest number of cases was the Southeast, with 15 cases per 1,000 LBs.[1]

The authors of this paper opted to carry out a study on the theme infantile diarrhea due to the fact that diarrhea is a disease which is caused by many factors, its prevention demands systematic measures, it is not related only to interventions adopted by the individuals affected by this pathology, but also to the environmental structure of the population. Nevertheless, diarrhea is considered one of the main causes of infantile morbimortality, becoming a determinant factor in the health conditions of the infantile population.

Within this context, the research aims to evaluate the evidence available in the literature on the prevention of infantile diarrhea, which could guide future researches on the development of actions aiming to fight the infantile diarrheal diseases, as well as it aims to contribute through the approach of the main factor of the prevention of infantile diarrheal diseases, evidencing that the non-existence of these factors will be decisive for the higher incidence of the disease.

## METHODOLOGY

This is an integrative literature review study, the way of investigating studies already published, aiming to obtain conclusions on a particular topic.[2] It is considered a strategy used to identify the existing evidence, providing a basis for the health care practice within different specialties. The following methodological procedures were adopted:

1. Formulation of the question and the aims of the revision;
2. Establishment of criteria for the papers selection;
3. Categorization of the studies;
4. Evaluation of the studies included in the integrative review;
5. Data analysis and presentation of the results.

The following guiding question was adopted: “What are the texts published in the scientific databases which approach the ways of preventing infantile diarrhea?”.

For the papers selection two databases were used: LILACS (Latin American and Caribbean Health Sciences Literature) and SciELO (Scientific Electronic Library Online).

The inclusion criteria defined were papers from journals published in Portuguese, English, and Spanish, using descriptors in the searches, with abstracts available in the selected database, within the period from 2000 to 2010.

The handbooks from the Brazilian Health Ministry and books approaching the issue were consulted, constituting the theoretical framework of the study.

For the analysis and posterior synthesis of the papers which met the inclusion criteria, a synoptic box was developed, which concerned the following aspects: year of publication, language, journal where it was published, country of the study, authors, description of the studies, and the ways of preventing infantile diarrhea.

In a first step, the following issue descriptors were used for the survey of papers: *diarrhea*, *child*, and *immunization*; afterwards, there was a refining of the descriptors and the term *prevention* was included for the final selection.

In the search carried out only through the descriptors, a very large number of papers was found, 7,164 full papers; out of these, 6,566 in Portuguese and English, which concerned other particularities of diarrhea, especially types of treatment, pathogenesis, cases report, and prevalence studies. In the search refining, when the word *infantile* was added to *diarrhea*, 28 full papers were found. After the exclusion of doubled occurrences and the reading of the whole papers, it was possible to select a total of 28 papers approaching the theme and presenting answers to the question formulated.

## RESULTS AND DISCUSSIONS

The results were presented and discussed according to two axes: axis 1 – infantile

diarrhea; and axis 2 – ways of preventing infantile diarrhea.

The distribution of the texts used for this research is described in Table 1.

## ● Axis 1: Infantile diarrhea

**Table 1.** Distribution of the papers according to the year of publication, the database, the language, and the country of the research, Brazil – 2000 to 2010

| n | Year of publication | database /Model for electronic publication | Language | Country of the research |
|---|---|---|---|---|
| **01** | 2000 | LILACS | Portuguese | Mexico |
| **02** | 2000 | LILACS | Portuguese | Brazil |
| **03** | 2000 | LILACS | Portuguese | Brazil |
| **04** | 2001 | LILACS | Portuguese | Brazil |
| **05** | 2001 | LILACS | Portuguese | Brazil |
| **06** | 2001 | LILACS | Portuguese | Brazil |
| **07** | 2001 | LILACS | Portuguese | Brazil |
| **08** | 2002 | LILACS | Portuguese | Brazil |
| **09** | 2002 | LILACS | Portuguese | Brazil |
| **10** | 2002 | LILACS | Portuguese | Brazil |
| **11** | 2002 | SciELO | Portuguese | Brazil |
| **12** | 2003 | LILACS | Portuguese | Brazil |
| **13** | 2003 | LILACS | Portuguese | Brazil |
| **14** | 2003 | SciELO | Portuguese | Brazil |
| **15** | 2003 | LILACS | Portuguese | Brazil |
| **16** | 2004 | LILACS | Portuguese | Brazil |
| **17** | 2004 | SciELO | Portuguese | Brazil |
| **18** | 2004 | SciELO | Portuguese | Brazil |
| **19** | 2004 | SciELO | Portuguese | Brazil |
| **20** | 2005 | SciELO | Portuguese | Brazil |
| **21** | 2005 | LILACS | Portuguese | Brazil |
| **22** | 2005 | SciELO | English | Brazil |
| **23** | 2006 | SciELO | English | Brazil |
| **24** | 2006 | SciELO | Portuguese | Brazil |
| **25** | 2007 | LILACS | Portuguese | Brazil |
| **26** | 2008 | LILACS | Portuguese | Brazil |
| **27** | 2008 | LILACS | Portuguese | Brazil |
| **28** | 2010 | SciELO | English | Brazil |

**Source:** Developed by the authors.

Table 1 shows that the distribution of the 28 papers used in the research, selected according to the year of publication, is: 3 (10.71%) papers published in 2000; 4 (14.29%) in 2001; 4 (14.29%) in 2002; 4 (14.29%) in 2003; 4 (14.29%) in 2004; 3 (10.71%) in 2005; 2 (7.14%) in 2006; 1 (3.57%) in 2007; 2 (7.14%) in 2008; 1 (3.57%) in 2010.

Regarding language, 3 (10.71%) papers which provided the basis for this research were published in English and 25 (89.29%) in Portuguese. All of them were published in Brazilian journals, from which 27 (96.42%) had their researches carried out in Brazil and 1 (3.57%) study was held in Mexico.

In Brazil, as in other developing countries, diarrhea is mainly associated to the socioeconomic/demographic factors of the population. It was observed in the research that a large part of the studies tried to identify the frequency of diarrhea and the factors associated to its occurrence, however, there is only a few literature available on the ways of treating diarrheas, only one paper on the oral rehydration therapy (ORT) was found.

The distribution of the authors and journals with works on infantile diarrhea published within the period from 2000 to 2010 is presented in Table 2.

**Table 2.** Distribution of the selected papers according to the journals where they were published

| n | Authors | Journal |
|---|---|---|
| **01** | Gonzales-Loza MR, Polanco-Marim GG, Puerto-Solis, M. | Rev. da Sociedade Brasileira de Medicina Tropical |
| **02** | Oshiro ET, Dorval MEC, Nunes VLB, Silva MAA, Said LAM. | Rev. da Sociedade Brasileira de Medicina Tropical |
| **03** | Benício MHA, Monteiro CA. | Rev. de Saúde Pública |
| **04** | Guimarães ZA, Costa MCN, Paim JS, Silva LMV. | Rev. da Sociedade Brasileira de Medicina Tropical |
| **05** | França E, Souza JM, Guimarães MDC, Goulart EMA, Colosimo E, Antunes CMF. | Cadernos de Saúde Pública |
| **06** | Feliciano KVO, Kovacs MH. | Jornal de Pediatria |
| **07** | Sena LV, Maranhão HS, Morais MB. | Jornal de Pediatria |
| **08** | Bittencourt AS, Leal MC, Santos MO. | Cadernos de Saúde Pública |
| **09** | Mota MEFA, Silva GAP. | Rev. Brasileira de Saúde Materno Infantil |
| **10** | Silva GAP, Lima MC, Lira PIC. | Rev. Brasileira de Saúde Materno Infantil |
| **11** | Campos GS, Sardi SI, Sampaio AS, Mello VBB. | Rev. de Ciências Médicas e Biológicas |
| **12** | Vanderley LCM, Silva GAP, Braga JU. | Cadernos de Saúde Pública |
| **13** | Schanack FJ, Fontana LM, Barbosa PR, Silva LSM, Baillargeon CMM, Barichello T, Póvoa MM, Cavasini CE, Machado RLD. | Cadernos de Saúde Pública |
| **14** | Vieira GO, Silva LR, Vieira TO. | Jornal de Pediatria |
| **15** | Lins MGM, Motta MEFA, Silva GAP. | Gastroenterologia Pediátrica |
| **16** | Lopes RM, Silva LMV, Hortz ZMA. | Cadernos de Saúde Pública |
| **17** | Silva GAP, Lira PIC, Lima MC. | Cadernos de Saúde Pública |
| **18** | Vanderley LCM, Silva GAP. | Rev. da Associação Médica Brasileira |
| **19** | São Paulo, Secretaria de Estado da Saúde. | Rev. de Saúde Pública |
| **20** | Façanha MC, Pinheiro AC. | Cadernos de Saúde Pública |
| **21** | Teixeira JC, Heller L. | Rev. Brasileira de Saúde Materno Infantil |
| **22** | Gomes DKM, Lucena MC, Barros MG. | Rev. Brasileira de Análises Clínicas |
| **23** | Pontual JPS, Foalbo AR, Gouveia JS. | Rev. Brasileira de Saúde Materno Infantil |
| **24** | Carmo EH. | Cadernos de Saúde Pública |
| **25** | Araújo MFM, Ferreira AB, Gondim KM, Chaves ES. | Ciência, Cuidado e Saúde |
| **26** | Picoli RP, Adorno RCF. | Rev. Brasileira de Crescimento e Desenvolvimento Humano |
| **27** | Pereira IV, Cabral IE. | Escola Anna Nery Rev. Enfermagem |
| **28** | Oliveira TCR, Latorre MRDO. | Rev. de Saúde Pública |

**Source:** Developed by the authors.

Table 2 shows that out of the 12 journals which presented works on diarrheas in children, 3 (10.71%) were published in *Revista da Sociedade Brasileira de Medicina Tropical*, 3 (10.71%) in *Revista de Saúde Pública*, 8 (28.57%) in *Cadernos de Saúde Pública*, 3 (10.71%) in *Jornal de Pediatria*, 4 (14.28%) in *Revista Brasileira de Saúde Materno Infantil*, 1 (3.57%) in *Revista de Ciências Médicas e Biológicas*, 1 (3.57%) in *Revista da Associação Médica Brasileira*, 1 (3.57%) in *Revista Brasileira de Análises Clínicas*, 1 (3.57%) in *Ciências, Cuidados e Saúde*, 1 (3.57%) in *Revista Brasileira de Crescimento e Desenvolvimento Humano*, 1 (3.57%) in *Escola Anna Nery Revista de Enfermagem*, and 1 (3.57%) in *Gastroenterologia Pediátrica*.

Table 3 describes the studies on infantile diarrhea.

**Table 3.** Description of the studies on infantile diarrhea

| n | Description of the studies |
|---|---|
| 01 | Identification and description of the rotavirus strains and G2 serum. |
| 02 | Clinical and epidemiological study on the prevalence of *Cryptosporidium* in children < 5 years old. |
| 03 | Estimated incidence of diarrhea and its social distribution. |
| 04 | Temporal evolution of infantile mortality due to intestinal infectious diseases. |
| 05 | Control case study determining factors of postnatal infantile mortality due to diarrhea, pneumonia, and malnutrition. |
| 06 | Survey carried out in six towns of Pernambuco to know the mothers' conception on infantile diarrhea. |
| 07 | Evaluation of the mothers' knowledge on ORT. |
| 08 | Identification of hospitalization rates due to diarrhea in different hospitals. |
| 09 | Analysis on the clinical manifestations of the parasites. |
| 10 | Description of the clinical characteristics of diarrhea of a group of children in the first months of life. |
| 11 | Frequency of rotavirus in children with diarrhea. |
| 12 | Investigation and association among the socioeconomic, demographic, and biologic factors and the hospitalization due to diarrhea. |
| 13 | Investigation on enteropathogen in 94 cases of diarrhea and 45 control cases in children 0-5 years old. |
| 14 | Shows the benefits of mother's milk against many types of infection. |
| 15 | Identification of the risks of persistent diarrhea in hospitalized children. |
| 16 | Reports the organization and practice of the assistance in the health care system, for the effective prevention in the fight against diarrhea. |
| 17 | Identifies the presence of episodes of diarrhea in nursing infants < 6 months of life. |
| 18 | Reports the hospitalizations due to diarrhea in children < 2 years old and the poor conditions of life and the lack of knowledge from the mothers. |
| 19 | Shows the rotavirus as the most important viral agent associated to diarrheal diseases. |
| 20 | Rainy periods between February and March represent the major influence on the distribution of the diarrheal disease. |
| 21 | Factors triggering diarrhea. |
| 22 | The frequency of each etiological agent in children < 5 years old who present diarrhea. |
| 23 | Shows the importance of the identification of the intestinal pathogenic agents in the feces of hospitalized children with diarrhea. |
| 24 | The study shows the perspectives and improvements of the vaccine against the rotavirus in Brazil. |
| 25 | Investigation to observe the incidence of diarrhea in children 0-10 years old who were breastfed for less than 6 months and those who were not breastfed at all. |
| 26 | The study aims to investigate what are the goals and find out what are the reasons for the high incidence of acute diarrhea in children < 1 year old. |
| 27 | Identification of the Indian health care practice with regard to the diarrheal diseases and their relation to the biomedicine. |
| 28 | An analysis on the hospitalizations and the mortality due to diarrhea in children < 1 year old. |

**Source:** Developed by the authors.

The research carried out evidenced that a large part of the papers identified the characteristics, frequencies, and the factors related to the infection, hospitalization, and mortality due to diarrhea; it showed that there was a sharp decrease in throughout the years in the occurrence of diarrhea, caused by the decrease in its risk factors.

Diarrhea presents different risk factors that are interrelated, contributing to its worsening and, thus, there is a higher number of hospitalizations. Other studies tried to evaluate the mother's knowledge on ORT and the factors that cause diarrhea, becoming evident that the higher mother's school education level, the higher her knowledge on ORT and the causes of the disease.[3]

The mothers' thought with regard to diarrhea is connected to the knowledge acquired in their daily lives, leading to a different understanding and different responses for the disease.[4] The papers presenting the vaccine against rotavirus as their theme claim that the virus is one of the most relevant virus agents associated to infantile diarrhea; they identify serotypes (something important to the research of more advanced vaccines against the virus), their seasonality, besides the improvements and new perspectives of the vaccine against rotavirus in Brazil.

Parasitoses are other important causes of diarrhea; studies evidence that their origin is directly related to the socioeconomic conditions of the population and the contact to pets (dog and cat). Their treatment is carried out according to the protozoan or helminth which causes the disease.

Regarding the ways of preventing infantile diarrhea, Table 4 shows that the socioeconomic conditions associated to vaccination – vaccine prevention of rotavirus and breastfeeding – are determining factors for the risk of diarrhea infection.

### • Axis 2: Ways of preventing infantile diarrhea

The ways of preventing diarrhea in children are presented in Table 4, distributed into three categories: the socioeconomic conditions, vaccination, and breastfeeding.

**Table 4.** Ways of preventing diarrhea in children according to the analytical category – Brazil – 2000 – 2010

| Category | Way of preventing diarrhea |
|---|---|
| **Socioeconomic conditions** | Increase in the purchasing power of families<br>Larger coverage of the public system of water supply<br>Better home infrastructure<br>Decrease in the number of children<br>Adequate garbage collection<br>Adequate sewage disposal<br>Improvements in the health care services |
| **Vaccination** | Identification of the rotavirus serotypes<br>Perspectives and advancements in the vaccine against rotavirus in Brazil |
| **Breastfeeding** | Exclusive breastfeeding during six months<br>Higher level of mother's school education |

**Source:** Developed by the authors.

The factors associated to the socioeconomic conditions of the individuals, to vaccination, and to breastfeeding are directly related to the diarrheal diseases infection.

Regarding the issue on the socioeconomic conditions, there are different income distributions throughout the many Brazilian regions, which lead to unequal life conditions and, thus, it triggers high rates of diarrhea in children. The social conditions are inconstant variables, since the individuals can be less susceptible to risks inherent to the disease and harms, according to the increase in the quality of life.[5]

The adequate public system coverage, water supply, sewage disposal, and garbage collection can determine a higher health protection to the child.

A study carried out in Juiz de Fora, Minas Gerais, Brazil, showed that the consumption of water from well or fountain presented a significant risk for diarrhea, when compared to what happens in the houses which used water provided by the public system, and it was also observed that the adequate and regular collection and storage of garbage lead to a 65% decrease in the episodes of diarrhea. The research also showed that the constant presence of flies in the houses is associated to the infection by this disease.[6]

There's a need to consider that the prevention of diarrhea is not related only to the individual's home structure, by also to more adequate health care services.

The characteristics of the health care services and their connection to the assistance to the users are conditions favoring the decrease in the occurrence of diarrhea.

There still exist barriers with regard to the accessibility to the public services, having in mind that the first assistance occurs more frequently in the policlinics or public hospitals, instead of public health care units.

The quality and continuity in the assistance are factors that turn the care to the child more difficult most of the times.[7]

The diarrhea due to rotavirus is the main cause of hospitalization and infantile mortality. Studies carried out in the last seven years in Brazil showed that 20.6% a 37.6% of the assistance provided in the hospital whose cause was a diarrheal disease in children < 5 years old were related to infections by rotavirus.[8] This way, it was necessary to implement the vaccine against this virus, in order to decrease the complications caused by the disease.

In 2006, Brazil, through Portaria 1.602, created the calendar for the child, adolescent, adult, and elderly vaccination, aiming to eradicate the immunopreventable diseases. The vaccine against rotavirus was adopted in the child's calendar, being administered in two doses within periods of 2 and 4 months.

The knowledge on G rotavirus serotypes is important to recognize its worldwide distribution and, thus, develop new vaccines according to the predominant serotype in each region.[7-9]

A study carried out in the city of Salvador, Bahia, Brazil, used the ELISA technique and SDS-PAGE to identify which are the advantages of each technique for the detection of rotavirus. It was observed that out of the 217 samples tested, ten were negative for SDS-PAGE and positive for ELISA. It occurs because ELISA is a high sensitivity technique for the detection of rotavirus and SDS-PAGE needs a higher viral concentration to detect viral RNA. However, this is the most used method for the identification of rotavirus, because it provides the information on the type of rotavirus involved in the infection.[10]

Although there are no specific population data on diarrhea due to rotavirus, it is crucial that all Brazilian states have a better structure concerning epidemiological vigilance, in order to improve the treatment of diarrheal diseases, turning it easier to adopt control measures aiming to detect epidemics according to the existing serotypes, monitoring occasional occurrence of severe

cases and evaluating the impact of the vaccine in the national level.[11]

Mother's milk constitutes itself as an important element for the prevention of infections because of the immunological elements present in its composition; exclusive breastfeeding during the first six months of life is crucial for the protection of the child against the infectious agents of diarrhea.[12-14]

The encouragement to breastfeeding is related to the work mostly developed by the nurses working in the basic health care supporting the mothers in the process of breastfeeding and adequate management.[16]

Early weaning by mothers, most of the times, is related to cultural values, low school education, and socioeconomic conditions, besides return to the labor market.[12]

A research carried out in the town of Feira de Santana, Bahia, Brazil, showed that, out of 1,101 investigated who did not present diarrhea, 82.5% were being breastfed, out of this total, 39.1% (431) in an exclusive basis, 15.2% (167) in a predominant basis, and 28.2% (310) used other kinds of food. In the non-breastfed children, there was an increase in the occurrence of diarrhea (+ 9.0%), as in the exclusively breastfed children there was a decrease in the occurrence of diarrhea (- 8.5%).[14]

The school education level is directly related to the time of breastfeeding, 58.3% of the mothers with incomplete basic education breastfed their children for a period inferior to six months, 57.1% did not breastfeed, 60.5% of the mothers who breastfed for six months or more had a higher incidence of incomplete high school, and 66.6% of those who breastfed for six months or more had higher education. This is so because the mothers who present higher levels of school education have the ability to understand the information provided by the health care professionals and apply this knowledge in the daily management of their children.[12-3]

Studies demonstrate that the children who presented the highest number of diarrheal episodes had their breastfeeding discontinued before the sixth month of life; and that the nursing infants living in poor regions have the highest risk for intestinal infection in the beginning of weaning, due to contact with contaminated water and food. The mother's school education did not present a relation to the occurrence of the diarrheal disease.[15]

It was observed that mother's milk presented a higher protection in younger children when compared to the prevalence of diarrhea, according to the presence or lack of breastfeeding in the first six months of life. However, this result did not have that importance when all the population < 1 year old was considered.[14]

## FINAL REMARKS

The findings of this study pointed out that the prevention of the diarrheal diseases was an issue extensively explores in the scientific literature within the period from 2000 to 2005, but from 2006 on it was not so frequently discussed. The journals concerned with public health showed a higher interest on the issue, as the factors related to the prevention of the disease are directly connected to a better infrastructure in the society.

Out of the 28 papers used in this research, 10 reported on the factors related to the importance of the prevention of infantile diarrhea; out of these, 3 papers approached the socioeconomic factors, 4 papers approached the vaccine against rotavirus, and 3 papers approached breastfeeding.

Regarding diarrhea, it was observed that it is a pathology caused by many factors, and its prevention is related to the individual's social, economic, and cultural conditions. Health care professionals should be attentive to the model of assistance provided, aiming not only at the curative treatment, but also the provision of ORT and endovenous hydration, besides continued education, presenting to the population the risk factors and how to prevent the infection by this disease.

The journals under study concerning the issue showed that the ways of preventing diarrhea are related to a context including: improvement of the purchasing power of the families, a higher home infrastructure, a decrease in the number of children, adequate garbage collection and sewage disposal, improvement of the health care services, identification of rotavirus serotypes, perspectives and improvements of the vaccine against rotavirus in Brazil, exclusive breastfeeding during the first six months of life, and a higher mothers' school education level.

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**Corresponding Address**

Jonas Sâmi Albuquerque de Oliveira
Universidade Federal do Rio Grande do Norte
Departamento de Enfermagem
Rua Tabelião Manoel Procópio, 41-A, Lagoa Nova CEP: 59075-010 – Natal (RN), Brazil