

Nursing Support Systems Provided to Children in the Pediatric Service in a Hospital in Sucre-Colombia

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Abstract:

Introduction: Hospitalization in the child is a situation that affects their daily activities and that of their family environment, along with illness, separation from parents, friends, causes tensions that exceeds their adaptive capacity, added to his condition of frailty in his immature biological and psychic system he is forced to be dependent and demand attention from his caregiver.

Objective: to describe the nursing support systems provided to hospitalized children in the Pediatric Service.

Methodology: Exploratory, descriptive cross-sectional study with a sample of 118 children, the instrument was a semi-structured survey that addressed socio-demographic variables and a checklist to obtain data related to the nursing systems provided to hospitalized children.

Results: among the nursing systems, the totally compensatory system was activated in the universal breathing requirements (101=68.24%), hydration (252=72.21%), feeding (155=40.68%), elimination (338=48.08%), rest (166=55.15%), social interaction (426=65.04%), security (504=65.28%), development (163=58.42%), dress (273=81.25%) and bathroom (163=58.42%). In the activity requirement, the partially compensatory system was mostly activated (45=21.03%).

Conclusion: the totally compensatory system is the most applied, and in turn highlights the leading role of the nursing staff, which takes the measures of self-care by the patient, compensating him in his limitations and assisting him in what he requires, which is consistent if you talk about an environment where patients are mainly children and have been subjected to procedures that limit them in meeting their needs.

Keywords: Nursing theory, pediatric nursing, self-care.

Introduction

Pediatric hospitalization is a situation that influences the daily life of the child and his family that, together with stressors such as illness, separation from parents, friends, adaptation to an unknown routine among others, exceeds the adaptive capacity of the child⁽¹⁾; who is characterized by its fragility since they possess an immature biological and psychic system, in addition, they have cognitive limitations inherent to the age, which forces them to be dependent, requiring a demand for attention from its support network (caregivers and family); need exacerbated in situations of illness: it is in the latter that health personnel are included in the child's support network, taking on an equal role as the primary caregiver.

The satisfaction of the holistic needs of children, in most circumstances during hospitalization, is affected because caregivers are not sufficiently trained to meet these needs, by not knowing or understanding your child's state of health, they present imaginaries that generate uncertainties and powerlessness to provide adequate care⁽²⁾, which is why the nursing staff is the best exponent to be able to address and solve the problems of universal needs that the infant population can present by applying the theory of nursing systems.

The care, is the social object of the nursing discipline must be provided from a complex and multidimensional approach, in coherence with the nature of the human being⁽³⁾; it uses as a management tool, the Nursing Care Process (PAE) based on theories or models of nursing, it is possible to show in the daily exercise the realization of the interventions of care that solve the universal needs of the patients, that for the case of minors, given his condition of vulnerability, the scientific evidence shows that, through the care given to him permeated this by the use of Nursing Systems integrated into the Theory of self-care deficit, by the nursing staff of the Pediatric Hospital Service, contributes to the satisfaction of children.

Dorothea Orem's theory of self-care deficit is a general theory composed of three related theories: self-care theory describes why and how people take care of themselves; self-care deficit theory, details and explains how nursing can help people, and the theory of nursing systems, points out and explains the relationships that need to be maintained in the interrelationship with those involved in care; however, when inquiring about the applicability and specific scientific support of the subtheory of nursing systems, there is little, almost no incursion into this, which represents a knowledge gap, a behavior that is even more appreciated when it comes to the pediatric approach; Therefore, the analysis of each of the nursing support systems is considered relevant because these reflect the series of actions carried out by the professional of this discipline to meet the needs of self-care, the essence of the nursing work.

For the present research, the children in the population under study are a group with special characteristics in terms of the demand for care, given their greater degree of dependence, on the one hand, with the consequences of chronic and disabling pathologies in addition to the mild and acute processes so frequent in this age group ⁽⁴⁾ and on the other hand, at birth children have a very basic mental structure, genetically inherited and evolved, and on it, bases all his subsequent learning and knowledge, which is described by Piaget in his cognitive development theory ⁽⁵⁾.

As a result, the mental capacity of the child is insufficient to outline everything related to self-care, this ability evolves as it advances in the stages of development ⁽⁶⁾. That is why the theory of self-care deficit is rarely applied in children because the self-care agency is still in the development phase, meaning self-care agency as the ability of the individual to participate in his own care ^(7, 8). This is a consequence of the lack of knowledge and the difficulty of making judgments about one's own health, and determining when it is time to seek help and/or advice from another ⁽⁹⁾.

The scientific evidence related to the nursing systems described by Dorothea Orem, as mentioned, is scarce, and even more applied in the pediatric population. Among the research is the one carried out by Sanchez and Alvarez, who address as object of study the specialized care to premature neonate based on the general theory of self-care, realize that according to the nursing systems (Dorothea Orem's theory) the fully compensatory system was activated, the nursing agency is the one that fully implemented the care plan, because the clinical condition of the patient did not allow in this case, the mother as a dependent care agent to participate fully in the care. The study also highlights that, in order to justify the interventions, gas exchange should be maintained until the respiratory effort of the newborn is adequate, based on the pulmonary ventilation indices, as well as the interactions between them and the changes they produce in lung physiology, therefore an adequate assessment of lung function will be necessary ⁽¹⁰⁾.

In another study the evidence indicates that therapeutic isolation as a control measure for the transmission of infectious contagious diseases, produces in the individual a deficit of self-care in the satisfaction of the universal requirements described in the Theory of Orem, therefore, partial or total compensatory requirements are activated ⁽¹¹⁾. Other studies indicate that unmet needs include water management (intravenous fluids and fluids), nutrition and nutritional status, and interference with physical activity ^(12, 13).

Orem, author of self-care theory, highlights three types of requirements ^(9,14): universal (represent behaviors that are generally considered to be within the normal limits for humans and also set out the objectives to be achieved through self-care, seeking the preservation of structural and functional integrity in the various stages of the life cycle), of development (They correspond to more specific and particular conditions that ensure the normal growth and development of individuals from conception to old age and the coping with those

situations that may affect them. Within this group are identified three groups, the first is concerned with the provision of conditions that encourage development, the second are those oriented to the commitment of self-growth, and the third group determines the requirements for the prevention of human conditions and living situations that may affect human development) and for the diversion of health (are those existing for people who are sick or injured including defects and disabilities).

According to the capacity and wishes of the person, nursing care is guided in nursing systems defined as ^(15,16): Fully compensatory (all care is taken over by the nursing staff), Partially compensatory (self-care actions are shared between the affected person and the nursing professional) and Educational support. The person performs self-care actions with the guidance and supervision of the nursing professional.

The nursing professional, by activating some of these systems necessarily addresses the components of power that the person possesses, they are constituted by the ability to reason, understand, make decisions, acquire knowledge and put it into practice, that is, develop self-care actions in the activities that it carries out on a daily basis ⁽¹⁷⁾. In the case of children, it takes into account the dependent care agent, who is responsible for the person who agrees to assume the responsibility of knowing and meeting the therapeutic demands of self-care of the latter ⁽¹⁸⁾.

Methodology

Exploratory, descriptive cross-sectional study that described the nursing support systems provided to children hospitalized in the Pediatric Department of the Hospital Regional II Level Nuestra Señora de las Mercedes located in the municipality of Corozal, department of Sucre-Colombia. The population used to calculate the sample for this research is 169 children who were hospitalized during the quarter from January to March 2019. The sample was 118 children who met the following inclusion criteria: children with one or more days of hospitalization in the Pediatric Service, with medical diagnosis of any pathology or alteration of their health, children of any age and that their parents or legal representative of the child had signed the informed consent.

The following formula was taken into account for the calculation of the sample:

$$n = \frac{N \times Z\alpha^2 \times p \times q}{d^2 \times (N - 1) \times Z\alpha^2 \times p \times q}$$

If the population is finite, that is, the total population is known in a specific time period and you want to know how many of the total you need to study, the formula would be: N= total population [169]. Za= 1.96 squared (if safety is 95%). p= expected ratio (in this case 5%= 0.05). q= 1-p (in this case 1-0.05=0.95). d= accuracy (5% is used in this study). Replacing has:

$$n = \frac{169 \times 1.96^2 \times 0.05 \times 0.95}{0.032 \times (169 - 1) \times 1.96^2 \times 0.05 \times 0.95} = 118 \text{ Children}$$

The technique and instrument used was a semi-structured survey designed by the researchers with their respective validation by expert, before its application was enhanced test, which allowed to make adjustments of form, the instrument addressed sociodemographic variables of the participating children, such as age, sex, origin, level of schooling, membership of the General Social Security System in Health, socioeconomic stratum, medical diagnosis, days of hospital stay and a checklist to obtain data related to the nursing systems provided to children hospitalized in the Pediatric Service, related to universal requirements, fully compensatory systems, partially compensatory and educational support. The collection of information was carried out during the months of July and August, by the research unit was supported by two students of the Nursing Program of the University of Sucre, who were trained in the use of the instrument and other knowledge needed for its application, a process to which three one-hour sessions were devoted. Likewise, each member had specific working functions within the group to coordinate the actions, organize and save the information collected. The application of the instrument lasted an average of 20 minutes in the unit of hospitalization of the child of the service of Pediatrics, which allowed to observe the behaviors related to the nursing systems and to inquire to the caregiver and the patient the aspects that are not managed to observe, for example, if collecting the information was not the time of food intake, this aspect was asked directly to the caregiver.

Once the information was collected, a random facial test was performed to verify the consistency and accuracy of the data found. To ensure the confidentiality and privacy of the results, each survey was assigned a code, so that, if an aspect needed to be clarified or verified, it could be made available in the most objective and reliable manner. Data was then organized in Excel and systematically processed in Epi Info version 7 for the analysis of descriptive statistics, of variables taking into account the conceptual referents of nursing systems raised by Dorothea Orem in her Theory of Self-Care Deficit.

Ethical considerations:

The research was approved by the ethics committee of the University and was approved within the committee of the Hospital Regional II Level Our Lady of the Mercedes. took into account the ethical considerations, established in Resolution 008430 of 1993 of the Ministry of Health of Colombia ⁽¹⁹⁾, was classified as a "research without risk".

Informed consent was made with the values imposed by the Helsinki declaration, where all research with human beings has to go through the conscious approval of these, "it is a duty to protect the life, health, dignity, integrity, right to self-determination, privacy and confidentiality of personal information of persons involved in research". "Every precaution

must be taken to safeguard the privacy of the person involved in the investigation and the confidentiality of his or her personal information" ⁽²⁰⁾.

Results

The socio-demographic aspect showed that children under one year were 24, the highest frequency of age in months corresponds to 10 months, with a total of 20.83% ⁽⁵⁾, children over one year were 94, It is reported that the highest age frequency in years corresponded to one, with a total of 14.89% ⁽¹⁴⁾, followed by children aged two, three and four years with a total of 12.77% ⁽¹²⁾, 10.64% ⁽¹⁰⁾ and 8.51% ⁽⁸⁾ respectively. These data were grouped by ranges, where it was obtained that the highest concentrations are between the 1-2 year ranges with 22.03% ⁽²⁶⁾ and in less frequency the range 15 years and more (3.39%=4) (Table 1).

Table N° 1. Age range of participating children.

RANGES	#	%
< 1 year	24	20,34
1-2 years	26	22,03
3-4 years	18	15,25
5-6 years	10	8,47
7-8 years	13	11,02
9-10 years	12	10,17
11-12 years	5	4,24
13-14 years	6	5,08
15 years or more	4	3,39
Total	118	100

Source: Instrument applied

The sex ratio is 50.85 per cent (60) for males and 49.15 per cent (58) for females. In addition, 50 per cent (59) of them were of equal origin for rural and urban areas. The socio-economic stratum, 92.37% (109) belonged to stratum one and the remaining 7.63% (9) to stratum two. The level of schooling showed that, by age, 42.37 per cent (50) do not apply to enter the education system, and of the 68 children who do apply to belong to the education system, 15.25 percent (18) are in pre-school, 27.97 percent (33) are in primary and 9.32 percent (11) are in secondary school; the remaining 5.08% although they apply by age, are not within the educational system, that is, do not study.

Among the pathologies presented by the participating children, the highest proportion was obtained by bronchopneumonia with 19.49% (23) and the lowest was for severe anemia, asthmatic crisis, caloric protein malnutrition, abdominal pain, scabies, gastritis, inguinal

hernia, nephrolithiasis, parotiditis, nephrotic syndrome, whooping cough, crush trauma and testicular trauma, each entity with 0.85% (1) (Table 2). The days of hospital stay were between two (11.02%=13), three days (24.58%=29), four days (26.27%=31), five days (18.64%=22), more than six days are 17.8% (21) and 1.69% (2) were hospitalized for one day.

Table N° 2 Medical diagnoses of participating children

DIAGNOSIS	#	%
Bronchopneumonia	23	19,49
Dengue	21	17,8
Abscess	9	7,63
Febril syndrome	9	7,63
Bronchiolitis	8	6,78
Breaking	8	6,78
Pneumonia	6	5,08
Cellulite	4	3,39
UTI	3	2,54
Bronchial asthma	2	1,69
Febril Convulsion	2	1,69
ADD	2	1,69
Umbilical Hernia	2	1,69
Facial Paralysis	2	1,69
Pop appendectomy	2	1,69
Nephritic syndrome	2	1,69
Severe anemia	1	0,85
Asthma crisis	1	0,85
Protein calorie malnutrition	1	0,85
Abdominal pain	1	0,85
Escabiosis	1	0,85
Gastritis	1	0,85
Hinguinal Hernia	1	0,85
Nephrolithiasis	1	0,85
Mumps	1	0,85
Nephrotic syndrome	1	0,85
Whooping cough	1	0,85
Crush trauma	1	0,85
Testicular Trauma	1	0,85
Total	118	100

Universal breathing requirement. The universal breathing requirement is modified according to the presence of respiratory symptoms, it was evident that 50% (59) of the participants did not present changes in this requirement, so it is considered that they do not apply; while the position variable adopted showed that the fully compensatory system was activated 14 times (9.46%) in children under one year and 2.03% corresponding to three times in the same range of 1 to 2 years; the partially compensatory system was activated seven (7) times (4.73%) in infants aged 1 to 2 years and three times (2.03%) in the younger age of one year. This self-care was assumed by the patient itself in 5.41% equivalent to 8 times in the age of 1 to 2 years, followed by 7 times with 4.73% in the age of 3 to 4 years, 2 times (1.35%) the age of 5 to 6 years and once (0.68%) 9 to 10 years.

In nasal hygiene, it was found that in 18 (12.16%) occasions it was activated at the age of 1 to 2 years, in children under one year it was activated 17 times (11.49%) and once (0.68%) at the age of 13 to 14 years; the partially compensatory system at the age of 5 to 6 years, was activated twice (1.35%) and once (0.68%) at ages 1 to 2 and 3 to 4, for each range. In the range of 9 to 10 years it was evident that a patient assumed his own self-care (0.68%).

With regard to the use of facial masks, it was found that a patient (0.68%) assumed his own self-care in the range of 3 to 4 years, the educational support system was activated once (0.68%) in children under one year and in children from 1 to 2 years, respectively.

With regard to the elimination of nasal secretions, the results showed that in children under one year, the fully compensatory system was activated 15 times, while in children between 1 and 2 years, it was activated 13 times (8.78%) and 3 to 4 years, in one occasion it was activated (0.68%); the partially compensatory system was activated 5 times (3.38%) in the range of 1 to 2 years, 3 times (2.03%) between 3 and 4 years, in the range of 5 to 6 years (1.35%) was activated twice and once (0.68%) at the age of 13 and 14 years.

The fully compensatory system in the nasal lavage procedure showed that it was activated 10 times (6.76%) in children under one year of age, 2 times (1.35%) in children aged 1 to 2 years and on one occasion (0.68%) in the range of 5 to 6 years. Finally, in total, the fully compensatory system was the most generally activated in this universal requirement, with 68.24% (101).

Universal requirement hydration. When assessing the supply of liquids, it is evident that the fully compensatory system was activated 24 times (6.88%) at age 1 to 2 years, 22 times (6.30%) in children under 1 year, 17 times (4.87%) in children under 3 to 4 years, while in the ages of 7 to 8 and 9 to 10 years 11 times (3.15%) were activated respectively, 8 times (2.29%) in children aged 5 to 6 years, 5 times (1.43%) at the age of 13 to 14 years, 4 times (1.15%) and 3 times (0.86%) in the population aged 15 and over. The educational support system was activated twice (0.57 per cent) in the age ranges 1 to 2 and 13 to 14 years, each and less once (0.29 per cent) in the ages 3 to 4, 5 to 6, 9 to 10 and 11 to 12 years,

respectively. It should be noted that the partially compensatory system and self-care assumed by the patient were not evident in the study.

The investigation on the assistance in the ingestion of liquids, identified the totally compensatory system as the one that more number of times, was activated in 22 occasions (6.30%) in those under one year, 6 times (1.72%) in children of 3 to 4 years and once (0.29%) in the range of 5 to 6 years. As for the partially compensatory system, 3.44% (12) showed its activation in the range of 3 to 4 years, 1.43% (5) in children aged 9 to 10 years, 0.57% (2) represents the ranges of 13 to 14 years and children under 1 year respectively, while 0.29% (1) in the range of 1 to 2 years and 15 years and over, respectively. The self-care assumed by the patient showed that the ages of 9 to 10 years assumed their own self-care 13 times (3.72%), 11 times (3.15%) in children aged 13 to 14 years, 10 times (2.87%) in children aged 11 to 12 and over 15 years respectively, 8 times (2.29%) in children aged 3 to 4 years, while in children aged 5 to 6 years it was activated 5 times (1.43%) and ranges 1 to 2 and 7 to 8 years show their frequency 4 times (1.15%), for each range. With regard to the educational support system, it was evident that it was activated on one occasion (0.29 per cent) at the age of 15 and over.

Findings related to the administration of intravenous fluids show that only the fully compensatory system was activated, a procedure assumed by the nursing staff, on 26 occasions (7.45%) in the ages of 1 to 2 years, 24 times (6.88%) in children under 1 year of age, 18 times (5.16%) in the ages of 3 to 4 years, 13 times (3.72%) in children aged 7 to 8 years, 12 times (3.44%) in the range of 9 to 10 years, 10 times (2.87%) in children aged 5 to 6 years, while the ranges of 13 to 14, 11 to 12 and 15 years or more were activated 6 (1.72%), 5 (1.43%) and 4 times (1.15%) respectively. Overall, the fully compensatory system was the most activated in this universal requirement, with 72.21% (252).

Universal feeding requirement. In food intake, it is reported that the nursing systems were not activated, since in its entirety it was assumed by the participating patients who applied in the subvariable, where children between 1 and 2 years are represented with 6.82% (26), with 6.30% (24) In one year, 4.72 percent (18) are children aged 3-4 years, 3.41 percent (13) are children aged 7-8 years; children aged 9-10 years account for 3.15 percent (12), 2.62 percent (10) are children aged 5-6 years, while 1.57 percent (6) Children aged 13 to 14 years and less represented are those aged 15 years and over with 1.05 percent (4).

The subvariable provides food, the fully compensatory system was activated 26 times (6.82%) in ages 1 to 2 years, 22 times (5.77%) in children under one year, was activated 18 times (4.72%) in children between 3 and 4 years, 12 times (3.15%) in the range 9 to 10 years, 11 (2.89 percent) occasions in children aged 7 to 8 years, while 9 (2.36 percent), 6 (1.57 percent), 5 (1.31 percent) and 3 times (0.79 percent) in the 5-6, 13-14, 11-12 and 15-plus ranges respectively.

On the other hand, the educational support system was activated in 6 opportunities (1.57 percent) in the ages 1 to 2 and 3 to 4 years, respectively, while 5 times (1.31 percent) in the ranges 5 to 6 and 9 to 10 years correspondingly, 4 times in children 7 to 8 years, was also activated 3 times in the range of 11 to 12 years and twice (0.52%) in children under one year and 13 to 14 years. As for the partially compensatory system, no activation was reported.

With regard to food assistance, it was found that the fully compensatory system was activated 23 times, corresponding to 6.04 per cent in children under one year of age, while in a smaller proportion it is activated once (0.26 percent) in the range of 13 to 14 years. As for the partially compensatory system, it was activated 14 times (3.67 percent) in infants aged 1 to 2 years and once (0.26 percent) in children aged 1 year and 13 to 14 years, respectively. It was obtained that, in the self-care assumed by the patient, it was activated in 2.10% (8) in children under 9 to 10 years and in children from 3 to 4 and 5 to 6 years once (0.26%).

On the other hand, in the educational support system, no activations were presented, and the fully compensatory system was the most generally activated in this universal requirement, with 40.68% (155).

Universal elimination requirement. The bowel movements and bladder movements reported exactly the same data, where in their totality they were assumed in a physiological way by the patients, reporting 26 times (3.70%) in children of 1 to 2 years and in 4 opportunities (0.57%) in children of 15 years or more, respectively.

The monitoring of the intestinal pattern, it was observed that it was activated in a fully compensatory system 25 times (3.56%) in children between 1 and 2 years of age, 21 times (2.99%) in children under 1 year of age, 18 times (2.56%) in children between 3 and 4 years of age, 12 times (1.71%) in the range of 9 to 10, was also activated in 11 (1.56%) occasions in children aged 7 to 8 years, 9 times (1.28%) in children aged 5 to 6 years, ranges from 13 to 14 and 11 to 12 recorded 5 (0.71%) and 4 (0.57%) activations, correspondingly, and in smaller numbers, in the ages of 15 years and more on two occasions (0.28 per cent). In the educational support system, it identified its activation on three occasions (0.43 per cent) in children aged 5 to 6, while only on one occasion (0.14 per cent) in children aged 1 to 2, 9 to 10 and 11 to 12, respectively.

In turn, in the surveillance of vesical pattern, 24 activations (3.41%) were reported in the totally compensatory system in the ages of 1 to 2 years, 19 (2.70%) in children under 1 year, 16 times (2.28%) in children aged 3 to 4 years, 11 times (1.56%) in children aged 9 to 10 years; while in the 5-6 and 7-8 ranges it was activated 9 times (1.28%) respectively, the 11-12 range was activated 5 times (0.71%), 4 times (0.57%) in children under 13-14 years, while on two occasions (0.28%) it was activated in children aged 15 and over. With regard

to the educational support system, it was found that on 4 occasions (0.57%) and 3 times (0.43%) it was activated in the 5 to 6 years and 3 to 4 years respectively, while in two (0.28%) reports it was activated in the 9 to 10 years and an activation was detected (0.14%) in the ranges of less than 1 year, 1 to 2, 7 to 8, 11 to 12 and 15 years or more, respectively.

The assistance in intestinal elimination reported that in the fully compensatory system 3.56% (25) was activated in children from 1 to 2 years, while in 2 occasions (0.28%) there was activation in children from 5 to 6 years; in the partially compensatory system, was activated 8 times (1.14%) in the ranges of 3 to 4, 5 to 6 and 9 to 10 years respectively and in smaller proportion 0.14% corresponding to one time in children 1 to 2 years. In addition, it was found that in the ranges 13 to 14 and 15 years and over, 0.28% (2) were reported to have assumed their own self-care correspondingly, while on one occasion (0.14%) a child assumed it within the age of 9 to 10 years.

Assistance in vesical elimination showed that the fully compensatory system was activated 24 times (3.41 per cent) in children under one year of age, and to a lesser extent with 0.43 per cent represented 3 times in the ages of 9 to 10; Within the partially compensatory system, 8 activations (1.14%) were identified in the range of 3 to 4 years and 0.28% (2) in participants aged 15 or older. As for the patients who assumed self-care, in greater frequency with 0.43% (3) reported respectively in ranges of 5 to 6 and 13 to 14 years, on the other hand, in ages 7 to 8, 9 to 10 and over 15 years two children were identified (0.28%) corresponding to each range, and finally in children between 3 and 4 and 11 to 12 years on an occasion corresponding to 0.14% in each.

Finally, in general, the fully compensatory system was that it presented greater frequency of activations in this universal requirement, with 48.08% (338).

Universal activity requirement. The requirement is modified according to the age and motor development of the patient, therefore, in 14.41% of the participating population (17) does not apply by age. With regard to the change of position in the bed, it is reported that the totally compensatory system was activated on 9 occasions (4.21%) in children under 1 year, while on one occasion (0.47%) in children between 1 and 2 years of age. On the other hand, the educational support system was activated once (0.47 percent) in children under one year of age. With regard to the partially compensatory system, 4.21 percent (9) was activated in children under one year of age, 5 times (2.34%) in children 1 to 2 years old, in the range of 7 to 8 was activated 4 times (1.87%), while in 1 time (0.47%) in the ranges of 3 to 4, 5 to 6 and 9 to 10 respectively. Otherwise, patients between 1 and 2 years assumed their own self-care 20 times (9.35%), and in a smaller proportion of 1.87% (4) patients 15 years or older.

On the other hand, the crawl records that in its totality the patient assumed its own self-care, 4 occasions (1.87%) in children under 1 years and 2 times (0.93%) in children under 1

to 2 years of age, no activation of any system was reported. While, in walking, the fully compensatory system was activated 1 time (0.47%) in children between 3 and 4 years. The partially compensatory system was activated 14 times (6.54%) in patients between 1 and 2 years of age, 3 times (1.40%) in children between 3 and 4 years, it was also activated in 2 (0.93%) occasions in the ranges of under 1 years, 7 to 8 and 9 to 10, respectively and on 1 occasion (0.47%) in patients aged 15 years or older. Likewise, patients between 3 and 4 years assumed their own self-care 14 times (6.54%), 10 times (4.67%) in the ranges of 1 to 2 and 9 to 10 respectively, children from 5 to 6 and 7 to 8 years did so in 9 opportunities (4.21%) correspondingly, also 6 times (2.80%) in the range of 13 to 14 years, 5 occasions in children under 11 to 12 years and in a smaller proportion, 2 times (0.93%) in patients aged 15 years and over. Finally, in general, the partially compensatory system was that it presented greater frequency of activations in this universal requirement, with 21.03% (45).

Universal rest requirement. In this requirement it was found that the subvariable keeps quiet according to medical recommendation, there were participants who assumed their self-care; in children with ages 5 to 6 and 7 to 8 years reported 5 times (1.66%) for each range, while those belonging to ages 3 to 4, 9 to 10 and 13 to 14 years assumed it with 1.33% (4) in each one, in addition it was evident in these same conditions two minors that represent 0.66% with ages of 11 to 12 years and also 0.33% (1) were identified in the ages of 1 to 2 years and 15 years or more, respectively.

When researching: sleep at least 8 hours continuously, it was found that in its totality was assumed by the participating patients, of which 17 (5.65%) were found between 1 to 2 years and in a smaller proportion were found 4 (1.33%) each in the age ranges of 11 to 12 years and 15 years or older, correspondingly. On the other hand, when exploring if you sleep less than 8 hours continuously, 3.65% (15) did not rest more than 8 hours, as did an infant aged 11 to 12 years (0.33%) (Table 18).

Among the reasons that had a sleep period of less than 8 hours, 15 minors (42.86%) were found to receive regular breastfeeding, pain and discomfort were presented equally in 6 children (17.14%) respectively, as well as the hot atmosphere and the episodes of nocturnal cough represented equally 8.57% (3) each, also the night congestion and treatment schedule of 4 am each represented 2.86% (1).

Night congestion and treatment schedule of 4 am each accounted for 2.86% (1).

Within the subvariable facilitates maintenance of bed rest of the patient was obtained activation only of the totally compensatory system, where on 5 occasions (1.66%) was activated in the ranges 5 to 6 and 7 to 8 years, corresponding to each, 4 times (1.33%) in children aged 5-6, 3 times (1.00%) in the 9-10 and 13-14 age ranges respectively; while in children aged 1-2 and 11-12, it was activated 2 times and in children aged 15 and over it was activated only once (0.33%). As for the children who satisfied their own needs,

assuming their self-care was one (0.33%) in each range from 9 to 10 and 13 to 14 years.

Only the fully compensatory system was activated in the subvariable respecting the patient's sleep, where 8.64% (26) corresponds to the range of 1 to 2 years, 7.31% (22) to children under 1 year, 5.98% (18) represents children from 3 to 4 years, 3.99% (12) and 3.65% (11) of the times that this system was activated correspond to the ranges of 9 to 10 years and 7 to 8 years respectively, while 2.99% (9) represents children from 5 to 6 years; also the totally compensatory system was activated 6 times (1.99%) in children from 13 to 14 years, 5 occasions (1.66%) in the range of 11 to 12 years and in three opportunities ages 15 years or more. Similarly, in the subvariable monitoring compliance with rest, the exclusive activation of the totally compensatory system was mostly 5 times (1.66) in the ranges 5 to 6, 7 to 8 and 9 to 10 years, 4 times (1.33%) in children between 13 and 14 years, also activated in 3 times (1.00%) in the range of 3 to 4 years, 2 times (0.66%) in ranges of 1 to 2 and 11 to 12 years respectively, while 1 time (0.33%) in the age of 15 years or more. Finally, in general, the fully compensatory system showed a higher frequency of activations in this universal requirement, with 55.15% (166).

Universal requirement for social interaction. When assessing whether the child smiles at people, it was entirely assumed by the patients, 16 (2.44%) sometimes children between 3 and 4 years, 15 (2.29%) in children between 1 and 2 years, 12 (1.83%) sometimes children between 9 and 10 years, 11 (1.68%) in children between 7 and 8 years, 9 (1.37%) in children aged 5 to 6 years, 6 (0.92%) occasions in children aged 13 to 14 years, on the other hand, children aged 11 to 12 years who took up the activity in 5 (0.76%) occasions and children aged 15 years and over 3 (0.46%) times.

In the case of children answering questions, the activation of the fully compensatory system was reported in 22 (3.36 per cent) cases in children under one year of age and in one (0.15 per cent) cases in the 5-6 age group; simultaneously, the partially compensatory system was activated 14 times (2.14%) in the range of 3 to 4 years and twice (0.31%) in the ages of 11 to 12 years and 15 years or more in each range. On the other hand, the self-care of the patients was assumed by them on three occasions (0.46%) in the ranges 7 to 8 and 11 to 12 years in each, twice (0.31%) in children between 5 to 6 and 9 to 10 years and in 0.15% (1) in the ages of 1 to 2 and 15 years or more, correspondingly.

In communication with others, it was reported that it was activated 18 times (2.75%) in children between 3 and 4 years, while three (0.46%) were between 15 years or older. On the other hand, as far as the subvariable is concerned, it asks and answers questions, the only activated system was the fully compensatory one, where it had 17 (2.70%) activations in children aged 3 to 4 years and in less proportion in the ages of 15 years or more with 0.46% representing 3 occasions.

In this regard, it shares with the child activities commensurate with his or her age, it was

found that only the fully compensatory system was activated, in the ages 1 to 2 years 3.51% (23), 2.44% (16) corresponds to children from 3 to 4 years, 2.14% (14) represents children under 1 year, while 1.37% (9) corresponds to the ranges of 5 to 6 and 7 to 8 years respectively, 1.07% (7) represents children between 9 and 10 years; this system was also activated four times (0.61%) in the range of 11 to 12 years, 2 times (0.31%) in children between 13 and 14 years and once (0.15%) in participants aged 15 and over.

On the other hand, in the proportion of spaces for the tranquility of the child in stressful situations it was found that, of the two activated systems, in the totally compensatory 25 times (3.82%) were reported in infants from 1 to 2 years, in 21 opportunities (3.21%) in children under 1 year of age, 17 times (2.60%) in children aged 3 to 4 years, was activated on 10 occasions (1.53%) in children aged 9 to 10 years, while in the ranges of 5 to 6 and 7 to 8 years this system registers 9 activations (1.37%) respectively, while in the 11 to 12 and 13 to 14 years ranges 5 (0.76%) were activated respectively and in a single occasion in those 15 years or older. The other system activated was the partially compensatory, where they accounted for 0.15% (1) in the ranges of 7 to 8 and 9 to 10 years in each. It was also found that in the ranges of 7 to 8, 9 to 10, 13 to 14 and 15 years or more, once (0.15%) they assumed their own self-care in each one.

Performing affection samples was one of the aspects where it was reported that only the totally compensatory nursing system was activated, where in greatest representation was in the ages of 1 to 2 years with 3.97% that is 26 activations, 3.36% (22) Under-1s, 2.60 per cent (17) represent children aged 3-4, 1.83 per cent (12) represent children aged 9-10, while in the 7-8 age range this system was activated 11 times (1.68 per cent), 6 times (0.92 per cent) in children aged 13-14, 5 times (0.76 per cent) in the 11-12 age range and a total of 2 occasions equivalent to 0.31 per cent for children aged 15 and over. Finally, it should be noted that 14.41 per cent, or 17 minors, did not apply the universal requirement of social interaction because of the age at which they were found. Finally, in general, the fully compensatory system was that it presented greater frequency of activations in this universal requirement, with 65.04% (426).

Universal safety requirement. The manipulation of hospital devices showed activations in the three nursing systems, in terms of the totally compensatory one reported 25 times (3.24%) in children aged 1 to 2 years and once in the ages of 15 years or more. For its part, the educational support system was activated 15 times (1.94%) in those aged 1 to 2 years and 2 times represented in 0.26% in the range of 15 years or more. As for the partially compensatory system, three activations (0.39%) were found in the ages between 9 and 10 years, twice (0.26%) in the ranges of 7 to 8, 11 to 12 and 15 years or more respectively and one occasion (0.13%) in those of 1 to 2, 3 to 4 and 13 to 14 years.

As for the subvariable contributes to keeping the unit clean and orderly, it was observed that, of the activated systems, the fully compensatory system obtained 25 activations

(3.24%) in children 1 to 2 years of age, was activated 22 times (2.85%) in children under 1 year, 16 times (2.07%) in children aged 3 to 4 years, 11 activations (1.42%) in children aged 9 to 10 years, 9 times (1.17%) in the ranges of 5 to 6 and 7 to 8 years respectively, while 5 times (0.65%) were activated in the ranges of 11 to 12 and 13 to 14 years, finally two activations were registered (0.26%) 15 years or older. The partially compensatory system was used twice (0.26 per cent) in children aged 7 to 8 and once (0.13 per cent) in the 3-4, 9-10, 13-14 and 15-plus age groups.

In carrying out handwashing according to need, the system totally obtained that the fully compensatory system had 14 records (1.81%) in children under one year, was activated 13 times in children between 1 and 2 years, 5 times in children aged 3 to 4 and only 2 times (0.26%) was activated in those aged 5 to 6. On the other hand, the partially compensatory system presented activation 12 times (1.55%) in the ages of 1 to 2 years and activation (0.13%) in the ranges of 11 to 12, 13 to 14 and 15 years or more in each. The satisfaction of the need by the same patient was eight times (1.04%) assumed in the ages of 9 to 10 years and twice (0.26%) in those of 15 years or more.

When asking for help on request, the fully compensatory system was activated 22 times (2.85%) in children under one year of age and once (0.13%) in the ages of 9 to 10 and 13 to 14 years, correspondingly. Activations in the partially compensatory system found that in children aged 9 to 10 years had 11 activations (1.42%) and twice (0.26%) in those aged 15 and over. On the other hand, the patients assumed their self-care on one occasion (0.13%) in the ranges of 11 to 12, 13 to 14 and 15 years or more, respectively.

The aspect related to maintaining the patient's physical protection, it was reported that there were activations in the totally compensatory system with 2.72% (21) in the ranges of less than one year and 1 to 2 years, respectively, and 0,39% corresponding to 3 times in those aged 15 and over. Regarding the educational support system, 13 activations (1.68%) are described in children under 1 year of age and one activation in the ages of 15 years or older.

Regarding the use of biosecurity measures in the management of the patient, activations were identified in the fully compensatory system with 26 times (3.37%) in children aged 1 to 2 years, 21 times (2.72%) in children under 1 year, 18 times (2.33%) in children aged 3 to 4 years, 12 times (1.55%) in children aged 9-10 years, while in children aged 7-8 years 11 times (1.42%), 9 times (1.17%) in children aged 5-6 years, 6 times (0.78%) in the range 13-14 years, 5 times (0.65%) in children aged 11-12 years and 3 times (0.39%) in children aged 15 years or older. At the same time, the educational support system was activated twice (0.26%) in the less than one-year and 1-2-year ranges, respectively. Finally, in general, the fully compensatory system presented greater frequency of activations in this universal requirement, with a total of 65.28% (504).

Universal development requirement. The response to activities that require the child's

motor skills showed that the partially compensatory system was activated in 3 (1.08%) occasions in children under 1 year; while the educational support system was activated in 2 (0.72%) in children younger than 1 year and between 1 and 2 years respectively. On the other hand, patients between 1 and 2 years assumed self-care 26 (9.32%) times, children under 1 years assumed self-care 19 times (6.81%), children from 3 to 4 years 18 times (6.45%), those from 9 to 10 years did it 12 times (4.30%) In the 7-8 age range, it was taken on 11 occasions, while children between 13-14 and 11-12 years did so in 6 (2.15 per cent) and 5 (1.79 per cent) occasions, respectively, and children aged 15 and over took it on 3 (1.08 per cent) occasions.

In valuing the child's motor skills, the fully compensatory system was activated 14 times (5.02%) in children under one year of age, 13 times (4.66%) in children between 1 and 2 years, 10 times in the range of 3 to 4 years (3.58%), 7 in children aged 5 to 6 years (2.51%), in addition in the range of 7 to 8 it was activated in 5 (1.79%) occasions and in the range of 9 to 10 years 4 (1.43%) times. Finally, in the ranges of 11 to 12 and 13 to 14 years was activated 1 (0.36%) time respectively.

With regard to taking into account the age of the child for daily activities, only the fully compensatory system was activated, 26 (9.32 per cent) occasions in children between 1 and 2 years of age, 18 (6.45 per cent) in children under 1 year of age and 3 to 4 years of age, 12 were also activated (4.30%) times in the 9-10 years range, 11 (3.94%) in the 7-8 years range, 9 (3.23%) in children aged 5-6 years, 6 (2.15%) in the 13-14 range, 5 (1.79%) times in children aged 11-12 years and 3 (1.08%) times in children aged 15 and over. Finally, in general, the fully compensatory system was that it presented greater frequency of activations in this universal requirement, with 58.42% (163).

Universal dress requirement. In the use of appropriate clothing, according to age and climate, the totally compensatory system was activated 24 (7.14%) times in children from 1 to 2 years, and in less frequency 2 (0.60%) times in children from 9 to 10 years. While the partially compensatory system was activated in 9 (2.68%) occasions in children between 9 and 10 years and in less frequency of 1 (0.30%) time in children between 1 and 2 years (Table 15); the patient assumed self-care in 2 (0.60%) occasions in the 11 to 12 and 13 to 14 year ranges respectively, while in 1 (0.30%) occasion in the 1 to 2 year ranges, 5 to 6 years, 7 to 8 years and 9 to 10 years respectively.

In the supervision of maintenance of suitable clothing only the system of fully compensatory 2 (0.60%) occasions in children between 1 and 2 years of age is activated, while in 1 (0.30%) occasion in the ranges of 7 to 8, 9 to 10 and 13 to 14 years respectively. With respect to the subvariable of avoidance of unnecessarily discovering the parts of the child, the fully compensatory system was activated 24 (7.14%) times in the range of 1 to 2 years and in less frequency 1 (0.30%) occasion in children 15 years or older (Table 16). While the partially compensatory system was activated 2 (0.60%) times in children aged 9

to 10 and 13 to 14 years respectively. The patient assumed self-care in 1 (0.30%) occasion in children aged 15 or older. While, in the aspect it keeps the child's body parts covered according to need, the fully compensatory system was activated 26 (7.74%) times in children between 1 and 2 years, and in less frequency 1 (0.30%) times in children 15 years or older. The partially compensatory system was activated in 3 (0.89 per cent) cases in children aged 13 to 14 years and 2 (0.60 per cent) times in children aged 9 to 10 years. While the patient assumed his own self-care 2 (0.60%) times in children aged 15 and over and 1 (0.30%) times in children aged 7 to 8, 11 to 12 and 13 to 14 respectively. Finally, in general, the fully compensatory system was that it presented greater frequency of activations in this universal requirement, with 81.25% (273).

Universal bathroom requirement. This requirement is modified according to the age of the patient, therefore, in 1.69% (2) of the study participant population does not apply. In the area of body care, the fully compensatory system was activated 22 (19.64 per cent) times in children under 1 year of age, 21 (18.64 per cent) times in children between 1 and 2 years of age, 6 (5.36 per cent) times in children between 3 and 4 years of age, and 1 (0.89 per cent) times in children between 7 and 8 years of age and 9 and 10 years of age, respectively. While the partially compensatory system was activated in 12 (10.71 per cent) cases in children aged 3 to 4 years, 10 times (8.93 per cent) in children aged 7 to 8 years, 8 times (7.14 per cent) in the 9 to 10 years range, in children aged 5 to 6 years, this system was activated 6 times (5.36 per cent), 5 occasions (4.46%) in children aged 1-2 years, while 3 times (2.68%) in the 11-12 and 12-14 years ranges respectively and less frequently 2 times (1.79%) in children aged 15 and over. The patient assumes his own self-care 3 (2.68%) times in children aged 9 to 10 and 13 to 14 years respectively, 2 (1.79%) times in children aged 11 to 12 and 1 (0.89%) times in children aged 15 and over.

The subvariable of provides elements required for the bath of the child according to the age the fully compensatory system was activated in 26 (23.42%) occasions in children of 1 to 2 years of age, and in less frequency in children of 15 years or more with 3 (2.70%) occasions. Just as it uses the elements required for the child bath according to age, the fully compensatory system was activated only 26 times (23.64%) in children between 1 and 2 years of age, and less frequently in children 15 years of age and older with 3 (2.70%) occasions. In general, within this universal requirement, the fully compensatory system presented higher frequency of activations with 58.42% (163).

Discussion

The age variable showed that the greatest representation of the boys and girls who participated in the study was represented among the ranges 1-2 years with 22.03%. Self-care activities are learned as the individual matures and are affected by the beliefs, culture, habits and customs of the family and society. Age, development and health status may affect the individual's ability to perform self-care activities ⁽²¹⁾. The findings from the ages

of this study justify that the majority of children are not linked to the education system, since their life course is not suitable to enter it. As a result, the educational support system was directed to caregivers to carry out self-care.

Compared to the nursing support systems and the universal requirements of self-care, the breathing subvariable, which was evaluated by the adopted position, nasal hygiene, removal of nasal secretions and nasal washing, presented a relevant activation of the fully compensatory system. The preponderance of physiological needs is given by having predominance over other basic needs, since they are considered essential for survival; Orem author of the theory of self-care bases his proposals in Maslow ⁽²²⁾, who states before a person can proceed to seek the needs of a higher level it is necessary that the most fundamental ones are met, which is relevant to the results of this study ²³.

The universal requirement hydration assessed by subvariables provides fluids, assistance in the intake and administration of IV fluids, reflected that self-care is not fulfilled because of the biopsychosocial characteristics inherent to the ages of the participants and, in addition, there are activities that are only within the competence of the nursing staff, therefore it is necessary to consider the health measures required to meet self-care needs when the patient's health or age fails, therefore, the situation allowed the activation of the fully compensatory system in line with the prevailing age ranges. Self-care capacity is directly related to basic conditioning factors such as age, life experience and socio-cultural factors. In addition, the caregiver must be involved and willing to perform the actions ^(24,25,26).

Food as a universal requirement, assessed through food intake, provides food and food assistance, activated the partially compensatory, fully compensatory and educational support systems, results validated by pathologies in infants, none of which required the installation of special devices, as well as the variety in age ranges in which boys and girls present various endowments of motor skills to participate in their self-care; these results differ from those found by de Trettene et al and Demoro et al., who reported that in the face of food-related deficits, nurses had to perform direct care interventions in addition to guidance and training for caregivers ^(27,28).

The universal requirement of elimination, assessed by intestinal and vesical evacuation, was determined by the physiology of the children, it is emphasized that in the eliminations the use of special devices or drugs was not required to favor physiological elimination, therefore, in their totality they were assumed by the patients; the surveillance of vesical and intestinal patterns, modified by the pathologies that presented and the ages of the minors, which consistently made the activation of fully compensatory and educational support systems predominate ⁽⁹⁾; in terms of assistance during the elimination that in accordance with the power components and the degree of psychomotor development of the children were required the substitutions of self-care, led to the partially compensatory system being

the most activated.

In regards to the universal activity requirement, valued by the subvariables change of bed position, crawling and wandering, which in turn are modified by age and motor development, and determined by the hospitalization situation that limits children to daily activities, facilitated a greater activation of the partially compensatory system; the nursing professional contributes to maintain functional capacity and independence in the patient, agrees with what reported by Gonzalez Castillo et al., in which with the intervention of health professionals the motor skills were maintained in the patient ⁽²⁹⁾.

The universal rest requirement, assessed by the subvariables keeps quiet according to medical recommendation, sleeps at least 8 hours continuously, activity that was assumed physiologically by the patient; the subvariables facilitates the maintenance of bed rest, respects the patient's sleep and monitors the fulfillment of the rest, registered activation of the totally compensatory system, specific needs are highlighted that can only be addressed by care agents (whether caregivers or nurses), such as facilitating rest or monitoring of the patient's compliance with it and respecting the patient's rest time that arise during hospitalization, showed that these led the role of nursing and care workers to be aimed at preserving the quality of the self-care actions carried out and at improving or restoring the health of children who demand their actions, in this case the interventions were focused on preserving the rest of minors to allow the body to recover more quickly ^(30,31).

Social interaction, as a universal requirement, was valued through the expression of the smile, which was framed by the skills that the child is acquiring as the years go by. Given the assessment of the other topics, such as answering questions, asking and answering questions, sharing activities with the child according to his or her age, providing spaces for the tranquility of the child in stressful situations and making signs of affection, fully and partially compensatory systems were activated. When a child has affectionate parents who are able to give him confidence and security in a pleasant environment, the bases are formed to develop healthy personal relationships, and of course that has an impact on the integral development of children ^(32, 33). Early childhood is the period in which the most intense socialization process takes place, when the human being has more capacity to learn. Although it is clear that family education practices have a decisive influence on the personal development of boys and girls, such influences are simple, nor are they the only ones that contribute to the construction of child development ⁽³⁴⁾. Through socialization the person incorporates the socio-cultural elements of his environment and integrates them into his personality to adapt to society.

Safeguarding the safety of the patient is a cornerstone of health care, because of the risks that it represents, the activities that are deployed by it are mostly addressed by health personnel, which in turn guide users to reduce the risk factors that may represent harm ^(35,36); safety as a universal requirement was reflected with good representation the

activation of fully compensatory and educational support systems. As regards the partially compensatory scheme, it was reflected in the subvariable requesting aid on the basis of an injunction, because children over one-year-old had skills that allowed them to discern that their capacity for self-care was not sufficient and required the intervention of another person, to satisfy the realization of self-care.

Each child, according to age has psychomotor skills that allow him to perform daily activities focused on universal needs ⁽³⁷⁾, so in the universal development requirement, all children belonging to the study unit were found to respond to activities requiring motor skills. With regard to activities such as stimulation of motor skills and consideration of the age of the child for daily activities, activated the fully compensatory system where the care and nursing agent were the pillars in the proportion of stimuli required by the participants; studies demonstrate the importance of the use of instruments, tools for the stimulation of the skills mentioned and achieve in children, the realization of their daily activities ^(34, 38).

In the need to dress and wear clothes appropriate to age and climate, in the aspects avoids unnecessarily discovering the parts of the child and keeps covered the parts of the child as needed, investigated as universal requirements, enabled the fully compensatory system to be activated in infants under four years of age, the partially compensatory system was activated from the age of four in the requirements for the use of suitable clothing, skills that match motor advances and cognitive development.

The universal requirement of bathing is modified according to the age of the child. The subvariable body toilet activates the partially compensatory system from the age of two, in the aspect provides and uses elements required for the bath according to age, the fully compensatory system was activated. With age these motor skills are developed that in conditions outside the child's usual environment, require to be supplied by the care agent ⁽³⁹⁾.

Conclusions

The sociodemographic aspect showed that the highest concentrations of the population studied were between the ranges 1-2 years with 22.03% and in less frequency the range 15 years and more. The most frequent pathologies presented by the study unit indicate bronchopneumonia and dengue as the most prevalent, leading to a prolongation in the days of hospital stay and which caused deficits in self-care compensated by activation of the nursing systems.

In the universal breathing requirement, the participants did not present changes, while in the universal hydration requirement, the fully compensatory system was the most activated; unlike the universal feed requirement where the system was partially compensatory, no activation was reported.

The bowel and bladder movements reported exactly the same data, where they were taken up in a physiological manner by the patients, reporting 26 times (3.70%) in children aged 1 to 2 years and 4 times (0.57%) in children aged 15 years or older, respectively.

With regard to the universal rest requirement, only the fully compensatory system was activated in the subvariable respecting the patient's sleep; in the universal dressed requirement, the fully compensatory system was the one with the highest frequency of activations.

On the other hand, in the educational support system, there were no activations, and the totally compensatory system was the most activated in general.

Finally, the publication of this research provides evidence-based expertise, which enriches the practice of Nursing through the application of Dorothea Orem's self-care theory, specifically the Nursing System Theory, especially in pediatric patients where nursing publications are scarce.

Limitations: There is little research or scientific evidence that addresses the care related to nursing systems described by Dorothea Orem and even more applied in the pediatric population.

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Reference

1. Cruz-Martin, Omar, Hernández-Meléndrez, Digna Edelsys y Pérez-Inerárit, Maydell Mejorar el bienestar en los niños hospitalizados, una necesidad de salud. Revista de Salud Pública [online]. 2018, v. 20, n. 5 [Accedido 6 Setiembre 2021], pp. 646-648. Disponible en: <https://doi.org/10.15446/rsap.V20n5.61637>. Epub 26 Oct 2020. ISSN 0124-0064. <https://doi.org/10.15446/rsap.V20n5.61637>.
2. Velandia Galvis, M. L., Bautista Espinel, G. O., Amaya Quintero, C., Arévalo Rangel, J.A., & Bayona Pérez, N. (2019). Incertidumbre en los cuidadores de niños hospitalizados en unidades de: cuidado intensivo neonatal – cuidado intensivo pediátrico (UCIN-UCIP). Cultura de los Cuidados (Edición digital), 23 (55) Recuperado de <http://dx.doi.org/10.14198/cuid.2019.55.22>
3. Martínez-Royert JC. Practicas evaluativas del proceso de atención de enfermería: una visión de docentes y estudiantes. Rev Cuid [Internet]. 1 de enero de 2017 [citado 6 de septiembre de 2021];8(1):1459-75. Disponible en: <https://revistas.udes.edu.co/cuidarte/article/view/351>
4. García Calvente María del Mar. Cuidados y cuidadores en el sistema informal de salud. Granada: Escuela Avanzada de Salud Pública. Consultado en marzo 12 de

- marzo de 2019. Disponible en [Online] <https://www.easp.es/?wpdmact=process&did=MjkuaG90bGluaw>
5. Raynaudo, Gabriela, & Peralta, Olga. Cambio conceptual: una mirada desde las teorías de Piaget y Vygotsky. *Liberabit*, . 2017. 23(1), 110-122. <https://dx.doi.org/https://doi.org/10.24265/liberabit.2017.v23n1.10>
 6. Banca, Rebecca Ortiz La y Nascimento, Lucila Castanheira Posicionando a criança no centro do seu cuidado: reflexões sobre o desenvolvimento cognitivo e o letramento em saúde infantil. *Revista da Escola de Enfermagem da USP* [online]. 2019, v. 53 [Accedido 6 Setiembre 2021], e03533. Disponible en: <<https://doi.org/10.1590/S1980-220X2019ed0303533>>. Epub 2 Dic 2019. ISSN 1980-220X. <https://doi.org/10.1590/S1980-220X2019ed0303533>.
 7. Martínez-Royert, Judith Cristina, Alexander Pulido-Rojano, Sara Mena, Carmen González, María Santander, et al. Anthropometric parameters regarding the nutritional status of schoolchildren. *Ilkogretim Online -Elementary Education Online (EEO)*, 2021; 20(4):882-91. <http://ilkogretim-online.org>. DOI: [10.17051/ilkonline.2021.04.95](https://doi.org/10.17051/ilkonline.2021.04.95)
 8. Martínez-Royert, Judith Cristina, et al. "Design and Validation of Virtual Learning Objects to Promote Health in School Students." *Linguistica Antverpiensia* (2021): 1568-1581.
 9. Naranjo Hernández Ydalsys, Concepción Pacheco José Alejandro, Rodríguez Larreynaga Miriam. La teoría Déficit de autocuidado: Dorothea Elizabeth Orem. *Gac Méd Espirit* [Internet]. 2017 Dic [citado 2021 Sep 06] ; 19(3): 89-100. Disponible en: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1608-89212017000300009&lng=es
 10. Sánchez-Quiroz F., Álvarez-Gallardo L. Cuidado especializado a neonato prematuro fundamentado en la teoría general del autocuidado. *Enferm. Univ.* [revista en la Internet]. 2018 Dic [citado 2019 Oct 07]; 15(4): 428-441. Disponible en: <http://dx.doi.org/10.22201/eneo.23958421e.2018.4.539> .
 11. Moreno Izquierdo Aránzazu. Estudio sobre el impacto del aislamiento terapéutico en el autocuidado: una aproximación desde la teoría Orem. *Ene.* [Internet]. 2018 [citado 2021 Sep 06]; 12(3): 1238. Disponible en: http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1988-348X2018000300008&lng=es.
 12. Moore, Jean Burley, and Asher E Beckwitt. "Self-care operations and nursing interventions for children with cancer and their parents." *Nursing science quarterly* vol. 19,2 (2006): 147-56. doi:10.1177/0894318406286594
 13. Gamba, N, Camargo M D, Montañez A L, Pérez M. Análisis de las principales necesidades de cuidado con las que egresan los niños hospitalizados por alteraciones del sistema renal y propuesta de intervenciones de enfermería. *Umbral*

- Científico [Internet]. 2011; (18):62-68. Recuperado de:
<https://www.redalyc.org/articulo.oa?id=30421523009>
14. Cabinda SOA, A., Casanova Moreno, M. de la C., & Medina González, I. 2021. Theory of Nursing Systems in the prevention of low birth weight, nursing roles and functions in Primary Health Care. International Journal of Medical and Surgical Sciences, 8(1). <https://doi.org/10.32457/ijmss.v8i1.631>
 15. Rivero Martínez Nuria, González Acosta Mercedes, Núñez Herrera Mirtha, Et. Al. Valoración Ética Del Modelo De Dorotea Orem. Instituto Superior de Ciencias Médicas de La Habana. Publicado julio de 2007.
 16. Naranjo HY, Concepción PJA, Rodríguez LM. La teoría Déficit de autocuidado: Dorothea Elizabeth Orem. Gaceta Médica Espirituana. 2017;19(3).
 17. González-Pérez Aneysis María, Naranjo-Hernández Ydalsys, Mirabal-Requena Juan Carlos, Alvarez-Escobar Belkis. Estratega de autocuidado en los adultos mayores con cáncer de próstata en la comunidad. AMC [Internet]. 2019 Ago [citado 2021 Sep 16] ; 23(4): 477-486. Disponible en: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1025-02552019000400477&lng=es. Epub 01-Ago-2019.
 18. Coronel Carvajal Carlos, Huerta Montaña Yanet, Ramos Téllez Odelmis. Risky factors associated with acute respiratory infection in children less than five years. AMC [Internet]. 2018 Abr [citado 2021 Sep 06]; 22(2): 194-203. Disponible en: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1025-02552018000200009&lng=es.
 19. Colombia. Ministerio de Salud y protección social. Resolución 8430 de 1993. Por la cual se establecen las normas científicas, técnicas y administrativas para la investigación en salud. Bogotá: ministerio de salud y protección social; 1993 Disponible: <https://www.minsalud.gov.co/sites/rid/Lists/BibliotecaDigital/RIDE/DE/DIJ/RESOLUCION-8430-DE-1993.PDF>
 20. World Medical Association. Declaración de Helsinki. 2013 p. 9
 21. Prado Solar Liana Alicia, González Reguera Maricela, Paz Gómez Noelvis, Romero Borges Karelia. La teoría Déficit de autocuidado: Dorothea Orem punto de partida para calidad en la atención. Rev. Med. Electron. [Internet]. 2014 Dic [citado 2021 Sep 13] ; 36(6): 835-845. Disponible en: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1684-18242014000600004&lng=es.
 22. Arroyo Marlés LP, Pérez Giraldo B, Nonsoque Cholo MA, Sánchez Herrera B, Guevara Lozano M. Transformar la asistencia de necesidad básica en un momento de cuidado. InvestigEnferm Imagen Desarr. 2020;22. <https://doi.org/10.11144/Javeriana.ie22.tanb>
 23. Castro Molina, Francisco Javier. "Abraham Maslow, las necesidades humanas y su

- relación con los cuidadores profesionales." *Cultura de los Cuidados* (Edición digital), 22(52). Recuperado de <http://dx.doi.org/10.14198/cuid.2018.52.09>
24. Pires AF, Santos BN, Santos PN, Brasil VR, Luma AA. A importância da teoria do autocuidado de Dorothea E. Orem no cuidado de enfermagem. *Rev Rede Cuid Saúde* [Internet]. 2015 [cited 2016 May 5]; 9(2):1-4. Available from: <http://publicacoes.unigranrio.edu.br/index.php/racs/article/view/2533>
 25. Queirós PJP, Vidinha TSS, Almeida Filho AJ. Autocuidado: o contributo teórico de Orem para a disciplina e profissão de Enfermagem. *Rev Enferm Refer* [Internet]. 2014 [cited 2016 May 5];(3):157-64. Available from: <http://dx.doi.org/10.12707/RIV14081>
 26. Ausanee W, Jane M A. Promoting Self-Care Capabilities of Patients: Nurses' Roles. *JOJ Nurse Health Care*. 2018; 7(4): 555719. DOI: [10.19080/JOJNHC.2018.07.555719](https://doi.org/10.19080/JOJNHC.2018.07.555719)
 27. Trettene AS, Fontes CMB, Razera APR, Gomide MR. Impacto de promover el autocuidado en la carga de trabajo de enfermería. *Rev Esc Enferm USP* [Internet]. 2016 [consultado el 1 de marzo de 2017]; 50 (4): 633-9. Disponible en: <http://www.scielo.br/pdf/reeusp/v50n4/0080-6234-reeusp-50-04-0635.pdf>
» <http://www.scielo.br/pdf/reeusp/v50n4/0080-6234-reeusp-50-04-0635.pdf>
 28. Demoro, Cleide Carolina da Silva et al. Applicability of Orem: training of caregiver of infant with Robin Sequence. *Revista Brasileira de Enfermagem* [online]. 2018, v. 71, suppl 3 [Accessed 13 September 2021], pp. 1469-1473. Available from: <https://doi.org/10.1590/0034-7167-2016-0562> .
 29. González-Castillo MG, Díaz-Ávila AL. Proceso enfermero a paciente pediátrico con Ependimoma grado II: estudio de caso. *Rev. Fac. Cienc. Salud UDES*. 2018;5(1): 36-44. <http://dx.doi.org/10.20320/rfcsudes.v5i1.105>
 30. Carvajal Carrascal Gloria, Montenegro Ramírez Juan David. Higiene: cuidado básico que promueve la comodidad en pacientes críticos. *Enferm. glob.* [Internet]. 2015 Oct [citado 2021 Sep 14] ; 14(40): 340-350. Disponible en: http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S169561412015000400015&lng=es
 31. Silva-Fhon, j, S. Ramón-Cordova, S. Vergaray-Villanueva, V. Palacios-Fhon, R. Partezani-Rodríguez. Percepción del paciente hospitalizado respecto a la atención de enfermería en un hospital público, *Enfermería Universitaria*; 2015 , 12 (2) P 80-87, ISSN 1665-7063, <https://doi.org/10.1016/j.reu.2015.04.001> .
 32. Losada, Analia Veronica; Estevez, Patricia; Caronello, Tatiana. Estilos Parentales y Autorregulación Emocional Infantil Revisión Narrativa de la literatura. *Revista REDES*, 2020, 40.
 33. Sampayo Hernández, I C, Lezcano Palacio, H. Acciones de orientación familiar para prevenir la carencia afectiva en los niños mediante la comunicación. *Razón y Palabra* [Internet]. 2014; (88): Recuperado de:

<https://www.redalyc.org/articulo.oa?id=199532731033>

34. Razeto, Alicia. El involucramiento de las familias en la educación de los niños: Cuatro reflexiones para fortalecer la relación entre familias y escuelas. *Pág. Educ.* [online]. 2016, vol.9, n.2 [citado 2021-09-14], pp.184-201. Disponible en: http://www.scielo.edu.uy/scielo.php?script=sci_arttext&pid=S168874682016000200007&lng=es&nrm=iso .
35. Organización Mundial de la Salud. 10 datos sobre seguridad del paciente. (2018). Obtenido de https://www.who.int/features/factfiles/patient_safety/es/
36. Barrientos Sánchez J., Hernández Zavala M., Zárate Grajales R.A. Factores relacionados con la seguridad y la calidad en la atención del paciente pediátrico hospitalizado. *Enferm. univ* [revista en la Internet]. 201 Mar [citado 2021 Sep 16] ; 16(1): 52-62. Disponible en: http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S166570632019000100052&lng=es <https://doi.org/10.22201/eneo.23958421e.2019.1.592> .
37. Cabrera Valdés Barbarita de la Caridad, Dupeyrón García Marilin de las Nieves. El desarrollo de la motricidad fina en los niños y niñas del grado preescolar. *Rev. Mendive* [Internet]. 2019 Jun [citado 2021 Sep 16] ; 17(2): 222-239. Disponible en: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1815-76962019000200222&lng=es.
38. Almeida Reyes, I., Cando Vaca, E., Panchi, E. (2015) Aplicación de instrumentos lúdicos para el Desarrollo de la motricidad fina de niños y niñas de 4 años de edad con variables de Género, clase, etnicidad y territorial, incluye uso de Tic's. *ANALES de la Universidad Central del Ecuador*, 1(373): 311-327
39. Pérez Constante MB. Habilidades del área motriz fina y las actividades de estimulación temprana. *Rev. Publicando* [Internet]. 13 de julio de 2017 [citado 16 de septiembre de 2021];4(11(1):526-37. Disponible en: <https://revistapublicando.org/revista/index.php/crv/article/view/581>