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Terms of nursing: human responses of children hospitalized with heart disease – a cross-sectional study

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ABSTRACT

Aim: To describe the clinical characteristics from the terms found in the nursing and medical records of children hospitalized with congenital heart disease. **Method:** This was a cross-sectional study conducted in a public hospital. The data from 82 records were analyzed by two expert pediatric cardiology nurses. There was consensus and agreement after individual analysis of the 100 records. **Results:** The records were of nurslings (91.5%), mostly male (54.9%). The most common terms were "cyanotic" (80.5%) and "respiratory effort" (79.3%). **Discussion:** The terms used were related to changes in the supply of oxygen and blood flow, suggesting that the cardiocirculatory pathophysiological aspects guide the nursing needs and planning care. **Conclusion:** The records highlight the color of the skin, the respiratory pattern and hemodynamic aspect as the central points of nursing care with regard to this group of patients.

Descriptors: Nursing records; Heart Defects, Congenital; Child.

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INTRODUCTION

Cardiac malformations are detected in approximately 3% to 5% of newborns, being severe in one (01) out of every thirty-three (33) births[1]. Therefore, the neonatal period for patients with congenital heart disease is critical[2]. This is the main cause of death in early childhood in developed countries. In Brazil, in 2008, it accounted for approximately 19% of the deaths of children under one year, and was the second major cause of death in this age group[1].

The medical history and detailed physical examination of the newborn, as well as nurslings when hospitalized, plus the analysis of complementary tests, support nursing diagnoses which Lead to the early referral for treatment by the multidisciplinary health care team, sometimes allowing a definitive cure in early life[3]. Thus, nursing records demonstrating the analysis of nurses on the status of hospitalized children with congenital heart disease, point to the quick recognition of signs and symptoms, and impact on decision making regarding the implementation of health care[4]. Despite the importance of knowing the signs and symptoms of children with congenital heart disease, the researchers are not aware of any studies on the terms described in the nursing records of children hospitalized with heart disease.

The nursing staff provide round-the--clock monitoring of children with congenital heart disease, and document the changes in the nursing records. Understanding the clinical profile of these children from these records is important with regard to the assessment of the details that support the planning of nursing care and health maintenance to ensure a good general condition[5].

The aim of this study is to describe the clinical characteristics from terms found in the nursing notes in the medical records of children with congenital heart disease hospitalized in a hospital that is part of the federal public health system.

METHOD

This is an observational, cross-sectional study with a description of the clinical variables of hospitalized children with congenital heart disease from the terms found in the nursing records in their medical files.

For transcription and analysis we selected a nursing record from each medical file 24 hours after the admission of the patient, up to a minimum of 48 hours of hospitalization. To collect data we used the files of all the children under two years of age hospitalized in the facility from January to June 2011, totaling approximately 110 hospitalizations (data extracted from the institution's Inpatient Management System). Of the total, 17 patients had endured recurring hospitalization, and 11 records were not found by the medical archive department, since these patients had been referred for medical appointments, billing and hospitalization. Thus, 82 records that fulfilled the inclusion criteria were studied. Medical records not located in the medical archive department, illegible records, and the nursing records of children with congenital heart disease who had undergone corrective cardiac surgery were excluded.

To facilitate the identification of the nursing terms identified, a documentation and registration script was used. The script was composed of three parts: description of the demographic characteristics of the child, the full transcript of the nursing records and gaps

to be filled with the terms extracted from the records that correspond to the clinical changes observed in the subject children. This process was performed by two nurses who were expert in the systematization of nursing care and in the nursing care for children with congenital heart disease.

The study was favorably viewed by the National Institute of Cardiology Research Ethics Committee (CEP) under No. 0355/26-10-2011.

The data from documentation and registration forms were entered into a home computer and stored in a database using the software Microsoft Excel 2007, and Statistical Package for Social Sciences (SPSS) version 16.0 was used for statistical analysis.

The descriptive analysis provided frequency distribution, statistical calculation of minimum, maximum, average values, standard deviation and percentiles.

In terms of inferential analysis, averages were compared using the Student's T test, when the hypothesis of normal distribution was confirmed using the Kolmogorov-Smirnov test. In addition, the hypothesis of homoscedasticity was investigated using Levene's test. In the cases the hypothesis did not have normal distribution, we used the Mann-Whitney test.

In all cases, the differences were considered statistically significant if the p-value associated with the analysis was less than 0.05.

TABLE 1. Description of the descriptive statistics of the variables age, period of hospitalization and weight of children with congenital heart disease (n=82) (Rio de Janeiro, 2012)

Variables	N	Loss	Average	Median	Std Dev	Min	Max	Percentis			KS Test* p-value
								25	50	75	
Age (weight)	81,0	1,0	-	8,0	7,5	0,1	24,0	4,5	8,0	14,5	0,0
Weight (gram)	80,0	2,0	6896,4	6465,0	2765,0	2380,0	12300,0	4700,0	6465,0	9235,0	0,2
Hospitalization period (days)	82,0	0,0	-	9,0	18,4	2,0	124,0	3,0	9,0	16,0	p<0,001

**Kolmogorov-Smirnov Test*
Source: Authors' ellaboration

TABLE 2. Description of the descriptive statistics of the variables respiratory rate, heart rate, temperature, oxygen saturation and systolic blood pressure of children with congenital heart disease (n=82) (Rio de Janeiro, 2012).

Variables	N	Loss	Average	Median	Std Dev	Min	Max	Percentis			KS Test* p-value
								25	50	75	
Respiratory frequency (irpm)	81	1	50,9	52,0	16,0	20,0	80,0	36,0	52,0	63,0	0,18
Heartbeat frequency (bpm)	81	1	133,2	130,0	25,7	43,0	180,0	116,0	130,0	154,0	0,73
Temperature (°C)	78	4	-	36,0	0,5	35,0	38,4	36,0	36,0	36,5	0,01
Oxygen Saturation (%)	48	34	83,4	83,0	11,1	59,0	100,0	75,0	83,0	95,0	0,47
sistolic arterial blood pressure (mmHg)	80	2	-	90,0	19,7	70,0	160,0	80,0	90,0	100,0	p<0,001

**Kolmogorov-Smirnov Test*
Source: Authors' ellaboration

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RESULTS

Table 1 presents the main descriptive statistics of the numerical variables of patients in this study.

Analyzing the patients' age, we found that they had an average age of 8.0 months. Of the total, 91.5% were infants and 8.5% were newborn. The oldest child in this study was 24 months old.

The average weight of the children was 6896.4 plus/minus 2764.7 grams, with minimum and maximum values of 2380.0g and 12300.0g. This variable was normally distributed (p = 0.244) by KS test. By Spearman correlation test, weight and age variables were directly related, being statistically significant (r=0.832, p>0.001).

Patients remained hospitalized between 2.0 and 124.0 days, and 75% of the children remained in hospital for more than 9.4 days. Variables such as age, weight and hospitalization time did not show a normal distribution in terms of the Kolmogorov-Smirnov test.

For analysis of vital signs we considered respiratory rate, heart rate, temperature and systolic blood pressure as well as arterial oxygen saturation measured by the pulse oximetry technique.

The respiratory rate of the patients averaged 52bpm plus/minus 50.9bpm, a median of 52.0bpm and minimum and maximum values of 20.0 and 80.0, respectively. It is observed that 75% of the sample exhibited more than 63bpm. The normality range adopted for the respiratory rate was between 25-50 bpm. Thus, 75% of the sample with more than 63 bpm, were classified as being tachypneic[6].

The heart rate parameters were between 43 bpm and 180 bpm, with an average of 133.2 plus/less 25.7bpm, and the median was 130bpm. It is observed that more than 75% of the sample had a heart rate of more than 154bpm[6]. The normal range for newborns was considered to be between 70-160bpm, and for infants between 80-150bpm. It is relevant to note that the respiratory rate and heart rate variables exhibited a normal distribution (KS test).

The temperature of the children was assessed using axillary thermometers. As a result, we obtained a median value of 36.0°C, with a standard deviation of 0.5°C and 35.0°C and 38.4°C as the minimum and maximum values, respectively. The KS test shows that this variable was not normally distributed. The minimum and maximum axillary temperature standard limits adopted were between 35.5°C and 37.7°C. Therefore, more than 75% of the sample was considered normothermic[6].

The oxygen saturation values were between 59% and 100%, with half of the sample showing a value over 83% and an average of 83.4% plus/minus 11.1%. The normal values of oxygen saturation adduced by the hemoglobin present in arterial blood is between 95-100%, and 50% showed oxygen saturation to be below the normal range[7]. The Kolmogorov-Smirnov test shows that this variable had a normal distribution.

The blood pressure, measured using Doppler, allowed only the measurement of systolic blood pressure. This variable had a median of 90mmHg, with a standard deviation of 19.7mmHg. The minimum and maximum values were, respectively, 70mmHg and 160mmHg, and 75% of the sample had values greater than 100 mmHg. The normal range standard of blood pressure in neonates and infants adopted for evaluation were 0-3 Months - 75mmHg; 3-9months - 85mm Hg; 9 months to 2 years - 90mmHg. Thus, 75% of the sample had systolic blood pressure

above normal limits[6]. This variable was not normally distributed (KS test).

The terms found in the children's records that were most obviously related to congenital heart diseases were: "cyanotic" (80.5%), followed by "respiratory effort" (79.3%), "tachypnea" (72.3%), "pallid" (65.9%), "tachycardia" (19.5%) and "fatigue while suckling" (7.3%).

Table 3 presents the frequency of terms found in the medical records of children with congenital heart disease.

TABLE 3. Frequency of terms found in the medical records of children with congenital heart disease (n=82) (Rio de Janeiro, 2012)

Terms	N	N(%)
Cyanotic	66,0	80,5
Breath Effort	65,0	79,3
Tachypneic	59,0	72,0
Pallid	54,0	65,9
Tachycardia	16,0	19,5
Fatigue while suckling	6,0	7,3

Source: Authors' ellaboration

Table 4 shows the frequency distribution of nominal variables present in the patients.

TABLE 4. Frequency distribution of gender, age, nationality, origin, ethnicity, reason for admission, type of congenital heart disease variables and the association of heart disease with Down syndrome (n=82) (Rio de Janeiro, 2012)

Variables	N	N (%)
Gender		
Male	45,0	54,9
Female	37,0	45,1
Age group		
Infant	75,0	91,5
Newborn	7,0	8,5
Place of birth		
Losses	4,0	4,9
Capital	63,0	76,8
Other cities	13,0	15,9
Other states	2,0	2,4
Origin		
Losses	2,0	2,4
Home	64,0	75,6
Another Hospital	16,0	19,5
Institution Intensive Care Unit	1,0	1,2
Ethnicity		
Losses	32,0	39,0
Other	34,0	41,5
White	15,0	18,3
Black	1,0	1,2
Hospitalization reason		
Surgical	44,0	53,7
Intervention	29,0	35,4
Clinical	9,0	11,0
Heart Disease type		
Acyanotic	48,0	58,5
Cyanotic	34,0	41,5
Association of heart disease with Down Syndrome	16,0	19,5
Record author		
Losses	15,0	18,3
Nursing technician	34,0	41,5
Nurse	33,0	40,2
Deaths	6,0	7,3

Source: Authors' ellaboration

From the table above, we see that patients are mostly male (54.9%), infants (91.5%), were born in the metropolitan region of Rio de Janeiro (76.8%) and are are of medium-colored skin (41.5%). Children were admitted mostly for surgical treatment (53.7%) and have acyanotic heart disease (58.5%). 19.5% of these are associated with Down syndrome. 41.5% of the records reported in the medical files were done by nursing staff. Six children who participated in this study died.

Table 5 presents the most frequent diseases in children according to the classification of cyanotic or acyanotic.

Of the cyanotic heart defects, the most commonly present in the children studied is Tetralogy of Fallot (32.4%), which represented 13.4% of the total. Ventricular septal defect (VSD) was the most common acyanotic heart disease (43.8%), and also the most observed

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in total, followed by atrioventricular septal defect (AVSD) (15.9%).

TABLE 5. Frequency distribution of congenital heart disease by classification (n=82) (Rio de Janeiro, 2012)

Heart disease type	N	N% by disease	Total N%
Cyanotic heart diseases			
Tetralogy of Fallot	11,0	32,4	13,4
Double inlet left ventricle	3,0	8,8	3,7
Anomalous pulmonary venous drainage	3,0	8,8	3,7
Pulmonary atresia	3,0	8,8	3,7
Acyanotic heart diseases			
Ventricular Septal Defect	21,0	43,8	25,6
Atrio-Ventricular Septal Defect	13,0	27,1	15,9
Patent ductus arteriosus	11,0	22,9	13,4
Atrial septal defect	10,0	20,8	12,2
Pulmonary stenosis	10,0	20,8	12,2
Coarctation of the aorta	8,0	16,7	9,8

Source: Authors' ellaboration

Picture 1 provides a list of associated heart diseases. There were 17 associated heart diseases in total, 9 of these being acyanotic.

PICTURE 1. List of associated heart diseases (Rio de Janeiro, 2012)

Associated heart diseases
Atrial septal defect and tricuspid atresia
Moderate ventricular septal defect and atrial ventricular septal defect
Mitral atresia and coarctation of the aorta
coarctation of the aorta and Patent ductus arteriosus
Ventricular septal defect and pulmonic stenosis
Pulmonary atresia and ventricular septal defect
Aortic hypoplasia and ventricular septal defect
Atrioventricular septal defect and pulmonary stenosis
Complete atrioventricular septal defect and patent ductus arteriosus
Complete atrioventricular block and atrial septal defect
Coarctation of the aorta and atrial septal defect
Pulmonary valve atresia and ventricular septal defect
Tetralogy of Fallot and moderate valve stenosis
Ventricular septal defect and patent ductus arteriosus
Pulmonary stenosis and moderate ductus arteriosus
Tetralogy of Fallot and atrial septal defect

Source: Authors' ellaboration

DISCUSSION

This is the first study identifying the clinical and sociodemographic characteristics presented by hospitalized children with congenital heart disease with regard to the terms documented in nursing records.

A study of nursing diagnoses of hospitalized children with congenital heart disease at a hospital in northeastern Brazil, identified VSD as the most prevalent congenital heart disease, primarily affecting male children[8]. Referring to the results of that research, we found similarities regarding gender and the most prevalent diseases.

The most common age group found in the study was that of infants. Epidemiological studies of children and adolescents with heart disease indicate that the most common age group found are infants and newborns, respectively[9].

The most common term found in the nursing records was *cyanotic*. Cyanosis is a clinical manifestation indicating a lack of blood saturation resulting from the mixing of venous and arterial blood[10]. Tetralogy of Fallot was the cyanotic heart disease most frequently presented; a similar profile regarding the most common cyanotic heart disease was found in the aforementioned study[8]. An international study describes the importance of the early detection of critical congenital heart diseases, so that the medical care of children with severe cyanotic heart disease is a priority and is appropriate, in terms of avoiding the worsening of the disease or even death[11]. In addition, another study

demonstrates that children with congenital heart defects require complex and specific nursing care, which justifies the need for specialized nursing teams[12].

The second term most commonly found in nursing records was *breathing effort*. A study suggests that the pathophysiology of the base disease causes alterations such as low oxygen in the alveolar-capillary membrane and pulmonary edema, increasing the efforts associated with breathing and reducing lung compliance. The respiratory effort is one of the clinical features presented as a consequence of pulmonary hyperventilation, in that it is used by the body as a compensatory adaptation mechanism[10].

The term *tachypnea*, also found in the nursing records, is an important human response to congenital heart disease because of the imbalance between the supply and demand for oxygen. It is the most human response found in other studies of children with congenital heart disease[2,5,10].

Pallid was a very common term found in the charts (65.9%). Heart failure is a clinical consequence of congenital heart defects, and skin pallor is one of the classic responses seen in children with heart failure[10]. Therefore, it is important to analyze the color of the skin and the mucosal surfaces of these children, in order to identify signs of anemia and provide a replacement of blood products. One study registered that cardiovascular alterations presented by children with congenital heart defects result in several clinical characteristics that require intervention on the part of health professionals of different areas, and which requires nurses to manage these interventions in partnership for a better approach[13].

Tachycardia was also evidenced in the nursing records. One study reported that hemodynamic alterations caused by congenital heart defects lead to an elevated heart rate[14].

The term *fatigue while suckling* had the lowest expression in the nursing records of children with congenital heart disease. It was shown in another study that children with heart disease may present hemodynamic and respiratory changes during small activities such as crying and breastfeeding[15]. Thus, the responses of these children during these actions deserve further observation and recording on the part of the nursing team.

Another study highlighted family stress as a result of medical diagnoses, with regard to therapeutic decisions and in response to the care required by children with congenital heart disease in terms of facing the resulting limitations in their everyday life[16]. These studies are of great value to nursing professionals, because they demonstrate the importance of nursing care in relation to emotional support and health education in order to assist the family to adapt to the health-illness transition process of the child[16].

This study did not identify any terms related to the emotional, social and/or spiritual aspects of the family in the nursing records.

It is important to emphasize, as a limitation of the research, that studies using existing data files may be incomplete, or may not have measured such data optimally.

It is suggested that further prospective studies on the subject be undertaken.

CONCLUSION

The terms described in the nursing records of the medical files of children with congenital cardiologic disease value the pathophysiological aspects and demonstrate the concern of professionals with regard to skin color, breathing patterns and hemody-

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namic aspects. This supports the care planning and the evaluation of the results of the nursing interventions implemented, guided by physiological aspects.

REFERENCES

1. Rosa RCM, Rosa RFM, Zen PRG, Paskulin GA. Congenital heart defects and extracardiac malformations. Rev. Paul. Pediatr. 2013 jun; 31(2).
2. Martins V, Oliveira MV, Leite T. Odds ratio for nursing diagnoses in children with congenital heart disease. Invest Educ Enferm. 2007; 1(25):30-8.
3. Souza P, Scatolin BE, Ferreira DLM, Croti UA. The nursing team relationship with the child and the family in immediate post operative period of congenital heart defects. Arq Ciênc Saúde 2008 out/dez;15(4):163-9.
4. Silva VG, Cavalcanti ACD, Guimarães TCF. Nursing diagnoses identified in records of children with heart disease: a retrospective cohort. Online Brazilian Journal Nursing [internet]. 2012 [cited Feb 11 2013]; 11(2). Available from: http:www.objnursing.uff.br/index.php/nursing/article/view/3901/pdf.
5. Silva VG, Cavalcanti ACD, Guimarães TCF, Veras RCC, Souza RO, Pereira JMV. Diagnósticos, intervenções e resultados de enfermagem para crianças com cardiopatias congênitas: revisão integrativa. Journal of Research Fundamental Care On Line. No Prelo 2013.
6. JLL. Verificação dos sinais vitais em pediatria [on line] 2012. [cited May 10 2012] Available from: http:// www.uff.br/disicamep/sinais.htm.
7. Carrara D, Avelar AFM, Kusahara DM, Pedreira MLG. Oximetria de pulso arterial – COREN [internet]. 2012 [Cited May 10 2012] Available from: http://inter.corensp.gov.br
8. Silva VM, Lopes MVO, Araújo TL. Evaluation of the growth percentiles of children with congenital heart disease. Rev Latino-Am Enfermagem 2007 mar/apr; 15(2).
9. Oliveira PMN, Held PA, Grande RAA, Ribeiro MAGO, Bobbio TG, Schivinski CIS. Profile of children undergoing congenital heart surgery and analysis of their respiratory complications. Rev Paul Pediatr 2012; 30(1);116:21.
10. Silva VM, Lopes MVO, Araújo TL. Respuestas humanas de niño com cardiopatia congênita. Rev Mex Enferm Cardiol. 2007 abr; 5(1):6-13.
11. Walsh W. Evaluation of pulse oximetry screening in Middle Tennessee: cases for consideration before universal screening. J Perinatol. 2011; 31(2):125-9.
12. Robertson-Malt S, Chapman YB, Smith V. The praxis clinical Knowledge: learning to care for pediatric patients with a congenital heart anomaly. Int J Nurs Pract. 2007; 13:132-8.
13. O'Brien P. The role of the nurse practitioner in congenital heart surgery. Pediatr Cardiol. 2007; 2(8):88-95.
14. Fernandez SA, Elvira MTR. Plan de cuidados al niño com uma cardiopatia congênita: utilizando NANDA, NIC y NOC. Enferm Cardiol. 2008; 15(44): 33-6.
15. Monteiro FPM, Ramos MBL, Pontes TO, Holanda GF, Morais HCC, Araújo TL. Food characteristcs of children with congenital heart disease. Cienc. Enferm. 2012 abr; 18(1):77-88.
16. Lan SF, Mu PF, Hsieh KS. Maternal experiences making a decision about heart surgery for their young children with congenital heart disease. J Clin Nurs. 2007; 16:2323-30.

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Authors' participation in this research:

Valéria Gonçalves Silva – Expert and main researcher;

Ana Carla Dantas Cavalcanti – Thesis supervisor/monitor;

Tereza Cristina Felippe Guimarães – Thesis co-supervisor and expert researcher;

Juliana de Melo Vellozo Pereira – Research statistical analysis;

Gisella Carvalho Queluci e Rosimere Ferreira Santana – Discussion on the systematization of nursing research.

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