

Nursing actions in congenital heart disease*Actuaciones de enfermería en cardiopatías congénitas**Ações de enfermagem na cardiopatia congênita***Thaís Araujo Vianna¹**

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Abstract

The aim was to analyze the nurses' coping in the treatment of congenital heart disease. This is an exploratory-descriptive literature study of qualitative origin, carried out in an electronic database of Latin American and Caribbean Literature in Health Sciences (LILACS), Database in Nursing (BDENF) and Scientific Electronic Library Online (SciELO) with a time frame of the last five years in Portuguese and English. A sample of 7 studies was obtained, all published in nursing journals, among the findings was the fundamental role of nursing action in the process of congenital heart disease. It is concluded that a newborn, admitted to an Intensive Care Unit, due to congenital heart disease, is predisposed to several other problems, causing some risks, requiring nursing care aimed at possible diagnoses that are affected.

Descriptors: Heart Defects, Congenital; Nursing Care; Intensive Care Units, Pediatric; Nursing; Neonatal Nursing.

Resumen

El objetivo fue analizar el afrontamiento de las enfermeras en el tratamiento de las cardiopatías congénitas. Se trata de un estudio de literatura exploratorio-descriptiva de origen cualitativo, realizado en una base de datos electrónica de Literatura Latinoamericana y Caribeña en Ciencias de la Salud (LILACS), Base de Datos en Enfermería (BDENF) y Biblioteca Electrónica Científica en Línea (SciELO) con un marco de tiempo de los últimos cinco años en portugués e inglés. Se obtuvo una muestra de 7 estudios, todos publicados en revistas de enfermería, entre los hallazgos se encontraba el papel fundamental de la acción de enfermería en el proceso de cardiopatía congénita. Se concluye que un recién nacido, ingresado en una Unidad de Cuidados Intensivos, debido a una cardiopatía congénita, está predispuesto a varios otros problemas, provocando algunos riesgos, requiriendo cuidados de enfermería dirigidos a posibles diagnósticos que se vean afectados.

Descriptorios: Cardiopatías Congénitas; Atención de Enfermería; Unidades de Cuidado Intensivo Pediátrico; Enfermería; Enfermería Neonatal.

Resumo

Objetivou-se analisar o enfrentamento do enfermeiro no tratamento da cardiopatia congênita. Trata-se de um estudo da literatura de caráter exploratório-descritivo e de origem qualitativa, realizada em banco de dados eletrônicos Literatura Latino-Americana e do Caribe em Ciências da Saúde (LILACS), Banco de Dados em Enfermagem (BDENF) e *Scientific Electronic Library Online* (SciELO) com recorte temporal dos últimos cinco anos em português e inglês. Obteve-se uma amostra de 7 estudos, todos publicados em revistas de enfermagem, entre os achados foi notório o papel fundamental da ação da enfermagem no processo da cardiopatia congênita. Conclui-se que um recém-nascido, internado em uma Unidade de Terapia Intensiva, em decorrência de cardiopatia congênita, está predisposto a diversos outros problemas, acarretando alguns riscos, sendo necessário um cuidado de enfermagem voltado aos possíveis diagnósticos que são acometidos.

Descritores: Cardiopatias Congénitas; Assistência de Enfermagem; Unidades de Terapia Intensiva Pediátrica; Enfermagem; Enfermagem Neonatal.



Introduction

Congenital heart disease is considered any abnormality in the structure or also in the cardiocirculatory function and that usually appears in the first weeks of pregnancy, more precisely in the eighth week when the baby's heart is being formed¹.

It is a common congenital malformation, with a variable evolution and can result, in most cases, from the alteration of the embryonic development of a certain normal structure or from the possibility of not developing fully, obtaining insufficient and incomplete development from its initial stage, also causing a decrease in blood flow in that region².

Cardiac malformation is the most common isolated congenital anomaly, accounting for 3 to 5% of deaths in the neonatal period. Estimates indicate that approximately 20-30% of children die in the first month of life from heart failure or hypoxia crises³.

Some risk factors increase the incidence of congenital cardiac malformations. Family history (first-degree relatives), maternal factors, which include chronic diseases such as poorly controlled diabetes or phenylketonuria, alcohol consumption, exposure to environmental toxins, and infections can also considerably increase the likelihood of a cardiac abnormality⁴.

Such malformations are classified as cyanotic and acyanotic, indicating the presence or not of bluish coloration of the skin and mucous membranes due to insufficient oxygenation of the blood. Other classifications are based on hemodynamic features such as increased or decreased pulmonary blood flow, obstruction of blood flow outside the heart, and mixed blood flow⁴.

Currently, congenital heart diseases are among the main causes of neonatal morbidity and mortality, with an increasing prevalence in the population⁵.

Methodology

This is a qualitative, descriptive integrative literature review (RIL) research in databases. According to a study⁶, it is described as a qualitative method that can be

defined and applied to the study of history, relationships, representations, beliefs, perceptions and opinions, products of the interpretations that humans make about how they live, build their artifacts and themselves feel and think.

Finally, integrative review is the broadest methodological approach regarding reviews, allowing the inclusion of experimental and non-experimental studies for a complete understanding of the analyzed phenomenon. It also combines data from theoretical and empirical literature, in addition to incorporating a wide range of purposes: definition of concepts, review of theories and evidence, and analysis of methodological problems of a particular topic. The large sample, together with the multiplicity of proposals, should generate a consistent and understandable panorama of complex concepts, theories, or health problems relevant to nursing⁷.

For the construction of the integrative review it is necessary to go through six distinct steps, namely the identification of the theme and selection of the hypothesis or research question; establishment of Integrative Review versus Systematic Review of criteria for inclusion and exclusion of studies/sampling or literature search; definition of information to be extracted from selected studies/categorization of studies; evaluation of included studies; interpretation of results; and presentation of the knowledge review/synthesis⁸.

A selection of the articles in full, in English and Portuguese, was carried out through electronic search and subsequent reading in the period from 24/06/2021 to 10/08/2021. The articles selected at this stage were read in full and evaluated according to the eligibility criteria. The search was performed in an electronic database of Latin American and Caribbean Literature in Health Sciences (LILACS), Database in Nursing (BDENF) and Scientific Electronic Library Online (SciELO) using the following descriptors: "Nursing care"; "Chronic kidney failure"; "Nursing". The search strategy used was "Congenital heart disease"; "Pediatric ICU"; "Nursing" Publications made available between May 2015 and May 2020 were also selected as an inclusion criterion.

Results and Discussion

Chart 1. Synthesis of articles. Rio de Janeiro, RJ, Brazil, 2021

Title	Year	Author	Objective	Methodology	Results	Conclusion
Diagnósticos de Enfermagem em crianças com cardiopatias congênitas: mapeamento cruzado	2015	Valéria Gonçalves Silva; Juliana de Melo Vellozo Pereira; Lyvia da Silva Figueiredo; Tereza Cristina Felipe Guimarães; Ana Carla Dantas Cavalcanti.	Identify NANDA International Nursing Diagnoses from the terms found in the Nursing records of hospitalized children with congenital heart disease and verify the association between these terms and the mapped Nursing Diagnoses.	Observational, cross-sectional study developed by mapping the terms in the nursing records of hospitalized children aged up to 2 years with congenital heart disease. The association between the terms and the most frequent Nursing Diagnoses was assessed using Student's t test or chi-square test.	In the 82 records analyzed, the most frequent Nursing Diagnoses were Risk of infection (81.7%), Impaired gas exchange (46.3%) and Activity intolerance (36.6%). The terms "cyanotic" and "hypocolored" had a statistically significant relationship with the diagnosis Impaired gas exchange.	It was observed that the terms registered in medical records of children with congenital heart disease allowed the identification of NANDA International Nursing Diagnoses, in addition to the verification of associations.



Características e Prevalência de Cardiopatias Congênitas em Crianças com Síndrome de Down Submetidas à Cirurgia Cardíaca em um Hospital na Região Norte do Paraná	2015	Thayse Cristina Kadri Donáa; Bruna Lawina; Cláudia Simone Maturanaa; Josiane Marques Felcara.	To verify the prevalence of children with Down's Syndrome and congenital heart diseases in Londrina and region, treated surgically, in addition to identifying the most frequent heart disease and performing physiotherapy before and after surgery.	All children with Down disease presenting with heart disease and undergoing surgical procedures at the Hospital Infantil Sagrada Família from January/2006 to July/2009 participated. Statistical significance was set at 5%.	The prevalence was 10.5%, the most frequent heart disease was AVSD and the most frequently performed surgery was for its correction. 66% of the cases were female and 76.6% were less than one year old. Thirteen (27.7%) children underwent pre- and postoperative physiotherapy. The length of hospital stay, and mechanical ventilation were significantly longer in boys, which did not occur in relation to complications and deaths. 66% of patients had some complications after surgery.	It was concluded that the prevalence of children with Down and congenital heart diseases treated surgically was 10.5%, the most frequent heart disease was DSAV, and the most performed surgery was DSAV correction. Only 27.7% of children underwent pre- and postoperative physiotherapy. The length of hospital stay, and mechanical ventilation were significantly longer in the male group. There was no difference regarding complications and number of deaths between genders.
Rede de cuidados de crianças com necessidades especiais de saúde.	2015	Eliane Tatsch Neves; Andressa da Silveira; Andrea Moreira Arrué; Greice Machado Pieszak; Kellen Cervo Zamberlan; Raíssa Passos dos Santos.	Describe the care network for children with special health needs, followed at different levels of care, after hospital discharge.	The data were produced by carrying out the dynamics of creativity and sensitivity, the Speaking Map and the Sensitive Creative Method, with five families of children, between 2009 and 2011.	The family members' speeches pointed out that the care network for these children is constituted by institutional and family dimensions.	The first proved to be broad and diversified, but dispersed, consisting of several professionals in the field of health and education. The second is made up of female family members, such as mothers and grandmothers, and provides exclusively family care. It is recommended to expand and consolidate care networks of a multidisciplinary nature to facilitate access to health care and the quality of life of these children and their families.
Mortalidade Infantil em Novo Hamburgo: Fatores Associados e Causas Cardiovasculares.	2015	Camila de Andrade Brum; Airton Tetelbom Stein; Lucia Campos Pellanda.	Describe the causes of infant mortality in the city of Novo Hamburgo, Rio Grande do Sul, from 2007 to 2010, identifying the causes of deaths related to heart disease and whether they were diagnosed in the prenatal period, and evaluating access to health care services. health.	Data on children under one year of age who died, residing in the municipality, collected from the infant death investigation forms were included.	During the period, there were 157 deaths, 35.3% of which were reducible by actions of early diagnosis and treatment, 25% reducible through partnerships with other sectors, 19.2% non-preventable, 11.5% reducible by adequate pregnancy control, 5.1% reducible by adequate delivery care and 3.8% poorly defined.	Qualification of prenatal care is necessary, as well as newborn care at the hospital level and in the basic health network for the prevention of infant mortality.
Perfil clínico-hospitalar de crianças com cardiopatia congênita.	2016	Wanessa Alves Belo, Gleidson Brandão Oselame, Eduardo Borba Neves.	To characterize the profile of children with congenital heart disease treated at a reference hospital in the State of Paraná, Brazil.	Data were obtained from the analysis of 77 medical records of children aged 0 to 10 years. To characterize the sample, in addition to age, physical aspects	Among the observed congenital heart diseases, ventricular septal defect (IVC), interatrial septal defect (CIA), patent	The child with congenital heart disease is generally underweight, remains in the ICU for about 16 days, uses the CVC access 70% of the time (11 days) and most of them (75,40) %

				such as weight, height and body mass index, length of stay in the intensive care unit (ICU) and stay with a central venous catheter (CVC) were observed.	ductus arteriosus (PCA), pulmonary hypertension (PH) and tetralogy of Fallot (T4F) were the most recurrent and, in most cases, about 80% had two or more heart diseases.	has up to four heart diseases, the most common of which are VSD, CIA, PCA and T4F.
Associação entre as complicações pulmonares e fatores predisponentes em cirurgias cardiopediátricas.	2017	Dayane Santos Oliveira; Rachel Chrystinne de Oliveira Silva; Daniela Bassi; Ana Carolina do Nascimento Calles.	To determine the most recurrent pulmonary complications in the postoperative period of cardiopediatric surgery and the possible factors associated with these complications.	This is an observational, retrospective study with a non-probabilistic sample, carried out from May 2016 to May 2017, through the analysis of the medical records of children undergoing cardiac surgery at the Hospital do Coração de Alagoas.	The pulmonary complications found were atelectasis (7.3%), pulmonary congestion (7.3%) and pleural effusion (4.9%), corresponding to 19.5% of the total sample. The only statistical difference found was the increase in the length of hospital stay in individuals with pulmonary complications.	There was a predominance of atelectasis, pulmonary congestion and pleural effusion as pulmonary complications after cardiopediatric surgery. An increase in the length of hospital stay was evidenced due to the presence of pulmonary complications, with no association with another variable tested here.
Cardiopatas congênitas em crianças e adolescentes: caracterização clínico-epidemiológica em um hospital infantil de Manaus-AM.	2017	Vaniéli Regina Cappelless, Aldalice Pinto de Aguiar.	To investigate the epidemiological and clinical-hospital characteristics of children and adolescents admitted to a children's hospital in the city of Manaus-Amazonas.	Cross-sectional, hospital-based study with a quantitative approach, with data collection from 173 medical records of children aged 0 to 19 years with a medical diagnosis of heart disease in the period between 2011 and 2015.	Predominance of heart diseases in males 60.6%, mixed race 31.7% and under one year of age 68.2%. The most common type of heart disease was 86.1% acyanotic, with the main reason for hospitalization being the impairment of the respiratory system, 43.8%. In 70.5% of cases there was a need for transfer to the Intensive Care Unit, 48.6% of them due to complications related to the system.	High rate of congenital heart disease among the age group studied, especially in children under five years old, belonging to families with unfavorable socioeconomic factors, with complications in most cases, requiring highly complex services.
Cuidado de enfermagem no pós-operatório de cirurgia cardíaca pediátrica: revisão integrativa.	2020	João Victor Batista Cabral, Juliana Sousa de Castro Chaves.	Identify the role of nurses in the postoperative period of cardiac surgery in pediatric patients.	This is an integrative review through the execution of six steps, with sampling performed through a survey and bibliographic analysis, after searching for articles on the VHL website, in the LILACS, MEDLINE, BDNF databases between 2009 to 2018, with a combination of descriptors selected.	From the data, two thematic axes emerged: the nurse and his own perception of pediatric patient care in the postoperative period, in which he becomes a being-with who takes responsibility for ensuring the child complete care, providing inputs, monitoring constantly, and providing comprehensive care.	The role of the nurse is translated through a systematic, complex, and meticulous conduct, which assumes the responsibility to ensure the child complete care, providing inputs, constantly monitoring and providing comprehensive care guided by nursing diagnoses and interventions.
Cardiopatia congênita em	2020	Maurício Thiago	To characterize the clinical profile of children	This is a retrospective, cross-sectional	We analyzed 383 medical records of	In the sample, children under 1 year of age,

crianças: Caracterização do perfil clínico.		Gonçalves de Almeida; Paulo Jorge Souza Galindo Filho; Alba Maria Bonfim de França; Douglas Melo da Rocha; Ana Carla de Oliveira Soares; Aldrya Ketly Pedrosa.	with congenital heart disease treated at a reference service in Maceió, AL.	documentary research with quantitative data analysis referring to congenital heart disease in children.	children with congenital heart disease, 54.83% girls, 52.86% under 1 year of age and 58.23% living in other cities in Alagoas.	residing in other municipalities in the state of Alagoas, predominated. Most presented CIA and CIV for acyanotic heart diseases and Tetralogy of Fallot for cyanotic ones. A list of children with down syndrome and congenital heart disease was observed.
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Initially, a total of 26 articles were filtered and selected, available in full, in English and Portuguese, published from 2015 onwards. However, 3 were duplicated and 14 were excluded by title and abstract, as they did not include the review proposal. Therefore, 9 articles were selected. When analyzing the publications, it was found that all were published in Brazilian nursing journals.

Congenital heart disease is present from birth but may not be detected at first. Therefore, its recognition is a fundamental step in proper care. In most services, the performance of neonatal screening for critical congenital heart disease is a nursing activity, but the search carried out did not find studies carried out by nurses that directly addressed the care provided in this practice. Perhaps, because it is a relatively new activity, as it was only in 2014 that the "Little Heart Test" was instituted as part of the Brazilian neonatal screening program.

The review selected a study that outlined strategies used to establish pulse oximetry as a screening program for critical congenital heart disease⁹.

Pulse oximetry screening is an effective process that can enhance early detection of the seven main cardiac defects, being a painless and non-invasive technique to measure pre- and post-ductal oxygen saturation in newborns. This screening can help to identify hypoxia not detected by the human eye, being a simple and economical tool that complements the clinical evaluation¹⁰.

Currently, nursing is directly involved in this type of screening and can develop it in health services. Hence the importance of knowing studies that address this activity as an important field of action in neonatal nursing. Therefore, it needs to understand the development of the activity and skills involved in its execution, as described in the study, which brought scientific evidence to support the care.

This situation also highlights the need to expand the clinical competence of nursing, which involves the ability and attitude to assist a specific clientele, such as newborns with congenital heart disease. This involves an entire structure, including the family, in an intense way, and demands from

the professional an even closer relationship with the person being cared for, in a humanized relationship. In this reality, it is necessary to involve the family in childcare, which modifies the relationship between professionals and parents and changes the quality of care, changing the entire work dynamic. And the transforming professional action begins when considering, a priori, that the family holds knowledge, a worldview, constituted by its praxis, in common sense, which must be valued, considered and respected¹¹.

The results of this study showed that there is little evidence available in the literature dealing with the theme of nursing care for babies with congenital heart disease, within the scope of the neonatal unit. In many of the studies found, nurses dealt with the postoperative issue, but in specialized units, not in maternity hospitals, where these babies come from and where they are often kept, until a specific intervention.

Conclusion

This article has a conceptual framework for nursing actions in congenital heart disease, aiming to contribute to the understanding of care, since the nurse has an essential role in the identification and care in relation to it, however, in addition to coordinating the performance of team members of nursing, provides direct assistance to the patient.

The importance of nursing in the provision of care is perceived, due to extra-cardiac abnormalities, including abdominal, which are frequent in patients with congenital heart disease, as patients with these changes may be at increased risk of morbidity and mortality.

The profile found of the newborns was that of being at term, suitable for gestational age, male, and born through vaginal delivery, with a diagnosis of acyanotic CC and the nursing diagnoses of risk for change in fluid volume, risk for change in HR, BP and RC, risk for change in the breathing pattern, ineffective cleaning of the upper airways and excess fluid volume with the concomitant occurrence of these, confirm the cardiorespiratory impairment caused by CC.

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