

## Overview of the Nurse's Discharge Planning Implementation in Children with Acute Respiratory Infection (ARI) in Indonesia: A Literature Review

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### ABSTRACT

ARI (acute respiratory infection) is one that causes of high rates of morbidity and mortality in children, especially in children aged less than 5 years (toddlers). Discharge planning is one of the implementation that can be applied to reduce ARI in children. This study aimed to identify the implementation of discharge planning in children with ARI in Indonesia. A literature review searched four databases (Google Scholar, Science Direct, PubMed, and Springer) for all studies design between 2016-2021. The researcher found ten studies that met inclusion criteria in the review. Included studies consist of three studies discussing the factors that cause ARI, five studies discussing the implementation of discharge planning, and two studies of both. The average number of participants is 95 and most of the study design in this study used cross-sectional. 1) the importance of knowledge about the risk factor of ARI for discharge planning; 2) the risk factors of ARI in children, such as nutrition status, birth weight, exclusive breastfeeding, parental smoking status, dwelling density, ventilation, and humidity; 3) the implementation of discharge planning in pediatric room was unoptimally implemented; 4) factors that causing unoptimally implementation of discharge planning are knowledge, competency, and coordination of nurse. It is also the competency of parents, especially mothers, in caring for children with ARI in Indonesia.

Keywords: acute respiratory infection; discharge planning; children

### INTRODUCTION

ARI (acute respiratory infection) is one that causes of high rates of morbidity and mortality in children, especially in children aged less than 5 years (toddlers). Children who are susceptible to ARI have a weak immune system and the process of lung development in children (Hassen, 2020). ARI is divided into 2 types, namely upper ARI and lower ARI. The upper ARI is caused by viral and bacterial infections including nasopharyngitis or the common cold, such as acute pharyngitis, acute uvulitis, rhinitis, chronic nasopharyngitis, sinusitis, while the lower ARI is caused by secondary bacterial infections in the upper respiratory tract, for example, acute bronchitis, chronic bronchitis, bronchiolitis, pneumonia (Hassen, 2020).

In Indonesia, the incidence of ARI is still high with a morbidity rate of 3% and a mortality percentage of 15.5% (Marni, 2014). The Ministry of Health of the Republic of Indonesia (2017) stated that ARI cases in children reached 28% or around 533,187 cases found in 2016. Most of the ARI cases that occurred in the community (7%-13%) were severe cases and required hospital treatment (Maya, 2016). One of the causes of hospitalization in children due to recurrent ARI is the lack of family knowledge regarding the process of child care while at home. Increasing family knowledge about the child's condition can be done by providing discharge planning by nurses to the family so that the incidence of hospitalization can be minimized.

Discharge planning is part of the nursing process carried out by nurses starting from the initial assessment process until the patient is going home. Discharge planning is done by providing explanations to patients and their families regarding what things should be done when patients are undergoing treatment at home (Tage, 2018)

In Indonesia, there are various factors that can trigger the occurrence of ARI in children, such as nutritional status, birth weight, breastfeeding exclusive, smoking status of parents, ventilation, and humidity. Knowledge related to the causes of ARI in children is also needed to assist nurses in the process of preparing discharge planning and providing an appropriate education. In addition, the implementation of discharge planning by nurses in children with ARI

also needs to be considered. The implementation of discharge planning in several hospitals in Indonesia is still not optimal, this is caused by several factors, such as the lack of knowledge, ability, and coordination of nurses and the ability of parents, especially mothers in caring for children with ARI.

Optimizing the implementation of discharge planning can be done by using a health information system application and training by nurse managers to implement nurses. The use of health information system applications can make it easier for nurses to carry out making it more effective and efficient, while the training carried out by implementing nurses to nurse managers can help improve the abilities and competencies of nurses in carrying out discharge planning.

The aim of this literature review is to identify the implementation of discharge planning in children with ARI in Indonesia. In addition, this study aims to determine the implementation of discharge planning in children with ARI, to knowing the effectiveness of discharge planning in children with ARI, and to knowing the problems of nurses in the implementation of discharge planning in children with ARI.

**METHOD**

The literature search process carried out in this literature review uses 4 databases, there is Google Scholar, PubMed, Scient Direct, and Springer with a publication year range of 2016-2021. The search was carried out using several keywords in English and Indonesian. In the English language literature search using the keywords “Discharge Planning” OR “Hospital Discharge” OR “Discharge” AND “ARI” OR “Acute Respiratory Infection” OR “Respiratory Infection” AND “Child” OR “Children” OR “Infant” OR “Kid” OR “Preschooler”. Meanwhile, in the Indonesian language literature search using the keywords, "Perencanaan Pulang" AND "ISPA" OR "Infeksi Saluran Pernapasan Akut" OR "Infeksi Saluran Pernapasan" AND "Anak".

The article search process started with identification of predefined keywords. At the identification step, there are 9.792 articles that suitable with the keyword. The next stage is to do a screening by choosing the title of articles and the publication year that match with the research criteria. At the screening stage there are 2.267 articles that suitable with research criteria. After that, filtering the articles that are adjusted to the inclusion and exclusion research criteria. There are 604 articles that suitable with inclusion and exclusion research criteria. The next step is do a filtering articles against the abstracts to focus the articles according to the research criteria. In this step there are 20 articles that suitable with the research criteria. Then, from the 20 selected articles, they were re-screened on language, research design, outcomes and other several predetermined criteria. At last there are 10 articles were determined that matched the research criteria and could proceed to the analysis step.

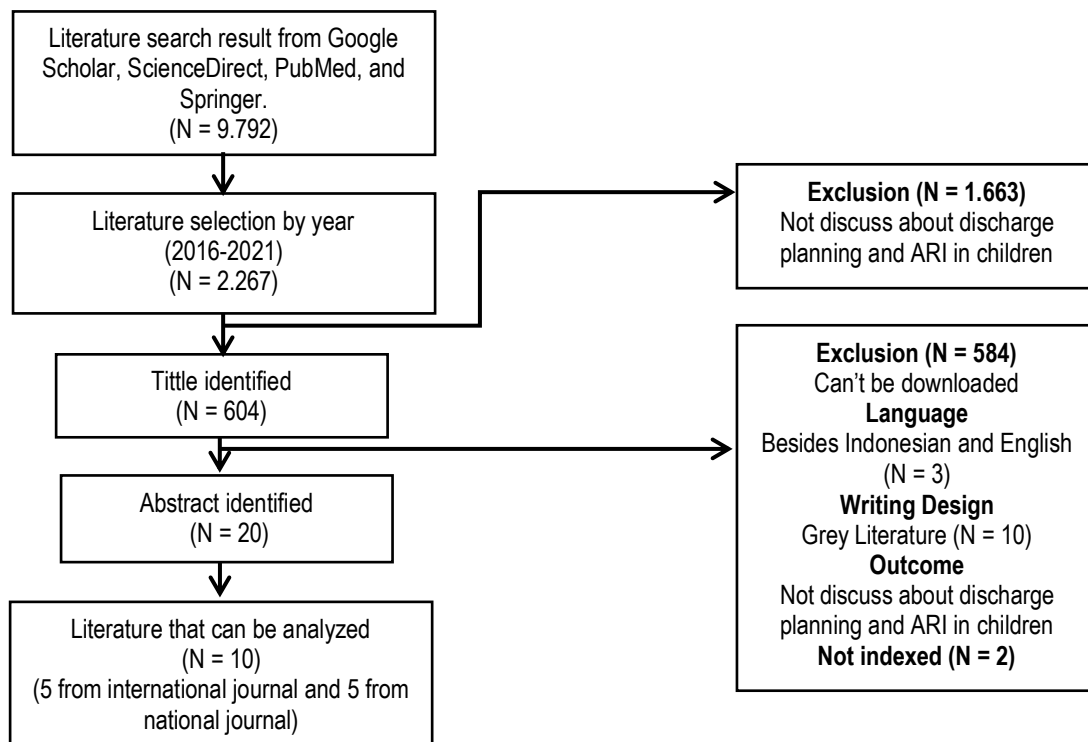


Figure 1. Flow Diagram of Analysis Literature Based on PRISMA (2009)

## RESULT

Acute respiratory infections (ARI) are caused by several factors. Research conducted by (Maria, 2020) states that the factors that cause ARI in children include nutritional status, birth weight, exclusive breastfeeding, and smoking status. The data obtained in this study were 39 children (81.25%) experienced ARI due to lack of nutritional status in children, as many as 14 children (66.67%) with birth weight <2,500 grams affected by ARI, as many as 53 children (72, 60%) were exposed to ARI because they did not get exclusive breastfeeding, and as many as 54 children (79.41%) with smoking parents were exposed to ARI. In addition, there are other factors that cause ARI in children, namely the density of the occupants of the house, ventilation, and humidity in the house (Mulyadi et al, 2018; (Hidayanti, 2019)). According to Mulyadi, et al (2018) stated that as many as 20 children exposed to ARI were in a house with high density, and as many as 16 children were in a house with ventilation conditions that did not meet the requirements. This is in line with research conducted by (Hidayanti, 2019) which stated that as many as 33 children (71.7%) were in high-density homes, 35 children (77.8%) had poor ventilation, and 32 children (76.2%) are in the house with poor humidity levels. Results describe the major findings of the study. It should be clear, concise, and can be reported on texts or graphics. Please provide some introduction for the information presented on tables or images. If results are separated into some sub-sections, please follow the example. If you choose the table as the tool of data presentation, please choose the open table (only use the horizontal lines), table position: center, sentences position: center, title position: top.

The implementation of discharge planning is still below the standard due to non-optimal implementation (Amirajanti, 2019). This non-optimality is caused by the lack of knowledge, ability, and coordination of nurses in the implementation of discharge planning (Rahayu, 2016). In their study, (Amirajanti, 2019) stated that only 0.4% of nurses who carry out biological assessment activities properly before formulating problems and conducting interventions. In addition, (Subagiyo, 2019) stated that the lack of communication and coordination between nurses could also be the cause of the ineffectiveness of implementing discharge planning by nurses on patients. In Soebagiyo's research, et al (2019) also stated that there are 4 main points in implementing discharge planning effectively, namely nurses, patients, and families, the ability of nurses to carry out discharge planning, as well as effective and sustainable communication.

Yuliani (2016) stated that there was an increase related to the ability of mothers to care for children with pneumonia while at home after giving discharge planning which started from assessment, diagnosis, planning, implementation, and evaluation. This situation shows how important the implementation of discharge planning during the nursing care process is. Increasing the mother's ability in the process of child care while at home creates self-confidence and confidence in the mother, so that the process of care while at home runs optimally (Yuliani, 2016). This is in line with research conducted by (Ekim, 2016) which states that there is an increase in the perception of self-efficacy of asthma management in the elderly, disease prevention, disease management, and the home environment.

Hidayanti (2019) in their research stated that the implementation of discharge planning using a health system information application was more effective than the use of discharge planning manual (traditional) as it already exists in several hospitals in general. This is because various features make it easier for nurses to diagnose, provide care, documentation, and care at home (Hidayat, 2020).

Table 1. Result of Literature Review

No	Author/Year	Article Title/Journal Name/Volume	Sample	Method	Result	Limitation
1.	Candra Dewi Rahayu, et al / 2016	A Review of the Quality Improvement in Discharge Planning through Coaching in Nursing/ Nurse Media Journal of Nursing/ 6(1) :19 - 29	6 literatures that fit with inclusion criteria.	Literature review.	There is a relationship between nurse coaching by nurse managers regarding the implementation of discharge planning	The author didn't mention any problems experienced during the research.
2.	Ayfer Ekim and Ayse Ferda Ocakci / 2016	Efficacy of a Transition Theory-Based Discharge Planning Program for Childhood Asthma Management / International Journal of Nursing Knowledge / Vol. 27	120 children and their parents were divided into the control group (n=60) and the intervention group (n=60).	Quasi-Experimental with a clinical trial design prospective with 2 groups (intervention and control).	There was an increase in the intervention group, in the self-efficacy management parental asthma, relapse prevention, and relapse management in addition, there was also a decrease in visits to the emergency departemen, unscheduled outpatient visits and a decrease in triggering for asthma in the home environment.	A limitation in this study is the respondents studied included a group aged <6 years, this may cause the results obtained cannot be generalized to the older group.
3.	Eva Yuliani, et al. / 2016	Effective Discharge Planning Improves Mother's Ability to Care for Children with Pneumonia at Home / Indonesian Nursing Journal / Volume 19.	26 respondents were divided into intervention groups and control groups	Quasi Experimental with Approach Non-Equivalent Control Group, Post Test, Only Design.	There are differences in the ability of mothers in the intervention groups (69,2%) and the control groups (23,11%) after being given discharge planning starting from the assessment, diagnosis formulation, planning, implementation, evaluation stages.	The researcher did not convey any problems in the research process.
4.	Mulyadi, et al. / 2018	Risk Factors at Home on Acute Respiratory Infection (ARI) Incidence in Children Under Five in Sapuli Island, South Sulawesi / Indian Journal of Public Health Research and Development / Vol. 9, No. 6	34 childrens under 5 years who suffer from ARI	Cross Sectional	In the area of Sapuli, South Sulawesi, the amount of pollution, density of occupants and conditions of house ventilation are factors that cause ARI in children under 5 years.	The researcher did not convey any problems in the research process.

No	Author/Year	Article Title/Journal Name/Volume	Sample	Method	Result	Limitation
5.	Mira A, et al. / 2019	Nursing Care Activities Based on Documentation / BMC Nursing / Volume 18	240 medical records that were randomly selected through a simple random method based on odd-even numbers.	Retropective Cross Sectional	The result showed that 80% of nurse's performance in carrying out several nursing was still below the standart.	The researcher did not convey any problems in the researchprocess.
6.	Rahmi Hidayanti, et al. / 2019	Risk Factors for Acute Respiratory Infection in Children Under Five in Padang, Indonesia / Journal of Maternal and Child Health / 4 (2) : 62-69	90 childrens aged 12-59 months divided into 2 groups, the case groups (n=45) and control groups (n=45).	Case-Control Study	Risk factors of ARI in children aged 5 years are the lack of ventilation, the density of occupants of the house, smoking in the house and the high humidity in the house.	The researcher did not convey any problems in the researchprocess.
7.	Hari Soebagiyo, et al. / 2019	The Analysis of the Influencing Factors Related to the Effectiveness of Discharge Pkanning Implementation in Hospitals : A Systematic Review/ Jurnal Ners / Vo. 14, No. 3	15 literature that matched the inclusion criteria.	Systematic Review	There are several factors that affect the implementation of discharge planning, there are level of knowledge, patient readiness to go home, the ability of nurses and the lack of communication, coordination and sustainability in carrying out discharge planning.	The researcher did not convey any problems in the researchprocess.
8.	Hidayat, et al. / 2020	Patient Health Information System for Discharge Planning in Nursing Services in Hospital / Systematic Reviews in Pharmacy / Volume 10	132 nurses and patiens with simple random sampling technique.	Descriptive Analysis	Use of a health information system model for discharge planning has proven to be more effective than the manual discharge planning system in hospitals, and can help facilitate the design of ongoing cases, assist in formulating accurate actions to discharge planning.	The researcher did not convey any problems in the researchprocess.
9.	Lasma Maria, et al. / 2020	Determinants of Acute Respiratory Infection in Children Under Five in Simalingkar, Medan, North Sumatera / Journal of Epidemiology and Public Health / 5 (1) : 26-30	100 people who came to the Simalingkar Health Care.	Cross Sectional	There is a significant effect between nutritional status, exclusive breastfeeding and smoking status of parents on the incidence of ARI in infants in the Simalingkar, Medan, North Sumatera.	The researcher did not convey any problems in the researchprocess.

No	Author/Year	Article Title/Journal Name/Volume	Sample	Method	Result	Limitation
10.	Hari Soebagyo, et al. / 2020	The Influence of Impedance and Enhancement Factors of Discharge Planning Implementation at Hospital : A Systematic Review/ Jurnal Ners / Vol. 15, No. 2	15 literature that matched with the inclusion criteria.	Systematic review	There are several factors that influence the implementation of discharge planning, namely the level of knowledge, patient readiness, family roles, lack of communication and coordination between nurses.	The researcher did not convey any problems in the research process.

## DISCUSSION

Implementation of discharge planning in children with ARI in Indonesia seems only as a resume for the patient's return (Yuliani, 2016). Based on the journals that have been reviewed, according to (Amirajanti, 2019) it was found that only 0.4% of nurses carried out biological assessment activities correctly before formulating problems and conducting interventions. This shows that there are still many nurses who do not carry out the assessment stages in the process of discharge planning. Where as the implementation of the assessment is needed in the process of formulating diagnoses and preparing interventions so that the nursing care provided can be optimal.

Based on the research that has been reviewed, (Subagiyo, 2019) stated that there are 4 important points in implementing discharge planning effectively, there are nurses, patients, and families, the ability of nurses to carry out discharge planning, and effective and sustainable communication. These four points have a big role in the implementation of discharge planning.

According to (Sobagiyo, 2020) stated that the implementation of discharge planning in Indonesia is still not effective, this is due to the lack of ability of nurses in the process of implementing discharge planning. In addition, there are other factors that cause the ineffectiveness of implementation discharge planning, namely the lack of convenience and the absence of continuity in the discharge planning implementation carried out by nurses (Hidayat, 2020). Even though the implementation of good discharge planning and in accordance with the stages can reduce the incidence of recurrent ARI in children with ARI (Yuliani, 2016). This has been proven by research conducted by (Yuliani, 2016) and (Ekim, 2016) which states that the implementation of discharge planning in children with ARI has proven to be effective in increasing the ability of parents, especially mothers during the child care process at home and can improve perceptions of self-efficacy Parents' related to relapse management and relapse prevention. In addition, the implementation of discharge planning is also able to reduce visits to the emergency department, unscheduled outpatient visits, as well as decrease the triggering factors for ARI in the home environment.

The use of a health information system application is a solution in optimizing the implementation of discharge planning because: can facilitate nurses in the process of providing discharge planning (Hidayat, 2020). In addition to facilitating the performance of nurses, the use of health information system applications is very useful for parents of children who do not understand the nurse's explanation or need solutions related to complaints in children, to minimize the incidence of recurrent ARI in children (Yuliani, 2016).

In addition to the use of health information system applications, conducting training for implementing nurses by nurse managers is one way that can improve the ability of nurses in carrying out discharge planning. The training is carried out to improve the ability and competence of nurses in carrying out discharge planning (Rahayu, 2016). The lack of ability and competence of nurses in carrying out discharge planning can be related to the level of knowledge of nurses. The ability of nurses who have undergone training is rated 46 times better than nurses who have not undergone training (Rahayu, 2016). Improving the ability and competence of nurses in providing discharge planning provides benefits for parents of children with ARI during the treatment process.

## CONCLUSION

Implementation of discharge planning in children in Indonesia is still not optimal. This is caused by the lack of ability of nurses in the implementation of discharge planning, especially at the assessment stage. In addition, the lack of convenience and the absence of continuity in the nursing care process are also the causes of recurrent ARI in children.

The implementation of discharge planning by going through 5 stages is proven to be able to minimize the incidence of recurrent ARI in children and increase the ability of parents related to the management and prevention of factors that trigger the occurrence of ARI in the home environment. There are 2 solutions that can be done in improving the ability of nurses in the implementation of discharge planning, namely the use of health information system applications and providing training by nurse managers to implementing nurses as an effort to optimize the implementation of discharge planning to be more effective.

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