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Review article

Clout implementation of nursing care to give relief for children with pneumonia: a literature review

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Abstract

Pneumonia is one of the most common acute infectious diseases that attacks children, and the highest cause of death is due to respiratory failure. Nurse sensitivity is necessary for implementing pneumonia nursing care, but how can it be said that implementation is perfect. This research aims to find out whether there is an impact of implementing nursing care to provide relief to children suffering from pneumonia. This research used a literature review method from the Google Scholar database from 2019 to 2023. It was found that six articles were the inclusion criteria. The research results showed that 66.7% (n=4) of articles explained that incomplete implementation of nursing could not completely overcome the problem of pneumonia. In comparison, 33.3% (n=2) of articles proved that complete implementation could overcome the problem of pneumonia in children. The role of nurses is very important in implementing nursing care. Implementing observation, education, therapeutic and collaborative actions into a series that are interconnected, cannot be separated, and have proven to have a relief impact on the problem of pneumonia in children

INTRODUCTION

Wet lungs, known as "pneumonia," is an acute infection caused by microorganisms such as bacteria, viruses, and fungi [1]. he lungs experience a buildup of mucus and a thickening of fluid in the alveoli [2]. Every 45 seconds a child dies from pneumonia [3]. Indonesia ranks seventh in the world with 27,422 deaths of children experiencing respiratory failure due to pneumonia [4,5] so efforts are needed when providing health services to overcome this problem[4].

Pharmacological therapy is one of the actions of administering drugs and oxygen [6] which is carried out to overcome the problem of pneumonia [7,8]. However, pharmacological therapy has side effects on children [9]. To minimize side effects, non-pharmacological therapy was developed based on evidence-based practice [10] such as chest physiotherapy [8] and *pursed lips breathing* [11,12].

As long as a child receives treatment in a hospital, as a nurse, you need to be sensitive in providing nursing care and not rely on

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non-pharmacological or pharmacological therapy [13]. The quality of nursing care is said to be good, not only paying attention to the completeness of the assessment, the accuracy of nursing diagnoses, and the number of nursing interventions accompanied by rationale [14]. However, the ability of nurses to implement important components of nursing interventions include observation, providing education, therapeutic or independent, and collaboration [15,16]. Nursing implementation alignment is necessary to minimize the risk of respiratory failure complications [17].

However, nurses need help implementing what has been designed for children with pneumonia. Nurses who carry out collaborative therapy actions sometimes need to remember to observe the patient's condition, educate them about drug indications and side effects, and sometimes forget about therapeutic actions, likewise in implementing other things. Therefore, this research aimed to see how the clout of implementing nursing care provides relief for children with pneumonia in Health Services. The specific aim is to see a picture of the implementation of observation, see a picture of educational implementation, a picture of therapeutic implementation, and a picture of collaborative implementation.

METHOD

This research uses the literature review method by going through stages, which include research questions, literature search, literature analysis, and presentation of results.

Research question

The journal search strategy aims to retrieve articles about implementing nursing care for children with pneumonia. The study was developed following the guidelines [18]. Population (P): Children with Pneumonia; Exposure (E): Implementation of nursing; Outcome (O): Relief [18,19], which is presented in Table.1.

Literature search

The research uses the Google Scholar database. Before conducting a literature search, the research team determined the inclusion criteria, including journals from 2019 to 2023 with case study research methods, full text, and Indonesian language manuscripts discussing the implementation of nursing in children with pneumonia. Exclusion criteria included non-nursing papers, literature reviews, proceedings, symposia, and systematic reviews.

Literature analysis

After the description, researchers adjusted according to the preferred reporting items for systematic reviews and meta-analyses (PRISMA) flow diagram [20]. The filter has been explained by the researcher in Flow Chart 1. Articles retrieved from the database were cataloged using bibliographic management software (Mendeley 2.80.1) and then reviewed.

Present results

The literature review is presented in order of researchers based on year, aim, and nursing care for children with pneumonia who receive treatment at the hospital.

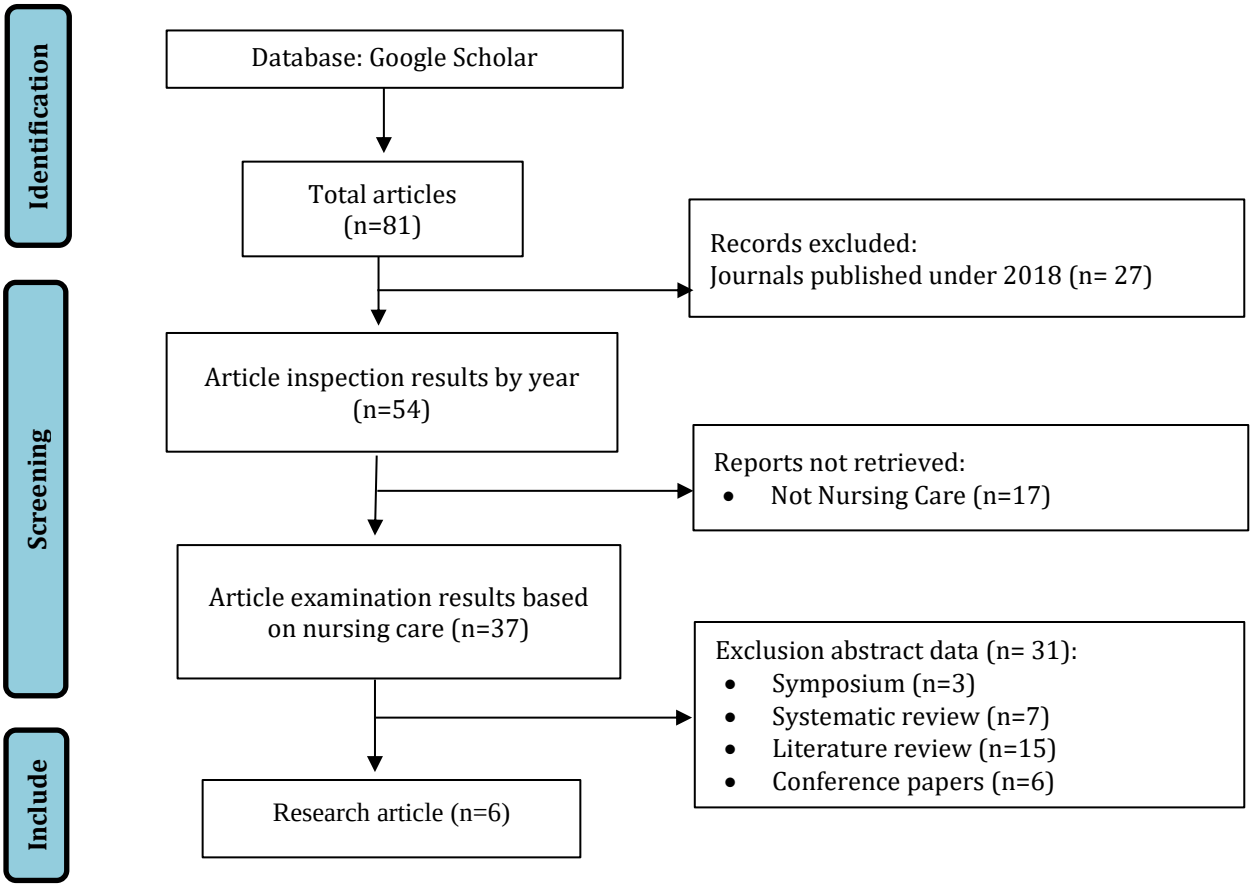

Figure 1
Flow diagram of PRISMA steps in selecting articles to review [20]

RESULTS

The description of the characteristics of all articles (n=6) describes the entire nursing care process. It is known that 83.3% (n=5) of articles describe the implementation of nursing to address the problem of ineffective airway clearance, and 16.7% (n=1) of articles address the problem of ineffective breathing patterns. It is known that 66.7% (n=4) of the articles explained that nursing implementation needed to be completed to overcome the problem of pneumonia completely. In comparison, 33.3% (n=2) of articles proved that complete implementation could overcome the problem of pneumonia in children (Table 2). Researchers analyzed four main delivery points from all the articles reviewed: (1) implementation of observations, (2) implementation of education, (3) therapeutic implementation, and (4) implementation of collaboration.

Implementation of observations

All articles describe the implementation of nursing observations of the patient's condition. Identifying observations presented by nurses physiologically (100%) and psychologically (66.7%).

Implementation of education

It is known that 33.3% (n=2) of articles provide educational implementation to parents regarding pneumonia education and teaching effective coughing to children.

Therapeutic implementation

Of all the articles, only 83.3% (n=5) described therapeutic measures for children with pneumonia. Meanwhile, 50% (n=3) of the articles carried out therapeutic chest physiotherapy procedures, 33.3% (n=2) of the articles acted as providing a

semi-fowler position for comfort and reducing tightness, 13.3% (n=1) of the articles carried out the action of providing warm drinking water, 13.3% (n=1) of articles carried out pursed lips breathing; and 13.3% (n=1) of the articles carried out the therapeutic action of blowing superbubbles.

Collaborative implementation

It is known that 83.3% (n=5) of articles carried out collaborative therapy instructed by a doctor by providing inhalation therapy, 66.7% (n=4) of articles provided antibiotics, and 33.3% (n=2) provided oxygen therapy with a nasal cannula.

Table 1
Literature search with PEO

Search Title	Clout of Nursing Implementation Provided Relief in Children with Pneumonia				
Research question	Does the implementation of nursing provide a relief effect on children with pneumonia?				
Research Topics / Component	P (POPULATION)		I (INTERVENTION)		O (OUTCOME)
Key Term	" Child with pneumonia "	AND	" Nursing implementation "	AND	" Relief "
Alternative Term	Children with Community Acquired Pneumonia (CAP)	OR	Action	OR	Comfort
Alternative Term	-	OR	Realization	OR	No Phlegm
Alternative Term	-	OR	Do	OR	No Cough

Table 2
Review Article

No	Author's	Research purposes	Length of treatment	Results
1	Khotimah and Sensussiana (2019) [7]	Understand the nursing care of children with pneumonia who have airway clearance problems.	3 days	The patient's airway hygiene problems were partially resolved, as indicated by reduced shortness of breath and slight rumbling breath sounds.
2	Damai and Sensussiana (2020) [21]	Understand the nursing care of children with pneumonia who have airway clearance problems	3 days	There was an improvement in respiratory frequency, but there was still sputum.
3	Latifah et al., (2021) [22]	Understand the nursing care of children with pneumonia who have airway clearance problems	3 days	The amount of mucus and additional rhonchi sounds resolved so that the patient could go home from the treatment unit.
4	D. Sari and Musta'in, (2022) [23]	Understand the nursing care of children with pneumonia who have airway clearance problems	3 days	There was improvement where he did not experience shortness of breath, and he was not fussy, so he was able to sleep soundly.
5	Anggraeni and Susilaningsih, (2022) [11]	Understand the description of the implementation of nursing care for children with pneumonia who have problems with ineffective breathing patterns	3 days	The patient feels comfortable, and oxygen saturation has increased to 98%, but the shortness of breath is still there even though it has significantly reduced.
6	Noviana and Faizu, (2023) [24]	Understand the nursing care of children with pneumonia who have airway clearance problems	3 days	There was an improvement in respiratory frequency, but the patient's sputum was still present even though it had reduced during treatment.

Table 3
Review of the Implementation of Nursing for Children with Pneumonia

No	Author's	Nursing Implementation			
		Observation	Education	Therapeutic	Collaboration
1	Khotimah and Sensussiana (2019) [7]	Physiological observations: airway obstruction (sputum), increased respiratory frequency, and rhonchi breath sounds. Psychological observation:-	-	Carry out chest physiotherapy (done twice a day, every morning and evening, for 15 minutes)	Inhalation therapy with Ventolin 1 ampoule and Flexotide 1 ampoule; combination antibiotic ampicillin and gentamicin; and oxygen therapy of 2 liters per minute.
2	Damai and Sensussiana (2020) [21]	Physiological observation: monitor respiratory status for respiratory obstruction (cough and sputum), and auscultate breath sounds, rhonchi Psychological observation: the child looks restless	-	Provide Pursed Lips Breathing therapy for 15 minutes and position in Fowler's position.	-
3	Latifah et al., (2021) [22]	Physiological observation: observing vital signs, auscultation of additional breath sounds, sounds of rhonchi, and there is obstruction of breathing (coughing, shortness of breath, weakness, and excess sputum) Psychological observation:-	Teach patients to cough effectively.	Chest physiotherapy procedures	Administration of inhaled salbutamol and administration of oral medication with dexamethasone, glyceryl Guaiacolate, cotrimaxazole.
4	D. Sari and Musta'in, (2022) [23]	Physiological observation: monitor breathing patterns (frequency, depth) and monitor breath sounds (ronchi). Psychological observation: the child seems fussy	Providing education and information to parents about pneumonia	Providing a semi-Fowler position (15-60°), warm water drinking therapy, and chest physiotherapy therapy for 5 minutes.	Providing inhalation therapy with one ampoule of Ventolin with two ml of 0.9% NaCl; administering antibiotics.
5	Anggraeni and Susilaningsih, (2022) [11]	Physiological observation: observing vital signs, auscultating additional breath sounds (rhonchi), and any obstruction to breathing (sputum) Psychological observation: the child is restless and feels uncomfortable	-	Giving super bubbles blowing therapy daily for 5 minutes, 15 blows, and giving a semi-fowler or fowler position.	Administration of Ventolin 1.25 mg inhalation therapy and Pulmicort 0.5 mg/ 12 hours, antibiotic therapy Ceftriaxone 400 mg/ 12 hours, Pycin injection 250 mg/ 6 hours, Dexa injection 1.25 mg/ 8 hours, and oxygen therapy nasal cannula 1 liter/minute.
6	Noviana and Faizu, (2023) [24]	Physiological observation: observing vital signs, auscultating additional breath sounds (rhonchi), and any obstruction of breathing (sputum) Psychological observation: the child is fussy, especially when inhaled	-	-	Collaborative therapy inhalation nebulizer 3% NaCl 3 ml

DISCUSSION

The various cases and implementations reviewed show that observation is the most frequently performed action, and education is the least.

Monitoring patients' condition is crucial for assessing and understanding their responses to health issues [7]. Following observation, collaboration emerges as another key action. Specifically, pharmacological therapy, which encompasses chemical and physical properties, addresses patients' physiological challenges. This therapy can be delivered orally, intravenously, or through inhalation for children diagnosed with pneumonia. However, it is important to note that such collaborative therapies may lead to side effects for patients [25]. Consequently, nurses must conduct thorough observations to evaluate the patient's condition, provide education regarding medications' effects and potential side effects, and implement strategies to mitigate these side effects [16].

Therapeutic measures are essential indeed. Independent actions utilizing non-pharmacological therapeutic methods can help minimize side effects and are supported by evidence. In treating children with pneumonia, these therapeutic interventions aim to prevent complications and provide healing. For example, providing physiotherapy measures has been proven to reduce secretions that block the respiratory tract in children, thereby clearing the child's airway [7]. Give warm water to thin the retained secretions, or you can ask the parents to help the child into a semi-Fowler's position so that the child feels relaxed [23]. The semi-Fowler position can use an additional pillow in the head area to reduce the lung workload and increase oxygen capacity in children with pneumonia [26]. It is crucial to recognize that therapeutic interventions should be accompanied by informative education, highlighting the role of healthcare providers as educators.

Notably, education appears to be the least emphasized action within this framework. However, outcomes indicate its significance; for instance, one patient was discharged within three days of treatment, while another reported improved sleep quality free from respiratory disturbances. These examples underscore the importance of educating both patients and their families. Providing clear and comprehensible information to parents and patients is vital for enhancing health outcomes, particularly regarding post-treatment care at home. Home-based pneumonia prevention education can involve reminders for parents to ensure full vaccination according to age, to avoid exposing children to cigarette smoke, and to maintain cleanliness of children's equipment. [27]. Furthermore, educating parents on recognizing early signs of pneumonia can empower them to seek timely treatment before hospitalization becomes necessary. Additionally, teaching patients effective coughing techniques while hospitalized can enable them to apply these skills at home when experiencing phlegm.

In summary, nursing implementation must strike a balance between observation, education, therapy, and collaboration [28]. Each of these actions is interrelated, as illustrated in Figure 1. The comprehensive approach to managing airway clearance and ineffective breathing patterns due to pneumonia not only benefits children physiologically but also support their psychological well-being [29].

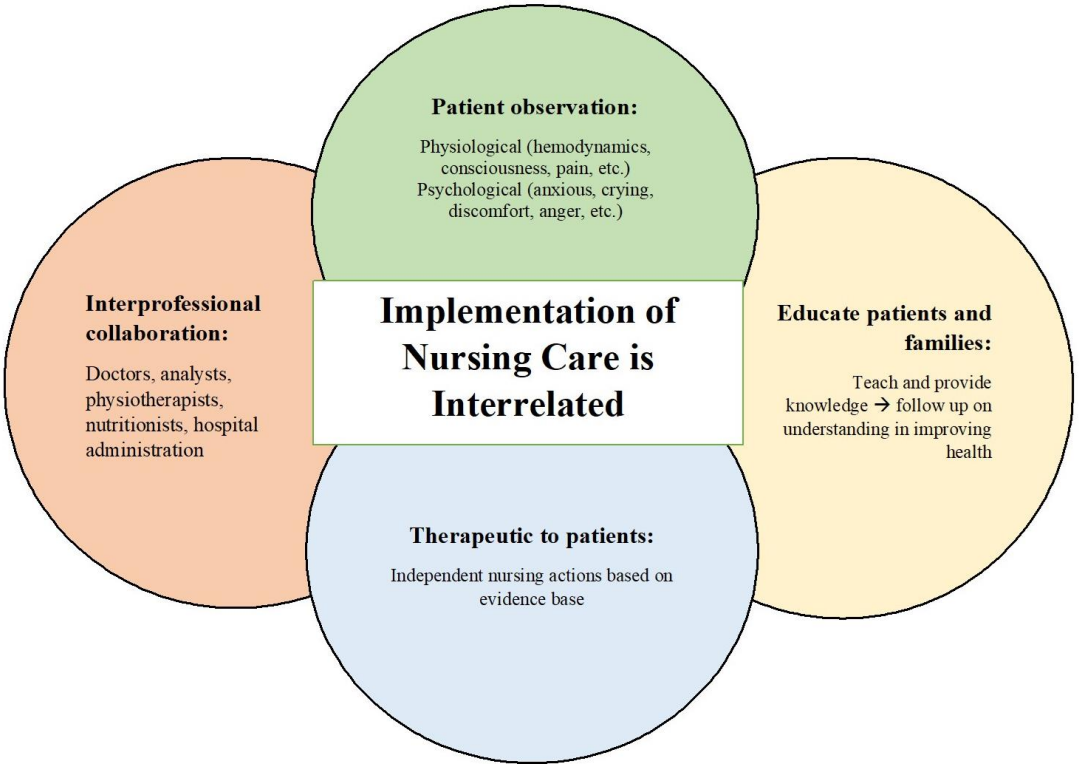

Figure 2
The intersecting roles of nursing implementation

While collaborative acts offer numerous benefits, it is essential to recognize that they may also produce side effects for patients [30,31]. Consequently, nurses must conduct thorough observations to assess the patient's condition, provide education regarding the effects and side effects of medications, and implement strategies to mitigate these side effects [15]. Therefore, therapeutic measures are crucial. Implementing non-pharmacological therapeutic methods can help reduce the adverse effects associated with treatment, supported by evidence-based practices [25].

Therapeutic interventions are necessary to prevent complications in children with pneumonia [7]. For instance, physiotherapy has decreased secretions obstructing the respiratory tract, facilitating airway clearance in pediatric patients [7]. Administering warm water can help thin retained secretions, and positioning the child in a semi-Fowler's position can enhance comfort. This position, which can be achieved by placing an additional pillow under the child's head, reduces lung workload and increases oxygen capacity in children with pneumonia [26].

Moreover, it is vital to approach therapeutic measures with a focus on education, highlighting our role as educators. An analysis of our actions reveals that education is often the least prioritized. However, the outcomes demonstrate its significance; for example, as noted in reference[22], one patient was discharged within three days of treatment, and in case [23], another patient was able to sleep soundly without respiratory disturbances. These examples underscore the importance of providing clear and comprehensible information to patients and their families, facilitating improved health outcomes, especially when planning post-treatment care at home [32]. At-home pneumonia prevention education should include reminders for parents to ensure complete vaccinations according to their child's age, avoid exposing children to cigarette smoke,

and maintain cleanliness of the child's equipment [33]. Furthermore, parents should be educated on recognizing emergency signs and symptoms of pneumonia, enabling them to initiate appropriate home care before seeking hospital treatment [34]. Additionally, teaching patients effective coughing techniques during hospitalization empowers them to continue these practices at home when dealing with phlegm.

Overall, implementing nursing practices must strike a balance between observation, education, therapy, and collaboration. Each of these elements is interrelated, as illustrated in Figure 1. The strategies employed to address airway clearance issues and ineffective pneumonia breathing patterns have provided both physiological and psychological relief for children.

The limitations of this research are that it is only based on a literature review limited to case study screening, which took place within three days. Therefore, it is necessary to develop empirical research to explain the concept of nursing implementation and relate each implementation on an ongoing basis to pediatric patients with pneumonia or other medical diagnosis problems

CONCLUSION

Nurses must implement observation, education, therapy, and collaboration in nursing. Implementing all these parts will provide relief for children with pneumonia.

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BIBLIOGRAPHY

[1] UNICEF. Every Child's Right to Survive: An Agenda to End Pneumonia Deaths. United State of America: 2018.

[2] Yadav KK, Awasthi S. Childhood pneumonia: What's unchanged, and what's new? Indian J Pediatr 2023;90:693–9. https://doi.org/10.1007/s12098-023-04628-3.

[3] Faza Soelaeman M, Cahyadirga J. Risk factors for community-acquired pneumonia among children under-five years in Asia: A systematic review of observational studies. Cermin Dunia Kedokteran 2023;50:502–8.

[4] Johns Hopkins Bloomberg School of Public Health. Pneumonia & Diarrhea Progress Report 2020. United State of America: 2020.

[5] Kasundriya SK, Dhaneria M, Mathur A, Pathak A. Incidence and risk factors for severe pneumonia in children hospitalized with Pneumonia in Ujjain, India. Int J Environ Res Public Health 2020;17:1–15. https://doi.org/10.3390/ijerph17134637.

[6] Mawaddah E, Nurhaeni N, Wanda D. Aplikasi model keperawatan levine pada asuhan keperawatan anak dengan masalah oksigenasi. Jurnal Keperawatan Terpadu 2020;2:141–55. https://doi.org/10.32807/jkt.v2i2.89.

[7] Khotimah, Sensussiana T. Asuhan keperawatan pasien anak dengan peneumonia dalam pemenuhan kebutuhan oksigenasi. STIKes Kusuma Husada Surakarta 2019;1:1–9.

[8] Sari D, Musta'in M. Gambaran pengelolaan bersihan jalan napas tidak efektif pada anak dengan pneumonia di Desa Jatihadi Kecamatan Sumber. Journal of Holistic and Health Sciences 2022;4:41–6.

[9] Rieder M. Adverse drug reactions in children: Pediatric pharmacy and drug safety. Journal of Pediatric Pharmacology and Therapeutics 2019;24:4–9. https://doi.org/10.5863/1551-6776-24.1.4.

[10] Wu L, Xiang X, Guo H, Tan H. The effect of non-pharmacological interventions on psychological stress and quality of life of parents of children with retinoblastoma: A protocol for systematic review and meta-analysis. Medicine 2021;100:1–5. https://doi.org/10.1097/MD.0000000000028148.

[11] Anggraeni AD, Susilaningsih Z. Asuhan keperawatan pada anak pneumonia dalam pemenuhan kebutuhan oksigenasi. Fakultas

Ilmu Kesehatan Kusuma Husada Surakarta 2022;1:1–11.

[12] Damai SE, Sensussiana T. Asuhan keperawatan pasien anak dengan pneumonia dalam pemenuhan kebutuhan oksigenasi. Poltekes Kendari 2020;1:1–10.

[13] Sebastian JG, Breslin ET, Trautman DE, Cary AH, Rosseter RJ, Vlahov D. Leadership by collaboration: Nursing's bold new vision for academic-practice partnerships. Journal of Professional Nursing 2018;34:110–6. https://doi.org/10.1016/j.profnurs.2017.11.006.

[14] Kozier Barbara, Erb GLea, Berman Audrey, Snyder Shirlee, Frandsen Geralyn, Buck Madeleine, et al. Fundamentals of Canadian nursing : concepts, process, and practice. vol. 1. Pearson; 2018.

[15] Moghadas T, Sedaghati Kesbakhi M. Factors influencing implementation of nursing process by nursing students: A qualitative study. J Med Educ 2020;19:1–6. https://doi.org/10.5812/jme.110810.

[16] Naviati E, Sudarmiati S. Nurse's health education in families of pediatric surgical clients. Media Keperawatan Indonesia 2018;1:1–5. https://doi.org/10.26714/mki.1.2.2018.1-5.

[17] Permaida P, Fushen F. Prolonged slow expiration (PSE) and prone position intervention in children : A literature review. Jurnal Keperawatan Soedirman 2021;16:66–75. https://doi.org/10.20884/1.jks.2021.16.2.1532.

[18] Frandsen TF, Bruun Nielsen MF, Lindhardt CL, Eriksen MB. Using the full PICO model as a search tool for systematic reviews resulted in lower recall for some PICO elements. J Clin Epidemiol 2020;127:69–75. https://doi.org/10.1016/j.jclinepi.2020.07.005.

[19] Teesside University. Developing Your Search Question using PICO/PIO/PEO. United Kingdom: 2020.

[20] Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. International Journal of Surgery 2021;88. https://doi.org/10.1016/j.ijsu.2021.105906.

[21] Damai SE, Sensussiana T. Asuhan keperawatan pasien anak dengan pneumonia dalam pemenuhan kebutuhan oksigenasi. Fakultas Kesehatan Husada Surakarta 2020;0:1–10.

[22] Latifah L, Triana NY, Adriani P. Gambaran pasien ketidakefektifan bersihan jalan nafas pada an. C dengan pneumonia di Puskesmas Timbang. Seminar Nasional Penelitian Dan Pengabdian Kepada Masyarakat 2021;1:980–4.

[23] Sari DPY, Musta'in M. Gambaran pengelolaan bersihan jalan napas tidak efektif pada anak dengan pneumonia di Desa Jatihadi Kecamatan Sumber. Journal of Holistics and Health Sciences 2022;4:41–6.

[24] Noviana LI, Faozi E. Gambaran terapi inhalasi terhadap bersihan jalan napas anak dengan pneumonia di Ruang Flamboyan 6 RS Dr. Moewardi Surakarta. Prosiding Seminar Nasional Keperawatan Universitas Muhammadiyah Surakarta 2023;1:142–7.

[25] Neto MM, Mac O. Implementation of advanced practice nursing in Brazilian Primary Health Care: methodological path. Rev Bras Enferm 2022;75:1–9.

[26] Alfred M, Irman O. Intervensi keperawatan posisi semi-fowler pada bronkopneumonia di ruangan ICU RSUD dr. T.C.Hillers Maumere. Sehat Rakyat: Jurnal Kesehatan Masyarakat 2023;2:51–8.

[27] Purwati NH, Natashia D, Apriliawati A, Wahyuni EP. Kesiapan ibu dalam merawat anak dengan pneumonia pasca hospitalisasi. Jurnal Ilmiah Keperawatan (Scientific Journal of Nursing) 2023;9:105–10. https://doi.org/https://doi.org/10.33023/jikep.v9i1.1427.

[28] R R, L Z, AT V. Faktor risiko yang berhubungan dengan kejadian pneumonia pada balita di Puskesmas Ikur Koto Kota Padang. Health & Medical Journal 2019;1:22–8.

[29] Joseph J. The need of nursing care plans in hospitals. Indian Journal of Basic and Applied Medical Research 2017:318–22.

[30] Nurudin M, Pohan VY, Hartiti T. Analysis of Nursing Documentation Implementation In Outpatient Room. South East Asia Nursing Research 2020;2:25. https://doi.org/10.26714/seanr.2.2.2020.25-30.

[31] Ravi P, Pfaff K, Ralph J, Cruz E, Bellaire M, Fontanin G. Nurse-pharmacist collaborations for promoting medication safety among community-dwelling adults: A scoping review. Int J Nurs Stud Adv 2022;4. https://doi.org/10.1016/j.ijnsa.2022.100079.

[32] Corrêa CEC, Lopes GP, Silva CB da, Paulin JN, Oliveira ND, Graeff MDS, et al. Application of empathy map on educational actions carried out by nursing professionals. Rev Bras Enferm 2022;75. https://doi.org/10.1590/0034-7167-2021-0478.

[33] Luma EL, Tat F, Dion Y, Jurusan D, Poltekkes K, Kupang K. Hubungan antara tingkat pengetahuan ibu tentang penyakit pneumonia dengan perilaku pencegahan pneumonia pada anak di Puskesmas Bakunase Kota Kupang. CHM-K Applied Scientific Journals 2021;4:18–24. https://doi.org/10.37792/casj.v4i1.962.

[34] Hakim N. Peningkatan pengetahuan mengenali tanda kegawatan pneumonia dan penanganannya pada anak setelah dilakukan penyuluhan kesehatan. SIGDIMAS : Publikasi Kegiatan Pengabdian Masyarakat 2023;1:35–40.