

EFFECTIVENESS OF MEDICAL PLAY IN REDUCING ANXIETY AND PAIN IN HOSPITALIZED PEDIATRIC PATIENTS: A SYSTEMATIC REVIEW

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Abstract

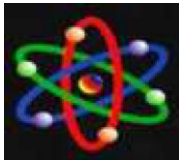
Introduction : Children who are sick are sometimes required to undergo a hospitalization process which can make children feel uncomfortable and traumatized. Hospitalization is a negative experience that can make children experience anxiety and pain. During the hospitalization process, medical procedures are often carried out, especially invasive procedures for installing peripheral intravenous access which will cause pain and anxiety. Medical play is a distraction technique to deal with anxiety and pain. **Purpose :** The purpose of this study is to see the effect of medical play on anxiety and pain in children. **Methods :** A systematic review was conducted after searching the electronic databases Science Direct, Scopus, EBSCOhost, Pubmed, and hand searching (1984–2022) for a total of nine articles. Search using the following keywords anxiety, child, hospitalized, medical play, and pain. **Results :** The search results showed that seven of the nine reviewed articles showed that medical play was beneficial in reducing anxiety and pain in children, while two more articles stated that children's responses were better when given music therapy than medical play. **Conclusion :** Medical play is widely practiced in the Americas, Europe and Australia and is effective in reducing anxiety and pain in children

Keywords: Anxiety, Child, Hospitalized, Medical Play, Pain

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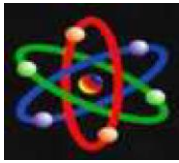
INTRODUCTION

Hospitalization in children can be described as a negative experience that causes children to experience anxiety. This anxiety occurs due to separation, pain (pain), bodily injury, environment and new people (Hockenberry and David, 2019) . Anxiety in children due to hospitalization if not handled properly can lead to fear, discomfort, uncooperative medical and nursing actions which can result in poor psychological and physiological conditions (Nuliana, 2022) . So to avoid this, family participation is needed which will improve health outcomes (Seniwati, Rustina, Nurhaeni, & Wanda, 2023) .

Children who undergo the hospitalization process will experience various pain due to medical and nursing actions such as invasive installation of peripheral intravenous access, treating surgical wounds, lumbar punctures, biopsies, pain due to the effects of chemotherapy and so on. Pain is an unpleasant, complex, highly individualized phenomenon with sensory and emotional components (Perry, 2014). One of the actions that causes pain when a child is hospitalized is the installation of peripheral intravenous access. Research conducted by Aslan and Erci, (2022) in pediatric oncology patients, invasive procedures are the most feared source of pain. This pain can be overcome with distraction techniques such as watching videos, holding mothers, and playing. According to Moore, Bennet, Dietrich, and Wells, (2015) children who undergo medical

play before changing the dressing will experience less pain ($M = 0.5$, $n = 12$) compared to those who undergo standard preparation ($M = 2.0$, $n = 9$). Medical and nursing actions experienced by children during the hospitalization process besides causing pain can also cause anxiety. Anxiety is described as an emotional condition where children feel stress, anxiety, and are not happy. Anxiety is an exaggerated feeling of fear, anxiety, worry or fear of real or perceived threats (Saputro and Fazrin, 2017) . Stress is a cause of anxiety (anxiety) in children. Anxiety in children during hospitalization will be even more severe when undergoing medical procedures (Dijk, 2017) . This is in accordance with research conducted by Casman, Allenidekania, and Hayati, H. (2021) regarding nursing interventions that make children experience anxiety. In a study conducted on 235 children aged 3-9 years, 48 of them received infusion interventions. Children who underwent infusion experienced maximum anxiety of 87.5%. Efforts that can be made to reduce anxiety is to carry out playing activities in children before the installation of peripheral intravenous access is carried out. This play activity is known as therapeutic play . Therapeutic play (therapeutic play) which can distract children and can be done by nurses with the patient's family. Therapeutic play is an effective nondirective modality action that is useful for helping children control worries and fears (Hockenberry & David, 2019) . Based on a journal written by Li, WHC, Chung, JOK, Ho, KY, & Kwok, BMC (2016) that in





preschool children there are four types of therapeutic play, namely preparation play, medical play, distraction play, and developmental play. Medical equipment in hospitals such as stethoscopes, needleless syringes, bandages, medical cups, gloves, masks, nurse caps, tongue blades are a type of medical play that can be used as a game tool. Children can make a rabbit using non-sterile gloves then children can draw eyes, nose, ears, teeth and tail, make an airplane using a syringe and use a tongue blade to make a traffic light. Playing with medical devices can reduce pain during intravenous therapy. Strategies that can be used in medical play according to (Reid-Searl, Crowley, Anderson, Blunt, Cole, & Suraweera, 2021) are distraction, using toys, demonstrations and providing various real equipment. One hypothesis states that playing with toys made of medical materials can reduce pain and anxiety that occur during invasive procedures in children with cancer (Aslan & Erci, 2022) . This systematic review is expected to provide recommendations in conducting research on the benefits of medical play to reduce pain and anxiety in children who are being treated.

METHOD

The method used is a systematic review that begins with the formulation of Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) and PICO. PRISMA is a method that is carried out systematically by following the correct research steps or protocols.

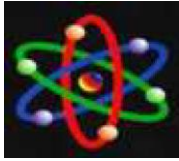
Systematic review is a method that uses reviews , reviews, structured evaluations, classifications, and categorization from evidence based that has been produced previously (Fitriyani, 2021) . PICO can be used to formulate clinical questions, which consist of P (population/problem) : children who are hospitalized in the hospital; I (intervention): play using medical play ; C (Comparison) : standard play ; O (Outcomes) reduce anxiety and pain during medical procedures.

Research question: In children who are hospitalized, can the distraction technique of medical play compared to the standard distraction technique reduce anxiety and pain during the installation of peripheral intravenous access?

Search Strategy

The next step is to carry out a systematic review search strategy by collecting data from seven databases, Science direct, Scopus, Taylor and Francis online, EBSCOhost, ProQuest, Sage, Pubmed Journal from 1984 to 2022 but only in three databases (Science Direct, Scopus, and Pubmed) there are articles according to the inclusion criteria. Data collection was carried out on studies obtained from searches using the following keywords: medical play. child, hospitalized . Appropriateness was determined by reviewing the title, abstract, overall content, and nine articles aligned with the chosen topic.





Article Selection

The selection of articles uses the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) model. The selection of data through four stages of keyword search in three databases resulted in 1133 studies. The first stage is the identification of studies from three databases ; the second stage was based on the suitability of the title with the inclusion criteria (n=1044); the third stage is the abstract based exclusion stage (n=16); and the fourth is the exclusion stage on the whole topic (n = 7). There are three similar articles in several databases so the article is excluded. Then another search was carried out based on hand searching and two articles were found so that the total articles analyzed were nine. The analysis was carried out specifically for medical play. After obtaining nine articles, the author analyzed the articles using Joanna Briggs (JBI's) critical appraisal tools . Seven articles are quasi-experimental research, one qualitative research, and one mixed research. All of these articles were assessed using JBI's critical appraisal tools which declared them worthy of being included in this review.

Inclusion criteria

The inclusion criteria used were children aged 0-18 years, children who were being treated at the hospital, children who would have peripheral intravenous access installed, articles in English and

Indonesian, using journals without year restrictions.

Exclusion criteria

The exclusion criteria used were children with disabilities, children with mental problems, uncooperative children, articles that were literature reviews, scoping reviews, systematic reviews, and umbrella reviews.

Results

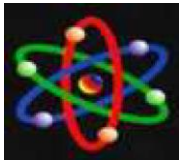
Data search and selection

In this study, nine articles were used with publication years ranging from 1984 to 2022, without limiters . The total number of samples is 444 people. The results of a complete analysis can be seen in Figure 1, prism flow diagram.

Literature Search Results

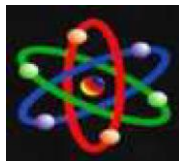
The following are the articles used in this systematic review study :





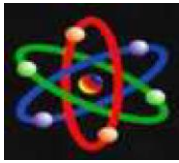
| No | Author, year of publication, country of research Authors, | Article title | Research sites | Respondent Age | Objective | Design and Sample | Research result | |
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| 1 | Jones, Kirkendall, Grissim, Daniels and Boles, (2021) , Nashville, | Exploration of the Relationship Between a Group Medical Play Intervention and Children's Preoperative Fear and anxiety | Journal of Pediatric Health Care | Southeastern United States | 5-10 years | The purpose of this study was to examine the relationship between group medical games and children's fear and anxiety before surgery | Quasi-experimental design Sample of 50 children aged 5-10 years Inclusion criteria : (1) Be present in the waiting room on the day the intervention is offered (2) Scheduled for inpatient or outpatient surgery or elective procedures under general anaesthesia (3) Children aged 5-10 years Exclusion criteria : 1. Refused to give consent 2. Speak tactile other than English 3. Have a cognitive or linguistic physical disability | This study shows a decrease in anxiety and fear after medical games. Children have the opportunity to explore and get to know medical equipment. |





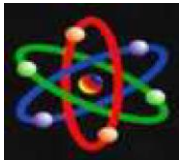
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| 2 | Moore, Bennett, Dietrich and Wells, (2015) , America, 2015 | The Effect of Directed Play on Young Children's Pain and Distress During Burn Wound Care | Journal of Pediatric Health Care | United States of America | 2-12 years | To see the effect of targeted medical play used to reduce children's pain and distress during medical treatment. | Quasi-experimental design | 21 children participated in this pilot study, with 12 in the medical play group and 9 in the standard care group. Q: 12 C:9 | The children who participated in the medical game experienced less stress during the dressing change than those who received the standard preparation |
| 3 | Reid-Searl, Crowley, Anderson, Blunt, Cole, & Suraweera, (2021) , Australia | A medical play experience: Preparing undergraduate nursing students for clinical practice | Nurse Education Today | Australia | 2-8 years | To increase the job readiness and confidence of undergraduate nursing students to care for children by involving them in a mock pediatric ward experience where students can practice using medical games to communicate and engage with children. | This study used a mixed methods research approach. | 22 Participants were selected from University of Nursing Undergraduate students at all three-year levels. Inclusion criteria: Selection criteria for participants included being 18 years of age or older, currently holding a valid Blue Card and willing to attend college . | The benefits of the experience of implementing medical play for student nurses for clinical practice are increased clinical confidence after intervention, increased clinical reasoning skills after intervention, increased clinical learning skills after intervention, more confidence in communicating with children in health care settings |
| 4 | Witt et al., (2019) , Germany | Exploring the Potential of a Pretend Play Intervention in Young Patients With Leukemia | Journal of Pediatric Nursing | German | 7-14 years | The aim of this research is to gain knowledge about the perceptions of parents and professionals about the | The qualitative design uses semi-structured interviews | 13 parents of children diagnosed with leukemia and 15 professionals in the field of pediatric oncology. The inclusion criteria are: 1. Children | Young patients with leukemia use dominant and active coping strategies. However, active coping strategies mainly include aggression |





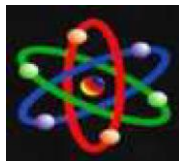
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| | | | | | resources, burdens, and abilities of children affected by cancer to role play, | 2) t o prepare for the initiation of a pretend play intervention based on the needs of the child and including feedback from parents and health workers. | | diagnosed with leukemia within the last four years | 2. The child's age at diagnosis is between one and eleven years | 3. Ability to understand and speak German fluently | 4. Classified as emotionally stable by the psychosocial service team. | and rebellion. Internal coping strategies are almost never reported. Routine care that includes methods to strengthen and expand a repertoire of coping strategies can help young patients to improve their disease management. |
| 5 | Froehlich, (1984) USA | A Comparison of Music Therapy and Medical Play Therapy on the Verbalization Behavior of Pediatric Patients | Journal of Music Therapy | USA | 6-12 years | The aim of this study was to determine whether music therapy sessions were more effective than medical play therapy sessions in facilitating the verbalization of experiences and feelings | Quasi experiment with Posttest-only Control Group Design | Thirty-nine school -aged subjects were randomly selected to receive individual music therapy or play therapy sessions | Q:19 C: 20 | | | The response of music therapy is more significant than play therapy. The music therapy group showed a better response than the medical play group. This research does not want to prove that music therapy is more effective than medical play therapy, but to show that these two programs are very meaningful in |





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| | | | | | | | | | a child's life. |
| 6 | Galyer and Evans (2001), Singapore | Pretend Play and the Development of Emotion Regulation in Preschool Children | Early Child Development and Care | New Zealand | 4-5 years | Testing play interventions can improve social interaction and good emotional control | Quasi-experiment to see whether there is a relationship between playing and controlling children's emotions in solving problems in games | 47 pre-school children (21 boys and 26 girls aged 4-5 years) | Playing is analyzed by how long the child spends playing, how many object transformations the child makes based on the child's ideas, how many children can finish the game and can control their emotions. Play has a significant relationship with emotional control |
| 7 | Davis and Nader (2017), USA | Examining Differences in affect displayed during preschoolers non-medical pretend play and medical pretend play | Early Child Development and Care | USA | 3-4 years | The aim of this study was to examine the effect displayed during medical games on a group of children who not hospitalized | Quasi-experimental design | 37 children | The results showed that children who were not hospitalized showed less affect, fantasy, and comfort during medical pretend play. In addition, they tend to engage less in them than in non-medical themed pretend play. Why is unknown, but the current study found that children also reported less happiness during medical pretend play. |
| 8 | Delvecchio, Salcuni, Lis, Dermani, | Hospitalized Children: Anxiety, Coping | Frontiers in Public Health | Northern Italy | 6-10 years | Assessing the strength and fragility of | Quasi experiment | 100 people Inclusion criteria: Rheumatolog | Focusing on coping strategies, support- |





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| | and Riso (2019), Italy | Strategies, and Pretend Play | | | | hospitalized children aged 6-10 years who were admitted to hospital, comparing them to non-hospitalized children. | | | y, heart, metabolic, appendicitis, tonsillitis. | seeking strategies showed that children who were hospitalized reported higher anxiety scores than those who were not hospitalized, with moderate effect sizes. |
| 9 | Aslan Erci, (2022) Turkey | & The effect of playing games with toys made with medical materials in children with cancer on pain during intravenous treatment | Palliative and Supportive Care | Türkiye | 3 and 6 years | To test the effect of playing games with toys made of medical materials in children with cancer for pain that occurs during IV treatment. | Quasi-experimental randomized controlled clinical trial | The research sample consisted of 110 children with a control group of 55 children and an experimental group of 55 children which were determined using a power analysis of the study population. | Q: 55 C: 55 | Experience playing with toys made from materials used for procedures Invasive pain relief during IV treatment |

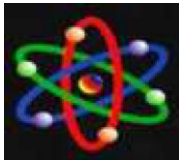
Table 1. Details of Selected Journal Results for systematic review

Data search and selection

In this study, nine articles were used with publication years ranging from 1984 to 2022. The total sample size was 444 people. The results of the review are six articles which say that medical play is beneficial for children who are being treated because medical play can reduce pain and anxiety in children who are undergoing medical procedures. However, there are also three articles showing the results that there is a difference between

medical play and music therapy. The group that received music therapy showed a better response than the group that received medical play . However, the purpose of this study is not to prove which one is more effective but to show that these two activities are very meaningful for children (Froehlich, 1984) . An article written by Davis and Nader (2017) shows that children who are not hospitalized show less affect, fantasy, and comfort during pretend medical play than non-





medical play. Then research conducted by Delvecchio, Salcuni, Lis, Dermanni, and Riso (2019) showed a higher level of anxiety in children who were being treated at the hospital compared to children who were not being treated at the hospital.

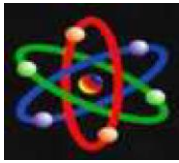
This research was conducted in several countries, namely the United States, Australia, Germany, New Zealand, Northern Italy, and Turkey. Most respondents were school-aged children (6-12 years old), but research conducted by Reid-Searl, Crowley, Anderson, Blunt, Cole, and Suraweera (2021) shows that nursing students are prepared to prepare themselves to care for children before practicing in child care rooms. in the hospital.

Discussion

The search for articles was carried out by the author without any year restrictions so that various results from the implementation of this medical play can be seen . The effect of medical play can reduce anxiety and pain in children undergoing the hospitalization process. For more details, the results of the review of articles about medical play will be described below. In children who are being treated, playing using medical play can reduce levels of anxiety and pain. Children who are being treated have the opportunity to explore and get to know medical equipment. These games use medical devices in the form of dolls, stethoscopes, thermometers, gloves, tongue blades and so on (Jones, Kirkendall, Grissim, Daniels and Boles,

2021) . In children who were given medical games before the wound care was carried out, the pain scale was within normal limits. The reduction in pain can be caused by the child being distracted from the type of medical play given so that the child does not focus on the invasive measures being performed (Moore, Bennett, Dietrich and Wells, 2015) . In addition to children, the application of medical play can also be carried out on nursing students so that it can reduce and prepare students before carrying out direct care for children in the hospital. So these students can practice in a laboratory that is set up to resemble an inpatient room in a hospital. This activity provides the benefit of medical play experience for student nurses prior to clinical practice such as increased clinical confidence, increased reasoning skills, increased clinical learning skills, more confidence in communicating with children in health care settings (Reid-Searl, Crowley , Anderson, Blunt, Cole, & Suraweera, 2021) . In a qualitative study conducted by Witt et al., (2019) showed results in children with leukemia, medical play can make them have good coping. Playing medical play has a significant relationship with emotional control. In playing, children are expected to be able to control themselves and control their emotions during the game (Galyer & Evans, 2001) . Children who are hospitalized have a higher level of anxiety than children who are not treated. Even though medical play was given, it turned out that children who were not treated did not like medical play . This is probably





because they are not involved in direct contact with the medical devices used in medical play (Delvecchio, E., Salcuni, S., Lis, A., Germani, A., & Di Riso, D, 2019) and (Davis & Nader, 2017) . Research conducted by (Froehlich, 1984) showed that music therapy was more effective than medical play therapy. However, the results of this study indicate that these two programs are very meaningful in a child's life. The music therapy group showed a better response than the medical play group. A certified pediatric life specialist nurse will find medical play also a valuable assessment tool that can generate insight into children's understanding of the healthcare experience, enhancing their clinical abilities to dispel medical fears and misconceptions for children and their families.

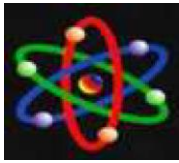
Playing medical play is proven to reduce pain in children when invasive procedures are performed. It is hoped that this reduction in pain intensity will reduce the trauma and anxiety of children who experience hospitalization (Aslan & Erci, 2022) . Effective communication and medical play in children are important elements in atraumatic care (Reid-Searl, Crowley, Anderson, Blunt, Cole, & Suraweera, 2021) . The length of time used in carrying out this medical play varies. For example, according to Moore, Bennett, Dietrich and Wells, (2015) medical play is carried out for 5-14 minutes from the start of play until the action of changing the dressing on the burn is carried out. Froehlich (1984) says medical play is carried out for 30 minutes

as a common duration. Another study conducted by Galyer and Evans (2001) medical play is carried out for 20 minutes to train children's emotions, Davis and Nader (2017) medical play is carried out for 10 minutes alternating between medical games and medical pretend games, and according to Aslan and Erci (2022) making toys is carried out for 10 minutes using medical equipment and then continuing with playing for 30-45 minutes.

CONCLUSION

Children who undergo the process of hospitalization will experience trauma. If this trauma is not treated, it can interfere with the child's development. Most of the children who undergo hospitalization will have peripheral intravenous access installed which results in anxiety , fear and pain in children. To reduce anxiety and pain in children, playing medical play can be done which functions as a distraction activity so that children do not feel pain. The world of play is the world of children, therefore let's do play activities for children according to their age so that fear and pain do not traumatize children due to hospitalization. Based on the review of several articles above, it can be seen that medical play is recommended to reduce anxiety and pain in children. Medical play is not only done by children but even adults can do it. Nursing students play medical play before doing field practice directly to the hospital. Practical activities carried out before students practice at the hospital bring many benefits that make





them better prepared to provide direct nursing care to children. When the child is hospitalized, the family will accompany him because the family is an integral part of child care. The family plays a role in providing support during the process of care, recovery and healing of children. Collaboration between families, children and health workers will speed up the healing process in children (Seniwati, Rustina, Nurhaeni, & Wanda, 2023) .

1. Limitations

The limitation of the writer in conducting a review of this journal is because there are still few recent articles on medical play , so the writer does not limit the year of his search. It is hoped that in the future there will be more research related to medical play .

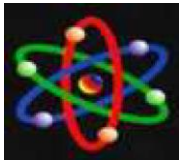
2. Conflict of interest

The author declares no conflict of interest.

REFERENCE

- Aslan, H., & Erci, B. (2022). The effect of playing games with toys made with medical materials in children with cancer on pain during intravenous treatment. *Palliative and Supportive Care* , 20 (1), 84–93. <https://doi.org/10.1017/S1478951521000390>
- Casman, Allenidekania, & Hayati, H. (2021). Distraction Based on Roy's Adaptation Model: Intervention to Reduce Anxiety and Infusion Pain in Children with Cancer. *Quality : Journal of Health* , 15 (47), 131–141. <https://doi.org/10.36082/qjk.v15i2.307>
- Davis, F., & Burns-Nader, S. (2017). Examining Differences in affect displayed during preschoolers' non-medical pretend play and medical pretend play. *Early Child Development and Care* , 189 (10), 1657–1665. <https://doi.org/10.1080/03004430.2017.1403913>
- Delvecchio, E., Salcuni, S., Lis, A., Germani, A., & Di Riso, D. (2019). Hospitalized Children: Anxiety, Coping Strategies, and Pretend Play. *Frontiers in Public Health* , 7 (Sep.), 1–8. <https://doi.org/10.3389/fpubh.2019.00250>
- Dijk, L. Van. (2017). Interventions Reducing Anxiety in Hospitalized Children: A Systematic Literature Review From 2010 to 2017 . 31. <http://www.diva-portal.org/smash/get/diva2:1105565/FULLTEXT01.pdf>
- Fitriyani, NI (2021). PRISMA method for predicting breast cancer. *JII : Journal of Informatics Innovation, Pradita University* , 6 (September 2021), 13–18.
- Froehlich, MAR (1984). A comparison of the effect of music therapy and medical play therapy on the verbalization behavior of pediatric patients. *Journal of Music Therapy* , 21 (1), 2–15. <https://doi.org/10.1093/jmt/21.1.2>
- Galyer, KT, & Evans, IM (2001). Pretend play and the development of emotion regulation in preschool children. *Early Child Development and Care* , 166 (1), 93–108. <https://doi.org/10.1080/0300443011660>





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- Hockenberry, MJ, & David, W. (2019). Wong's Nursing Care of Infants and Children (11th ed.). In American Speech (Vol. 15, Issue 3). <https://doi.org/10.2307/486972>
- Jones, MT, Kirkendall, M., Grissim, L., Daniels, S., & Boles, JC (2021). Exploration of the Relationship Between a Group Medical Play Intervention and Children's Preoperative Fear and Anxiety. *Journal of Pediatric Health Care* , 35 (1), 74–83. <https://doi.org/10.1016/j.pedhc.2020.08.001>
- Moher, D., Liberati, A., Tetzlaff, J., & Altman, DG (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *BMJ (Online)* , 339 (7716), 332–336. <https://doi.org/10.1136/bmj.b2535>
- Moore, ER, Bennett, KL, Dietrich, MS, & Wells, N. (2015). The effect of directed medical play on young children's pain and distress during burn wound care. *Journal of Pediatric Health Care* , 29 (3), 265–273. <https://doi.org/10.1016/j.pedhc.2014.12.006>
- Nuliana, W. (2022). *Jurnal Keperawatan Indonesia Timur (East Indonesian Nursing Journal)* THE EFFECT OF PLAY THERAPY ON REDUCING ANXIETY IN PRESCHOOL-AGE CHILDREN DURING HOSPITALIZATION: LITERATURE REVIEW . 28–36.
- Reid-Searl, K., Crowley, K., Anderson, C., Blunt, N., Cole, R., & Suraweera, D. (2021). A medical play experience: Preparing undergraduate nursing students for clinical practice. *Nurse Education Today* , 100 (January), 104821. <https://doi.org/10.1016/j.nedt.2021.104821>
- Saputro, H., & Fazrin, I. (2017). Sick Children Must Play in the Hospital. In *Sukarejo FORIKES*.
- Seniwati, T., Rustina, Y., Nurhaeni, N., & Wanda, D. (2023). Patient and family-centered care for children: A concept analysis . 9 (1), 17–24. <https://doi.org/10.33546/bnj.2350>
- Witt, S., Escherich, G., Rutkowski, S., Kappelhoff, G., Frygner-Holm, S., Russ, S., Bullinger, M., & Quitmann, J. (2019). Exploring the Potential of a Pretend Play Intervention in Young Patients With Leukemia. *C* , 44 , e98–e106. <https://doi.org/10.1016/j.pedn.2018.11.010>

