



THE EFFECT OF HEALTH EDUCATION ON ATYPICAL PROGRESSIVE ACUTE KIDNEY DISORDER (GGAPA) ON PARENTS' ANXIETY LEVELS

Ramaita^{1*}, Anggra Trisna Ajani¹, Vivi Yuderna¹, Aulia Asman¹, Triyana Harlia Putri², Reska Handayani¹

¹Nursing Department, Faculty of Psychology and Health, Universitas Negeri Padang, Jl. Prof. Dr. Hamka, Air Tawar Padang, Sumatra Barat, Indonesia.

²Faculty of Medicine, Universitas Tanjungpura, Jl. Prof. Dr. H. JI. Profesor Dokter H. Hadari Nawawi, Bansir Laut, Kec. Pontianak Tenggara, Kota Pontianak, Kalimantan Barat 78124, Indonesia.

*ramaita@fpk.unp.ac.id

ABSTRACT

Cases of atypical acute kidney disorder have afflicted 269 children with a high percentage of death or fatality rate reaching 58 percent or as many as 157 children from August to October 2022. A total of 189 cases have been reported, most of which are dominated by children aged 1–5 years. This incident causes serious anxiety in the community, especially parents who have children under five. One technique to reduce anxiety is to provide health education. This study aims to better understand the effect of Health Education on the typical symptoms of atypical progressive acute kidney disorder (GGAPA) in children and its anticipation of the anxiety level of parents who have toddlers in the Sungai sariak health center work area in 2023. This type of research is quasi-experimental, using one group pretest-posttest design. The research sample is parents who have toddlers totaling 35 people taken through Purposive sampling techniques. The study was conducted from July 14 to August 31, 2023. Information was collected using the Hamilton Anxiety Rating Scale (HARS) and analyzed using a paired sample t-test. The results of the analysis showed that the average level of anxiety in the first measurement (before Health Education was given) was 3.03 with a standard deviation of 0.985. In the second measurement, the average anxiety level of parents who have toddlers was 1.23 with a standard deviation of 1.239. The results of the statistical test obtained a value of 0.000, it can be concluded that there is a significant difference between the level of anxiety of the first measurement, namely before Health Education about the typical symptoms of Atypical Progressive Acute Kidney Disorder (GGAPA) and the second, namely after being given Health Education.

Keywords: GGAPA; health education; toddlers

First Received 14 March 2024	Revised 22 April 2024	Accepted 24 April 2024
Final Proof Received 03 May 2024	Published 01 August 2024	

How to cite (in APA style)

Ramaita, R., Ajani, A. T., Yuderna, V., Asman, A., Putri, T. H., & Handayani, R. (2024). The Effect of Health Education on Atypical Progressive Acute Kidney Disorder (GGAPA) on Parents' Anxiety Levels. *Indonesian Journal of Global Health Research*, 6(4), 2281-2290. <https://doi.org/10.37287/ijghr.v6i4.3013>.

INTRODUCTION

Kidneys are organs that function to get rid of toxins in the body. Blood in the kidneys containing metabolic products is filtered and then excreted through urine (excretion). Atypical Progressive Acute Renal Disorder (GGAPA) refers to the condition of sudden anatomical or functional abnormalities of the kidneys, which cause impaired excretory function. Substances that should be discarded will accumulate in the body, causing damage to organs to threaten life (Kementerian Kesehatan Republik Indonesia, 2022).

On October 20, 2022, the Indonesian Pediatrician Association (IDAI) reported 206 children suffering from GGAPA with no apparent cause (Kurnia, 2022). Data from the Indonesian Minister of Health revealed that from August to October 26, 2022, GGAPA cases had

afflicted 269 children with a fairly high percentage of deaths or fatality rates, reaching 58 percent or as many as 157 children. These cases have occurred since January 2022 and peaked in September 2022 spread across 20 provinces (Kurnia, 2022). GGAPA cases in children in Indonesia throughout 2022 until February 5, 2023, there were 326 cases spread across 27 provinces in Indonesia (Pemantauan & Penyelidikan, 2023). Cases of acute kidney failure mostly affect children aged 6 months to 18 years. A total of 189 cases have been reported and most are dominated by children aged 1-5 years (Rokom, 2022). On February 1, 2023, the Ministry of Health (Kemenkes) again found cases of acute kidney failure in children where the DKI Jakarta Health Office confirmed the findings of 2 new cases of GGAPA. One 1-year-old child was declared dead due to GGAPA and another 7-year-old child was declared suspect (Rokom, 2023).

The incidence of Atypical Progressive Acute Renal Disorder (GGAPA) also occurred in Panama in 2006, where the main cause of this occurrence is the use of diethylene glycol as a solvent in cough syrup (Maghfiroh et al., 2023). According to the FKM UI professor Ethylene Glycol and Diethylene Glycol, two compounds are thought to be the cause of GGAPA (FKM, 2022). This substance can be used as a solvent in syrup drugs but can cause poisoning if consumed beyond safe limits (Rakhmatullah et al., 2022). There are several risk factors for the incidence of GGA in children, namely diethylene glycol poisoning, kidney transplant history, sociodemographics, prerenal conditions, comorbid history, systemic diseases, congenital heart disease, duration of use of mechanical ventilation devices and renal replacement therapy, and pediatric factors (Maghfiroh et al., 2023).

The initial symptoms of GGAPA are fever for 3-5 days, nausea, vomiting, cough, runny nose, and diarrhea followed by a reduced amount of urine. In the late stages, GGAPA patients may swell, and have difficulty breathing until they having seizures (Kementerian Kesehatan Republik Indonesia, 2022). All of these symptoms can occur very quickly (Maghfiroh et al., 2023). This incident certainly caused serious anxiety in the community, especially parents who have children under five. According to Stuart (2014), anxiety is triggered by the unknown. According to Bedaso et al (2019), anxiety is an unpleasant feeling described by anxiety or tension, nervousness, fear, and high autonomic activity with varying levels of intensity (Bedaso & Ayalew, 2019). Anxiety has standard symptoms that include mild, moderate, severe, and panic. With symptoms of anorexia, gemearia, continuous low-level breathing, lack of relaxation, increased blood pressure, and shortness of breath (Morrison & Heimberg, 2013) Parents need to get health education about GGAPA so that the information obtained is balanced.

Health Education is sought to be able to reduce the anxiety level of parents who have toddlers. Health Education is an activity or effort to convey health messages to the community, group, or individual in the hope of gaining knowledge about better health so that it can change the behavior of the community, group, or individual (Ain, 2021). The provision of health education will make people know and understand more about GGAPA. According to Ain (2021), there is a decrease in anxiety levels after being given health education due to the provision of information and orientation readiness, thereby reducing the causes of anxiety (Ain, 2021). Health education is a process of conveying information that aims to increase knowledge, so that people will feel calmer so that anxiety levels will decrease (Suliha, 2019). Health education is carried out using an individual approach method and is assisted by the media. It is hoped that this research can become evidence-based for mental health nurses in West Sumatra, especially in providing alternative therapy to reduce the anxiety experienced by the community.

Based on data from visits to the Sungai sariak health center, toddlers who came for treatment from January to December 2022 amounted to 720 people. The most visits by toddlers were seen in December with 115 visits. The results of an interview with one of the nurses said that she had never provided health education about the typical symptoms of GGAPA in children and their anticipation. This study aims to better understand the effect of Health Education on the typical symptoms of atypical progressive acute kidney disorder (GGAPA) in children and its anticipation of the anxiety level of parents who have toddlers in the Sungai sariak health center work area in 2023.

METHOD

The type of research used in this study is quasi-experimental and uses one group pretest-posttest design. The approach used in this study is a pre-post test in the intervention group only to focus on changes in anxiety conditions before and after health education. The subjects of this study were parents who had toddlers. The inclusion criteria for selecting research subjects include willing to be respondents, and respondents willingness to be given health education. The subjects of this study amounted to 35 people. The sampling technique used to obtain this research sample is purposive sampling.

The anxiety level of the study subjects was measured using HARS (Hamilton Anxiety Rating Scale), HARS assessment with a value of 0 – 4, with a breakdown value of 0 = No symptoms at all, value 1 = One symptom present, value 2 = Moderate / half of the existing symptoms, value 3 = Severe / more than half of the existing symptoms and value 4 = Very severe all symptoms exist. The level of anxiety measured using the HARS assessment is categorized into mild, moderate and severe anxiety levels and very severe and not anxious. This assessment is carried out pre-test and post-test Health Education. Health education is given to patients who meet the inclusion criteria and sign informed consent after filling out the anxiety questionnaire, namely HARS after the researcher provides Health Education.

The anxiety level assessment instrument is a standard instrument that has been used in hospitals, so it has been declared valid and reliable to measure patient anxiety. The anxiety assessment instrument in the form of the Hamilton Anxiety Rating Scale (HARS) questionnaire, has standard validity and reliability. The HARS scale has been shown to have validity and reliability high enough to measure anxiety in trial clinic studies of 0.93 and 0.97. Bivariate analysis was carried out to determine the effect of independent variables on the dependent studied using paired sample t-test. The paired sample t-test obtained results with a p-value ($p < 0.05$) stated that there was a difference before and after treatment (Health education).

This research has been reviewed and approved by the Research Ethics Committee of Padang State University. All research subjects participated in the study voluntarily. Researchers provide an explanation of the purpose of the study and interventions that will be carried out to parents who have toddlers. Parents of toddlers are given the freedom to contribute to being the subject of research. After the toddler's parents agreed to be the subject of the study, the patient signed an informed consent form. Researchers do not include the identity of patients in reports or publication manuscripts to maintain the confidentiality of patient data. Data collected solely for academic research purposes. This study aims to better understand the effect of Health Education on the typical symptoms of atypical progressive acute kidney disorder (GGAPA) in children and its anticipation of the anxiety level of parents who have toddlers in the Sungai sariak health center work area in 2023.

RESULTS

The study has been conducted on July 14 - August 31, 2023 regarding the Effect of Health Education on the Typical Symptoms of Atypical Progressive Acute Kidney Disorder (GGAPA) in Children and Anticipation of the Anxiety Level of Parents Who Have Toddlers in the Working Area of the Sungai Sariak Health Center in 2023 with the number of samples studied at 35 people. This type of quasi-experimental research uses a one group pretest-posttest design. The design of one group pretest-posttest research is a study in which there is no comparison group (control), but the first observation (pretest) has been carried out which allows the study to test changes that occur after the experiment. The anxiety level assessment instrument used is a standard instrument that has been used in hospitals, so it has been declared valid and reliable for measuring patient anxiety. The anxiety assessment instrument, in the form of the Hamilton Anxiety Rating Scale (HARS) questionnaire, has standard validity and reliability. The HARS scale has been proven to have high enough validity and reliability for measuring anxiety in clinical trial research, namely 0.93 and 0.97.

Table 1.

Frequency Distribution of Anxiety Level of parents who have toddlers before being given Health Education about the typical symptoms of Atypical Acute Kidney Disorder (GGAPA) (n = 35)

Category Anxiety before being given Health Education	f	%
No Anxiety	0	0
Mild Anxiety	3	8,60
Moderate Anxiety	7	20,0
Severe Anxiety	11	31,4
Very severe anxiety	14	40,0

The results showed the level of anxiety of parents who had toddlers before being given Health Education about the typical symptoms of Atypical Acute Kidney Disorder (GGAPA) in children and the anticipation showed that almost half of the respondents (40%) were at the level of anxiety with the very severe category. The results of this research are in line with research that has been carried out Chaizuran & Hijriana (2023) It was found that the majority of mothers had a high level of anxiety regarding the occurrence of cases of acute kidney failure in children (Chaizuran & Hijriana, 2023). Anxiety is excessive worry about an object that is not clear and can be associated with uncertain feelings about an object (Stuart, 2014). Anxiety will increase due to lack of knowledge about GGAPA. Anxiety causes cognitive, psychomotor and physiological responses characterized by difficulty thinking clearly and difficulty solving problems that are being experienced (Ajani et al., 2022). The anxiety level of parents who have toddlers before being given Health Education about GGAPA and its antispace Most of them are at a very severe anxiety level (40%), this happens because patients feel afraid of the high cases of GGAPA that occur and lack of knowledge about GGAPA disease which further increases the anxiety of parents of toddlers.

According to Ain (2021), most respondents experience anxiety before being given Health Education because anxiety is a surprising condition due to health threats. The Health Information provided is very important to provide a good orientation to the Community so that the Community is more cooperative and anxiety levels can be lowered (Ain, 2021). Most of the age of respondents from the results of the study were at the productive age of 20-40 years. According to Stuart (2014), gender and age affect anxiety levels. In women, emotions have not been well controlled so that the coping mechanisms that occur are not good, triggering increased anxiety levels.

Table 2.

Frequency distribution of anxiety levels of parents who have toddlers after being given health education about the typical symptoms of atypical acute kidney disorder (GGAPA) (n = 35)

Category Anxiety	f	%
No Anxiety	13	37,1
Mild Anxiety	9	25,8
Moderate Anxiety	7	20,0
Severe Anxiety	4	11,4
Very severe anxiety	2	5,7

The results showed that the anxiety level of parents who have toddlers after being given Health Education about the typical symptoms of Atypical Acute Kidney Disorder (GGAPA) in children and anticipation has decreased from before being given Health education with anxiety levels of almost half (40%) parents of toddlers are in the very severe category to A small percentage who experience very severe anxiety (5.7%) and most (37.1%) parents of toddlers experience mild anxiety.

Table 3.

Changes in the Anxiety Level of Parents Who Have Toddlers Before and After Being Given Health Education About the Typical Symptoms of Atypical Acute Kidney Disorder (GGAPA) (n = 35)

Category Anxiety	mean	Std. Dev	SE	p value	n
Pre-Test	3.03	0,985	0,166	0,000	35
Post-test	1,23	1,239	0,209		

The results of the analysis showed that the average level of anxiety in the first measurement (before Health Education was given) was 3.03 with a standard deviation of 0.985 In the second measurement, the average anxiety level of parents who have toddlers was 1.23 with a standard deviation of 1.239. The results of the statistical test obtained a value of 0.000, it can be concluded that there is a significant difference between the level of anxiety of the first measurement, namely before Health Education about the typical symptoms of Atypical Progressive Acute Kidney Disorder (GGAPA) and the second, namely after being given Health Education. The results of the analysis showed that the average level of anxiety at the first measurement (before Health Education was given) was 3.03 with a standard deviation of 0.985. In the second measurement, the average anxiety level of parents who have toddlers is 1.23 with a standard deviation of 1.239. The results of the statistical test obtained a value of 0.000, it can be concluded that there is a significant difference between the level of anxiety of the first measurement, namely before Health Education about the typical symptoms of Atypical Progressive Acute Kidney Disorder (GGAPA) and the second, namely after being given Health Education. This means that there is an influence of Health Education on the typical symptoms of Atypical Progressive Acute Kidney Disorder (GGAPA) in children and its anticipation of the anxiety level of parents who have toddlers in the Sungai sariak health center work area in 2023.

DISCUSSION

The results of this study are in line with research conducted by Ain (2021) that there is a decrease in anxiety levels after being given Health Education due to the provision of information and mental readiness so that it can reduce anxiety due to lack of knowledge. One of the actions to lower anxiety levels is to prepare ourselves mentally. One of the mental preparations can be done through Health Education (Ain, 2021). Health Education is information provided to the community so that the community has a good orientation, understanding and good psychosocial support, so that in the end it can reduce anxiety (Ain,

2021). According to Garcia (2014), from his research found nine studies showing health education is effective in reducing anxiety (Garcia, 2014).

The results of the study are in line with a study conducted by Jundiah (2024) that there is a decrease in the level of anxiety of mothers about the occurrence of acute kidney failure in children after given health education (Jundiah et al., 2024). Acute kidney failure is an increase in serum creatinine levels and decrease in urine production based on the severity level known as RIFLE (Risk Injury Failure Loss End Stage Renal Diseases). In the first stage of childhood, serum creatine levels increase > 0.3 mg/dl within 48 hours with urine generation 0.3 times the baseline level and urine output < 0.3 ml/kg/hour within > 24 hours or no urine for > 12 hours. In the third stage, patients should receive renal replacement therapy (Cho, 2020). It causes anxiety in the elderly. Not only are civilians suffering from anxiety, but pharmacists who have young children are also nervous about this acute kidney failure (VOI, 2022)

The study found that there are several risk factors for acute kidney failure in children, namely diethylene glycol poisoning, history of kidney transplantation, sociodemography, prerenal conditions, a history of comorbidities, systemic diseases, congenital heart disease, prolonged use of mechanical ventilation devices as well as renal replacement therapy, and pediatric factors. For that, health education related to risk factors associated with acute kidney failure can be done so that morbidity and mortality rates can be lower. Further research that also supports the results of this study is a study conducted by Rahmawati (2019) that there is a decrease in anxiety in patients with kidney failure with haemodialysis after being given Health Education (Rahmawati & KW, 2019). Rahmatika (2017) also conducted the same study of the results demonstrated Health Education is more effective in reducing the level of anxieties in chronic renal failure patients (Rahmatika et al., 2017).

Manalu (2021) in his research based on the calculation of statistical tests using wilcoxon test obtained the result that p value = $0,00 < \alpha = 0,05$ then it can be understood that the provision of health education affects the level of anxiety in patients with chronic kidney failure during haemodialysis (Manalu et al., 2021). According to Badria & Fatmawati (2023) knowledge obtained by a client from Health Education given by a health officer can lower the level of anxiety of a client who has a kidney failure. Knowledge will make a person better able to cope with changes in his health status (Badria & Fatmawati, 2023). The higher a person's knowledge, the faster he will react to the changes in his health condition, so he will adapt more quickly and will follow every change that happens in his surroundings like the GGAPA case that happened in Balita lately. It is important for parents who have children to have sufficient knowledge about GGAPA disease and its implementation to help reduce the level of anxiety, reduce the uncertainty and concerns of parents.

Many studies have shown that providing health education before surgery can significantly increase health knowledge and reduce anxiety in both patients and family members (Chang et al., 2017). Chang et al (2017) also conducted research on the Effectiveness of Health Education on Maternal Anxiety, Circumcision Knowledge, and Nursing Hours: A Quasi-Experimental Study the results of his research there is an influence of providing health education through printed materials and multimedia CDs in reducing anxiety levels. In addition, audio-visual Health Education facilities are recommended to be improved (Chang et al., 2017). The results of (Pradiana, 2021) were also obtained by Health Education to provide a correct understanding to the community related to the corona virus and how to prevent it so that it can reduce anxiety levels. In addition, Rizki et.al (2019) in his research entitled Health Education Using The Leaflet Media Reduce Anxiety Levels In Pre Operation Patients also

found that there was a significant influence, namely the influence of health education on anxiety levels with a value of $p = 0.001$ (Rizki et al., 2019). Thus Health Education can be applied as an alternative to conveying information to reduce anxiety. Hastutiningtyas, et.al (2022) also conducted research on The Influence Of Health Education On Strengthening And Understanding Covid-19 On Student Anxiety Level with the results of Asymp.sig ig scores. (2-tailed) = 0.000 where in the results of the study respondents who had knowledge and understanding of Covid-19 and anxiety experienced by students decreased after being given Health Education (Hastutiningtyas et al., 2022).

Health Education is important for maximizing information, and Health Education is effective when conducted in a quiet environment that supports learning (Garcia, 2014). This research was conducted in the working area of the Sungai Sariak health center with a quiet location so that the information submitted was clear and well received by respondents. This Health Education conveys the definition, etiology, clinical manifestation, impact of Atypical Progressive Acute Kidney Disorder (GGAPA) and its anticipation with a duration of information delivery time of 2 hours. According to Garcia (2014) that the information provided to the community must come from four concrete variables, namely a description of symptoms that may be experienced, a description of the influencing environment, a description of physical experiences during the event and the duration of Health Education delivered to respondents (Garcia, 2014).

This Health Education is delivered by a nurse lecturer who is interested in surgical medical nursing. All respondents were enthusiastic in receiving Health Education, they were very concerned about the time nurse lecturers provided Health Education, because so far they had never been given counseling directly by Health workers. According to Garcia (2014) nurses have the skills to provide health education effectively. Nurses are knowledgeable about GGAPA and play an integral role in helping patients cope with GGAPA events lest they happen to their children. Nurses are the Health professionals who interact most often with patients. therefore, nurses are in a prime position to provide Education. Holistic nursing care includes the provision of Health Education to reduce anxiety. Detailed health education can increase parents' knowledge so it is needed to reduce early follow-up so that no hospital visits are needed (Chang et al., 2017).

CONCLUSION

After conducting research from July 14 to August 31, 2023 with 35 respondents, the following conclusions can be drawn. Most parents who have toddlers experience very severe anxiety before being given Health Education about the typical symptoms of Atypical Acute Kidney Disorder (GGAPA) in children and their anticipation. Most parents who have toddlers experience mild anxiety after being given Health Education about the typical symptoms of Atypical Acute Kidney Disorder (GGAPA) in children and their anticipation. There is an Influence of Health Education on the Typical Symptoms of Atypical Progressive Acute Kidney Disorder (GGAPA) in Children and Anticipation of the Anxiety Level of Parents Who Have Toddlers in the Working Area of the Sungai Sariak Health Center in 2023 with a p value = 0.000 (<0.005)

REFERENCES

- Ain, I. (2021). Health Education On Anxiety Levels In Projective Surgery Patients In Mokoyurli Buol Hospital. *Journal of Applied Nursing and Health*, 3(1), 15–21. <https://doi.org/10.55018/janh.v3i1.20>
- Ajani, A. T., Movitaria, M. A., Saputra, N., & Komelasari, Y. (2022). COVID-19 Education

- and Vaccination in Reducing Students' Anxiety Levels at SMP 2 Silaut. *Proceedings of 1st International Conference on Health Sciences and Biotechnology (ICHB 2021)*, 47(Ichb 2021), 24–27. <https://doi.org/10.2991/ahsr.k.220303.005>
- Badria, L., & Fatmawati, F. (2023). Knowledge of the Anxiety Level of Clients with Chronic Kidney Failure. *Jurnal Ilmiah Kesehatan Sandi Husada*, 12(1), 288–293. <https://doi.org/10.35816/jiskh.v12i1.1143>
- Bedaso, A., & Ayalew, M. (2019). Preoperative anxiety among adult patients undergoing elective surgery: A prospective survey at a general hospital in Ethiopia. *Patient Safety in Surgery [revista en Internet] 2019 [acceso 29 de agosto de 2020]*; 13(1): 1-8. *Patient Safety in Surgery*, 13(18), 1–8. <https://pssjournal.biomedcentral.com/articles/10.1186/s13037-019-0198-0>
- Chaizuran, M., & Hijriana, I. (2023). Hubungan Kecemasan Dengan Perilaku Ibu Terhadap Pencegahan Kejadian Kasus Gagal Ginjal Akut Pada Anak. *Jurnal Keperawatan*, 15(4), 1479–1486. <http://journal.stikeskendal.ac.id/index.php/Keperawatan>
- Chang, S., Hung, C., Hsu, Y., & Liu, Y. (2017). Efektivitas Pendidikan Kesehatan Terhadap Kecemasan Ibu , Sunat Pengetahuan , dan Jam Keperawatan : A Studi Kuasi-Eksperimental. 25.
- Cho, M. H. (2020). Pediatric Acute Kidney Injury: Focusing on Diagnosis and Management. *Childhood Kidney Diseases*, 24(1), 19–26. <https://doi.org/10.3339/jkspn.2020.24.1.19>
- FKM, U. I. (2022). Kasus Gagal Ginjal Akut Pada Anak Dari Perspektif Kesehatan Masyarakat. *Fakultas Kesehatan Masyarakat UI*. <https://www.fkm.ui.ac.id/kasus-gagal-ginjal-akut-pada-anak-dari-perspektif-kesehatan-masyarakat/>
- Garcia, S. (2014). The effects of education on anxiety levels in patients receiving chemotherapy for the first time: An integrative review. *Clinical Journal of Oncology Nursing*, 18(5), 516–521. <https://doi.org/10.1188/14.CJON.18-05AP>
- Hastutiningtyas, W. R., Rosdiana, Y., & Srijatun, S. (2022). the Influence of Health Education on Strengthening and Understanding Covid-19 on Student Anxiety Level. *Nurse and Health: Jurnal Keperawatan*, 11(2), 218–225. <https://doi.org/10.36720/nhjk.v11i2.313>
- Jundiah, R. S., Zein, F., Suryanah, A., & Ainurrahmah, Y. (2024). Pendidikan Kesehatan Dalam Upaya Untuk Meningkatkan Pengetahuan dan Mengurangi Kecemasan Ibu Terhadap Kejadian Gagal Ginjal Akut Pada Anak. *Jurnal Peduli Masyarakat*, 6(1), 145–152.
- Kementerian Kesehatan Republik Indonesia. (2022). Tatalaksana dan Manajemen Klinis Gangguan Ginjal Akut Progresif Atipikal pada Anak di Fasilitas Pelayanan Kesehatan. *Keputusan Direktur Jenderal Pelayanan Kesehatan, HK.02.02/I/3305/2022*.
- Kurnia, A. K. (2022). Gangguan Ginjal Akut Progresif Atipikal Pada Anak. *RS Universitas Indonesia*. <https://rs.ui.ac.id/umum/berita-artikel/artikel-populer/gangguan-ginjal-akut-progresif-atipikal-pada-anak>
- Maghfiroh, A. A., Simanjorang, C., Simawang, A. P., Pramesti, L. T., & Wasir, R. (2023). Faktor-Faktor Yang Berhubungan Dengan Kejadian Gagal Ginjal Akut Pada Anak: a Literature Review. *Prepotif Jurnal Kesehatan Masyarakat*, 7(1), 41–51.

- Manalu, L. O., Latifah, N. N., & Arifin, A. (2021). Efektivitas Pemberian Edukasi Kesehatan Terhadap Tingkat Kecemasan Pasien Gagal Ginjal Kronis yang dihemodialisa di RSKG Ny. Ra Habibie Bandung. *Risenologi*, 6(1a), 70–75. <https://doi.org/10.47028/j.risenologi.2021.61a.215>
- Morrison, A. S., & Heimberg, R. G. (2013). Social anxiety and social anxiety disorder. *Annual Review of Clinical Psychology*, 9, 249–274.
- Pemantauan, I. P., & Penyelidikan, D. A. N. (2023). Laporan pemantauan dan penyelidikan pelanggaran ham dalam kasus gangguan ginjal akut, progresif, atipikal pada anak di indonesia. 4, 1–4.
- Pradiana, Y. (2021). Pengaruh Pendidikan Kesehatan Terhadap Tingkat Kecemasan Masyarakat Usia Produktif Tentang Pandemi Covid-19. <https://repositori.stikes-ppni.ac.id/handle/123456789/327>
- Rahmatika, I. V., Ismonah, & Supriyadi. (2017). Efektivitas Pendidikan Kesehatan Dan Booklet Terhadap Kecemasan Pasien Gagal Ginjal Kronik Yang Menjalani Hemodialisa Di RSUD Dr. H. Soewondo Kendal. *Jurnal Ilmu Keperawatan Dan Kebidanan (JIKK)I*, III(2), 56–116.
- Rahmawati, D., & KW, M. (2019). Pendidikan Kesehatan Untuk Menurunkan Kecemasan Pada Pasien Gagal Ginjal Dengan Hemodialisa. *Jurnal Manajemen Asuhan Keperawatan*, 3(1), 16–21.
- Rakhmatullah, A. N., Andina, L., Syahfari, I., & Rio Pambudi, D. (2022). Analisis Kandungan Alkohol pada Parfum yang Dibuat dari Bahan Sintetik dan Bahan Alam Menggunakan Metode Kromatografi Gas. *Jurnal Surya Medika*, 7, 185–189. <http://journal.umpalangkaraya.ac.id/index.php/jsm>
- Rizki, F. A., Hartoyo, M., & Sudiarto, S. (2019). Health Education Using the Leaflet Media Reduce Anxiety Levels in Pre Operation Patients. *Jendela Nursing Journal*, 3(1), 49. <https://doi.org/10.31983/jnj.v3i1.4536>
- Rokom. (2022). Kasus Gagal Ginjal Akut Pada Anak Meningkat, Orang Tua Diminta Waspada. Kementerian Kesehatan RI. <https://sehatnegeriku.kemkes.go.id/baca/rilis-media/20221017/3141288/kasus-gagal-ginjal-akut-pada-anak-meningkat-orang-tua-diminta-waspada/>
- Rokom. (2023). Kasus Baru Gangguan Ginjal Akut Pada Anak, Pemerintah Siapkan Langkah Antisipatif. Kementerian Kesehatan RI. <https://sehatnegeriku.kemkes.go.id/baca/umum/20230206/5642343/kasus-baru-gangguan-ginjal-akut-pada-anak-pemerintah-siapkan-langkah-antisipatif/>
- Stuart, G. W. (2014). Principles and practice of psychiatric nursing-e-book. Elsevier Health Sciences.
- Suliha, U. (2019). Pendidikan Kesehatan Dalam Keperawatan. EGC.
- VOI. (2022). Eksklusif, Ketum IAI Noffendri Roestam Soal Kandungan EG Dan DEG Di Atas Ambang Batas, Kalau Ada Yang Lalai Harus Bertanggungjawab. <https://voi.id/interviu/223113/eksklusif-ketum-iai-noffendri-roestam-soal-kandungan-eg-dan-deg-di-atas-ambang-batas-kalau-ada-yang-lalai-harus-bertanggungjawab.>

