NCIJ 4 (2) (2026)
Nursing Case Insight Journal
Journal of Case Study Nursing
https://nci.journalhealth.org/index.php/nci

The Effectiveness of Tepid Water Sponge in Reducing Body Temperature in Typhoid Fever Patients with Hyperthermia

Azwaldi[1*], Muliyadi[1], Ismar Agustin[1], Luluk Maghfiroh[1]
[1]Nursing Diploma III Palembang, Health Polytechnic of the Ministry of Health Palembang, South Sumatra, Indonesia.

Abstract: Typhoid fever, a persistent public health issue in Indonesia, is characterized by hyperthermia, which poses severe risks if untreated. Tepid water sponge therapy serves as an effective non-pharmacological intervention. This study evaluates the effectiveness of this intervention in lowering body temperature in typhoid fever patients with hyperthermia. This study aims to determine the implementation and effectiveness of hyperthermia management nursing actions using tepid water sponge in reducing body temperature in typhoid fever patients with hyperthermia problems. This descriptive case study involved two pediatric typhoid fever patients with hyperthermia at Muhammadiyah Hospital, Palembang. Tepid water sponge therapy was administered over three consecutive days. Data collection included temperature measurements before and after intervention, interviews, and documentation. After the water tepid sponge intervention, both study subjects showed a significant decrease in body temperature. Subject I experienced a decrease in temperature from 39.5°C to 36.8°C, while Subject II experienced a decrease from 39.0°C to 36.6°C. Patients also showed improvements in other clinical conditions, such as increased appetite and activity. Implementation of tepid water sponge nursing is effective in reducing body temperature in typhoid fever patients with hyperthermia. This intervention can be considered a non-pharmacological nursing intervention in hyperthermia management.

Keywords: Typhoid Fever, Hyperthermia, Water Tepid Sponge
Received: June 23, 2026
Revised: July 6, 2026
Accepted: July 6, 2026
Published: August 31, 2026

Corresponding Author: Azwaldi
Author Name*: Azwaldi
Email*: azwaldi@poltekkespalembang.ac.i

DOI: https://doi.org/10.63166/jj19m923

Phone*: +6281373100075

Introduction

Disease is an abnormal condition of the body or mind that causes discomfort, dysfunction, or distress to those affected. There are several types of disease, namely infectious diseases, non-infectious diseases, and chronic diseases (Natalia, 2020). Infectious diseases are diseases caused by pathogenic microorganisms, such as viruses, bacteria, fungi, or parasites. One example of an infectious disease is typhoid. Typhoid is one of the diseases that causes death in Indonesia. Typhoid fever is caused by the bacterium Salmonella enterica subspecies. enterica serovar Typhi (Salmonella Typhi) (Wahyuningsih, 2023).

The World Health Organization (WHO) reported that typhoid fever caused 25 million deaths worldwide in 2019, the majority of which were caused by infectious diseases. The WHO estimates that typhoid fever causes 6.9 million to 48.4 million cases annually, with the majority occurring in Asia (WHO, 2021).

Typhoid fever is endemic in Indonesia, often found in large cities. The incidence of typhoid fever in Indonesia is approximately 350-810 per 100,000 population, meaning 4,444 people are affected by typhoid fever each year. Typhoid fever is the fifth most common infectious disease in Indonesia, affecting all age

How to Cite: Azwaldi, Muliyadi, Ismar Agustin, & Luluk Magfiroh. (2026). The Effectiveness of Tepid Water Sponge in Reducing Body Temperature in Typhoid Fever Patients with Hyperthermia. *Nursing Case Insight Journal*, 4(2), 27-33. https://doi.org/10.63166/jj19m923

groups, and the 15th leading cause of death across all ages (Khairunnisa et al., 2020).

The South Sumatra Provincial Health Office (2021) stated that typhoid fever cases have increased over the past three years, with 12,354 cases in 2019, 18,431 in 2020, and 18,694 in 2021. According to the 2021 Palembang City Health Office report, there were 219 typhoid fever cases, 78 of which were children aged 5-14 years (South Sumatra Provincial Health Office, 2021).

Based on data from the Muhammadiyah Hospital in Palembang, the number of typhoid fever cases in 2019 was 159, in 2020 it was 196, and in 2021 it was 183. The causes of typhoid fever in these cases were a lack of knowledge, poor personal hygiene, and poor environmental sanitation (Medical Record, Muhammadiyah Hospital in Palembang, 2021).

According to Nani (2020), the main problem that occurs in typhoid fever sufferers is hyperthermia/fever. This fever usually lasts for more than a week, accompanied by nausea, vomiting, abdominal tenderness, a hard and flat stomach, and diarrhea. Hyperthermia is a condition where there is an increase in body temperature related to the body's inability to dissipate heat or reduce heat production (Saputra & Nasution, 2021). If left untreated, hyperthermia can cause dehydration, which will disrupt electrolyte balance and can lead to seizures. Severe dehydration can cause shock and be fatal, even leading to death. Therefore, an increase in body temperature, or hyperthermia, is a human response when body temperature balance is not achieved and causes discomfort, so health efforts are needed to manage this problem (Irwanto, 2021).

Hyperthermia can be managed pharmacologically by administering antipyretic drugs, as well as through non-pharmacological measures. Nursing interventions for hyperthermia include hyperthermia management as the primary intervention, with external cooling measures, one of which can be performed with a tepid water sponge (Dani et al., 2020). Water tepid sponges are a non-pharmacological therapy that can be used to reduce fever using warm water. The tepid sponge is applied to the forehead, axillary folds, and groin folds for 15-20 minutes (Wahyuningsih, 2023).

This is evidenced by research conducted by Fauziyyah et al. (2024), who conducted a study on administering tepid sponges to patients with typhoid fever. The results of the study showed a decrease in body temperature, namely the temperature before the water tepid sponge was at 38.4°C, and the body temperature after the water tepid sponge for three days was 36.8°C, which indicates a decrease in temperature of 1.16°C. (Fauziyyah, 2024)

The provision of water tepid sponge compresses was also studied by Handayani et al (2023), who compared the effectiveness of water tepid sponges with fever plasters. The results of the study showed that there was a decrease in fever in children using a water tepid sponge intervention, namely 37.37°C, while the fever plaster showed a decrease in fever of 37.66°C. It can be concluded that the provision of tepid sponge compresses is more effective than fever plasters (Handayani, 2024)

Based on the description above, the most common impact in typhoid fever patients is an increase in body temperature, which is very dangerous because it can cause death. Therefore, it is necessary to implement nursing interventions to quickly lower body temperature, namely with tepid water sponges. This prompted the researcher to explore the problem of this case study, entitled "Implementation of Water Tepid Sponge Nursing in Typhoid Fever Patients with Hyperthermia Problems at Muhammadiyah Hospital, Palembang in 2025."

This case study research aims to determine changes in body temperature in patients with typhoid fever after hyperthermia management using warm water tepid sponge compresses.

Method

The type of research used in this study is a descriptive research method in the form of a case study. The subjects in this study were two patients with typhoid fever at Muhammadiyah Hospital, Palembang, with hyperthermia problems. The inclusion criteria in this study are patients and families who are willing to be research subjects and fill out informed consent, patients who are treated in the pediatric ward with a diagnosis of typhoid fever at Muhammadiyah Hospital, Palembang, in 2025, with awareness of compos mentis, and patients with a temperature of 37 °C - 40 °C. The exclusion criteria were patients with complications of typhoid fever, patients and families who did not want to be the subjects of the study. Data collection was carried out through observation of body temperature before and after the intervention, family interviews, and nursing documentation. The intervention of a water warm sponge is carried out for three consecutive days, at least once a day, by compressing the forehead, armpits and groin with warm water at 32 °C for 10-15 minutes. The data were analyzed descriptively by comparing changes in body temperature for each patient.

Result and Discussion

This case study was conducted on two typhoid fever patients with hyperthermia problems at Muhammadiyah Hospital, Palembang, in 2025. This

study was conducted in the Rasyid Thalib (Children) ward.

Respondent Characteristics:

1. Patient 1

Subject I with the initials An. M was brought to the Emergency Room of Muhammadiyah Hospital, Palembang, by her parents on May 7, 2025, at 23.50 WIB. The patient is 4 years old and female. She came with complaints of fever that fluctuated for 5 days, nausea and vomiting, and no appetite. During the assessment, her body temperature was 39.5 °C, her extremities felt warm, her lip mucosa was dry, and her skin looked red. Based on the medical diagnosis, the patient had Typhoid Fever.

2. Patient 2

Subject II with the initials An. A was brought to the Emergency Room of Muhammadiyah Hospital Palembang by her parents on May 10, 2025, at 20.00 WIB. The 9-month-old female patient came with complaints of fever with fluctuating fever, vomiting, and loss of appetite. During the assessment, the patient's body temperature was 39.0 °C, the face looked pale, the mucous membranes of the lips were dry, the acral areas felt warm, and the skin looked red. Based on the medical diagnosis, the patient had Typhoid Fever.

Table 1. Patient Anamnesis Results

Anamnesis	Patient 1	Patient 2
Main Complaint for Admission to Hospital	The patient's mother said that her child had had a fever for the past 5 days, especially in the afternoon and evening, with the fever going up and down.	The patient's mother said The child has had a fever for the past 5 days, the fever goes up and down.
Chief Complaint during Assessment	The patient's mother said that her child had a fever, the temperature went up and down and he had no appetite.	The patient's mother said that her child had a fever, the temperature went up and down and the child seemed restless.
Current Health History	The patient's mother stated that her child had had a fever for the past five days, particularly in the afternoon and evening, with the fever fluctuating. She also reported that her child had a cough with phlegm and a runny nose, nausea, and vomiting, along with loose stools. On examination, An. A's temperature was 39.5°C. The patient appeared weak and pale, with dry mucous membranes and a warm palate.	The patient's mother said that her child had had a fever for the past 5 days, the fever went up and down, the body was weak, vomiting >4x. After an assessment, An. A's temperature was 39.0°C, the patient looked weak and pale, the mucous membranes of the lips were dry, and the skin felt warm.
General Condition	Consciousness: Composmentis General Condition: moderate TD: - Temperature: 39.5°C Pulse: 110x/minute RR: 22x/minute Weight: 15 kg Height: 80 cm	Consciousness: Composmentis General Condition: moderate TD: - Temperature: 39.0°C Pulse: 110x/minute RR: 22x/minute Weight: 8 kg Height: 56 cm

In Table 1, the results of the Anamnesis of Patients 1 and 2 can be seen. They came with the same complaint, namely fever for 5 days with fever that fluctuated. Blood pressure was not checked in both patients. In An. M, the results of vital signs were: Respiration 22 x/minute, pulse 110 x/minute, and the patient's body temperature was high, namely 39.5°C. Meanwhile, in An. A, the results of vital signs were: Respiration 22 x/minute, pulse 110 x/minute, and the patient's body temperature was 39.0°C.

From the data obtained, the author concludes that the nursing diagnosis that appeared in patient 1 and patient 2 was Hyperthermia related to the Disease Process as evidenced by Body Temperature Above Normal Values. The nursing intervention planned for both patients was pain management using the water tepid sponge technique.

Table 2. Comparison of body temperature when water tepid sponge is used

Day No.	Patient 1 (An.A)		Patient 2 (An. F)	
	Before	After	Before	After
1	39.5°C	38.9°C	39.0°C	38.5°C
2	38.8°C	38.0°C	38.4°C	37.8°C
3	38.0°C	37.2°C	37.8°C	37.3°C

After implementation for 3 days in both patients, there was a decrease in body temperature in patient 1, before the implementation of the water tepid sponge, namely 39.5°C after the action was carried out 37.2°C. In patient 2, the body temperature before the

implementation of the water tepid sponge was 39.0°Cafter three days of implementation, it became 37.3°C.

From the assessment conducted on May 8, 2025, on patient 1 and May 11, 2025, on patient 2, data were obtained from the results of interviews with the assistance of the client's parents. In patient 1 (An. M), it was known from the patient's mother that An. M had a fever for the past 5 days, the fever occurred in the afternoon and evening, the fever fluctuated, accompanied by nausea and vomiting, decreased appetite, and 3 times a day of liquid bowel movements. Objective data showed the patient's body temperature was 39.5°C, the acral area felt warm, the mucosa of the lips was dry, and the skin looked red. In patient 2 (An. A), during the assessment, the complaints felt were the same as patient 1. Objective data showed the patient's body temperature was 39°C, the face looked pale, the acral area felt warm, the mucosa of the lips was dry, and the skin looked red.

This is consistent with the research findings of Andra and Yessi (2020), who stated that typhoid fever studies revealed complaints of fever and compos mentis consciousness. These symptoms are sometimes accompanied by complaints of difficulty swallowing, nausea, vomiting, anorexia, diarrhea or constipation, headache, and heartburn. This is in line with research by Handu (2020), who stated that fever occurring in the afternoon or evening is caused by the release of pyrogens during infection, which can stimulate an increase in body temperature. Meanwhile, nausea, vomiting, and diarrhea are caused by inflammation of the liver and spleen caused by Salmonella typhi.

The results of the laboratory examination on patient 1, conducted at Muhammadiyah Hospital Palembang, found that the TUBEX Typhoid Fever test result was positive: 4, which means weak positive. Meanwhile, in patient 2, the TUBEX Typhoid Fever test result was positive: 6, which indicates a strong indication of typhoid infection. The positive TUBEX Typhoid Fever test result is due to the presence of IgM antibodies in the patient's blood against the O9 antigen from Salmonella Typhi.

According to Sofia et al. (2023), the Tubex score ranges from 0 to 10. A score of 2 indicates a negative result, meaning it does not indicate an active typhoid infection, as in the negative control. A score of +4 is interpreted as a weak positive result, indicating an active typhoid infection, while a score of +6 to +10 indicates a strong indication of an active typhoid infection, and the score in the positive control is usually ≥+8. In this study, a Tubex score of ≥4 was considered positive.

Based on the data from the assessment and data analysis conducted by the researcher, the nursing diagnosis established in this case study is hyperthermia related to the disease process. This diagnosis was made based on the assessment and analysis of subjective and objective data experienced by both patients.

This is in accordance with the Indonesian Nursing Diagnosis Standards (SDKI) (2018), which states that the nursing diagnosis in cases of typhoid fever is hyperthermia related to the disease process, as evidenced by a body temperature above normal values. According to the SDKI (2018), hyperthermia is an increase in body temperature above the normal range. This problem is established in accordance with the Indonesian Nursing Diagnosis Standards, where major signs and symptoms appear, namely body temperature above normal values, while minor signs and symptoms include redness and warmth of the skin.

The results of Fauziyyah's research, et al. (2024), in the title "Administering Tepid Water Sponge Compresses to Reduce Temperature in An. R with Typhoid" stated that one of the diagnoses that arises in typhoid fever is hyperthermia related to the disease process.

In preparing a nursing action plan based on the SIKI book (2018). In the diagnosis of hyperthermia according to the SIKI book (2018), the intervention is hyperthermia management, namely identifying the cause of hyperthermia, monitoring body temperature to determine the increase or decrease in temperature, monitoring urine output to determine fluid balance, monitoring complications due to hyperthermia, providing a cool environment to provide comfort, loosening or removing clothing, wetting or fanning the body surface to help the process of reducing body temperature, providing oral fluids to meet fluid needs, providing water tepid sponge compresses to accelerate the decrease in body temperature, and collaboration in providing antipyretics. There are several interventions that are not given to patients, namely, monitoring urine output in the diagnosis of hyperthermia. The author only examines the frequency and amount of urine output. So the amount of urine output in both patients cannot be measured with certainty because the patients do not use urine bags.

One of the interventions the author implemented to address hyperthermia in both patients was external cooling using tepid sponge compresses. This technique involves applying compresses to five points (neck, two armpits, and two groins) for 15 minutes at a water temperature of 32°C. The water temperature of 32°C was chosen because it effectively reduces fever slowly without causing vasoconstriction or shivering.

This aligns with research by Wahyuningsih (2023), who stated that water tepid sponging is a non-pharmacological physical method for reducing fever.

This technique involves applying a warm compress to five points (neck, two armpits, and two groins) and wiping the stomach and chest or entire body with a cloth. Rewet the cloth when dry, and leave it on for 15-20 minutes. The water temperature for the compressor is between 30-35°C.

The procedure performed by the author on both patients was water tepid sponging, which aims to reduce hyperthermia. After performing the water tepid sponging procedure for 3 days, a periodic decrease in temperature was observed in both patients. The water tepid sponging compression technique more quickly provides stimulation or signals to the hypothalamus via the spinal cord. When heat-sensitive receptors in the hypothalamus are stimulated, the effector system sends signals through sweating and peripheral vasodilation. This vasodilation causes increased heat energy loss through the skin, which is indicated by the body producing sweat, and then the body temperature can decrease or return to normal.

This is in line with Kristiyaningsih's (2021) research entitled "Application of Water Tepid Sponge for Children with Fever at the Pringsurat Community Health Center, Temanggung Regency," which proves that by providing warm compresses with water tepid sponges, peripheral blood vessels widen and experience vasodilation so that the pores will open and facilitate heat release, thus lowering body temperature. This is also proven by research conducted by Fauziyyah et al. (2024), who conducted a study on administering tepid sponges to patients with Typhoid fever. The results of the study showed a decrease in body temperature, namely, the temperature before water tepid sponge administration was at 38.4°C, and the body temperature after water tepid sponge administration for three days was 36.8°C, which indicates a decrease in temperature of 1.16°C.

After three days of nursing care, the client received appropriate care. In the diagnosis of hyperthermia, the author applied tepid water sponges to reduce fever. The study found an average temperature decrease of 0.76°C in patient 1.°C. On the first day, the temperature dropped by 0.6°C, namely from 39.5°C to 38.9°C, on the second day, the temperature dropped by 0.8°C, namely from 38.8°C to 38.0°C, and on the third day, the temperature dropped by 0.8°C, namely from 38.0°C to 37.2°C. Meanwhile, the average temperature decrease in patient 2 was 0.53°C. On the first day, the temperature dropped by 0.5°C, namely from 39.0°C to 38.5°C, on the second day, the temperature dropped by 0.6°C, namely from 38.4°C to 37.8°C, and on the third day, the temperature dropped by 0.5°C, namely from 37.8°C to 37.3°C. The water tepid sponge works by sending stimuli or signals to the hypothalamus via the spinal cord and accelerating vasodilation of peripheral blood vessels throughout the body, thereby accelerating the evaporation of heat from the skin to the surrounding environment.

Evaluation data was obtained in patient 1, namely that the fever decreased with vital signs measuring a temperature of 37.2°C, Pulse rate 110 beats/minute, respiration rate 22 breaths/minute, the client appears relaxed, and skin warmth decreases. In patient 2, the fever decreased with vital signs measuring 37.3°C, Pulse 110 x/m, respiration 22x/minute. The client looked relaxed, and the warmth on the client's skin decreased. Based on the objectives and criteria of the results obtained, the evaluation results were that there was no shivering, body temperature improved to 37.2°C in patients 1 and 37.3°C. In patient 2, skin warmth decreased. This indicates that the goals and outcome criteria for diagnosing hyperthermia were achieved. Water tepid sponging was effective in lowering the body temperature of typhoid fever patients experiencing hyperthermia at Muhammadiyah Hospital, Palembang. One of the interventions that the author used to overcome the problem of acute pain is the provision of non-pharmacological techniques in the form of finger grip relaxation techniques. This technique is given by Suggesting to position the body as comfortable as possible (sitting/lying), Teach the patient to regulate breathing with a regular count, Inhale air through the nose for 5 seconds, hold for 3 seconds and exhale through the mouth with the snout for 6 seconds, while holding the thumb for about 3 minutes with regular breathing, and then continue one by one to the next finger with the same time span.

Conclusion

After implementing nursing care on two case study subjects, namely typhoid fever patients with hyperthermia at Muhammadiyah Hospital, Palembang, in 2025, the researcher concluded that the implementation of hyperthermia management nursing, including the use of tepid sponges, had been carried out in accordance with the intervention. After three consecutive days of intervention, both subjects showed a significant decrease in body temperature, with patient 1 experiencing a decrease from 39.50 °C to 37,20C and patient 2 experiencing a decrease from 39.0 °C to 37.30 °C. This indicates that hyperthermia management focused on non-pharmacological therapy, such as tepid water sponges, is effective in gradually lowering body temperature. Furthermore, clinical improvements were observed, including increased appetite, activity, and patient comfort.

Acknowledgments

The author expresses his appreciation and gratitude to all parties who have assisted in the implementation of this research, especially to Muhammadiyah Palembang Hospital as a research place, the D-III Nursing Study Program of the Palembang Ministry of Health for academic support, as well as patients and families who have participated in the research. The support and cooperation provided are very meaningful in the completion of this research.

Author Contributions

Conceptualization, A., M., I.A., and L.M.; methodology, A. and M.; formal analysis, A.; investigation, A.; data curation, A.; writing—original draft preparation, A.; writing—review and editing, M., I.A., and L.M.; supervision, M., I.A., and L.M. All authors have read and approved the final manuscript.

Funding

This research received no external funding.

Conflicts of Interest

The author declares no conflict of interest.

References

Andra, SW, & Yessie, MP (2020). Medical-Surgical Nursing: Adult Nursing Theory and Nursing Care Examples. Yogyakarta: Nuha Medika

April, N. (2024). Comparison of the Effectiveness of Warm Water Tepid Sponge Compresses and Fever Plasters on Reducing Body Temperature in Pre-School Children with Febrile Disease at Tanah Abang Community Health Center, Jakarta, in 2023, Kofifah Sulistia Handayani, Hari Ghanesia, Istiani Yani Handayani, including fever. Fever will appear in various diseases, especially in infectious diseases. 3(1)

Ardiaria Martha, 2020. Epidemiology, Clinical Manifestations, and Management of Typhoid Fever, JNH (Journal of Nutrition and Health) Vol . 7 No.2 2020

Azwaldi, 2022. The Concept of Basic Human Needs, Oxygenation Needs, Elimination, and Safety and Comfort (Integrated SDKI, SLKI, SIKI, and PPNI SOP). Kediri: Cakra Brahmanda Lentera Institute

Desli Sumarni. (2021). The Relationship Between Mothers' Knowledge and Attitudes Towards Typhoid Fever Nursing in Children at Pariaman Regional Hospital. Initium Medica Journal, 1(1), 2.

Fauziyyah, DL, Murniati & Haniyah, S. (2024). Applying Tepid Water Sponge Compress to Reduce Temperature in. 2(3), 85–91.https://doi.org/10.59395/ahsana.v2i3.363

Handayani, KS, Istiani, HG, & Handayani, Y. (2024). Comparison of the Effectiveness of Warm Water Tepid Sponge Compresses and Fever Plasters on Reducing Body Temperature in Pre-School Children with Febris at Tanah Abang Community Health Center, Jakarta, 2023. 3(1).

Handu, K. (2020). Nursing Care for Pediatric Patients with Typhoid Fever at Samarinda Medika Citra Hospital.

Irwanto, Aji Tanda., Fiola Nurul Hafilda, F., Panji Kumara Jati, P., Ratih Marlina, R., Solikatul Kasanah, S., & Tivanny Natalia Putri, T. (2021). Differences between Conventional Warm Compresses and Warm Compresses Using the Tepid Sponge Technique for Reducing Body Temperature in Pediatric Patients with Typhoid Fever (Doctoral dissertation, Kusuma Husada University).

Khairunnisa, S., Hidayat, EM, & Herardi, R. (2020). The Relationship Between Leukocyte Count and Lymphocyte Percentage and Fever Level in Pediatric Patients with Typhoid Fever at Budhi Asih Regional Hospital, 2018 – October 2019. National Seminar on Medical Research (SENSORIK), 60–69

Kristiyaningsih, K., & Nurhidayati, T. (2021). Reducing Body Temperature in Feverish Children Using Water Tepid Sponge at Pringsurat Community Health Center, Temanggung Regency. Holistic Nursing Care Approach, 1(2), 60-66.

Lestari, ABD, Sarwono, B., & Isworo, A. (2020). Effectiveness of Water Tepid Sponge at 37°C and Warm Compress at 37°C in Reducing Temperature in Children with Hyperthermia. Mersi Nursing Journal, 8(2), 5055

Lestari, P. (2023). Compiled by: Puji Lestari, NIM P0 0320120058.

Levani, Y., & Prastya, A.D. (2020). Typhoid Fever: Clinical Manifestations, Therapeutic Options, and Islamic Perspectives. Al-Iqra Medical Journal: Periodical Journal*ScientificMedical*, 3(1),10–16.Https://Doi.Org/10.26618/Aimj.V3i1.4038

Manalu, TN, & Rantung, J. (2021). Factors Influencing the Incidence of Typhoid Fever. Journal of Professional Nursing Research, 3(November), 653–660.

Natalia, E. (2020). Application of Water Tepid Sponge to Reduce Body Temperature in Children with Typhoid Fever at Dr. Sobirin Regional Hospital, Musi Rawas Regency.

Ningsih, W (2024). Basic Nursing: Introduction and Basic Nursing Techniques for Nurses. Jambi: PT. Sonpedia Publishing Indonesia

Nurarif.AH and Kusuma.H. (2021). Nursing Care Application Based on Medical Diagnosis. Yogyakarta: MediActio

Padila. (2020). Internal Medicine Nursing Care. Yogyakarta: Nuha Medika.

Research, J., & Typhoid, AR (2024). Applying Tepid Water Sponge Compresses to Reduce Temperature in. 2(3), 85–91.https://doi.org/10.59395/ahsana.v2i3.363

PPNI. (2021). Nursing Standard Operating Procedure Guidelines. Jakarta: DPP PPNI.

PPNI. (2018). Indonesian Nursing Diagnosis Standards: Definitions and Diagnostic Indicators. Jakarta: DPP PPNI.

PPNI. (2018). Indonesian Nursing Outcome Standards: Definition and Criteria for Nursing Outcomes. Jakarta: DPP PPNI.

PPNI. (2018). Indonesian Nursing Intervention Standards: Definitions and Nursing Actions. Jakarta: DPP PPNI.

Rahmawati, I., & Purwanto, D. (2020). The Effectiveness of Warm and Cold Compresses on Changes in Body Temperature in Children at Dr. M. Yunus Regional Hospital, Bengkulu. Scientific Journal of Health Sciences, 8(2), 246–255.

Richard, D., & Putri, A. (2021). Effectiveness of Tepid Sponge in Reducing Body Temperature in Preschool Children with Typhoid Fever. Journal of Sumber Waras Nursing Academy, 3(1), 18-23.

Saputra, DA (2021). Therapy for Uncomplicated Typhoid Fever. 3, 213–222. https://Doi.Org/E-ISSN 2715-6885; P-ISSN 2714-9757

Sodikin, 2021. Nursing care for children: Gastrointestinal and hepatobiliary system disorders. Jakarta. Salemba Medika

Soedarmo, S, S., & Poorwo. (2020). Textbook of Tropical Infection and Pediatrics, (Second). IDAI Publishing Agency.

.