

Intervention of Red Onion Compress Therapy in Typhoid Fever Patients with Hyperthermic Problems

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Abstract: According to WHO, typhoid fever can cause death if not treated immediately, worldwide, typhoid fever reaches 11-20 million cases per year with an estimated death of around 128,000-161,000 annually. Typhoid fever is a bacterial infection with *Salmonella* paratyphi A, B, and C that attacks the small intestine where hyperthermia is one of the signs and symptoms of typhoid fever. One of the non-pharmacological interventions that can be done to reduce hyperthermia is red onion compresses. Method used is a case study with data collection techniques through the process of interviewing the patient's family, making observations, physical examinations, and documentation. Onion compresses are given once a day for 3 days of administration. based on the evaluation results obtained from the first day until the third day the patient's hyperthermia was resolved. After being given a red onion compress, the patient's body temperature decreased, on the first day: to 38.5° on C, on the second day: to 37.8°C, and on the third day: to 36.7°C. However, it is undeniable that a decrease in body temperature can occur due to proper care and routine administration of drugs to patients. Therefore, to be able to optimally apply the recommendations together with hospital standards and the cooperation of the patient's parents.

Keywords: typhoid fever, hyperthermia, and onion compress

1. Introduction

Typhoid fever is the most important health problem in most developing countries in the world [1]. Typhoid fever will be very dangerous if not treated properly correctly and can lead to death. Typhoid fever is a bacterial infection with *Salmonella* paratyphi A, B, and C that attacks the small intestine [2].

Typhoid fever is the most important health problem in most developing countries in the world [1]. Typhoid fever will be very dangerous if not treated properly correctly and can lead to death. Typhoid fever is a bacterial infection with *Salmonella* paratyphi A, B, and C that attacks the small intestine [2]. This disease can be transmitted through food that has been appetite, constipation, or usually, diarrhea is often non-specific and clinically indistinguishable from other febrile illnesses [3].

The World Health Organization (WHO) states that typhoid fever worldwide reaches 11-20 million per year which can cause around 128,000-161,000 deaths every year [3]. The incidence of typhoid fever in Indonesia is reported to be 81.7/100,000 population with distribution by age group of 0.0/100,000 population (0-1 year), 148.7/100,000 population (2-4 years), 180.3/100,000 (5-15 years), and 51.2/100,000 (≥16 years). This figure shows that most sufferers are in the 2-15 year age group. The results of case studies in major hospitals in Indonesia 19 show a tendency to increase the number of typhoid cases from year to year

with an average illness of 500/per 100,000 population and mortality is estimated at around 0.6–5% [4].

The incidence of typhoid fever is based on data from 14 provinces in Indonesia, namely Nanggroe Aceh Darussalam (2.96%), Bengkulu (1.60%), West Java (2.14%), Central Java (1.61%), Banten (2.24%), NTB (1.93%), NTT (2.33%), South Kalimantan (1.95%), East Kalimantan (1.80%), South Sulawesi (1.80%), Sulawesi Central (1.65%), Gorontalo (2.25%), West Papua (2.39%), and Papua (2.11%), then the national prevalence for typhoid fever (based on the diagnosis of health workers) is 1, 60% [5].

The phenomenon of typhoid fever that the authors found during clinical practice at the Labuang Baji Hospital Makassar, based on the results of observations during an assessment in the pediatric care room in September 2021, found 1 patient with typhoid fever. When the study was conducted, it was found that An. AM is 4 years old with a medical diagnosis of typhoid fever with complaints of fever for 4 days, the results of the examination of body temperature are 38.8 fever increases at night, as have an appetite, and complains of nausea and vomiting and the results of the Widal test obtained Widal: O: 1/640, H: 1/320. Compress is one way to handle a child's body temperature, either using fluids or using a tool that can cause warmth in the body area. One of the types of compresses that can be used to treat hyperthermia in children is the onion compress [6].

Based on the problems described above, hyperthermia is a problem that must be addressed immediately. Fever that is not treated immediately or prolonged will cause neurological damage, dehydration, impaired growth and development in children and can even cause death. Therefore, the authors are interested in conducting an analysis of nursing care in patients with typhoid fever with hyperthermia problems using an onion compress intervention at Labuang Baji Hospital Makassar.

2. Methods

The research used by the author is to conduct a "Case Study" where the study is carried out in-depth to see a patient's condition or condition in a systematic way using the nursing care format. This research was carried out for 3 days on 1-3 September 2021 in the Baji Minasa room at Labuang Baji Hospital Makassar. With a sample of one patient who had typhoid fever with hyperthermia problems. Before giving the intervention, the researcher assessed the patient's body temperature using a thermometer.

3. Result

Giving the onion compress intervention that the researchers did for 3 days in September in the Baji Minasa child care room at Labuang Baji Hospital Makassar obtained the following results:

Table 1. Results of intervention and evaluation of onion compress

No	Day/Date	Before Onion Compress Therapy	After Onion Compress Therapy	Value Difference Pre-Post Onion Compress
1.	Wednesday, 01 September 2021	38,8 °C	38,5 °C	0,3 °C
2.	Thursday, 02 September 2021	38,2°C	37,8 °C	0,4 °C
3.	Friday, 03 September 2021	37,1 °C	36,7 °C	0,4 °C

1. The first day: The patient's body temperature before giving the onion compress was 38.8 C and after giving the onion compress therapy for 15 minutes in the patient's axilla area slightly decreased to 38.5 C, which means the pre-post difference value was 0.3 C. And still paying attention to the environment, loosening clothes, and giving fluids both orally and through the patient's IV. Objective data that can be assessed, the patient looks a little restless and the intravenous fluid that enters is 500 ml / 8 hours with KAEN 3B 16 tpm fluid.
2. Day Two: The patient's body temperature before giving the shallot compress was 38.2 C and after giving the onion compress therapy for 15 minutes in the patient's axilla area decreased to 37.8 C, which means the pre-post difference value was 0.4 C . By still paying attention to the environment, loosening clothes and giving fluids both orally and intravenously to the patient. The result of additional interventions that have been given where the patient appears comfortable and calm.
3. The patient's body temperature before giving the onion compress was 37.1 C and after giving the onion compress therapy for 15 minutes in the patient's axilla area decreased to 36.7 C, which means the pre-post difference value was 0.4 C. By still providing a cool environment, giving oral fluids and recommending the patient to bed rest with the result that the patient looks calm and comfortable.

From the results of this study, it can be concluded that the administration of red onion compress therapy reduces the patient's hyperthermia from a body temperature of 38.8 C to 36.7 C after 3 days of administration and the patient appears more calm and comfortable.

4. Discussion

Based on the results of the analysis of nursing care in patients with typhoid fever using the onion compress intervention is said to have an effect in reducing the patient's hyperthermia This is due to the warm effect released by shallots and because the provision of nursing care to patients is regularly carried out and successfully. In line with the research of Novikasari & Wandini [7] red onion contains a warm effect and it works with two methods, namely conduction, and evaporation, which means heat transfer from an object to direct contact.

According to research by Nurma [8] who conducted a literature review, based on 10 articles reviewed, it was found that onion compresses affect lower the body temperature of children who have hyperthermia. In line with the research of Novikasari & Wandini, [7] said that after giving red onion compresses to children who had hyperthermia, the child's fever began to decrease so the problem was resolved. In line with the research of Hayuni et al [9], the average body temperature before treatment of respondents had a body temperature of 37.8°C – 39.4°C and after treatment, the average respondent had an average of 36.5°C – 37.3°C. The results of the Wilcoxon test showed that the p-value of 0.0001 was smaller than the value ($p < 0.05$), therefore the administration of shallot compresses was effective in reducing the child's body temperature. And another study that researched the effect of red onion compresses on decreasing body temperature in patients with typhoid fever, said that there was an effect of giving shallot compresses on

5. Conclusion

After implementing and evaluating nursing by giving red onion compresses for 3 days, there was a decrease in the body temperature of patients with hyperthermia from a body temperature of 38.8 C to 36.7 C and the patient seemed calmer and more comfortable.

So it can be concluded that the administration of non-pharmacological therapy, namely onion compresses is effective in reducing the child's body temperature. The writing of this article can be an additional reference in providing nursing care to patients, especially in non-pharmacological nursing independent actions. However, the intervention of giving warm compresses does not work alone but collaboration with other health teams is carried out, namely by providing drug therapy to overcome hyperthermia, therefore it is hoped that the next researcher can conduct further research and be able to apply the shallot compress optimally, it is necessary to adhere to recommendations along with hospital standards and the cooperation of the patient's parents.

Conflicting Interest

All authors declare no conflict of interest.

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