



Implementation of Use of Warm Compress Therapy to Lower Body Temperature in Patient with Dengue Hemorrhagic Fever (DHF)

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ABSTRACT

Objective : To provide direct nursing care to children who have hyperthermia problems in the Melati Room, Banjar City Hospital.

Method: The research design used is descriptive analysis with a case study approach using nursing care that refers to the IDHS and SIKI books. The subjects of this case study were children with DHF with hyperthermia problems in the Melati Room of the Banjar City Hospital, in the use of data collection techniques ranging from interviews, observation, physical examinations and documentation studies.

Result : This can be seen in the results of the case study stage, it is known that the patient complains of fever. Interventions and implementations carried out to reduce fever were by giving warm compresses in the forehead area for 10-15 minutes, body temperature before warm compresses was 37.80c, and after being given a warm compress intervention the temperature was 37.50c.

Conclusion : The conclusion of nursing care on the effect of warm compresses can affect the decrease in temperature in DHF patients with hyperthermia problems. Warm compress intervention effectively lowers body temperature.

Keywords : DHF, hyperthermia, warm compress

Introduction

Dengue Hemorrhage Fever (DHF) is generally transmitted through mosquitoes infected with the dengue virus (Akbar & Syaputra, 2019). DHF disease has a very fast course and often becomes fatal because many patients die due to late treatment. On day 2-7 the fever can increase to 400-410C (Ratna Mahmud, 2020). According to the World Health Organization (WHO), there

are 18-34 million cases of fever worldwide, although those experienced by children are milder than adults, children are the most susceptible to fever (Aryanti Wardaniyah, Setiawati, 2014). Based on data from the Health Service Development and Disease Prevention of the West Java Health Office, there were 342,233 cases of fever, especially in patients aged 0-14 years, 33,059 people (all ages) of whom 263 died, especially in cases of DHF. The number of dengue cases in West Java in 2014 was 39.3/100,000 and increased to 47.34/100,000 in 2015 (Jahirin & Gina, 2018).

Dengue Haemorrhagic Fever (DHF) is transmitted through the bite of the *Aedes aegypti* mosquito, which is an infectious disease caused by the dengue virus, which enters through the bloodstream (Zurimi, 2019). As a result, the venom given by the mosquito causes the body to heat up, and this toxin causes the hypothalamus to lose control, which eventually causes a high fever (Roghodatul et al., 2020). The effects of fever itself are headache, pain behind the eyes, bleeding, and leukopenia (Hasibuan et al., 2020).

Generally, the factors that cause DHF are influenced by the environment and human behavior (lin & Hidayat, 2020). Started by leaving puddles around the apartment without emptying the tub. Among the signs and symptoms that appear in patients with DHF are high fever, decreased platelet count which is potentially life-threatening, headaches, back pain in the eyeballs, skin rashes, nausea and vomiting, while in severe cases it can lead to shock and bleeding that can cause vomiting. hyperthermia problem (Raudhatul Jannah, Dwiharini Puspitaningsih, 2019).

Hyperthermia is an increase in the temperature of the middle part of the human body due to infection, which is a condition in which the brain regulates temperature above the normal setting of 38 °C (Anisa, 2019). Temperature reduction can be done by pharmacological and non-pharmacological. Pharmacological techniques are recommended by giving the antipyretic paracetamol, acetosal/salicylate, while non-pharmacological techniques are recommended by giving warm compresses to the forehead, neck, armpit and groin areas (LASE, 2021). With a cloth or towel dipped in warm water with a temperature of 40-45 °C attached to the body (Rusdianto et al., 2016).

Objective

The purpose of this case study is to analyze the implementation of warm compresses to reduce the body temperature of DHF patients with hyperthermia problems comprehensively including biop-psycho-social and spiritual aspects.

Method

In this research, the method used is descriptive with a case study approach. Case studies are used to determine care for DHF patients with hyperthermia problems including assessment, nursing diagnoses, planning, implementation and evaluation. This research was conducted in the Melati Room of the Banjar City Hospital from 25-30 May 2022.

Data collection methods in the preparation of case studies are interviews, observations, physical examinations, and documentation studies. Preparation involves several steps, from collecting data to editing data on a topic. When one researcher has a topic, the next researcher makes a working hypothesis. Prepare data analysis from interviews, nursing care, physical examinations, laboratory results, and other additional data.

Result and Discussion

The results of the assessment carried out directly on An.R aged 6 years, male gender, the date of assessment is May 25, 2022, having his address at Kp.Cijurey Rt/Rw 05/04 Ds.Kujangsari Banjar, with a medical diagnosis of Dengue Haemorrhagic Fever (DHF) . At the time of the assessment on May 25, 2022 at 08.00 WIB in the Melati room of the Banjar City Hospital, the client complained of fever, the fever was felt in the late afternoon in the entire body area when measured with a thermometer on the forehead with a temperature of 37.8 ° C felt like burning, then hot disappeared in the morning and when taking medicine, accompanied by no appetite, nausea, difficulty sleeping and dizziness. With these complaints, the client's daily activities are assisted by the family. Physical examination results TTV: BP: 90/80 mmHg, RR: 20 x/m, S: 37.8°C, N: 117 x/m, SpO2: 97%.

Pharmacological therapy that the doctor gave was dexamethasol injection 3x1, ondansetron 2x1, furosemide 2x1 , paracetamol 3x1 and RL infusion. In non-pharmacological therapy, patients are often given a warm compress on the forehead area using a cloth/towel soaked in warm water at a temperature of 40 °C to 45 °C.

Table 1. Laboratory Screening

| Check | Result | Standard |
|------------|--------|------------------------------|
| Hemoglobin | 10.1 | 12~15 gr/dl |
| Leukosit | 11 | 4.4~11.3ribu\mm ³ |
| Trombosit | 439 | 150-450 ribu\mm ³ |
| Hematokrit | 32 | 35~47 % |
| Eritrosit | 3.5 | 4.1~5.1 juta /uL |
| MCV | 90 | 80~96 fl |
| MCH | 28 | 26~33 pg |
| MCHC | 32 | 32~36 % |

Nursing Diagnosis

Based on the results of the analysis of nursing diagnosis data found during the assessment using the Indonesian Nursing Diagnosis Standard (SDKI) book by the Indonesian National Nurses Association (PPNI) in 2018. Nursing diagnoses are based on the results of data analysis found during the evaluation.

Table 2. Nursing Diagnosis

| Data | Etiologi | Diagnosa | Diagnosa No. and Page |
|--|---|------------|-----------------------|
| Subjective The client's mother said her child's body had a fever for 6 days before entering the hospital | Aedes albopictus and Aedes aegypti mosquito bites ↓ Contaminated food/drink | Hypertermi | D.0130 (284) |
| Objective Sphyg: 90/80 mmHg puls: 117 x/m | ↓ Infection | | |

Rsp.: 20 x/m
 Temp.: 37.8°C
 SpO2: 97%
 Warm skin

↓
 Hypertermi

Nursing Intervention, Implementation, Evaluation

After the data is analyzed, the next step is to formulate an action plan or intervention. The interventions provided were taken from the 2018 Indonesian Nursing Intervention Standards (SIKI) (PPNI) book.

Table 3. Nursing Interventions

| Diagnosis | Intervention | No of Intervention | Page | Did/didn't |
|--|---|--------------------|------|------------|
| Hyperthermia related to the process of viral infection | Give non-pharmacological techniques to lower body temperature, namely with a warm compress on the forehead area | 1.15506 | 284 | Did |

Table 4. Nursing Evaluation

| Time | Evaluation | Sign |
|--------------------------------------|--|-------|
| Monday, 30 May 2022 10.00 | S: The client's mother said her child's fever had gone down O: Sphyg: 100/80 mmHg Temp: 37.5°C Resp: 18 x/m Pulls: 95 x/m SpO2: 98% A : Hyperthermia nursing problem resolved P : intervention is stopped | Pipih |

After the researchers evaluated the provision of warm compresses. It was found that An.R said that his fever was decreasing day by day. The VAS (Visual Analog Scale) before being given warm compress therapy was 37.80c, and after the warm compress intervention, the patient's temperature was in the normal range of 37.50c. This proves that warm compresses have a positive effect on decreasing body temperature in An.R. The patient said that before being given the warm compress intervention the patient often complained of weakness, dizziness and difficulty sleeping, but after the warm compress the patient said his fever had gradually decreased, so that when evaluated on the fourth day the normal temperature was 37.50c.

After carrying out the nursing care process with Dengue Haemorrhagic Fever (DHF) in pre-school age An.R (6 years) with hyperthermia problems in the Melati Room of the Banjar City Hospital from 25-30 May 2022. In implementing nursing actions, the authors adjust to the

conditions, the client's situation and capabilities. In carrying out the action, the family is very cooperative making it easier for the action. The process consists of assessment, nursing diagnosis, intervention, implementation and evaluation are as follows:

The first stage in the nursing process is assessment, which is the first stage of the nursing process where the author first approaches the family and explains the purpose and objectives of nursing care to patients. So that the author will get data that will later be used as a reference in the formulation of the problem which then the problem will be determined as a nursing diagnosis. Based on an assessment on May 25, 2022 at 08.00 WIB, the client complained of fever, the fever was felt in the late afternoon in the entire body area, felt like burning, then the heat disappeared in the morning and when taking medicine. During a physical examination, blood pressure was 90/80 mmHg, body temperature was 37.8°C, respiration was 20 times/minute, pulse was 117 times/minute, and SpO₂ was 97%. According to standard nursing diagnoses, the signs and symptoms that are felt are in accordance with Dengue Haemorrhagic Fever (DHF).

The second stage is the enforcement of nursing diagnoses which are carried out after collecting data from the assessment. From the results of the assessment and observation of the patient, a nursing diagnosis was obtained, namely hyperthermia related to the process of viral infection. Subjective data Mrs. An.R said that her child's body felt hot for six days before coming to the hospital based on, and objective data obtained by TTV: BP 90/80 mmHg, pulse 117 x/m, temperature 37.8°C, breathing 20 x/m and SpO₂ 97%, skin feels warm.

After establishing the diagnosis, the next nursing intervention, the intervention carried out on the patient refers to the intervention prepared by the researcher based on the Indonesian nursing outcome standards and the Indonesian nursing intervention standard, which are sorted according to the needs of pediatric patients with DHF with hyperthermia nursing problems related to the viral infection process, with the aim that after if nursing actions are carried out, it is hoped that the hyperthermia nursing problem will be resolved with the outcome criteria: Body temperature within normal limits of 36.5°C - 37.5°C. Interventions are made based on nursing diagnoses, namely: warm compresses in the forehead, neck, axilla and groin areas with rationale: a warm compress will help lower body temperature.

The fourth stage is the implementation of nursing which is carried out by compressing the patient in the forehead area with a cloth/towel soaked in warm water with a temperature of 40-45°C for approximately 10-15 minutes.

The results of the intervention and subsequent implementation carried out a nursing evaluation, namely the use of warm compresses to reduce body temperature, where the first day the patient's temperature was 37.8 °C, on the second day the temperature decreased by 37.6 °C, on the third day the patient still complained of fever with a temperature of 37.6°C, and on the fourth day the temperature was in the normal range, namely: 37.5°C.

Conclusion

After the author carried out nursing care with Dengue Haemorrhagic Fever (DHF) on An.R in the Melati Room of the Banjar City Hospital on May 25-30 2022, the author came to the conclusion that after a warm compress for 3 days in the forehead area within 10-15 minutes there is a decrease in body temperature. body temperature before the warm compress on the first day was 37.80c, and gradually dropped every day after the action. And when evaluated on the fourth day the patient said he had no fever and when measured using a thermometer the

patient's temperature was normal at 37.50c. This means that the warm compress intervention does have a positive effect on decreasing body temperature in DHF patients. In the process of implementing the patient a little fussy but the family is very cooperative and cooperates with the author so that the nursing process runs smoothly.

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