



Case Study : Implementation of Use of Warm Compress Therapy to Reduce Pain Intensity in DHF Patients

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ABSTRACT

Objective: To present warm compress intervention nursing care as an effort to overcome pain to children who experience DHF with heartburn problems directly in the Melati Room BLUD Banjar City General Hospital.

Methods: The design of this research is descriptive with a case study approach using nursing care that refers to the IDHS and SIKI books. The subject of this case study is only one person, namely a child who has DHF with heartburn problems in the Melati Room BLUD RSU Banjar City, with data collection techniques including interviews, observation, physical examination and documentation studies.

Results: The results of the case study at the assessment stage showed that the client complained of heartburn. With the intervention and implementation used is a warm compress. During the intervention process until the evaluation took place, it went as expected without any obstacles. There is a change in the pain scale from the original 5 scale to a 0 scale.

Conclusion: The conclusion of nursing care for children with dengue hemorrhagic fever (DHF) with heartburn problems is well resolved. Giving a warm compress intervention is effective in reducing pain intensity, the pain scale which was originally a scale of 5 has disappeared (scale 0).

Keywords: DHF, pain, warm compress

Introduction

Dengue Hemorrhagic Fever (DHF) or what we usually call DHF is one of the infectious and deadly diseases caused by transmission of the dengue virus through the bite of the *Aedes aegypti* mosquito which is currently a major health problem in the world and Indonesia (Jannah et al., 2019). It is said that because the transmission of this disease is very fast and relatively easy, in line with the increase in mobility and population density, the current state of society and the surrounding environment is also directly related to the increase in wider transmission (Sari, 2019).

The prevalence of DHF always increases every year, almost 390 million cases of this disease are spread throughout the world (Mete, 2021). Around 2.5-3 billion people in the world who live in urban, tropical and subtropical areas are estimated to be at risk of this disease (Wati et al., 2016). This spread has resulted in Asia occupying the top position in the number of DHF sufferers each year. There are 100 million cases of DHF which are estimated to appear in Southeast Asia with 90% of the sufferers are children aged less than 15 years, and it is estimated that 5% of them die each year (Sari, 2019). It is recorded from WHO data that since 1968-2009 the country with the highest DHF cases in Southeast Asia is Indonesia (Wati et al., 2016).

In 2017, 68,407 DHF cases occurred among children ("Info Datin," 2018). Several sources said that one of them from the National Basic Health Research (RISKESDAS) in 2020, DHF sufferers in Indonesia come from all ages, but the highest prevalence is suffered by children aged 5-14 years (34.13%) with the highest number of sufferers in Indonesia. West Java Province as many as 10,016 cases (Dinkes Jawa Barat, 2020). Based on data from the Ministry of Health in 2020, DHF cases in Indonesia until July reached 71,700 cases, with the highest number of cases still occupied by West Java, namely 10,772 cases. Reporting from jabarprov.go.id in Ciamis Regency until November 1, 2021 there were 203 cases or sufferers based on data from the Health Office (Dinkes), and 1 case was known to have died (jabarprov.go.id).

The most influential factor in the transmission of DHF disease is environmental factors which include the physical, chemical and biological environment (Yuliani, 2021). The role of the environment is very important in the distribution of the presence of vector organisms from environmental-based diseases (Wijirahayu & Sukesi, 2019). The risk factor for the increase in DHF is caused by a dirty home environment, irregular garbage disposal, rarely draining the bath and puddles of rain. Another fact that was found was the behavioral factor of the people with the habit of hanging clothes. Those who have this habit have a 6.29 times greater risk of developing DHF (Aran et al., 2020).

The tendency to increase DHF can lead to increased health problems experienced by patients. The initial symptom felt was fever that occurred in the first 2-7 days (Saputra & Nasution, 2021). The next day the body will improve slightly and be accompanied by a decrease in body temperature, when in fact this is a critical phase of DHF which can cause dangerous complications including very severe abdominal pain, shortness of breath, nosebleeds and even vomiting of blood (Solichah, 2019).

Laboratory results showed a decrease in platelets and an increase in hematocrit. A high hematocrit value causes shock in children with an increase in pulse and a decrease in blood pressure, because children are much more susceptible to disease than adults (Basir, 2019). Children's immune system is also different. If not treated quickly some of the symptoms that

appear will be more dangerous. Even the late handling of DHF cases will cause Dengue Shock Syndrome (DSS) to result in death (Fauziah, 2017).

The danger sign in patients with DHF is heartburn caused by bleeding in the stomach. Based on non-pharmacological management, there are many actions that can be used to reduce pain intensity, one of which is by using warm compresses (Padilah et al., 2021). Warm compresses are considered effective and have a positive effect on reducing pain intensity because they can accelerate the blood circulation system, relax the muscles of the body and make the patient feel comfortable. Compressing is done on the area or location that feels pain with a duration of 15 minutes when the pain is felt. This is in line with research conducted by Paramitha on patients who experience abdominal pain that compressing using a warm bladder for 10 minutes has a positive effect and can reduce the pain scale (Pradnia Paramitha, 2019).

Objective

The purpose of this case study is to present the intervention and analyze the effect of the implementation of warm compresses on reducing pain intensity in DHF patients with heartburn problems.

Method

The method used is descriptive with a case study approach that is compiled based on nursing care reports through a nursing process approach which includes an assessment where at this stage the researcher collects data, both sub- and objective data, sourced from patients, patients' families and patient medical record sheets. After the data is obtained, the writer analyzes the data based on the complaints or problems experienced by the patient so that a nursing diagnosis can be established that refers to the Indonesian Nursing Diagnosis Standard (IDHS). After the diagnosis is established, a plan of action will be drawn up to resolve the nursing problems found that refer to the Indonesian Nursing Intervention Standards (SIKI). Documentation of nursing implementation and evaluation using the SOAPIER model (Koerniawan et al., 2020). DHF patients are given warm compress therapy using a bottle filled with warm water with a temperature range of $<42^{\circ}\text{C}$ and placed on the painful area wrapped in a cloth.

This case study was conducted on children with DHF with heartburn problems in the Melati Room BLUD RSUD Banjar City. Before the action is taken, the writer conducts a comprehensive assessment first. The provision of warm compress therapy is carried out within a period of 3 days from May 25-28 2022 using a bottle filled with warm water and then placed on the area that feels pain within 15 minutes. The author recommends this therapy is done when pain is arising. The data collection technique used is through interviews, results of observations and physical examinations as well as literature based on books and related journal sources from the internet. The last stage is assessment or evaluation. Every day the author always assesses the development of the pain state after the warm compress action is carried out, the aim is to find out whether there is a decrease in pain intensity from the actions that have been carried out.

Results

Case Presentation

The results of the study obtained data from An. Z is 10 years old at school, a woman, Muslim and lives in Muktisari, Langensari who was diagnosed with dengue hemorrhagic fever (DHF). All information was obtained from the client and family.

When the assessment was carried out on Wednesday, May 25, 2022 at 08.40 the client said heartburn, pain like being squeezed which arises when moving or doing activities, sometimes even pain appears when sleeping/resting, pain scale 5 from the range (0-10), pain does not spread and does not continue to be felt, pain is reduced or disappeared after taking medication and when resting in a comfortable position. The results of the assessment of vital signs: blood pressure 90/70 mmHg, pulse 92x/minute, respiration 22x/minute, temperature 36.2°C and SPO2 95%. The client looks weak and the family says the client has difficulty eating. The family said that before being taken to the hospital, the client was taken to the Puskesmas, but from the Puskesmas, he was immediately referred to the Banjar RSU. Previously, the client had never experienced a disease like this and had never been treated in a hospital or health center. The family also said that none of his family members had the same disease.

Pharmacological therapy given by the doctor was omeprazole 2x1 (IV), ondansetron 2x1, (IV) and paracetamol on the first day of hospitalization only. And the non-pharmacological therapy used is warm compresses.

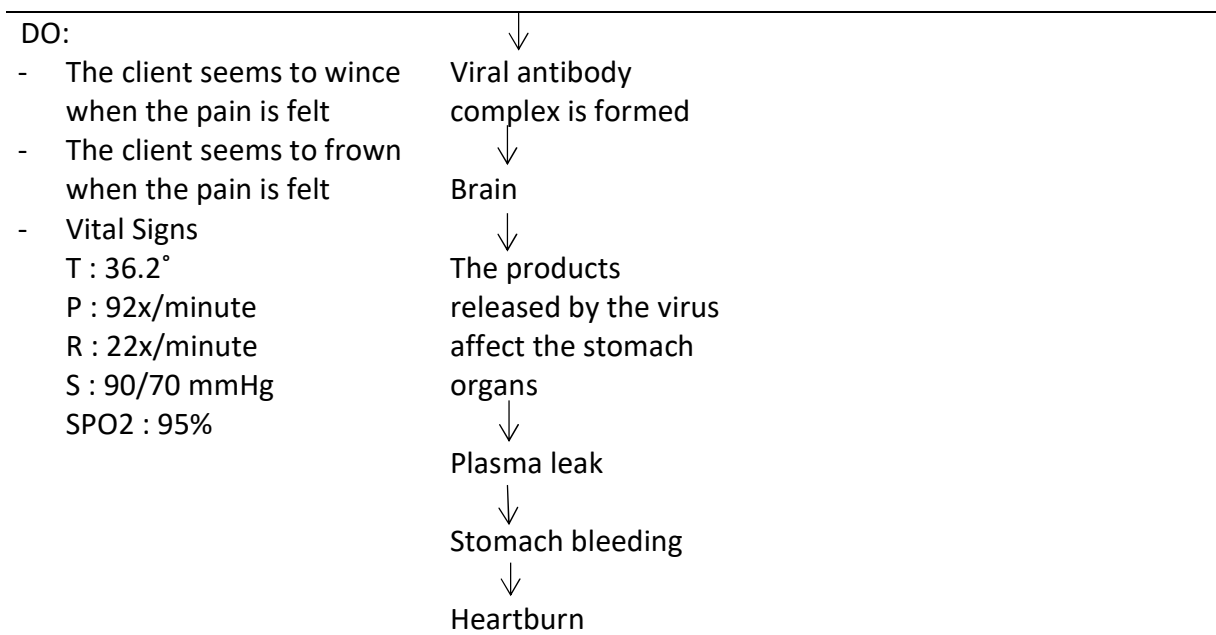
Table 1. Laboratory Examination

| Inspection | Result | Normal Value |
|--------------|--------|-----------------------------------|
| Hemoglobin | 11.6 | 12~15 gr/dl |
| Leukocytes | 4.3 | 4.4~11.3 Thousand\mm ³ |
| Platelets | 52 | 150-450 Thousand\mm ³ |
| Hematocrit | 34 | 35~47 % |
| Erythrocytes | 4.3 | 4.1~5.1 Million /uL |
| MCV | 79 | 80~96 fl |
| MCH | 27 | 26~33 pg |
| MCHC | 34 | 32~36 % |

Nursing Diagnosis based on the results of data analysis found during the assessment of nursing diagnoses that were established referring to the IDHS book published by PPNI.

Table 2. Nursing Diagnosis

| Data Analysis | Etiology | Diagnosis | Number | page |
|--|------------------------------|------------|--------|------|
| DS: the client says heartburn, pain is felt when moving and even lying down, pain is like being squeezed, when asked about the pain scale (1-10) the client says 5. The client says the pain does not continue but comes and goes | Mosquito bite | Acute Pain | D.0077 | 172 |
| | ↓ | | | |
| | Enter the virus | | | |
| | ↓ | | | |
| | Contact with antibodies | | | |
| | ↓ | | | |
| | Virus reacts with antibodies | | | |



Nursing Intervention The author prepares a nursing plan using the *Nursing Outcome Classification (NOC)* After the data is analyzed and established into a diagnosis, the next step is to formulate an action plan or intervention. The intervention provided refers to the SIKI book published by PPNI.

Table 3. nursing intervention

| Diagnosis | Intervention | Number | Page | Note |
|---|---|---------|------|----------|
| Acute pain related to physiologic injury (gastric bleeding) | Pain Management Provide non-pharmacological techniques to reduce pain (distraction, deep breathing relaxation and warm compresses) | I.08238 | 201 | Provided |

Table 4. Nursing Evaluation

| Times | Evaluation | Initials |
|-------------------------------------|--|----------|
| Monday, 30 May 2022 09.00 a.m | S : The client says the pain is no longer felt at all, the body feels good, just a little weak O : - The client looks fresh and excited - Pain scale 0 - Cheerful and cooperative when spoken A : The problem of nursing heartburn is resolved (patient goes home) P : The intervention is stopped | Nida |

Every day, the researchers conducted an evaluation to determine the progress or changes that occurred in the patient. The result, An. Z stated that from day to day the pain he

experienced decreased even the pain disappeared when an evaluation was carried out on the fourth day. Before the action was given an assessment through the VAS (Visual Analog Scale) the patient said the pain range was on a scale of 5, the warm compress intervention was given for 3 days with the procedure mentioned above and decreased until it completely disappeared when evaluated on the fourth day. Based on this, it is proven that there is a positive effect of giving warm compresses to reduce the intensity of pain carried out on An. Z. before the action An. Z said the pain made it difficult for him to carry out activities, sometimes the pain even appeared during sleep or rest. However, the pain gradually decreased every day after being given this warm compress intervention and even disappeared when evaluated on the fourth day. Clients appear calmer, fresher, relaxed and cooperative when spoken to.

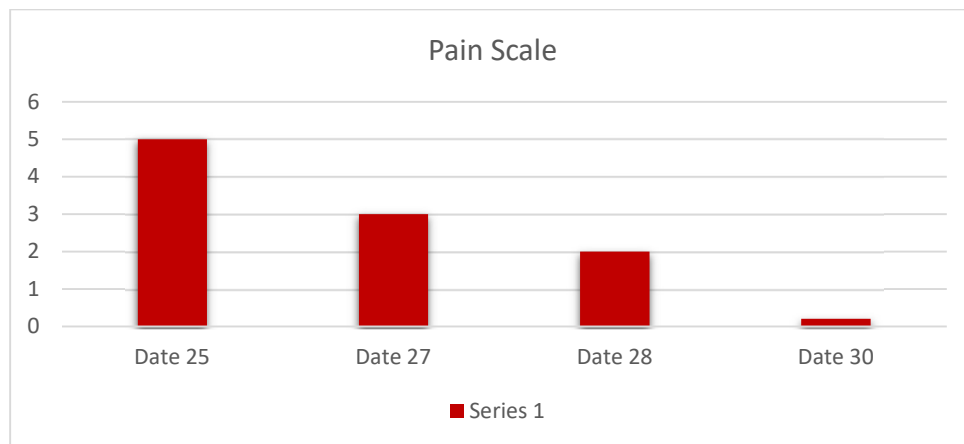


Figure 1. VAS pain scale for 4 days

The implementation of the results of the graph above shows that before and after the warm compress intervention, the 1st day on May 25, 2022 the patient said the pain felt like being squeezed, felt weak and resulted in the limitation of some activities by saying the pain scale was 5, the second day on May 27, 2022 patients say the pain is reduced with a pain scale of 3, researchers always recommend the therapy is used when the pain comes back. The third day on May 28, 2022, the intervention was again carried out and when evaluated the patient said the pain scale was 2 and when evaluated on the fourth day on May 30, 2022 the patient said the pain had not been felt / had disappeared, even if it appeared only briefly.

Discussion

After carrying out the nursing care process on An. Z, who is 10 years old with Dengue Haemorrhagic Fever (DHF) in the Melati Room BLUD RSU Banjar City from 25-30 May 2022, the results were that the client and family were very cooperative making it easier to take action.

The first stage in the nursing process is the assessment, where the author collects data by approaching the client and family accompanied by the aims and objectives to be carried out. These data will later be submitted for the enforcement of nursing diagnoses. Based on the results of the assessment on May 25, 2022 at 08.40, the client said that the heartburn was felt when moving even when lying down, the pain felt like being squeezed, with a pain scale range of 5 (moderate pain), the pain came and went and did not spread, the client looked weak and cranky. , the client also said he was nauseous and according to the client's family it

was also difficult to eat. Vital signs were also obtained, namely blood pressure 90/70 mmHg, respiration 22x/minute, pulse 92x/minute, body temperature 36.2oC, SPO2 95%, abdomen looks bloated, feels warm.

The second stage is the enforcement of nursing diagnoses which are carried out after collecting data from the assessment. Based on the analysis of the data obtained, the diagnosis that appears is acute pain (heartburn) associated with physiological injury (gastric bleeding). Which is characterized by subjective data, namely the client says heartburn, while the objective data obtained is the client looks weak and cranky, the stomach looks bloated.

According to the facts found at the time of the assessment and based on existing theories, the results obtained are related in terms of determining nursing diagnoses in patients with dengue hemorrhagic fever (DHF). Facts found at the time of the study in patients with DHF can lead to a diagnosis of pain related to physiological injury (gastric bleeding) because it is related to the viremia process where the product released enters one of the organs, namely the stomach which causes bleeding in the stomach itself which causes heartburn (Haerani, 2020) .

The intervention that the author focuses on is to overcome the problem of heartburn, one of which is by providing a non-pharmacological technique of warm compresses using a bottle filled with warm water wrapped in a cloth and then placed on the area that the client feels pain. Warm compresses are considered effective and have a positive effect on reducing pain intensity in patients with heartburn problems, because they can accelerate the blood circulation system, make the muscles of the body relax and the patient feel comfortable (Annisaa F & Satria, 2017). Stress or mental tension is one thing that can aggravate pain and warm compresses are also useful for reducing stress and making the soul calm. With a warm compress, it is hoped that the intensity of pain in heartburn can be reduced. This is in line with research conducted by Paramitha on patients who experience abdominal pain that compressing using a warm bladder for 10 minutes has a positive effect and can reduce the pain scale (Pradnia Paramitha, 2019).

The act of giving warm compresses for 3 days within 15 minutes using a bottle filled with warm water showed results before the action the patient said that he felt heartburn when moving, even when lying down or sleeping, occasional pain occurred, the pain he felt hampered his activities. The author always evaluates after the action is taken to find out the developments that occur every day. The first day the action was given according to the established procedure and the patient said that he was a little more relaxed and calm. The author always recommends getting used to this action when at any time the pain reappears. On the second day the author re-evaluated and the client said the pain scale had decreased to 3, the author still recommended this action and re-evaluated on the third day and the client said the pain scale was 2, the pain was only occasionally felt and did not bother his rest too much, the client also seemed to be able to perform activities such as eating and sitting in bed. The evaluation was then carried out again on the fourth day and the client said the pain had disappeared, (scale 0), the client had appeared to be doing various activities such as going to the bathroom even though he was still being helped, the client said his condition had improved greatly and the client looked relaxed and fresh and cooperative when spoken to.

Conclusion

After the author carried out nursing care on An. Z with Dengue Haemorrhagic Fever (DHF) in the Melati Room BLUD RSUD Banjar City on 25-30 May 2022, the authors conclude that there is a decrease in pain intensity after a warm compress for 3 days in the area that feels pain within 15 minutes. The pain scale before the action on the first day is 5, and it gradually decreases every day after the action. And when evaluated on the fourth day the client said the pain was really not felt (pain scale 0). This means that the warm compress intervention does have a positive effect on reducing the intensity of heartburn in DHF patients. In the implementation process, the client is a little fussy, but the client's family is very cooperative and cooperates with the author so that the nursing process runs smoothly.

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