

The Effectiveness of Dadap Serep Leaves in Reducing Baby's Body Temperature Post-Immunization

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ABSTRACT

When seeing a baby with a fever, no mother doesn't panic. After immunization for babies, fever is something mothers don't want and worry about. Post-immunization in the form of vaccines, injection reactions, pharmacological effects, procedural errors, incidents, or other causal relationships that cannot be determined. One non-pharmacological solution is Dadap Serep Leaves (*Erythrina Subumbrans*). The research aimed to evaluate the effectiveness of Dadap Serep leaves in reducing the baby's body temperature after immunization. This research method is pre-experimental through a one-group pretest-posttest design. The research location is in the Posyandu Sei Renggas working area, Asahan Regency, Medan, Indonesia. The sampling technique used purposive sampling with a sample size of 60 respondents, data analysis used the Chi-Square test. The study's results showed a significant difference in the baby's body temperature after immunization after being treated with samples of Dadap Serep leaves. These results mean that Dadap Serep leaves effectively reduce the baby's body temperature after immunization. This research contributes scientific evidence about the benefits of Dadap Serep Leaves. Apart from that, it is one strategy to reduce the baby's body temperature when they have a fever, both post-immunization and other conditions.

Keywords: Immunization, Baby Care, Body Temperature, Fever, Non-Pharmacological



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1. INTRODUCTION

The sustainability of a country must be maintained, one of which is through a healthy future generation. The nation's next generation must have a healthy body from infancy. One strategy to save the nation's next generation is immunization (Rajaram et al., 2022; Wong et al., 2020). Immunization is one way to increase a person's immunity against a disease from an early age (Laupèze et al., 2021; Vasera & Kurniawan, 2023). Infant immunization is vital because it protects against various infectious severe diseases (Mantel & Cherian, 2020). Immunization helps protect babies from serious diseases such as polio, diphtheria, measles, poliomyelitis, hepatitis B, and others (Bayliss et al., 2021; Dolhain et al., 2020; Ifeanyi Obeagu et al., 2021).

Immunization helps the baby's body produce immunity against certain diseases (Chaudhari, 2021; Maijora et al., 2023). This makes the immune system ready and better able to fight infection if exposed to disease in the future. With widespread and effective immunization, the population as a whole also benefits. This concept is known as group immunity or herd immunity (Faizal & Ariska Nugrahani, 2020; Robertson, 2021). Babies who are too young to be immunized or individuals with weakened immune systems may be protected because community spread of the disease is limited.

Immunization helps reduce the spread of disease from infected individuals to other individuals (Dinleyici et al., 2021; Kosim, 2022). This is very important in protecting babies who may not have a perfect immune system. Treating immunization-preventable diseases can be expensive and painful. Immunization helps prevent high medical costs and unnecessary suffering for babies and their families (Marcdante et al., 2021).

Immunization programs are part of public health's responsibility to protect the health of individuals and society as a whole (Gostin et al., 2020; Lasco & Larson, 2020). Immunizing babies contributes to global efforts to reduce child mortality and improve overall public health (Besnier et al., 2021; Mantel & Cherian, 2020; Ota et al., 2022). However, some problems arise when implementing the immunization program. One of them is the mother's anxiety when she sees her baby has a fever after immunization.

Fever is a typical response in babies after receiving certain immunizations (khatereh et al., 2023; Sioriki et al., 2020). This is usually part of the body's natural response to vaccination and is not something to worry about if other worrying symptoms do not accompany it. However, not all babies will experience a fever after immunization. The number of babies who have a fever can vary depending on the type of vaccine given and the response of each baby's body.

Fever usually appears within 24-48 hours after administering the vaccine but may occur sooner or later, depending on the baby and the type of vaccine (George et al., 2022; Green et al., 2021). A mother's anxiety when she sees her child has a fever is a typical response for a mother (Vicens-Blanes et al., 2023). However, usually, an excessive reaction from a mother is a problem. The mother's response when the baby has a fever after immunization can vary depending on personal experience, health knowledge and the baby's overall condition. If you worry excessively, your mother might give you fever-reducing medication or other methods. Some mothers may also be looking for additional information about what to expect after immunization or how to relieve fever naturally.

Several researchers have researched methods or ways to relieve fever or lower body temperature naturally and non-pharmacologically. Research by Herliana & Cahyati (2020) proves that massage therapy effectively relieves fever. Research by Dentika & Arniyanti (2023) demonstrated that the plaster compress method and warm water compress can effectively reduce the baby's body temperature. Research by Medhyna & Putri (2020) proves that giving onion compresses effectively lowers the baby's body temperature. Unlike previous researchers, the study's novelty is using Dadap Serep Leaves (*Erythrina Subumbrans*) as a medium to reduce the baby's body temperature. The research aimed to evaluate the effectiveness of Dadap Serep leaves in reducing the baby's body temperature after immunization.

2. METHOD

This research method is pre-experimental through a one-group pretest-posttest design. This experimental design was only carried out on one group without a comparison group. Use the Chi-Square statistical hypothesis test to see the effectiveness of Dadap Serep leaves. This test shows effectiveness by looking at the significance of the difference in the baby's body temperature after and before giving Dadap Serep Leaves. The statistical hypothesis is a significant difference in the body temperature of the baby's body after immunization after being given Dadap Serep leaves. The research location was in the Posyandu Sei Renggas working area, Asahan Regency, Medan, Indonesia, with a sample size of 60 respondents who received the intervention. Sample selection was purposive using the criteria of babies experiencing post-immunization fever.

3. RESULTS AND DISCUSSION

3.1. Results

Table 1 below is baby age data for 60 babies who were given the Dadap Serep leaves intervention based on age measured in months.

Table 1
Baby Age Characteristics

Age of Baby	Frequencies	Percentage
2 months	0	0
3 months	51	85
4 months	9	15
Total	60	100

Table 1 above shows baby age data from 60 babies given the Dadap Serep leaves intervention with details of age two months; there were no respondents (0%), babies aged three months were 51 respondents (85%), and babies aged four months were 9 respondents (15%). Furthermore, Table 2 shows

data on the characteristics of mothers from 60 babies as respondents to this study with the categories educational level, occupation and parity status.

Table 2
Characteristics of Mother's Educational Level, Occupation and Parity Status

Characteristics	Frequencies	Percentage
Educational Level		
High School or equivalent	45	75
University or equivalent	15	25
Occupation Status		
Not Working	42	70
Working	18	30
Parity Status		
Primigravida	12	20
Secundigravida	15	25
Multigravida	33	55

Table 2 shows data on the characteristics of mothers who had 60 babies with a high school education level or equivalent for 45 respondents (75%). Mothers with a university education level or equivalent were 15 respondents (25%). Mothers with primigravida pregnancies were 12 respondents (20%), mothers with secundigravida pregnancies were 15 respondents (25%) and mothers with multigravida pregnancies were 33 respondents (55%). After describing the characteristics of the mother and baby, Table 3 below shows the results of the intervention of giving Dadap Serep leaves by measuring the average post-intervention reduction in the baby's body temperature.

Table 3
Average Decrease in Baby's Body Temperature

Intervention	Mean	Mean Difference	Std. Deviation
Before	1.0000	0.75	0.000
After	0.2500		0.444

Based on Table 3 above, the baby's body temperature can be seen during the intervention. Before being given the Dadap Serep leaves, the average was 1.0000 with a standard deviation of 0.000. After being given Dadap Serep leaves, the average was 0.2500 with a standard deviation of 0.444. The difference in the average body temperature of babies after and before giving Dadap Serep leaves decreased by 0.75 degrees Celsius. Table 4 below shows the statistical difference test result using the Chi-Square T-test.

Table 4
Hypothesis Testing Post-Intervention Baby's Body Temperature

Intervention	Before	After	Mean Difference	P-Value
Dadap Serep leaves	1.0000	0.2500	0.75	0.000

Based on Table 4, the difference test results using the Chi-Square t-test show a significant value of 0.000, less than 0.05. The statistical hypothesis was accepted, so the baby's body temperature significantly differed after the Dadap Serep Leaves intervention. These results mean that Dadap Serep leaves effectively lower the baby's body temperature.

3.2. Discussion

The benefits of immunization far outweigh the risk of mild side effects that may arise (Abbas et al., 2020; Cinicola et al., 2021; Des Roches et al., 2021). Immunization helps protect individuals and society from serious diseases and the complications that can result from these diseases (Dinleyici et al., 2021; Kosim, 2022). Immunization can protect babies who may not have a perfect immune system (Orije et al., 2020). A mother's response to a baby with a fever after immunization can vary depending on personal experience, health knowledge, and overall condition. The results of this research are an alternative for mothers to lower their baby's body temperature when experiencing side effects from immunization. Dadap Serep leaves have various benefits, namely as anti-inflation, antimicrobial, antiseptic and antimalarial. Dadap Serep leaves also contain ethanol (Wardani et al., 2023), which has a cooling effect and is often used to reduce fever in babies.

Wahyuni & Maa'idah (2019) tested the phytochemicals from various parts of the Dadap Serep plant, which reportedly contained saponins, flavonoids, polyphenols, tannins and alkaloids. The content of these substances makes the Dadap Serep plant function as an antimicrobial, anti-inflammatory, antipyretic and antimalarial. Using it is to take a piece of Dadap Serep leave, wash it thoroughly with clean water, and roll the Dadap Serep leaf until it is soft. Then, stick it to your forehead as a compress. If the leaves dry out, immediately replace them with new leaves. Thus, on until the child's fever goes down.

In the case of babies suffering from ISPA, research by Sulistyaningsih (2018) concluded that the Dadap Serep leaves compress therapy was able to reduce body temperature in ISPA toddlers. The study results showed that the body temperature level before the Dadap Serep leaves compress therapy was carried out in the intervention group was 38.5°C with a moderate fever category. After the Dadap Serep leaves compress therapy in the intervention group, the body temperature level was 37.7°C with a mild fever category.

The success of Dadap Serep leaves is influenced by several factors, including maternal compliance and understanding of giving Dadap Serep leaves compresses. Even though there are several factors, at least Dadap Serep leaves provide a solution when mothers are worried about facing their baby after immunization. In discussions about reducing fever, it is important to consider effective strategies and methods, both from a medical perspective and daily practical application.

4. CONCLUSION

Giving Dadap Serep leaves can make a difference in the average body temperature of the baby before and after. Proven through hypothesis testing results, Dadap Serep leaves effectively reduce the baby's body temperature after immunization. This study contributes to the body of knowledge regarding the health advantages of Dadap Serep leaves. Besides, it's one way to lower a baby's body temperature during a fever, whether from immunization or another condition.

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