

The Effect of Methods 5 S: Swaddling, Side/Stomach Position, Sushing, Swingging, Sucking with Pain Responce on Baby *after HB-0 Immunization*

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Abstract: Immunization is a source of acute pain in infants that can cause trauma, non-pharmacological techniques that can be done is by giving of 5'S method (swaddling, side/stomach position, sushing, swingging, and sucking) which are effective and easy to do and the purpose of this study was to find out whether there is an effect of 5'S method (swaddling, side /stomach position, sushing, swingging and sucking) on pain response in infants after Hb-0 immunization at Grandmed Hospital Lubuk Pakam 2019, the method and design of this study was Quasy Experiment with one group pretest and posttest design. the population in this study were infants aged 0-7 days who received Hb-0 immunization, amounting to 40 people with purposive sampling technique according to inclusion criteria and pain measurement uses the NIPS (Neonatal Infant Pain Scale) pain scale the data analysis was performed by Paired Sample t-test with a confidence level of 0.05%, the results of the study were lower pain in the treatment group with $p = 0.0000 < 0.05 (< \alpha)$, the conclusion of this study is that there was an effect of the 5'S method (swaddling, side / stomach position, sushing, swingging, and sucking) on pain response in infants after Hb-0 immunization.

1 INTRODUCTION

Degenerative phase for growth and development and is very susceptible to contracting infections during infection because the baby's immune system has not been formed and functions optimally (Trimawati, 2016). Efforts that can be made to prevent this are by immunization. Immunization is an attempt to provide immunity to infants and children by introducing vaccines into the body to prevent certain diseases.

Howeverin carrying out immunization procedures often cause pain in infants, especially when doing injection procedures during immunization, so immunization is often referred to as one source of acute pain in infants. Pain experienced by infants during immunization is caused by low levels of endorphine in infants which causes the infant's defense mechanism to pain is very limited. Therefore, nurses need to consider how to minimize the discomfort and painfelt by the baby because improper handling will have an impact that

is not good for the baby, both in the short term and the impact in the long term.

Treatment that can be taken to manage pain non-pharmacologically to reduce pain during immunization are using the intervention method 5'S. 5'S action is one of the efforts that can be done to provide comfort to the baby the new findings state that newborns up to 3 months of age are not fully ready in the world, so babies who cry can be conditioned as in the mother's womb. Dr.Karp teaches techniques to "re-condition as in the womb" so that the baby is calm and comfortable, with the 5's method which includes swaddling, side/stomach position (left tilted position/stomach), shushing sound (giving sshhhh sound), swingging (swingging movements), sucking (sucking / giving ASI). The technique is done because in the first 3 months after birth, babies miss the comfortable sensations they experience while in the mother's womb. The table below shows high interest of mothers immunizing Hepatitis HB O against their infants teaching techniques to "re-condition as in the womb" so that the baby is calm and comfortable, with method 5's which includes swaddling, side / stomach position

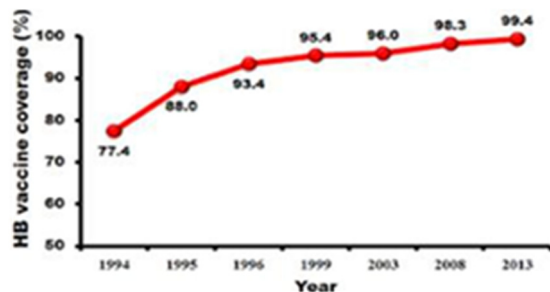
stomach), shushing sound (giving sound), swinging (moveswinging), sucking (suck/given ASI), as soon as the vaccine is given, the baby is wrapped snugly in a blanket, then placed on her side or stomach and gently “shushed” and rocked a bit. If that doesn’t do the trick, she’s given a pacifier.



Figure 1: Immunization on Baby

Technique is done because the first 3 months after birth, babies miss the comfortable sensations they experience while in the mother's womb. Based on the results of research conducted by Dr. Harrington in Norfolk, Virginia, United States (2012) Stated that most infants who get the intervention of the 5's method stop crying with 45 seconds, while those who receive a sugar solution still cry within 2 minutes after invasive vaccination. This is cause babies need comfort. Based on research conducted by Shu, Lee, et al in China (2014) Stated that babies who get medical treatment will cry because they have not been able to control pain. However, when applying the 5'S method, Lee found it surprising because the baby who initially cried quietly and the oxygen saturation which initially decreased returned to normal and the baby's Heart Rate which initially increased slowly returned to normal.

Table 1: HB Vaccine coverage



Based on the results of a survey conducted by the Ministry of Health (2018) it was found that there was still a high incidence of hepatitis sufferers. In 2013

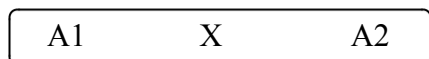
the largest region affected by hepatitis was North Sulawesi province, but in 2018 the biggest area affected by hepatitis was Papua Province, but both regions were still in the same percentage at 0.7%. This research was carried out based on the number of provinces in Indonesia. due to the high incidence of hepatitis, the government is calling for this problem to be taken seriously, and it is hoped that this problem can be overcome by administering immunizations that begin at birth in the world. It’s no secret that vaccine jabs create distress, for infants and parents alike. The usual routine in pediatricians’ offices is to get the shots done quickly and then pass the baby into mom’s arms for some comfort. Some physical comfort and a soothing voice may make routine vaccinations a little easier on babies without resorting to painkillers like acetaminophen, a new study suggests. Overall, the researchers found, the 5-S groups showed fewer signs of pain — less grimacing and frowning. And their crying faded sooner. Provision of the 5's method of intervention is effective in reducing the pain response in infants when taking blood.

Based on the new study, the result is less pain and a lot less crying, said Dr. John W. Harrington, of Eastern Virginia Medical School and Children’s Hospital of the King’s Daughters in Norfolk, who led the study. Crying is part of normal infant behavior and plays an important role in the mutual regulation between infant and parent. However, up to 20% of infants cry excessively. Wessel’s definition of infant excessive crying is often used: crying for at least three hours per day for at least three days per week, and at least for three weeks in a row. In clinical practice, this definition is not very useful as parents may also perceive less frequent crying as a problem. Crying is therefore considered excessive when parents experience it as such.

Crying problems are burdening to infants and parents and are associated among others with impaired infant sleep, parental exhaustion and depression, and shaken baby syndrome. For some families, the excessive crying is so unbearable that infants are hospitalized to alleviate parental stress and family disturbance. Only in 5% of excessively crying infants, however, a medical cause for the crying can be found. Effects of behavioral methods to reduce infant cry and fuss problems in infants younger than six months have rarely been reported and do not take into account the immaturity of newborn babies. New solutions that reduce infant crying are therefore warranted.

2 RESEARCH METHODS

Type of research was quantitative research. This study used a Quasy Experiment research design with a one group pretestpost test design, because this study is directed to find out how the 5'S method (Swaddling, Side / Stomach Position, Swinging, Sushing and Sucking) on the pain response in infants after immunization HB-0. Design of Research.



Information:

- A1 : Group before 5’S method
- X : Group treatment 5’S method
- A2 : Group after 5’S method



Figure 2: Treatment 5’S method swinging

The location of this research at Grandmed Lubuk Pakam Hospital. There are some reason researcher doing this research:

- The number of babies receiving Hb-0 immunization at Grandmed Lubuk Pakam Hospital.
- No research has been conducted on the effect of the 5'S method on pain responses in infants after Hb-0 immunization at Grandmed Lubuk Pakam Hospital.
- The location of the study is close to the residence of the researcher, so that researchers will more easily conduct research.

Based on preliminary studies conducted by researchers note that there are 270 babies who get Hb-0 immunization for 3 last month (January, February, March) 2019 at the Grandmed Lubuk Pakam Hospital.

Population was a large number of subjects or possesses certain characteristics, the subject can be

humans, animal experiments, data from laboratories, hospitals, etc, and the characteristics of the subject itself are determined according to the place and purpose of the study (Sastroasmoro, 2017). The population in this study based on the results of a preliminary study of the study is 270 babies who received Hb-0 immunization in the last 3 months 3 (January, February, March) in 2019.

Based on the survey, there were estimated to be 40 babies who get Hb-0 immunizations every month. Sample is a portion of population selected in a particular way, technique of sampling in this research was done by purposive sampling technique that is how to choose a sample among population accordance with the specific sample inclusion criteria (Sastroasmoro, 2017). To determine the number of samples in this research used calculations through the Lameshow formula (Firdaus, 2015) sample size obtained from the formula above was 40 people. Inclusion Criteria, 1) Baby 0 – 7 day, 2) The baby’s parents allowed if the baby be a sample for research, 3) Baby with normal weight (2500-4000 gram), 4) Baby with stable condition (didn’t fever, normally breath). Ekkslusion Criteria, 1) Babies mounted on a ventilator, 2) Babies mounted on a ventilator who have cyanosis, 3) Babies with immune system disorders, 4) Babies who have congenital heart abnormalities. Infants’ CR was assessed with an experimental task that consisted of two conditions each composed of three phases. Each phase lasted two minutes. During the baseline phase of the parent condition, the parent sat on a chair with the infant on his lap.

Method Collecting the Data, Primary data in this research were obtained from the results of direct observation sheets about the pain response experienced by infants after getting Hb-0 immunization at Grandmed Lubuk Pakam Hospital, Secondary data of this research were obtained the data Medical Record at Grandmed Lubuk Pakam Hospital. Data measurement method is a method used to measure variables so that the characteristics of these variables are found, on the dependent variable the effect of the 5'S method (Swaddling, Side / Stomach position, Sushing, Swinging, and Sucking) is measured when the baby is immunized Hb-0 and the measurement results will be included in the observation period of the NIPS (Neonatal Infant Pain Scale) pain measurement scale and an assessment is given based on the baby's response in accordance with the NIPS pain scale. The greater the score obtained, the greater the perceived pain response.

While the smaller the score obtained, the smaller the perceived pain response. If the score is 0 then the pain is not felt if the score is 1-3 then the pain is felt a little (mild pain) if the score is 4-6 then the pain is felt and disturbs comfort (moderate pain) whereas if the score is obtained 7-8 then the pain is felt and very disturbing (severe pain). In this resrach the data analysis was carried out in stages, namely: 1) Univariate Analysis, The analysis is used to obtain a description of the frequency distribution or the magnitude of the proportions based on the variables studied, namely the independent variable (5'S method) and the dependent variable (infant pain response during immunization)

Table 2: Showed the Percentage of each baby age who is doing Hb-0 Immunization

Usia Responden (Days)	Frekuensi (People)	Percentage (%)
0	7	17.5
1	12	30
2	6	15
3	5	12.5
4	4	10
5	3	7.5
6	2	5
7	1	2.5
Total	40	100

We care about your child's comfort. You are an important member of your child's healthcare team. You know your child best. We want to partner with you to help control your child's pain. If you have questions or concerns, please speak up and let your child's nurse know. While we may not be able to make your child pain free, this is what we can do. Assess your child's pain. This is the first step to understand and treat pain. We use pain scales based on the child's age, ability to communicate and preference. We work with you and your child to decide which one works best. The pain scale you choose is used the whole time your child is in the hospital. unless your child's condition changes. Work with you and your child to come up with a goal for pain control. Learn what has worked before to control your child's pain and put that information in your child's plan of care. Use medicine and non-drug methods to control your child's pain. Teach you about other methods you can use to control your child's pain. Often a combination of medicine and comfort methods will give the best pain relief.

In this study data were obtained from the observation sheet on the NIPS pain scale for pain

response. The measurement results are compared to test the research hypothesis. The statistical test in this study uses paired sample t-test with a significant value <0.05 , if the results of the study p value <0.05 , then the null hypothesis is rejected, meaning that the alternative hypothesis is accepted, which means that there is an effect of the 5'S method on the pain response in infants when immunizing the Distribution of Respondents Based on Age Characteristic in Infants Receiving Hb-0 Immunizations.

If you think medicine is needed, please let your child's nurse know. In the hospital a doctor must order pain medicine before a nurse can give it to a patient. Your child's nurse works with you to decide what is needed. In clinic your child's doctor or nurse talks with you about the pain medicine plan. You can start using some simple methods if your child seems uncomfortable or in pain. These methods are often able to provide comfort and distraction that may decrease your child's pain. At the hospital we have options to provide pain control without medicine. The nurse, nursing assistant or child life therapist can work with you to choose the best tools for your child.

They can give you tips about how to use the tools that are chosen. We also have another Health Fact for You titled Non-drug Pain Control for Kids that gives tips based on your child's age. These methods can be used with or without medicine. Pain control research teaches us that the best pain control happens when we combine medicines that work in different ways, and non-drug methods of pain control. We suggest you try these non-drug methods with your child when you feel they may be helpful. Neonatal Infant Pain Scale (NIPS) At the American Family Children's Hospital (AFCH) the NIPS is used in children less than one year of age. Children at this age are not able to tell us if they are in pain. This scale uses body language to help us to understand if a child is in pain. A child is evaluated and either scored a 0 or 1 in each category based on their behavior. A total score is calculated. Most of the time a score greater than 3 tells us a child is likely to be experiencing pain or discomfort. If you notice this, you could try some of the comfort methods listed, Repositioning, Singing or soft music, Gentle stroking, Rocking with the child in a rocking chair, Swaddling, Pacifier, Holding a comfort item or blanket

Table 3: Scale Pain Neonatal Infant Pain Scale (NIPS)

NO	Parameter	Condition	Skor
1	Ekspression	Rileks	0
2	of Face Crying	Crying	1
		Not Crying	0
		Crying	1
3	Breathing Pattern	Loud crying	2
		Rileks	0
		Changes Breathing Pattern	1
4	Arm	Restrained	0
		Rileks	0
		Fleksi	1
5	Leg	Ekstensi	2
		Restrained	0
		Rileks	0
		Fleksi	1
6	Aroused State	Ekstensi	2
		Sleep	0
		Wake up	0
		Talktative	1

Information:

- Skor 0 : No Pain
- Skor 1 – 3 : Mild Pain
- Skor 4 – 6 : Moderate Pain
- Skor 7 – 8 : Severe Pain

This study, Harrington said, was designed to test whether the measures work — not how effectively they can be done in everyday practice. Harrington had pediatric residents on hand to do the 5 S’s, which is a luxury not available in the real world. But ideally, parents can be taught over the course of their routine well-child visits to perform at least some of the 5 S’s, according to Harrington. That way, parents will learn some extra tools for soothing their baby anytime, and not just after a needle stick.

3 RESULTS AND DISCUSSION

Swaddling recreates the snug packaging inside the womb and is the cornerstone of calming. It decreases startling and increases sleep. And, wrapped babies respond faster to the other 4 S’s and stay soothed longer because their arms can’t wriggle around. Table 4 found that Pretest Swaddling Pain Scale is Mild pain (1-3) of 8 people (20%), Moderate pain scale (4-6) of 9 people (22.5%), severe pain ((7-8)) as many as 23 people (57.5%) and the Posttest Swaddling pain Scale ie no pain (0) as many as 6 people (15%), Mild

pain scale (1-3) as many as 28 people (70%) and Moderate pain scale (4-6) as many as 6 people (15%).

Table 4: Pain Scale Pretest and Post swaddling

Pain Scale	Pre test	Pos test
No Pain (0)	8	6
Middle Pain (1-3)	9	28
Moderate Pain (4-6)	23	6
Total	40	40

Table 5 getting that Pretest Side/Stomach Position no pain (0) as many as 8 people (20%), Mild pain (1-3) as many as 12 people (30%), Moderate pain scale (4-6) as many as 18people (45%) and severe pain (7-8) as many as 2 people (5%) and scale of mild pain and scale pain Posttest Side/Stomach Position namely no pain (0) as many as 21 people (52,5%), Mild pain (1-3) as many as 18 people (45%), and Moderate pain (4-6) as many as 1 people (2,5). The back is the only safe position for sleeping, but it’s the worst position for calming fussiness. This S can be activated by holding a baby on her side, on her stomach or over your shoulder. You’ll see your baby mellow in no time.

Table 5: Pain Scale Pretest and Pos tside/Stomach Position

Pain Scale	Pre test	Post test
No Pain (0)	8	21
Middle Pain (1-3)	12	18
Moderate Pain (4-6)	18	1
Severe Pain (7-8)	2	-
Total	40	40

Table 6 getting that Pret est Shushing and Swingging namely no pain (0) as many as 5 people (12,5%), Mild pain (1-3) as many as 8 people 20%), Mild pain (4-6) as many as 21 people (52,5%), and scale severe pain as many as 6 people (15%)and scale pain Post Test Swingging and Shushing no pain (0) as many as 13 people (32,5%), Mild pain (1-3) as many as 23 people (57,5%), and scale mild pain (4-6) as many as 4 people (10%)

Table 6: Scale Pain Pretest and Post sushing and Swingging

Pain Scale	Pre test	Post test
No Pain (0)	5	13
Middle Pain (1-3)	8	23
Moderate Pain (4-6)	21	4
Severe Pain (7-8)	6	-
Total	40	40

Table 7 found that the Pre Test sucking was no pain of 3 people (7.5%), Mild pain (1-3) of 5 people (12.5%), Moderate pain (4-6) of 7 people (17.5%) and severe pain (7-8) as many as 25 people (62.5%) and Pain Test Post Sucking Scale no pain (0) as many as 7 people (17.5%), Mild pain (1- 3) as many as 25 people (62.5%), Moderate pain (4-6) as many as 7 people (17.5%) and severe pain (7-8) as many as 10 people (2.5%) Swaddling, Side/Stomach Position, Sushing, Swinging and Sucking Against pain. Pain Response in Infants After Hb-0 Immunization at Grandmed Lubuk Pakam Hospital 2019. That the significant value of pre-test and post-test Sucking = 0,000 ($\alpha < 0.05$) which means that there was an influence before and after the Sucking treatment. Based on the results of data analysis using paired sample t test obtained p value (0.005) $< \alpha$ (0.05), which means that the Alternative Hypothesis was accepted, which means there was an effect of Method 5'S (Swaddling, Side/Stomach).

Table 7: Scale Pain Pretest and postsucking

Pain Scale	Pretest	Posttest
No Pain (0)	3	7
Middle Pain (1-3)	5	25
Moderate Pain (4-6)	7	7
Severe Pain (7-8)	25	1
Total	40	40

It's no secret that vaccine jabs create distress, for infants and parents alike. The usual routine in pediatricians' offices is to get the shots done quickly and then pass the baby into mom's arms for some comfort. But in the new study, researchers tested the so-called "5 S's" approach — a method of soothing a fussy baby popularized by pediatrician Dr. Harvey Karp in the book "The Happiest Baby on the Block

4 CONCLUSIONS

Based Overall, our study concluded that the physical intervention of the 5 S's (swaddling, side/stomach position, shushing, swinging, and sucking) provided

decreased pain scores on a validated pain scale and decreased crying time among 2- and 4-month-old infants immediately after routine vaccinations. The use of 5 S's did not differ from the use of 5 S's and sucrose. This simple physical intervention will require additional studies to see whether it is reproducible for other painful procedures and whether parents can be taught to perform the 5 S's reliably. Parental and mechanical soothing using

swaddling, sound, and movement promptly induced a CR in infants. This has important clinical implications for soothing fussy and crying infants. Future studies should investigate the effects of parental versus mechanical soothing in the home setting.

Based on the study, the 5S's physical intervention are effective toward pain and length of crying after immunization injection. By providing effective 5S's physical intervention education and training to parents will contribute to decrease pain after immunizations injection.

There are Effect of 5'S Method (Swaddling, Side/Stomach Position, Swinging, Sushin and sucking) on pain response in infants after Hb-0 at Grandmed Lubuk Pakam Hospital 2019 with p value $< 0,00$

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Physical intervention of the 5 S's (swaddling, side/stomach position, shushing, swinging, and sucking) provided decreased pain scores on a validated pain scale and decreased crying time among 2- and 4-month-old infants during routine vaccinations. The use of 5S's did not differ from 5S's and sucrose.

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