e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)
Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index
Volume 3 | Number 1 | March 2025 |

Vaccination to Form Immunity (Measles Immunization) as The Body's Ability to Fight Foreign Substances (Immune System) Entering the Body in Infants

Astin Nur Hanifah[1*], Adisty Dwi Treasa[2], Fitri Andriani[3], Bayu Larasati Wulandari[4], Rizki Amalia[5], Kori Limbong[6]

[1] Program Studies Magetan Midwifery, Health Polytechnic of the Ministry of Health Surabaya, Indonesia
[2] Study Programs Profession Midwife, STIKes Mitra Adiguna Palembang, Indonesia
[3.4] Midwifery Study Program, University Putra Abadi Langkat, Indonesia
[5] Midwifery Study Program, Kader Bangsa University, Indonesia
[6] Study Programs Profession Ners, Poltekkes Kupang, Indonesia

ABSTRACT

Immunization is a way to actively increase a person's immunity to an antigen, so that if he or she is later exposed to a similar antigen, the disease will not occur. The main objective is to describe or create a picture of an objective state study conducted by examining a problem through a process and reducing the number of cases of illness and death due to diseases that can be prevented by immunization. This research method is a case study with a descriptive method, namely a method carried out with the main objective of describing or creating a picture of an objective state study conducted by examining a problem through a process consisting of a single unit. The results of this study can be seen that after proper and careful vaccination immunization and supported by good cooperation by the patient's family and the patient himself, with measles immunization there was no mild fever, mild respiratory tract infections and diarrhea due to proper anticipation. The conclusion obtained is that Measles Immunization at the Bontomarannu Health Center., researchers did not find harmony in regulating the implementation as a whole, to overcome fever in children, advise mothers to continue to provide nutritious food, advise mothers to continue to maintain the health and nutrition of children and advise mothers to come to health workers if there are complaints.

Keywords: Vaccination, Formation of Immunity (Measles Immunization), Ability Body, Fighting Foreign Substances (Immune System)

*Corespondent Authors : Astin Nur Hanifah
*Email : astinnur1980@gmail.com

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)
Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index
Volume 3 | Number 1 | March 2025 |

1. Introduction

Immunization is a way to actively increase a person's immunity to a disease, so that if later exposed to the disease will not transmit the disease because the body's immune system has a memory system (memory), when the vaccine enters the body, antibodies will be formed to fight the vaccine and the memory system will be stored as an experience (Nina.S, 2018).

According to the World Health Organization (WHO), the incidence of measles cases is recorded at 30,000 cases per year reported (Indonesian Health Office, 2015). WHO and the United Nations Children's Fund (UNICEF), launched the Global Immunization Vision and Strategy (GIVS), a 10-year work plan to prevent preventable diseases through immunization (WHO, 2015). Indonesia has a slightly lower measles immunization coverage than in 2014, which was 92.3% in 2015 (Indonesian Health Office, 2015).

The immunization program aims to provide immunity to infants in order to prevent illness and death of infants and children caused by diseases that often spread, including: 1. through immunization, the body is not easily attacked by disease 2. immunization is very effective in preventing infectious diseases 3. immunization reduces morbidity (illness rate) and mortality (death rate) in toddlers.

Measles immunization is an immunization used to prevent measles in children, because this disease is very contagious, which is given to create active immunity against measles (morbili/measles). (The content of this measles vaccine is a weakened virus. Measles immunization is indicated to provide active immunity against measles. Measles, Meales or Rubella is an acute viral disease caused by the measles virus. This disease is highly contagious, contagious from the beginning of the prodromal period until approximately 4 days after the rash appears. Transmission is spread through the air (airborne).

Measles virus is transmitted through airborne droplet infection, attaching and multiplying in the nasopharyngeal epithelium. Three days after invasion, replication and

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)
Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index
Volume 3 | Number 1 | March 2025 |

colonization continue in regional lymph nodes and the first viremia occurs. The virus spreads to all reticuloendothelial systems and follows the second viremia after 5-7 days from the initial infection. The presence of giant cells and inflammatory processes are the pathological basis of the rash and peribronchial infiltrates of the lungs. There is also edema, congestion and hemorrhage that spreads to the brain.

Immunization is given at the age of 9 months in a dose of 0.5 ml subcutaneously. The minimum standard dose for attenuated measles vaccine is 1000 TCID 50 or 0.5 ml. For live vaccines, 20 TCID 50 may have given good results. 9 The time for giving measles immunization is once in infants aged 9-11 months, because before being given measles immunization, the infant is first given DPT/Hepatitis B 3, Polio 4. Complications or consequences of not being immunized against measles are pneumonia, ear infections, inflammation of the nerves, inflammation of the joints and inflammation of the brain which can cause permanent (permanent) brain damage.

Symptoms appear within 7-14 days after infection, namely fever, sore throat, Koplik's cough, muscle pain, red eyes. 2-4 days later small white spots appear on the inside of the mouth (Koplik's spots). Itchy rash (redness on the skin) appears 3-5 days after the onset of the above symptoms. At the peak of the disease, the sufferer feels very sick, the rash spreads and the body temperature reaches 40 C. Fever, fatigue, runny nose, cough and inflamed and red eyes for several days followed by two red pimples that start on the face and spread to the body and last for 4 to 7 days.

Immunization is recommended for children aged 6-9 months. Because the measles immunity obtained from the mother since in the womb will decrease or disappear at the age of 6 months. The role of breast milk is very large in protecting babies from measles. Mothers who breastfeed their babies will provide immune antibodies to their babies. Thus, Indonesia is recommended to provide measles immunization to babies before the age of 9 months, for example at the age of 6-9 months when passive immunity obtained from the mother begins to disappear. However, then it must be re-injected after the age of 15 months.

2. Research Methods

This research method is a case study with a descriptive method, which is a method carried out with the main objective of explaining or creating a picture of an objective study

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)
Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index
Volume 3 | Number 1 | March 2025 |

of the situation carried out by examining a problem through a process consisting of a single unit carried out on November 21, 2024. The case study instrument is a tool or facility used to obtain case data. The instrument used to obtain data is by conducting interviews and development data.

3. Results and Discussion

a. Results

1. Baby Age

Table 1
Based on Age

NO	Age	N	%
1	Good	31	88.6
2	Not good	4	11.4
	Total	35	100

Based on table 1, it can be seen that more than half (88.6%) of the implementation of measles immunization based on toddler age is good.

The results of this study can be seen that after proper and careful vaccination immunization and supported by good cooperation by the patient's family and the patient himself, then with measles immunization there is no mild fever, mild infection of the respiratory tract and diarrhea due to proper anticipation. Providing active immunity against measles, measles or rubella is an acute viral disease caused by the measles virus. This disease is highly contagious, from the beginning of the prodromal period until approximately 4 days after the rash appears. Transmission is spread through the air (airborne).

b. Discussion

Measles disease generally occurs lifelong immunity. Newborn babies from pregnant mothers are immune in their bodies there are anti-measles substances. So that until the age of 6-8 months the baby will be protected from measles. Immunity can also occur after the child is immunized with the vaccine used is a vaccine called "Futher Attenuated Live Measies vaccine" a vaccine containing a weakened live measles virus. Immunization is carried out by administering the vaccine through a single oral injection which is usually given together with DPT-3 and Polio-3 immunizations.

e-ISSN: 2987-0836 DOI: https://doi.org/10.59585/ijhs

Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)
Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index
Volume 3 | Number 1 | March 2025 |

Based on the results of research conducted at the Pauh Padang Health Center on the Implementation of measles immunization in toddlers, the researcher discusses the following: 1. Age of infants in the implementation of measles immunization The results of the study can be obtained based on the age of the infant, obtained 11 infants (28.6%) with ages <9 months, >11 months and 31 infants (88.6%) with ages 9-11 months. So more than half of the infants (88.6%) in the implementation of measles immunization have a good age.

Immunization is given at the age of 9 months in a dose of 0.5 ml subcutaneously. The minimum standard dose for attenuated measles vaccine is 1000 TCID 50 or 0.5 ml. For live vaccines, 20 TCID 50 may have given good results. The time for giving measles immunization is once in infants aged 9-11 months, because before giving measles immunization, the infant is first given DPT / Hepatitis B 3, Polio 4. Usually there is no reaction due to immunization. There may be a mild fever and there is a reddish effect / red spots on the cheeks below the ears on the 7th-8th day after injection.

After there is also the possibility of swelling at the injection site.9 Symptoms appear within 7-14 days of infection, namely fever, sore throat, Koplik's cough, muscle pain, red eyes. 2-4 days later small white spots appear on the inside of the mouth (Koplik's spots). Itchy rash (redness on the skin) appears 3-5 days after the onset of the above symptoms. At the peak of the disease, the sufferer feels very sick, the rash spreads and the body temperature reaches 40 C. Fever, fatigue, runny nose, cough and inflamed and red eyes for several days followed by two red pimples that start on the face and spread to the body and are there for 4 days to 7 days. Measles immunization is recommended for children aged 6-9 months. Because the measles immunity obtained from the mother since in the womb will decrease or disappear at the age of 6 months. The role of breast milk is very large in protecting babies from measles. Mothers who breastfeed their babies will provide immune antibodies to their babies.

4. Conclusion

The conclusion of this study is that Measles Immunization at Bontomarannu Health Center, researchers did not find any irregularities in managing the implementation as a whole, to overcome fever in children, encourage mothers to continue to provide nutritious

Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)
Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index
Volume 3 | Number 1 | March 2025 |

food, encourage mothers to continue to maintain children's health and nutrition and encourage mothers to come to health workers if there are complaints.

Reference

1. Astin. NH, Juliana, M., Nainggolan, L., Reffita, LI, Kariyadi, K., Hitijahubessy, CNM, & (2023). Benefits of Yoga in Pregnancy: A Systematic Review. International Journal of Health Sciences, 1(3), 343–356. https://doi.org/10.59585/ijhs.v1i3.131
2. Andriani, F., Lusianawati, H., Irmayanti, I., Afni, F., Pannyiwi, R., & Utami, YP (2023). Health Counseling on Nutrition in Women with Menopausal Syndrome. Sahabat Sosial: Journal of Community Service, 1(4), 210–217. https://doi.org/10.59585/sosisabdimas.v1i4.170
3. Bachri, S., Mustarin, Y., Suardi, VA, Arnianti, A., & Indra, I. (2024). Training and Methods in the Implementation of Dry Cupping Therapy in Cholesterol Patients at the Healthy Together Clinic in Makassar City. Sahabat Sosial: Journal of Community Service, 3(1), 94–100. https://doi.org/10.59585/sosisabdimas.v3i1.522
4. Damayanti, Y., Jukarnain, J., Amalia, R., Jamin, NS, Leli, L., & Noviar, RA (2024). Implementation of Hypnotherapy Techniques (Hypnosis Therapy) in Preventing Problems in Early Childhood. Sahabat Sosial: Journal of Community Service, 3(1), 191–198. https://doi.org/10.59585/sosisabdimas.v3i1.346
5. Directorate General of P2P, KR, 2016. Technical Instructions for Measles Rubella (MR) Immunization Campaign. Jakarta: Ministry of Health of the Republic of Indonesia.
6. Dwiastuti, P. & Prayitno, N., 2013. Factors Related to the Provision of BCG Immunization in the UPT Cimanggis Health Center Area, Depok City in 2012. Scientific Journal of Health, Volume 5 No. 1.
7. Gahara, E., Saftarina, F., Lisiswanti, R. & Dewiarti, AN, 2015. The Relationship between Mother's Knowledge Level and Economic Status with the Completeness of Mandatory Immunization in Children Aged 0-12 Months at Sawah Health Center. Majority, Volume 4 No.9.
8. Elmeida, Ika Fitria. 2015. Midwifery Care for Neonatal Infants, Toddlers and Preschool Children. Jakarta: CV. Media Informasi Trans.
9. Ministry of Health of the Republic of Indonesia, 2017. Indonesian Health Profile. Jakarta: Ministry of Health of the Republic of Indonesia.
10. Ministry of Health of the Republic of Indonesia. 2018. Condition of Measles and Rubella Immunization in Indonesia. South Jakarta: Data and Information Center of the Ministry of Health of the Republic of Indonesia.
11. Lira, A., Pannyiwi, R., Sima, Y., Kurniawati, K., Rahmat, RA, & Usviany, V. (2022). PKM Blood Donor. Sahabat Sosial: Journal of Community Service, 1(1), 1–4. https://doi.org/10.59585/sosisabdimas.v1i1.3

Publish: Association of Indonesian Teachers and Lecturers
International Journal of Health Sciences (IJHS)
Journal Homepage: https://jurnal.agdosi.com/index.php/IJHS/index
Volume 3 | Number 1 | March 2025 |

12. Mulyani, Nina Siti. 2018. Immunization for Children. Yogyakarta: Nuha Medika. PIOGMA. (2009). Vaccines for Toddlers. Yusnita E, Dwipratiwi D, et al. 2017. Health Profile of Gowa Regency 2016. Sunguminasa: Health Office of Gowa Regency.
13. Treasa, AD, Dardi, S., Indriani, PLN, Sari, EP, Buhari, S., & Maharani, D. (2024). Training and Health Education for Postpartum Mothers Regarding Postpartum Gymnastics Knowledge at the Sobel Health Center, Teluk Duairi District, Teluk Wondama Regency. Sahabat Sosial: Journal of Community Service, 3(1), 59–67. https://doi.org/10.59585/sosisabdimas.v3i1.517