

# The Effectiveness of Immunization Education on Parents' Knowledge in Advanced Immunization during the Covid-19 Pandemic at the Kampung Sawah Puskesmas in 2022

Maesaroh Binti Mastiri<sup>1</sup>, Omega DR Tahun<sup>2</sup>

<sup>1,2</sup>Sekolah Tinggi Ilmu Kesehatan Abdi Nusantara Jakarta, Indonesia  
[mysaroh88@gmail.com](mailto:mysaroh88@gmail.com), [omega\\_tahun@yahoo.com](mailto:omega_tahun@yahoo.com)

## Abstract

*Follow-up immunization repeats basic immunization to extend the protection period or maintain the immunity level of children who have received basic immunization. Follow-up immunizations are given to children under two years of age, namely diphtheria, pertussis, tetanus, hepatitis B, pneumonia, meningitis and measles. The COVID-19 pandemic in immunization coverage is not reaching the target. The purpose of this study was to determine the effectiveness of education on parents' knowledge of implementing advanced immunization. This type of research is a quasi-experimental, the number of samples is 30, the type of statistical test is the paired sample t test, the sampling technique is purposive sampling. The results of statistical tests showed that health education was effective in increasing the knowledge of parents in implementing follow-up immunizations for infants aged 12-24 months (sig. 0.000 < 0.05). Health education needs to be optimized in order to increase the knowledge of parents to carry out follow-up immunizations for babies in this pandemic era.*

## Keywords

education; advanced immunization; parents; pandemic; covid 19



## I. Introduction

World Health Organization (2019) states that immunization / vaccination is a simple, safe, and effective way to protect a person from dangerous diseases, before coming into contact with disease-causing germs. Furthermore, in the Regulation of the Minister of Health Number 12 of 2017 concerning the Implementation of Immunization, it is explained that immunization is an effort to actively increase a person's immunity to a disease so that if one day they are exposed to the disease they will not get sick or only experience mild illness. Vaccines contain killed or attenuated viruses or bacteria, and do not cause disease or put a person at risk for complications. Most vaccines are given by injection, but some are given orally (by mouth) or sprayed into the nose (Irawati, 2020).

In the last decade, it is estimated that 1 billion children have been immunized, and this immunization has prevented 2 - 3 million deaths every year. In the Americas, coverage is estimated at 91%, while it is only 28% in the Western Pacific Region. In Southeast Asia increased coverage from 80% in 2016 to 86% in 2017. In 2017 the coverage of complete basic immunization decreased to 85.41% (Kemenkes RI, 2018). In 2018 the complete basic immunization coverage also decreased from 2017 namely: 57.95% (Unicef, 2020).

In Indonesia, immunization is divided based on the type of administration. However, immunizations that must be given to children under five are basic immunization and follow-up immunization. Routine basic immunizations are given to children from birth to 9 months of age, while follow-up immunizations are given to children at 18 months and 24 months.

---

The RI Ministry of Health report (2021) states that the achievement of routine immunization in Indonesia has decreased since 2020. The Indonesian Ministry of Health continues to encourage local governments, especially the health office to pursue the immunization coverage target of 79.1%. Based on routine immunization data reports for October 2021, complete basic immunization coverage has only reached 58.4% of the target of 79.1%. And Banten Province is just approaching the target of complete basic immunization coverage, which is 78.8%.

One of the things that is in the spotlight during the Covid-19 pandemic is the threat of children's health problems. This is because many posyandu and puskesmas have closed immunization services for toddlers. This means that the coverage of basic immunization for children under five will be even smaller in the midst of the current Covid pandemic (Utami, 2020).

The outbreak of this virus has an impact of a nation and Globally (Ningrum *et al*, 2020). The presence of Covid-19 as a pandemic certainly has an economic, social and psychological impact on society (Saleh and Mujahiddin, 2020). Covid 19 pandemic caused all efforts not to be as maximal as expected (Sihombing and Nasib, 2020).

The COVID-19 pandemic period should not dampen the enthusiasm of health workers to continue to socialize the importance of immunization and take important steps to ensure that every child who is a vulnerable group is protected from dangerous diseases by immunization. In this pan-time period for the sake of COVID-19, it is still necessary to strive for complete immunization according to schedule to protect children from PD3I. Immunization services are carried out according to the principles of Infection Prevention and Control (PPI) and maintaining a safe distance of 1 – 2 meters (Ministry, 2020)

Follow-up immunization for basic immunization to extend the protection period or maintain the level of immunity of children who have received basic immunization. Follow-up immunizations are given for children under two years of age, namely diphtheria, pertussis, tetanus, hepatitis B, pneumonia, meningitis and measles (Kemenkes RI, 2018).

In the research of Mariyah Qibtiyah Agustina, Meinasari Kurnia Dewi, Nurainih (2022) stated that knowledge is related to the implementation of complete immunization for children under two. Furthermore, in Anisa Laela, et al (2022) explained that there was an increase in knowledge of immunization during the pandemic after being given education. And in Aritonang's research also stated that there was a difference in knowledge after being given education about giving further immunizations.

According to the 2017 South Tangerang City immunization coverage recapitulation data, the coverage of Complete Basic Immunization (IDL) is 95.1% and the lowest advanced immunization coverage is that there are several health centers including Kampung Sawah Public Health Center with Pentavalent immunization rate only reaching 50.8% and measles immunization Follow-up only reached 48%, while the national immunization target was 60%. The Kampung Sawah Health Center is located in the Ciputat sub-district and houses 1 Kelurahan, namely the Sawah Village. From 1 kelurahan there are several posyandu whose targets are still low and have not yet reached the target. A survey conducted in this area found that the immunization coverage in this area had not yet reached the target of 70.0%. This is exacerbated by the COVID-19 pandemic that has occurred since 2020 in Indonesia.

Based on the above background, the researcher is interested in conducting a study with the title "effectiveness of immunization education on parental knowledge in providing further immunization during the COVID-19 pandemic at the Kampung Sawah Health Center, South Tangerang City in 2022".

## II. Research Method

Based on the above background, the limitation of this research is only to examine the effectiveness of education on parental knowledge in carrying out follow-up immunizations for infants aged 12-24 months. This research was carried out at the Kampung Sawah Health Center, South Tangerang in 2022. This type of research is a Quasi Experiment statistical paired sample t test. The population of this study were all mothers with children 12-24 years who visited the Kampung Sawah Health Center. The number of samples in this study were 30 respondents. sampling technique is purposive sampling, as revealed by Omega Tahun (2017) that purposive sampling is a data collection method that is carried out with certain considerations.

## III. Results and Discussion

### 3.1 Results

#### a. Univariate Analysis

There are several variables analyzed in this section, namely: education level, occupation, age, pre-test knowledge and post-test. details can be seen in table 1.

**Table 1.** Results of Univariate Analysis

<b>Variable</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>Education</b>		
- Elementary	1	3,3
- School	7	23.3
- School High School	19	63.3
- Higher Education	3	10.0
<b>Employment</b>		
- of Housewives	19	63.3
- Self	9	30.0
- Private employees	2	6.7
<b>Age</b>		
- <i>Mean</i>	28.37	
- <i>Median</i>	28	
- <i>Mode</i>	28	
- <i>Minimum</i>	19	-
- <i>Maximum</i>	39	
- <i>Range</i>	40	
- <i>Variance</i>	23.8	
- <i>Standard Deviation</i>	4.8	
<b>Knowledge_Pretest</b>		
- <i>Mean</i>	4,83	
- <i>Median</i>	5	
- <i>Mode</i>	5	
- <i>Minimum</i>	3	-
- <i>Maximum</i>	6	
- <i>Range</i>	3	
- <i>Variance</i>	0,971	
- <i>Standard Deviation</i>	0,986	

<b>Knowledge_Posttest</b>	
- Mean	7,8
- Median	8
- Mode	9
- Minimum	4
- Maximum	10
- Range	6
- Variance	2,855
- Standard Deviation	1,690

In table 1 about univariate analysis of 30 respondents have described several things, as follows: first, the distribution of respondents according to education, it was found that, of the 30 respondents studied, it was found that the majority of respondents had a high school education level, namely 63.3%, followed by junior high school at 23.3%, college 10.0% and SD as much as 3.3%.

Second, the distribution of respondents by occupation, it was found that of the 30 respondents studied, the majority of mothers worked as housewives (IRT), namely 63.3%, followed by 30.0% entrepreneurs and 6.7% private employees.

Third, the distribution of respondents by age shows that of all respondents analyzed, it was found that the average age of the respondents was 28.37 years, the youngest age was 19 years, the oldest age was 39 years and the difference between the oldest and youngest ages was 20 years.

Fourth, the distribution of respondents' knowledge before being given health education/education about the importance of complete immunization for infants aged 12-24 months. The results of the analysis found that the average score of the respondents was 4.83, the minimum score was 3 and the maximum was 6. Furthermore, Fifth, regarding the respondents' knowledge scores after being given education, it was found that the average knowledge score was 7.8, the minimum was 4 and the maximum was 10. The results of the normality test show that in this condition the data cannot be performed parametrically (paired sample t test), so it must be replaced with a non-parametric test (Wilcoxon test).

## **b. Bivariate Analysis**

**Table 2. Results Wilcoxon**

<b>Test</b>	<b>Positive Ranks</b>	<b>Positive Ranks</b>	<b>Ties</b>	<b>Sig.</b>
<i>Pretest</i>				
<i>Post test</i>	27	0	3	0.000

In table 2 regarding the results of the Wilcoxon test analysis on the effectiveness of education on mother's knowledge in carrying out follow-up immunizations, it was found that the value of Sig. = 0.000 (sig. < alpha = 0.05), the conclusion is that health education activities are effective in increasing parental knowledge in carrying out follow-up immunizations for infants aged 12-24 months, it is found that there is a difference in the knowledge of respondents between those who were given education about immunization.

### 3.2 Discussion

The results of statistical test analysis on the effectiveness of education on mother's knowledge in implementing follow-up immunizations show that the value of *Sig.* = 0.000 (*sig.* < *alpha* = 0.05), the conclusion is that health education activities are effective in increasing parental knowledge in carrying out follow-up immunizations for infants aged 12-24 months, it is found that there is a difference in the knowledge of respondents between those who were given education about immunization.

The results of this study are in line with research Anisa Laela, et al (2022) explaining that education is effective in increasing respondents' knowledge in implementing immunization during the pandemic. Furthermore, Usman's research (2021) shows that education is effective in increasing one's knowledge. And in the research of Mariyah Qibtiyah Agustina, Meinasari Kurnia Dewi, Nurainih (2022) stated that knowledge is related to the implementation of complete immunization for children under two.

It is hoped that by increasing knowledge, it can also increase the motivation and behavior of parents in carrying out complete immunizations for their babies. As stated in Notadmojo (2014) that health education activities can improve a person's knowledge, attitudes and motivation and behavior in improving their health status. This is also proven in the research of Z. Rahman, Z. Munir, and Z. Siam (2019) that knowledge and attitudes of parents affect motivation in completing immunization of children under two years old. Parents' knowledge and attitudes directly have a significant effect on motivation.

Based on the results of previous theoretical research, it has been proven that the correlation between the role of education and increasing mother's knowledge in carrying out further immunizations for infants, according to the researcher, educational activities should be maximized. Researchers encourage the need for optimizing health education / education for postpartum mothers, mothers with babies less than 2 years old through direct counseling activities at the Puskesmas, posyandu using various promotional media, such as: leaflets, banners, brochures, social media (*what's app, face book, instagram*, and so on) to campaign for the importance of continued immunization for babies. This activity needs to be carried out continuously involving various elements of society, such as: community leaders, religious leaders, NGOs, recitation mothers, mosque organizations, social gathering groups and others.

## IV. Conclusion

Statistical test results show that health education is effective in increasing parental knowledge in implementing follow-up immunizations for infants aged 12-24 months (*sig.*0.000).

### Suggestion

Researchers encourage the need for optimization of health education/education for postpartum mothers, mothers who have babies less than 2 years through direct counseling activities at the Puskesmas, posyandu use various promotional media, such as: leaflets, banners, brochures, social media (*what's app, face book, instagram*, and so on) to campaign for the importance of continued immunization for infants. This activity needs to be carried out continuously involving various elements of society, such as: community leaders, religious leaders, NGOs, recitation mothers, mosque organizations, social gathering groups and others.



## References

- Anisa Laela AL Megasari, FA Yunita, CS Hutomo Erinda. Pemberian Edukasi Untuk Meningkatkan Pengetahuan Tentang Prosedur Pelayanan Imunisasi Di Masa Pandemi Covid-19. 2022. JMM (Jurnal ..., 2022 - journal.ummat.ac.id
- Irawati NAV. Imunisasi Dasar dalam Masa Pandemi COVID-19. J Kedokt Univ LAMPUNG. 2020;4(2):205–10.
- Kemendes RI (2018) Kemendes RI. Profil Kesehatan Indonesia 2017. Data dan Informasi. Kementerian Kesehatan RI; 2018., Jurnal Ilmu Kesehatan.
- Kemendes RI. 2021. Pengendalian Penyakit dan Penyehatan Lingkungan. . Balitbang Kemendes RI Jakarta.
- Kementerian Kesehatan RI. 2020. Petunjuk Teknis Pelayanan Imunisasi pada Masa Pandemi Covid-19. [Online] available at: [https://www.who.int/docs/default-source/searo/indonesia/covid19/juknis-pelayanan-imunisasi-pada-masa-pandemi-covid-19.pdf?sfvrsn=cf2391f2\\_2](https://www.who.int/docs/default-source/searo/indonesia/covid19/juknis-pelayanan-imunisasi-pada-masa-pandemi-covid-19.pdf?sfvrsn=cf2391f2_2). Di akses Tanggal 1 Februari 2022
- L'UNICEF le F des N. Objectifs de développement durable. 2020
- Mariyah Qibtiyah Agustina<sup>1</sup>, Meinasari Kurnia Dewi<sup>2</sup>, Nurainih. Hubungan Pengetahuan Orang Tua, Ketersediaan Sarana Fasilitas Kesehatan dan Peran Petugas Kesehatan Terhadap Pelaksanaan Imunisasi Dasar Lengkap Pada Baduta. SIMFISIS Jurnal Kebidanan Indonesia Volume 01, Nomor 04, Mei 2022.
- Ningrum, P. A., et al. (2020). The Potential of Poverty in the City of Palangka Raya: Study SMIs Affected Pandemic Covid 19. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)* Volume 3, No 3, Page: 1626-1634
- Notoatmodjo, S. 2014. Promosi Kesehatan dan Perilaku Kesehatan. Rineka Cipta. Jakarta.
- Omega, Tahun (2022). Statistika Untuk Ilmu Kesehatan: Teori dan Aplikasi (SPSS). Edisi Kdua. WR Resolusi: Yogyakarta.
- Saleh, A., Mujahiddin. (2020). Challenges and Opportunities for Community Empowerment Practices in Indonesia during the Covid-19 Pandemic through Strengthening the Role of Higher Education. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*. Volume 3, No 2, Page: 1105-1113.
- Sihombing, E. H., Nasib. (2020). The Decision of Choosing Course in the Era of Covid 19 through the Telemarketing Program, Personal Selling and College Image. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)* Volume 3, No. 4, Page: 2843-2850.
- Usman, A. (2021). Penyuluhan Kesehatan Tentang Imunisasi Dasar Lengkap Pada Masa Pandemi Covid 19 di Desa Kelebu Wilayah Kerja Puskesmas Batunyal. *Journal of Community Engagement in Health*, 4(1), 259-263.