

MATERNAL ANXIETY DURING THE COVID-19 PANDEMIC CAUSES NON-COMPLIANCE WITH MEASLES IMMUNIZATION IN THE WORK AREA PUSKESMAS DARUSSALAM, ACEH BESAR REGENCY

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Abstract

Background: Measles immunization coverage during the COVID-19 period has decreased. The COVID-19 pandemic, which is more focused on preventing the spread of the virus, has resulted in disrupted immunization services. Many factors cause a decrease in measles immunization in children, one of which is maternal anxiety during the COVID-19 period.

Method: This study used a cross-sectional study design in 86 mothers who had babies aged 9-12 months. Sampling is carried out by two-stage sampling. Data collection used a COVID-19 anxiety scale questionnaire (CAS) and MCH book recording to determine measles immunization records. Data analysis using chi-square test.

Result: The number of mothers who are anxious about Covid-19 is more disobedient in the administration of measles immunization (69.1) than those who are compliant (30.9). There is a relationship between maternal anxiety during COVID-19 and adherence to measles immunization (p-value 0.026).

Conclusion: Maternal anxiety during the COVID-19 period is related to compliance with measles immunization in the work area of the Darussalam Health Center, Aceh Besar Regency. Increased understanding related to the prevention and transmission of COVID-19 must be done to the community. This effort is made to reduce the level of anxiety of the people.

Keywords COVID-19 Anxiety, Compliance, Measles Immunization

Introduction

The spread of COVID-19 (Corona Virus Disease) occurs globally. PHEIC (Public Health Emergency Of International Concern) inaugurated COVID-19 as a pandemic on January 30, 2020, while WHO designated COVID-19 as a pandemic on March 11, 2020. IDAI (Indonesian Pediatric Association) said that Indonesia occupies the highest number of children exposed to the COVID-19 virus, while in Aceh there are 217 children affected by the COVID-19 virus.¹

The COVID-19 pandemic has greatly affected the decline in the immunization coverage rate in Indonesia. The COVID-19 pandemic has focused on preventing the spread of the virus, coupled with the lockdown system|| resulting in disrupted immunization services. One of the factors that influence the non-

achievement of complete immunization is that many parents do not bring their children immunization because after immunization the child becomes feverish, easily sick, far away from the immunization site, not allowed by the family, as well as busyness of the parents.² Concerns that mothers feel about not wanting to bring their children to immunizations, coupled with the COVID-19 pandemic. Therefore, mothers are reluctant to take their children to posyandu or other health centers to get measles immunization.³

Measles can be prevented by immunization. Measles immunization is given to toddlers aged 9 months and advanced measles immunizations are given to infants in the age range of 18-24 months.³

The World Health Organization in 2018 said out of 20 million children worldwide, 1 in 10 children missed vaccinations that could protect against measles, diphtheria, and tetanus. Meanwhile, in 2019 there were 800 thousand of cases of measles in the world. The complete basic immunization coverage for infants in Indonesia in 2019 of 93.9% has not reached the national target (95%). This coverage has decreased in 2020 to 73.74%, while the Strategic Plan target is 95%.⁴

Measles/MR-rubella immunization coverage in 2019 of 98.7% has exceeded the strategic plan target of 95%. However, in 2020 it decreased to 82.6%, while the Renstra target was 92.9%.⁴ Based on data from the Aceh Health Profile, the DPT-HB-HB3 immunization rate is 46%, polio is 52%, and measles/MR is 40%. One of the Public health centers in Aceh Besar Regency that still had low measles immunization coverage in 2019 is the Darussalam health center by 17.1% and has decreased in 2020 to 10.8%.⁵

Research conducted by Yazia said parents who experienced anxiety about immunization during the COVID-19 pandemic because they were worried that the injected vaccine was mixed with the coronavirus, so they were reluctant to bring their children to get immunizations.⁶

The study, conducted by Parve, found that there was a relationship between maternal anxiety levels and immunization adherence.⁷ The

same thing was also revealed by Sitti Herliyanti that there is a relationship between the level of parental anxiety about the accuracy of immunization during the COVID-19 pandemic.⁸

Based on a review of articles conducted by Sajuni, shows that giving MMR vaccination (Measles, Mumps, and Rubella) is one way to prevent the transmission of measles.⁹ Giving the MR vaccine in addition to preventing measles also protects from the pathogens Meales and Rubella.¹⁰

Method

This research uses analytical quantitative research methods with a cross-sectional approach. The study was conducted in the Darussalam Aceh Besar Health Center area. Sampling carried out by two-stage sampling was obtained by two mukim of the research site, namely Mukim Tungkop and Mukim Lambaro Angan. With the technique of total population obtained the number of samples in this study was 86 babies aged 9-12 months.

The instruments used in this study consisted of questionnaires and MCH books. For measles immunization compliance is obtained from the MCH book or immunization schedule card. Meanwhile, the measurement of anxiety levels uses the COVID-19 anxiety scale (CAS) questionnaire to measure anxiety specifically related to COVID-19. Data collection is carried out on scheduled Public health center activities.

Result

a. Distribution of Respondent Characteristics

Table 1. Distribution of Respondent Characteristics

No	Variable	f	%
1	Mother's Age		
	20-35 Years	77	89,5
	>35 Years	9	10,5
2	Mother's Education		
	Higher education	79	91,9
	Low education	7	8,1
3	Mother's Work		
	Work	30	34,9
	Not Working	56	65,1
4	Age of Children		
	9-10 Months	43	50,0

No	Variable	f	%
	11-12 Months	43	50,0
5	Son of		
	<2 Children	23	26,7
	>=2 Children	63	73,3
6	Children's Health Status		
	Healthy	82	95,3
	Unhealthy	4	4,7
7	History of Measles		
	Never	71	82,6
	Ever	15	17,4

Table 1 shows that the age characteristics of respondents in the age category of 20-35 years were 77 people (89.5%). The education level of respondents was 79 people (91.9%) in the high category. The majority of respondents were out of work as many as 56 people (65.1%). The age of children is in the category of 9-10 months as

many as 43 people (50.0%). The majority of respondents had 63 children <2 people (73.3%). For the health status of children, the majority are healthy as many as 82 people (95.3%). And for a history of measles, 71 people (82.6%) have never been exposed to measles.

b. Relationship Between Respondents' Characteristics and Measles Immunization Adherence

Table 2. The Relationship Between Respondents' Characteristics and Measles Immunization Compliance in the Working Area of the Darussalam Health Center, Aceh Besar Regency

Variable		ComplianceMester Immunization Provision				Total		P-Value
		Obedient		Disobedient		f	%	
		f	%	f	%			
Mother's Age	20-35 Years	32	41,6	45	58,4	77	100,0	0,733
	>35 Years	3	33,3	6	66,7	9	100,0	
Mother's Education	Higher education	31	39,2	48	60,8	79	100,0	0,435
	Low education	4	57,1	3	42,9	7	100,0	
Mother's Work	Work	11	36,7	19	63,3	30	100,0	0,744
	Not Working	24	42,9	32	57,1	56	100,0	
Age of Children	9-10 Months	18	41,9	25	58,1	43	100,0	1,000
	11-12 Months	17	39,5	26	60,5	43	100,0	
Son of	<2 Children	9	39,1	14	60,9	24	100,0	1,000
	>=2 Children	26	41,3	37	58,7	62	100,0	
Children's Health Status	Healthy	35	42,7	47	57,3	82	100,0	0,142
	Unhealthy	0	0,0	4	100,0	4	100,0	
History of Measles	Never	27	38,0	44	62,0	71	100,0	0,420
	Ever	8	53,3	7	46,7	15	100,0	

Based on Table 2 after statistical testing, it was found that the p-value of all characteristic variables was greater than the alpha value, so

there was no meaningful relationship between maternal characteristics and measles immunization adherence.

c. The Relationship of Anxiety During the COVID-19 Period with Adherence to Measles Immunization

Table 3. The Relationship Between Maternal Anxiety & Compliance During the COVID-19 Period and the Provision of Measles Immunization in the Working Area of the Darussalam Health Center Aceh Besar Regency

Anxiety Mother Masa COVID-19	ComplianceMester Immunization Provision				Total		P-Value
	Obedient		Disobedient		f	%	
	f	%	f	%			
Not Anxious	18	58,1	13	41,9	31	100,0	0,026
Anxious	17	30,9	38	69,1	35	100,0	

Table 3 shows that the number of mothers who are anxious about Covid-19 is more disobedient in administering measles immunization (69.1) than those who are compliant (30.9). There was a meaningful association between maternal anxiety and measles immunization adherence followed by a p-value of 0.026 ($p < 0.05$).

Discussion

The results showed that mothers who were anxious during the COVID-19 period were more disobedient to giving measles immunization than those who were obedient to giving measles immunization. The results of statistical tests show that there is a relationship between maternal anxiety during the COVID-19 period and the provision of measles immunization to children.

This study is in line with research conducted by Klevina at the Balerejo Health Center, Madiun Regency which showed that there was a relationship between anxiety about the impact of COVID-19 and adherence to basic immunization in children.¹¹

Likewise, research conducted by Ningsih at Cahaya Bunda Clinic showed that there was a relationship between maternal anxiety and adherence to child immunization.²

In contrast to the study conducted by Maksum in the working area of the Ulantha Health Center, Suwawa District, Bone Bolango Regency, it showed that there was no psychological

condition of the mother with basic immunization visits for infants 0-11 months during the COVID-19 pandemic. Although most mothers feel anxious and worried about the current pandemic situation, they still make immunization visits considering the importance of immunization for children in preventing dangerous diseases. Measles is a disease caused by a virus that can be transmitted through droplets or aerosols from the respiratory fluids of an infected person.¹²

Measles immunization is one of the preventions that can be done to prevent the occurrence of measles. However, during the COVID-19 pandemic, measles immunization in children has decreased.¹³

Anxiety during the COVID-19 period is one of the factors in reducing measles immunization in children. Parents are worried about going to the health care center because they are afraid of being infected with COVID-19.¹²

Research conducted by Perve with a random survey can be concluded that there is a relationship between the level of maternal anxiety with the level of maternal compliance. The higher the immunization compliance rate, the higher the immunization coverage rate and the lower the spread of diseases that can only be prevented by immunization.⁷

The results of another study by Donaldel also showed that during the COVID-19 period not many mothers were immunizing their children

due to the social distancing that was enforced so it had an impact on health services which became one of the factors for the community to access immunization services.¹⁴

The results of research conducted by Pinem S. Mothers with higher education tend to take their children to be immunized compared to mothers with low education. Better-educated mothers tend to be more involved in healthcare programs, have a better understanding of disease prevention, and have a higher awareness of health problems. This awareness can encourage participation in health programs including immunization.¹⁵

These results are contrary to the results obtained by the researchers from the statistical test, which found that there was no relationship between the mother's level of education and adherence to measles immunization.

Researchers assume that there is a relationship between anxiety during the COVID-19 period and measles immunization because, during the COVID-19 period, mothers are afraid of being infected with the COVID-19 virus so mothers do not bring their children for measles immunization. However, some mothers are worried but still bring their children for immunization because they are also afraid that their children will experience measles in the future.

References

1. UKK Respirologi, UKK Infeksi dan Penyakit Tropis, UKK Emergensi dan Rawat Intensif Anak, UKK Tumbuh Kembang Pediatri Sosial. Panduan Klinis Tata Laksana COVID-19 Pada Anak. Ikatan Dokter Anak Indonesia. Published 2020. <https://covid19.go.id/id/p/protokol/panduan-klinis-tata-laksana-covid-19-pada-anak>
2. Ningsih KW, Martilova D, Ambiyar A, Fadhilah F. Analisis Kepatuhan Ibu Terhadap Imunisasi Di Masa Pandemi Covid 19 Di Klinik Cahaya Bunda. *Jomis (Journal Midwifery Sci)*. 2021;5(2):122-129.
3. Safitri F, Rahmi N, Anwar C, Andika F, Husna A. Pengaruh Pengetahuan dan Sikap Ibu Terhadap Pemenuhan Imunisasi Campak Lanjutan di Masa Pandemi Covid-19 Pada Balita di Wilayah Kerja Puskesmas Cot Ba'u Kota Sabang. *J Healthc Technol Med*. 2022;7(2):782-793.
4. Kementerian Kesehatan Republik Indonesia. Profil Kesehatan Indonesia 2020. *Kementerian Kesehatan Republik Indonesia* <https://pusdatin.kemkes.go.id/resources/download/pusdatin/profil-kesehatan-indonesia/Profil-Kesehatan-Indonesia-Tahun-2020.pdf>. Published online 2021.
5. Kementerian Kesehatan Republik Indonesia. *Profil Kesehatan Indonesia 2019.; 2020*.
6. Yazia V, Hasni H, Mardhotillah A, Gea TEW. Dukungan keluarga dan tingkat kecemasan orangtua dalam kepatuhan imunisasi dasar pada masa pandemi covid-19. *J Keperawatan*. 2020;12(4):1043-1050.
7. Parve J. Remove vaccination barriers for children 12 to 24 months. *Nurse Pract*. 2004;29(4):35-38.
8. Rambu SH. Hubungan Tingkat Pengetahuan Dan Tingkat Kecemasan Orang Tua Terhadap Ketepatan Pemberian Imunisasi Di Masa Pandemi Covid-19 Di Wilayah Desa Galesong Baru. *J Mitrsehat*. 2021;11(2):276-282.
9. Mukhi S, Medise BE. Faktor yang Memengaruhi Penurunan Cakupan Imunisasi pada Masa Pandemi Covid-19 di Jakarta. *Sari Peditr*. 2021;22(6):336.
10. Sajuni S. Vaksinasi Measles, Mumps, dan Rubella (MMR) sebagai prophylaxis terhadap COVID-19. *KELUWIH J Kesehat dan Kedokt*. 2020;1(2):25-28.
11. Jansson M. *The Effectiveness of Education on Critical Care Nurse's Knowledge and Skills in Adhering to Guidelines to Prevent Ventilator-Associated Pneumonia*. Oulu yliopisto; 2014.
12. Maksum TS, Arsad N, Polontalo WC. THE Relationship Of Mother's Knowledge And Psychological Conditions With Basic Immunization Visits In Infants 0-11 Months During The Covid-19 Pandemic. *Jambura J Heal Sci Res*. 2022;4(1):379-389.
13. Klevina MD, Utami Y. Kecemasan Ibu Di Masa Pandemi Covid-19 Terhadap Dukungan Kepatuhan Kunjungan Imunisasi Dasar Pada Bayi Di Di Puskesmas Balerejo Kabupaten Madiun. *J Ilmu Kebidanan dan Kesehat (Journal Midwifery Sci Heal)*. 2022;13(1):36-39.
14. Donadel M, Stanescu A, Pistol A, et al. Risk factors for measles deaths among children during a Nationwide measles outbreak-Romania, 2016-2018. *BMC Infect Dis*. 2021;21(1):1-10.
15. Santoli JM. Effects of the COVID-19 pandemic

on routine pediatric vaccine ordering and administration—United States, 2020. *MMWR*

Morb Mortal Wkly Rep. 2020;69.