



## Impact of the covid-19 pandemic on maternal and child nutrition and health services (MCH)

Indah Yun Diniaty Rosidi<sup>1\*</sup>, Arisna Kadir<sup>1</sup>

<sup>1</sup>Department of Midwifery, Sekolah Tinggi Ilmu Kesehatan Nani Hasanuddin Makassar  
Jalan Perintis Kemerdekaan VIII, No.24, Tamalanrea Jaya, Kec. Tamalanrea,  
Kota Makassar, Sulawesi Selatan

\*Corresponding author: [indahbo73@gmail.com](mailto:indahbo73@gmail.com)

### ABSTRAK

**Latar Belakang:** Di Indonesia provinsi Jawa Timur tepatnya di daerah Surabaya jumlah angka ibu yang terkonfirmasi Covid-19 sebesar 112 jiwa. Ikatan Dokter Anak Indonesia (IDAI) menyampaikan data kematian anak akibat Covid-19 di tanah air hingga saat ini secara keseluruhan tercatat 70% dari kasus anak meninggal karena infeksi virus corona.

**Tujuan:** Untuk mengetahui gambaran dampak pandemi COVID-19 terhadap pelayanan gizi dan KIA.

**Metode:** Penelitian ini merupakan penelitian deksriptif dengan pendekatan kuantitatif dan dilakukan di Dinas Kesehatan Kota Makassar pada Februari – Agustus 2021. Pada penelinitian ini menggunakan data sekunder dengan sampel data pelayanan Gizi dan KIA yaitu cakupan K1 dan K4 serta sasaran pelayanan gizi periode tahun 2019-2020. Pada penelitian ini dilakukan wawancara mendalam dilakukan secara daring dan berjenjang dari pihak Dinas Kesehatan, puskesmas dan ibu hamil/menyusui/memiliki anak balita terhadap perubahan pelayanan kesehatan selama masa pandemi COVID-19.

**Hasil:** Pelayanan KIA (cakupan K1 dan K4) pada tahun 2019 cakupan K1 sebesar 96,8% dan mengalami kenaikan pada tahun 2020 yaitu sebesar 97,14%, sedangkan cakupan K4 pada tahun 2019 mencapai 92,58% dan mengalami penurunan menjadi 92,4% pada tahun 2020 serta imunisasi menunjukkan penurunan cakupan imunisasi pada tahun 2020 lebih rendah dibandingkan dengan cakupan imunisasi tahun 2019. Pelayanan gizi bahwa pada tahun 2019 sasaran pelayanan gizi yaitu 84,52% dan mengalami penurunan mencapai 69,14% serta semakin menurun pada tahun 2021 (Januari-Mei) yaitu sebesar 67%.

**Kesimpulan:** Gambaran dampak pandemi COVID-19 terhadap pelayanan gizi dan KIA dapat dikatakan bahwa jumlah kunjungan ke layanan Gizi dan KIA di wilayah kota Makassar pada umumnya menurun. Hal ini terutama disebabkan oleh penundaan layanan posyandu. Namun, berbagai upaya, seperti memaksimalkan kunjungan ke rumah dan memantau kondisi ibu dan bayi melalui WhatsApp, dapat menghambat jumlah layanan gizi dan KIA.

**KATA KUNCI:** covid-19 ; kia ; gizi

### ABSTRACT

**Background:** In Indonesia, East Java province, precisely in the Surabaya area, the number of mothers who are confirmed to be Covid-19 is 112 people. The Indonesian Pediatrics Association (IDAI) conveyed data on child deaths due to Covid-19 in the country so far, overall, 70% of the cases of children died due to corona virus infection.

**Objectives:** To describe the impact of the COVID-19 pandemic on nutrition and MCH services

**Methods:** This research is a descriptive study with a quantitative approach and was carried out at the Makassar City Health Office in February - August 2021. In this re-search, secondary data was used with samples of nutrition and MCH service data, namely the coverage of K1 and K4 and the target of nutrition services for the period 2019-2020. . In

*this study, in-depth interviews were conducted online and in stages from the Health Office, Public Health Centre and pregnant/breastfeeding/having children under five on changes in health services during the COVID-19 pandemic.*

**Results:** MCH services (K1 and K4 coverage) in 2019 K1 coverage was 96.8% and increased in 2020 by 97.14%, while K4 coverage in 2019 reached 92.58% and decreased to 92.4% in 2020, the immunization showed the decline in immunization coverage in 2020 was lower than the immunization coverage in 2019. Nutrition services that in 2019 the target for nutrition services is 84.52% and has decreased to reach 69.14% and will decrease further in 2021 (January-May) which is 67%.

**Conclusions:** The description of the impact of the COVID-19 pandemic on nutrition and MCH services can be said that the number of visits to Nutrition and MCH services in the Makassar city area has generally decreased. This was mainly due to delays in IHC services. However, various efforts, such as maximizing home visits and monitoring the condition of mothers and babies via WhatsApp, can hamper the number of nutrition and MCH services.

**KEYWORD:** covid-19; mch; nutrition

*Article Info :*

*Article submitted on November 02, 2021*

*Article revised on December 11, 2021*

*Article received on December 29, 2021*

*DOI: [http://dx.doi.org/10.21927/jnki.2021.9\(4\).297-304](http://dx.doi.org/10.21927/jnki.2021.9(4).297-304)*

---

## **INTRODUCTION**

Maternal and Child Health (MCH) is a problem that still remains a hot topic in the health world. This is due to the high rate of maternal and infant mortality, especially in Indonesia. MCH Efforts are efforts in the health sector, especially midwifery including services and maintenance of pregnant women, maternity mothers, breastfeeding mothers, infants and toddlers and preschool children(1,2).

The number of Maternal Mortality Rates (MMR) by province in 2018-2019 in the DKI Jakarta area in 2018 amounted to 98 people, and increased in 2019 to 100 people, while in the East Java area in 2018 there were 522 people, and decreased in 2019 to 520 people. people, while the area of South Sulawesi in 2018 was 139 people, increasing in 2019 to 144 people. The biggest causes of AKI are bleeding, hypertension in pregnancy, infection, circulatory system disorders, metabolic disorders, and others(3).

The other causes referred to according to the case study conducted by Timothy Robertson,

et al (2020) are maternal and child deaths that occur in low and middle income countries caused by COVID-19. In New York, there are 86% of pregnant women with moderate levels of COVID-19 symptoms, 9% with mild levels, and 5% with critical levels. In contrast to New York, what happened in the United Kingdom (UK) was 23 of the 9347 admitted to the ICU were pregnant women (0.2%). In Indonesia, East Java province, precisely in the Surabaya area, the number of mothers who have been confirmed to be COVID-19 is 112 people(4,5).

In Indonesia, the Infant Mortality Rate (IMR), neonatal, and under-five by province in 2019 in Indonesia in the DKI Jakarta area amounted to 679 people, East Java 4,188 people, and South Sulawesi 991 people. The biggest cause of death is mostly caused by low birth weight and pneumonia. The Indonesian Pediatrician Association (IDAI) has submitted data on child deaths due to Covid-19 in the country so far. Overall, 70% of the cases of children who died due to corona virus infection in 2019 were under

the age of six. The percentage is more detailed 12% of children aged 0 to 28 days, 33% aged 29 days to 11 months 29 days, and another 25% aged one year to five years 11 months 29 days. A total of 70% of child deaths due to Covid-19 are in this group(4,6).

The rest, 30%, are in the age group of six to 18 years. They consisted of 12% aged six years to nine years 11 months 29 days, and 18% aged 10 to 18 years. This percentage comes from a total of 51 cases of children dying from the corona virus from March 17 to July 20 2020. Meanwhile, the total number of confirmed infection cases in children was 2,712 during the same period. In addition, there are also 7,633 children who have the status of suspected cases, of which 290 also died. The number of Covid-19 corona virus infections in children in Indonesia is higher than a number of countries. While the highest causes of mortality in children include pneumonia or acute respiratory infections(6).

As we all know at the beginning of 2020, Coronavirus Disease 2019 (COVID-19) has become a global health problem. This case began with information from the World Health Organization (WHO) on December 31, 2019 which stated that there were cluster cases of pneumonia with unclear etiology in Wuhan City, Hubei Province, China. This case continued to grow until there were reports of deaths and imports outside China. On January 30, 2020, WHO declared COVID-19 a Public Health Emergency of International Concern (PHEIC). On February 12, 2020, WHO officially designated this novel coronavirus disease in humans as Coronavirus Disease (COVID19). On March 2, 2020, Indonesia has reported 2 confirmed cases of COVID-19(7).

The COVID-19 pandemic has had a negative impact on various public service sectors, especially the health sector, especially nutrition and Maternal and Child Health (MCH) services. In Indonesia, the COVID-19 pandemic has the potential to hinder the access of mothers and

children to optimal health services. The decrease in the number of visits to nutrition and MCH services also has the potential to create new nutrition and health problems. To find out the impact of the COVID-19 pandemic on nutrition and MCH services, The SMERU Research Institute conducted a study in 3 regions in Indonesia, namely the provinces of DKI Jakarta, Surabaya, and South Sulawesi. The difference in the number of COVID-19 cases in the three regions is expected to provide an overview of varied nutrition and MCH services(8).

This study aims to describe the impact of the COVID-19 pandemic on nutrition and MCH services.

## **MATERIALS AND METHODS**

This research is a descriptive research with a quantitative and qualitative approach (mixed method). Quantitative research methods are research based on the philosophy of positivism, used to examine certain populations or samples, data collection using research instruments, data analysis is quantitative/statistical, with the aim of testing predetermined hypotheses. Qualitative research is a method for exploring and understanding the meaning that a number of individuals or groups of people ascribe to social or humanitarian problems, which in this research process involves the important efforts of asking questions or procedures and collecting data specific to the participants. Descriptive research is research conducted to determine the value of independent variables, either one or more (independent) variables without making comparisons, or connecting with other variables(9).

This research was conducted at the Makassar City Health Office, which is one of the largest areas affected by the COVID-19 pandemic in February – August 2021. In this study, secondary data was used, namely the Makassar City Health Office database. The population in

this study is the Makassar City Health Office data base for the period 2019-2020. The sample in this study is data on Nutrition and MCH services, namely the coverage of K1 and K4 as well as nutritional service goals for the period 2019-2020.

In this study, in-depth interviews were conducted online and in stages from the Health Office, Public Health Centre and pregnant/breastfeeding/having children under five on changes in health services during the COVID-19 pandemic.

Data analysis and interpretation uses univariate data which aims to explain the characteristics of each research variable in the form of frequency(10).

## RESULTS AND DISCUSSION

As we all know, COVID-19 has spread to Indonesia at the end of 2019 and has now been declared a pandemic from 2020 until now. This study will compare data in 2019 (before the COVID-19 pandemic) with data in 2020 (pandemic COVID-19) to see the impact on Nutrition and MCH services in Makassar City.

### MCH Service

#### Antenatal Care

The following is a figure.1 of Antenatal Care (coverage of K1 and K4) in Makassar City in 2019 and 2020:



Figure 1. Antenatal Care (coverage of K1 and K4) in Makassar City in 2019 and 2020 (Makassar City Health Office, 2021)

From the figure above, it can be seen that in 2019 K1 coverage was 96.8% and increased in 2020 by 97.14%, while K4 coverage in 2019 reached 92.58% and decreased to 92.4% in 2020.

Maternal and Child Health Efforts (MCH) are efforts in the health sector that involve the service and maintenance of pregnant women, maternity mothers, breastfeeding mothers, infants and toddlers and preschool children. The purpose of the MCH Program is to achieve the ability to live a healthy life through increasing optimal health degrees, for mothers and their families to move towards the Small Happy and Prosperous Norm (NKKBS) as well as increasing the health status of children to ensure optimal growth and development processes which are the basis for improving the quality of the whole human being(11).

One of the indicators of the performance of MCH services that must be implemented is the coverage of pregnant women K1 and K4. Early pregnancy visits (K1) are visits made by pregnant women to midwives in the first trimester, namely in the first week of pregnancy until the 12th week, while return visits (K4) are repeat visits made by pregnant women as a continuation of the initial visit during pregnancy. pregnancy until entering labor(12).

From the figure above, it can be seen that in 2019 K1 coverage was 96.8% and increased in 2020 by 97.14%, while K4 coverage in 2019 reached 92.58% and decreased to 92.4% in 2020. This indicates that the COVID-19 pandemic has no impact on MCH services, especially antenatal care.

During the COVID-19 pandemic, the method of service provided by health workers, including MCH services, changed, such as the postponement of Integrated Healthcare Center (IHC) activities and restrictions on services at the Public Health Centre which were factors that could affect the decrease in the number of antenatal care visits. Since the beginning of 2020, many

regions in Indonesia have limited services due to social distancing rules, including Makassar City.

In the Makassar City area, Antenatal care (ANC) services are centered on Public Health Centre and prioritized only for K1, K4 and visits during emergency situations and maximized monitoring using telephone or online applications, such as Telegram, WhatsApp. Public awareness, especially pregnant women who have high awareness and motivation to check their pregnancy as early as possible, even though during the COVID-19 pandemic, has made K1 and K4 coverage not have a significant impact.

### Immunization

The following is figure. 2 Basic Immunization Coverage in Makassar City in 2019 and 2020:

The graph above shows that the decline in immunization coverage in 2020 is lower than the immunization coverage in 2019. Specifically for IPV antigens, a decrease in coverage has been seen in January 2020. This is because IPV stocks have been empty since December 2019.

In general, the results showed that there was a significant decrease in immunization coverage during the COVID-19 pandemic. The decrease in immunization coverage was due to changes in service methods, such as the postponement of integrated service post (posyandu) activities

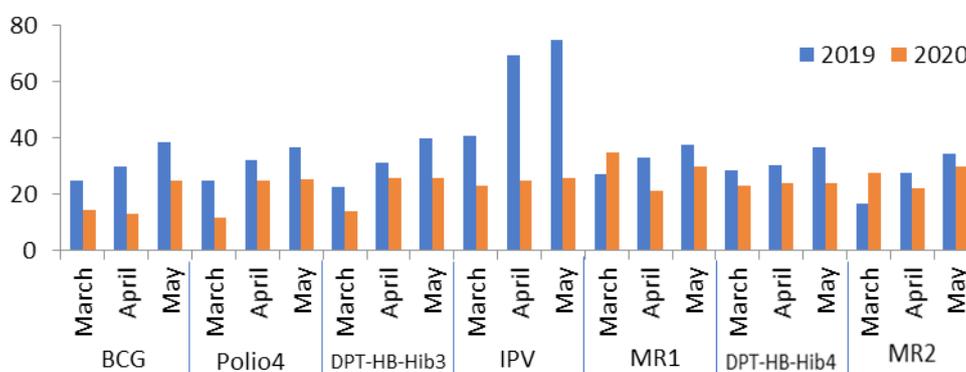
and the restriction of services to puskesmas and hospitals in the South Sulawesi region.

Since March 2020, many regions in Indonesia, including South Sulawesi, have called for the implementation of the posyandu to be postponed to prevent the spread of Covid-19. This delay has had a major impact on basic immunization services for infants and toddlers. In the graph, it is clear that in March there was a decrease of 10.3% in the coverage of BCG immunization. Several health centers in South Sulawesi, such as in Makassar City, still organize posyandu and immunization activities through home visits by utilizing infant cohorts.

In Makassar City, there are several health centers that open posyandu in limited circumstances, there are even several health centers that negate posyandu due to the high spike in Covid-19 cases in the working area of the health center. However, various efforts have been made by health workers to maximize monitoring and immunization during the Covid-19 pandemic.

This decrease in immunization coverage is not only caused by service restrictions, but also due to the concern of mothers and toddlers that they and their children can be infected with the Covid-19 virus (13,14). Several informants who were willing to be interviewed said the same thing that “I was told to take my child immunized

**Comparison of Coverage per Antigen (%) March - May 2019 and 2020**

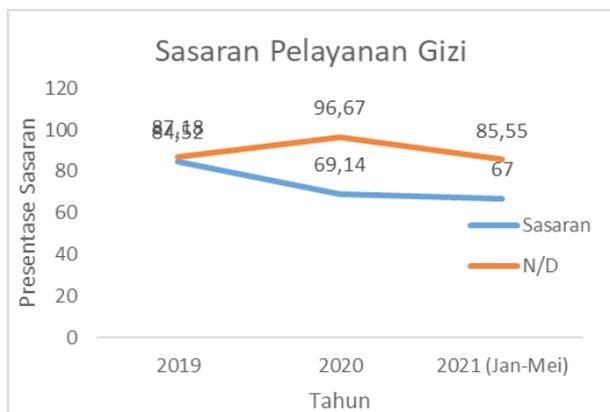


**Figure 2. Basic Immunization in Makassar City in 2019 and 2020 (Makassar City Health Office, 2021)**

to the puskesmas, but I didn't want to, no, I was afraid". Another contributing factor is the lack of medical personnel, some puskesmas had a low number of medical personnel during the Covid-19 pandemic due to medical personnel who were exposed to Covid-19 so they had to self-isolate.

During the Covid-19 pandemic, the implementation of complete immunization consists of basic immunization (<1 year) follow-up immunization, and School Child Immunization Month (BIAS) must continue to be carried out by taking into account the principles of Prevention and Control of COVID-19 Infections (15–17). Revision 5 of the COVID-19 prevention and control guidelines that have been issued by the Indonesian Ministry of Health includes the implementation of essential services (immunization) during the pandemic. Children affected by COVID-19 are divided into 4 criteria, namely close contact, suspected, confirmed, and probable COVID-19 (18–20).

### Nutrition Service



**Figure 3. Target of Nutrition Services in Makassar City in 2019, 2020 and 2021 (Jan – May), (Makassar City Health Office, 2021)**

### DISCUSSION

It can be seen in the figure above that in 2019 the target for nutrition services is 84.52% and has decreased to reach 69.14% and will decrease further in 2021 (January-May) which is 67%.

Law Number 36 of 2009 concerning Health states that the purpose of improving nutrition is to grow the nutritional quality of individuals and communities. Nutritional quality will be met through the provision of quality and professional health services in all health care institutions. One of the important health services is nutrition services at the Public Health Centre, both at the Inpatient Health Center and at the Non-Inpatient Health Center. The approach to nutrition services is carried out through specific and sensitive activities, so the roles of programs and related sectors must be synergistic(21).

Nutrition service activities according to the Act are nutrition services for pregnant women, infants and toddlers and adolescents. The main nutritional service activities carried out are counseling and nutritional supplementation for pregnant women (TTD and additional food for pregnant women KEK), Promotion and counseling of Infant and Child Feeding (IMD, Exclusive Breastfeeding, MP-ASI and ASI for up to 2 years or more), monitoring growth and development of toddlers, nutritional supplementation for toddlers (vitamin A and additional food for undernourished toddlers), handling of malnourished toddlers, and iron supplementation for adolescent girls (rematry)(22,23).

During the COVID-19 pandemic, nutritional services were carried out in home visits, which prioritized target groups at risk, namely toddlers who were at risk of nutritional problems, pregnant women with SEZ problems, pregnant women with anemia problems and adolescents with anemia problems. In IHC activities, a number of Public Health Centre working areas in Makassar City experienced delays during the COVID-19 pandemic which had a major impact on basic immunization services and the implementation of IHC (weighing infants and toddlers). In addition, the community has concerns about bringing their children to the Public Health Centre for immunization during the pandemic. This can

be seen in figure 2 above, the nutritional target has decreased drastically from 84.2% down to 67%(24,25).

It can be said that the number of visits to nutrition and MCH services in the Makassar city area is generally decreasing. This was mainly due to delays in IHC services. However, various efforts, such as maximizing home visits and monitoring the condition of mothers and babies via WhatsApp, can hamper the number of nutrition and MCH services.

## CONCLUSIONS AND RECOMMENDATION

An illustration of the impact of the COVID-19 pandemic on nutrition and MCH services, it can be said that the number of visits to Nutrition and MCH services in the Makassar city area generally decreased. This was mainly due to delays in IHC services. However, various efforts, such as maximizing home visits and monitoring the condition of mothers and babies using WhatsApp, can hamper the number of nutrition and MCH services. It is hoped that further research can use research methods that do not cause bias in the samples and variables used.

## REFERENCES

1. Supariasa; dkk. *Penilaian Status Gizi*. Jakarta: EGC; 2012.
2. Kesehatan K, Indonesia R. *Profil Kesehatan Indonesia Tahun 2015*.
3. Kemenkes. *Profil Kesehatan Indonesia 2019*. Kementerian Kesehatan Republik Indonesia. 2019. 1–487 p.
4. Kementerian Kesehatan R. *Pedoman bagi Ibu Hamil, Bersalin, Nifas, dan Bayi Baru Lahir di Era Pandemi COVID-19*. 2020;36.
5. Robertson T, Carter ED, Chou VB, Stegmuller AR, Jackson BD, Tam Y, et al. Early estimates of the indirect effects of the COVID-19 pandemic on maternal and child mortality in low-income and middle-income countries: a modelling study. *Lancet Glob Heal* [Internet]. 2020;8(7):e901–8. Available from: [http://dx.doi.org/10.1016/S2214-109X\(20\)30229-1](http://dx.doi.org/10.1016/S2214-109X(20)30229-1)
6. PDPI, PERKI, PAPDI, PERDATIN, IDAI. *Pedoman tatalaksana COVID-19 Edisi 3 Desember 2020* [Internet]. *Pedoman Tatalaksana COVID-19*. 2020. 36–37 p. Available from: <https://www.papdi.or.id/download/983-pedoman-tatalaksana-covid-19-edisi-3-desember-2020>
7. Kemenkes. *Pedoman Pencegahan dan Pengendalian Coronavirus Disease (COVID-19)*. *Pedoman kesiapan menghadapi COVID-19*. 2020;0–115.
8. Smeru. *Dampak Pandemi COVID-19 terhadap Pelayanan Gizi dan Kesehatan Ibu dan Anak (KIA): Studi Kasus Lima Wilayah di Indonesia*. 2020;(15 Juli). Available from: [https://smeru.or.id/sites/default/files/events/covidwebinar2\\_20200715\\_selly.pdf](https://smeru.or.id/sites/default/files/events/covidwebinar2_20200715_selly.pdf)
9. Sugiyono. *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Bandung: Alfabeta; 2012.
10. Notoadmodjo S. *Metodologi Penelitian Kesehatan*. Jakarta: Rineka Cipta; 2018.
11. Mappaware, NA; Muchlis NS. *Kesehatan Ibu dan Anak (Dilengkapi dengan Studi Kasus dan Alat Ukur Kualitas Pelayanan Kesehatan Ibu dan Anak)*. 1st ed. Yogyakarta: Deepublish; 2020.
12. Dartiwen; Nurhayati Y. *Asuhan Kebidanan pada Kehamilan*. 1st ed. Yogyakarta: ANDI; 2019.
13. Piché-Renaud PP, Ji C, Farrar DS, Friedman JN, Science M, Kitai I, et al. Impact of the COVID-19 pandemic on the provision of routine childhood immunizations in Ontario, Canada. *Vaccine*. 2021;39(31):4373–82.
14. Burkholder B, Wadood Z, Kassem AM, Ehrhardt D, Zomahoun D. The immediate impact of the COVID-19 pandemic on polio immunization and surveillance activities. *Vaccine* [Internet]. 2021;(xxxx). Available from: <https://doi.org/10.1016/j.vaccine.2021.10.028>

15. Chandir S, Siddiqi DA, Mehmood M, Setayesh H, Siddique M, Mirza A, et al. Impact of COVID-19 pandemic response on uptake of routine immunizations in Sindh, Pakistan: An analysis of provincial electronic immunization registry data. *Vaccine* [Internet]. 2020;38(45):7146–55. Available from: <https://doi.org/10.1016/j.vaccine.2020.08.019>
16. Hardhantyo M, Chuang YC. Urban-rural differences in factors associated with incomplete basic immunization among children in Indonesia: A nationwide multilevel study. *Pediatr Neonatol* [Internet]. 2021;62(1):80–9. Available from: <https://doi.org/10.1016/j.pedneo.2020.09.004>
17. Putri AM, Saharuddin S, Fitriani R. Perbandingan Pelaksanaan Imunisasi pada Masa Pandemi dan Non Pandemi Covid-19 di Puskesmas Massenga Polewali Mandar. *UMI Med J*. 2021;6(1):10–9.
18. WHO. Causality Assessment of an Adverse Event Following Immunization (AEFI). *Jenewa World Heal Organ*. 2018;2:1–48.
19. Ropero Alvarez AM, Vilajeliu A, Magariños M, Jauregui B, Guzmán L, Whittembury A, et al. Enablers and barriers of maternal and neonatal immunization programs in Latin America. *Vaccine* [Internet]. 2021;39:B34–43. Available from: <https://doi.org/10.1016/j.vaccine.2020.07.051>
20. Adamu AA, Jalo RI, Habonimana D, Wiysonge CS. COVID-19 and routine childhood immunization in Africa: Leveraging systems thinking and implementation science to improve immunization system performance. *Int J Infect Dis* [Internet]. 2020;98:161–5. Available from: <https://doi.org/10.1016/j.ijid.2020.06.072>
21. UU No.36 Tahun 2009 Tentang Kesehatan. 2009 p. 3.
22. PP No. 14 Tahun 2019 Tentang Surveilans Gizi. 2019;11(1):1–14.
23. Hartono AS, Zulfianto NA, Rachmat M. Surveilans Gizi (Bahan Ajar Gizi). 2017;1–166.
24. Direktorat Gizi Masyarakat. Pedoman Pelayanan Gizi Pada Masa Tanggap Darurat Covid-19 untuk Tenaga Kesehatan. *Kementeri Kesehat Republik Indones*. 2020;34.
25. Dinkes Provinsi Sulawesi Selatan. Buletin Imunisasi dan Surveilans PD3I Provinsi Sulawesi Selatan. 2020;(2):1–5. Available from: <https://www.who.int/indonesia/news/epi-and-vpd-bulletins>