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Changes in nutritional status (HAZ) of children under five years of age before and during the COVID-19 pandemic in Kuta Malaka, Aceh Besar

Perubahan status gizi (indeks TB/U) balita sebelum dan saat pandemi COVID-19 di Kuta Malaka, Aceh Besar

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Abstract

The government targets the prevalence of stunting to fall to 14,0%. Kuta Malaka is one of the sub-districts with the highest stunting in Aceh Besar which has priority villages for stunting intervention. The COVID-19 pandemic is expected to affect the nutritional status of children under five due to its impact on the determinants of nutritional status in daily life. This study aimed to determine the nutritional status of toddlers before and during the COVID-19 pandemic in Kuta Malaka, Aceh Besar. Observational analytical research using a cross-sectional design was conducted from November 1 to December 12, 2023. The research sample comprised 185 data points on the nutritional status of children under five years of age obtained from the Community-Based Nutrition Recording and Reporting system (e-PPGBM) of the Kuta Malaka Health Center, which was selected by simple random sampling. Data were analyzed using the Paired T-test and Wilcoxon test at 95% confidence interval (CI). Results: Before the pandemic, 16, 43, and 126 toddlers were severely stunted, stunted, and 126 toddlers were normal. During the pandemic, 4 toddlers were severely stunted, 53 toddlers were stunted, and 128 toddlers were normal. As many as 14 severely stunted toddlers improved to stunted and normal during the pandemic, but there were no significant changes (p= 0,08). In conclusion, there was no significant change in the nutritional status (HAZ) of children under five before and during the COVID-19 pandemic in Kuta Malaka, Aceh Besar.

Keywords: COVID-19, nutritional status, stunting, toddler

Abstrak

Pemerintah menargetkan prevalensi stunting turun hingga 14,0%. Kuta Malaka merupakan salah satu kecamatan dengan stunting tertinggi di Aceh Besar yang memiliki desa-desa lokus prioritas intervensi stunting. Pandemi COVID-19 diperkirakan akan mempengaruhi status gizi balita karena dampaknya terhadap faktor-faktor determinan status gizi dalam kehidupan masyarakat. Penelitian bertujuan untuk mengetahui status gizi balita sebelum dan saat pandemi COVID-19 di Kuta Malaka, Aceh Besar. Penelitian analitik observasional menggunakan desain *cross-sectional,* telah dilaksanakan pada 1 November – 12 Desember 2023. Sampel penelitian berupa 185 data status gizi balita yang diperoleh dari sistem Pencatatan dan Pelaporan Gizi Berbasis Masyarakat (e-PPGBM) Puskesmas Kuta Malaka, yang dipilih secara *simple random sampling*. Data dianalisis dengan uji Paired T-test dan Wilcoxon pada CI 95%. Hasil, data sebelum pandemi menunjukkan 16 balita berstatus sangat pendek, 43 balita pendek, dan 126 balita normal. Data saat pandemi menunjukkan 4 balita berstatus sangat pendek, 53 balita pendek, dan 128 balita normal. Balita yang berstatus sangat pendek sebanyak 14 orang mengalami perbaikan menjadi status pendek dan normal saat pandemi, namun tidak memiliki perubahan bermakna (p= 0,08). Kesimpulan, tidak ada perubahan signifikan antara status gizi balita sebelum dan saat pandemi COVID-19 di Kuta Malaka, Aceh Besar.

Kata Kunci: COVID-19, cross-sectional, e-PPGBM, perubahan status gizi, prevalensi stunting

Introduction

Stunting is a form of triple-burden malnutrition that is still faced by many countries worldwide (Blankenship et al., 2020; UNICEF, 2020a). Data from the Joint Child Malnutrition Estimates 2021 shows that there are 149.2 million (22,0%) stunted children under five in the world (UNICEF et al., 2021). The Global Nutrition Targets expect the number of stunted children under five to be reduced by 40% by 2025 (UNICEF et al., 2021).

Stunting in Indonesia is high, with an under-five prevalence of 27,67% in 2019 and 24,40% in 2021 (Kementerian Kesehatan RI, 2021; Onis et al., 2018) The RPJMN 2020-2024 target to reduce the prevalence to 14% has not been achieved. In Aceh Province, the prevalence of stunting reached 34,2% in 2019 and 33,2% in 2021 and is ranked 3rd nationally with the highest stunting problem. Aceh Besar District also recorded a rate of 43,4% in 2019, which has decreased to 32,4% by 2021 (Kementerian Kesehatan RI, 2020c, 2020a, 2021). Kuta Malaka District is one of the areas in Aceh Besar that has a high stunting problem, with six locus villages, which have a prevalence of 22,60% (2019) and 26,5% (2021), including the high category (Puskesmas Kuta Malaka, 2019, 2021).

The phenomenon of the COVID-19 pandemic is expected to affect the condition of malnutrition in children (Fore et al., 2020; Littlejohn & Finlay, 2021; Roslan et al., 2021). The COVID-19 pandemic affects access to nutritious food, which could threaten efforts to reduce the incidence of malnutrition (Al Jawaldeh et al., 2020; Setyorini et al., 2022). This is because of the decline in household finances, difficulties in procuring and purchasing nutritious food, and limited physical activity (Setyorini et al., 2022; Akseer et al., 2020; Al Jawaldeh et al., 2020; UNICEF et al., 2021). Studies show that many households have reduced, stopped, or replaced the nutritious food they purchase (Niles et al., 2020; UNICEF, 2021; Wahyudi et al., 2022). An increased prevalence of stunting is expected in newborns in the first year of the pandemic before eventually being seen in the entire under-five population (UNICEF et al., 2021).

The pandemic has impacted the lives of the people of Aceh Besar District in various sectors, such as economic, social, and health (Pemerintah Kabupaten Aceh Besar, 2022). A study conducted in Lambaro Main Market, Aceh Besar, revealed that Micro, Small and Medium Enterprises (MSMEs) in the market experienced a decline in sales, capital difficulties, raw material difficulties, and temporary closures due to Large-Scale Social Restrictions (LSSR) (Musliana, 2022). According to Ramli & Fitraniar (2021), there is a relationship between maternal knowledge, feeding methods, family income, and incidence of stunting. In addition, according to Rahmi et al. (2022) also suggested that there is a relationship between exclusive breastfeeding and immunization with the incidence of stunting.

Financial condition is one of the factors that can affect underweight nutrition. Family income can affect the ability to meet food needs (Dewa et al., 2019; UNICEF, 2020a). Studies have shown the effects of family income on children's nutritional status (Aziza & Mil, 2021). Research conducted by Dewa et al. (2019) showed that 96% of stunted toddlers came from families with parents whose income was below the minimum wage. A study conducted by Al Rahmad in Aceh Besar District showed that stunting was more frequent in children whose parents did not work (Al Rahmad, 2019).

Parenting is one of the factors that influence nutrition in children. Children who receive poor parenting are at a greater risk of stunting (Yanti et al., 2023). Parents' knowledge about nutrition will affect how parents choose the type of food, consume nutritious foods that remain, prioritize food in the middle of the family, and meet the needs of family members who are still toddlers. Studies have shown that the level of knowledge is related to the nutritional status of children under five years of age (Ofori et al., 2020; Sholihah et al., 2024; Sundari & Khayati, 2020). Other factors include exclusive breastfeeding, completeness of basic immunization, water sources, and sanitation facilities (Lubis et al., 2023; Sholihah et al., 2024; Juwita et al., 2019; Tahangnacca et al., 2020; Yunitasari et al., 2022).

Studies on the impact of the COVID-19 pandemic on nutritional determinants of life such as the economy and food security have been conducted, but there are still few studies that directly compare the nutritional conditions of children under five years of age before and during the COVID-19 pandemic, including in Kuta Malaka District. This study offers a new approach by identifying the nutritional status before and during the pandemic in an area with a high prevalence of stunting, such as the Kuta Malaka Sub-district, to provide a description of the impact of the pandemic on the nutritional status of children under five at the local level. This

research can be useful for enriching information in the field of nutrition and can be considered when formulating nutrition policies and implementing stunting prevention strategies. Thus, this study aimed to determine the nutritional status of toddlers before and during the COVID-19 pandemic in the Kuta Malaka District, Aceh Besar Regency.

Methods

Observational analytical research using cross-sectional research design. The cross-sectional design was chosen because the data were taken at one time, and there was no control group because the entire population experienced the COVID-19 pandemic. This research was conducted at the Kuta Malaka Health Center, Aceh Besar Regency, from November 1 to December 12, 2023.

The population of this study was under-five nutritional status data recorded in the online Community-Based Nutrition Recording and Reporting system (e-PPGBM) of Kuta Malaka Health Center in February 2020, February 2022, and March 2022. The population of this study in February 2020 was 339 nutritional status data for toddlers. The sample in this study was the nutritional status data of toddlers available in the e-PPGBM of Kuta Malaka Health Center, which was sorted according to the inclusion and exclusion criteria. The inclusion criteria were as follows: 1) data on the nutritional status of toddlers aged 0–34 months in February 2020 before the COVID-19 pandemic; and 2) data on the nutritional status of toddlers who live in the working area of the Kuta Malaka Health Center, Aceh Besar Regency.

The exclusion criteria were as follows: 1) incomplete data on the nutritional status of children under five years of age in the e-PPGBM record of the Kuta Malaka Health Center, Aceh Besar District; and 2) data on the nutritional status of children under five years of age ≥ 35 months in February 2020 data before the onset of the COVID-19 pandemic. Patients with incomplete data were excluded from the study. The age range of 0–34 months was chosen because this study used paired data so that the age range of the child was chosen to ensure that the child was still classified as a toddler both before and during the COVID-19 pandemic. The first 1000 days of life is an important time span for the growth and development of children. Samples were selected using the simple random sampling method with Ms. Excel software. The sample of this study amounted to 185 data points on the nutritional status of toddlers.

Kuta Malaka sub-district was chosen as the research location not through a location sampling process, but because of the high prevalence of stunting and the presence of villages designated by the government as stunting intervention loci. Therefore, it is difficult to conclude that the Kuta Malaka sub-district can represent the generalization of all sub-districts in the Aceh Besar district. Kuta Malaka Sub-district is ±37 kilometers from the capital of Aceh Besar District. Kuta Malaka sub-district borders Sukamakmur sub-district to the west, Montasik sub-district to the north, Indrapuri sub-district to the east, and Aceh Jaya sub-district to the south.

Stunting is the condition of toddlers who are too short for their age, which includes stunted and severely stunted toddlers. The z-score value of the nutritional status of toddlers based on LAZ or HAZ in the study in accordance with the Minister of Health Regulation Number 2 of 2020 concerning Anthropometric Standards is grouped into: severely stunted (z-score value < -3 SD), stunted (z-score value -3 SD through to -2 SD), normal (z-score value -2 SD through to +3 SD), high (z-score value > +3 SD). Data processed using the PSG Balita application (Al Rahmad et al., 2023).

This study used secondary data obtained from the e-PPGBM system at the Kuta Malaka Health Center. Research data were collected using a form/checklist. Data on the nutritional status of toddlers in e-PPGBM come from the results of anthropometric measurements taken by Integrated Service Post (in Indonesian called Posyandu) cadres, who have been trained using the one health brand stadiometer measuring instrument. The data were inputted into the e-PPGBM by a nutritionist.

This study used paired data, meaning that data on the nutritional status of toddlers before and during the pandemic used data from the same toddlers. Nutritional status data before the pandemic were collected from the sample selected through a simple random sampling process. Furthermore, data on the nutritional status of children under five years of age during the pandemic were taken from the same child's data by ensuring the child's name, date of birth, NIK, and parents' names. Data on the nutritional status of children under five years before the COVID-19

pandemic were obtained from e-PPGBM data in February 2020, while data on the nutritional status of children under five during the COVID-19 pandemic were obtained from e-PPGBM data in February or March 2022. If there were data on toddlers where no data pair was found during the pandemic in the February 2022 data, the pair data were taken from the March 2022 data.

Univariate analysis was performed on the study data to assess the frequency distribution of sex, age of toddlers, and nutritional status categories within the observed sample. The study data were not normally distributed; therefore, the Wilcoxon test was used. This comparative test was chosen because it uses paired data. The z-score value of the nutritional status of children under five before the COVID-19 pandemic was compared with the z-score value of the nutritional status of children under five during the COVID-19 pandemic. The analysis was conducted using the SPSS version 26 software.

Approval and use of data permits were obtained from the Aceh Besar Health Office and Kuta Malaka Health Center (letter number 070/304/2023). Confidentiality of toddler data is protected by including names only in the form of initials and NIK numbers are disguised. This study was approved by the Health Research Ethics Committee of the Faculty of Medicine, Syiah Kuala University (number 183/EA/FK/2023).

Result and Discussion

The frequency distribution of research data characteristics based on sex and age of toddlers is presented in Table 1.

Table 1. Frequency distribution of study data characteristics

Characteristics	n	%
Gender of children under five		
Male	97	52,4
Female	88	47,6
Age of toddler (before the COVID-19 pandemic)		
0 - 11 months	57	30,8
12 - 23 months	65	35,1
24 - 34 months	63	34,1
Age of toddler (during the COVID-19 pandemic)		
23 - 35 months	57	30,8
36 - 47 months	65	35,1
48 - 59 months	63	34,1

An overview of the nutritional status (HAZ) of under-fives before the COVID-19 pandemic by sex is presented in Figure 1.

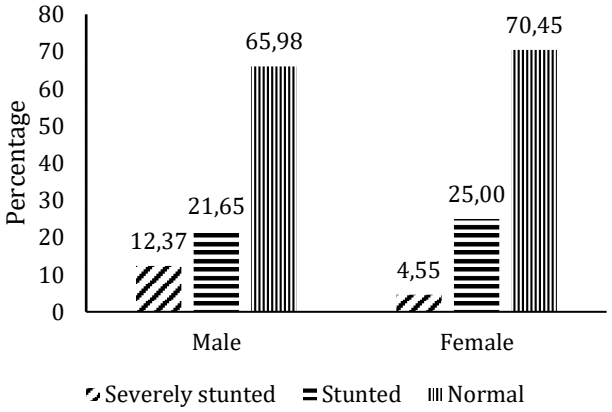

Figure 1. Overview of the nutritional status of toddlers before the COVID-19 pandemic

An overview of the nutritional status of children under five years of age during the COVID-19 pandemic by gender is presented in Figure 2.

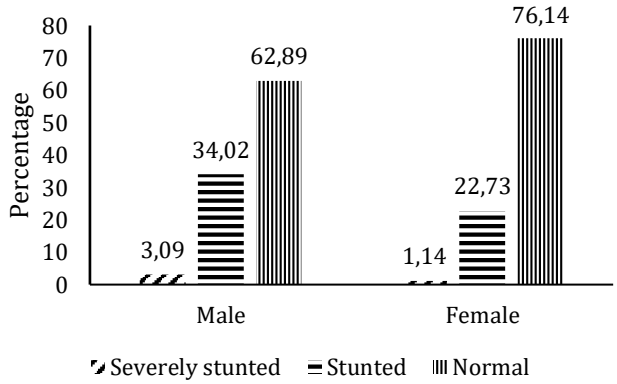

Figure 2. Overview of the nutritional status of toddlers during the COVID-19 pandemic

Figure 1 and 2 show that the number of children under five, who were very short during the pre-pandemic period, decreased compared to the COVID-19 pandemic in both male and female groups. The number of short children under five years of age in the male group increased compared to that before the COVID-19 pandemic. The number of normal children under five years of age in the female group increased compared to that before the COVID-19 pandemic.

Nutritional status according to LAZ or HAZ was categorized as stunting (severely stunted and stunted), normal, and high. The frequency

distribution of the nutritional status of children under five years of age before and during the COVID-19 pandemic is presented in Table 2.

Table 2. Nutritional status of children under five years of age before and during the COVID-19 pandemic

Nutritional status of children under five	Before COVID-19 pandemic		When COVID-19 pandemic	
	n	%	n	%
Severely stunted	16	8,6	4	2,2
Stunted	43	23,2	53	28,6
Normal	126	68,1	128	69,2

The data in Table 2 show that the number of toddlers with normal nutrition status was greater than those with stunting status (severely stunted and stunted) both before and during the COVID-19 pandemic. Stunting is the condition of toddlers who are too short for their age, and includes severely stunted and stunted toddlers. Data before the COVID-19 pandemic showed that 8,6% of children under five years of age were severely stunted, 23,2% were stunted, and 68,1% were normal, Data from the COVID-19 pandemic showed that 2,2% of children under five were very short, 28,6% were short, and 69,2% were normal. Children with high status were not found in the data before or during the COVID-19 pandemic. Toddlers with high status categories are rarely found among toddlers in the Kuta Malaka Sub-district.

The number of stunted toddlers in this study during the pandemic decreased slightly compared to that before the pandemic. The number of stunted toddlers who initially numbered 59 toddlers before the pandemic was 57 toddlers during the pandemic. These results are in line with a study conducted by Wijianto et al. (2023) in Banggai Regency, Central Sulawesi Province, which showed that the prevalence of *stunting* was initially 24,5%–19,5% during the COVID-19 pandemic (Wijianto et al., 2023). Dewi et al. (2022) illustrated that the percentage of stunting during the COVID-19 pandemic has decreased compared to before the pandemic, along with an increasing percentage of toddlers with normal and high status (Dewi et al., 2022). A study conducted by Nurjamillah and Dwiriani showed a decrease in the number of stunted toddlers in the Unyur Health Center working area, Serang City, which initially numbered 106 toddlers before the pandemic to only 72 stunted toddlers during the COVID-19 pandemic (Nurjamillah & Dwiriani, 2022). A study in the Baleendah Health Center working area in Bandung showed a decrease in the incidence of stunting during the COVID-19 pandemic (Husnul et al., 2023).

The results of SSGBI 2019 and SSGI 2022, conducted by the Indonesian Ministry of Health, show a decrease in the prevalence of stunting among children under five years of age. The prevalence of stunting in Indonesia has decreased from 27,67% in 2019 to 21,6% in 2022. The prevalence of stunting in Aceh Province has decreased from 34,18% in 2019 to 31,2% in 2022. The prevalence of stunting in Aceh Besar District decreased from 43,36% in 2019 to 27,0% in 2022. (Kementerian Kesehatan RI, 2023; Kementerian Kesehatan RI & BPS, 2019). These data shows results that correspond with the results of this study, which found a decrease in the number of stunting toddlers.

The number of toddlers with normal nutritional status in this study during the pandemic increased slightly compared to the pre-pandemic period. The number of normal toddlers who initially numbered 126 toddlers before the pandemic was 128 toddlers during the pandemic. This is in line with the study conducted by Dewi et al. (2022), which showed an increase in the percentage of children under five years of age in the normal and high nutritional status groups.

The differences in the nutritional status of children under five years of age before and during the pandemic are shown in Table 3.

Table 3. Differences in the nutritional status of children before and during the COVID-19 pandemic

Nutritional status before the pandemic COVID-19	Nutritional status during the COVID-19 pandemic						Total		p-value
	Severely Stunted		Stunted		Normal				
	n	%	n	%	n	%	n	%	
Severely Stunted	2	12,5	9	56,3	5	31,3	16	100,0	
Stunted	2	4,7	25	58,1	16	37,2	43	100,0	0,08
Normal	0	0,0	19	15,1	107	84,9	126	100,0	

Interpretation of the data in Table 3 shows changes in the nutritional status of children under five years old before and during the COVID-19 pandemic. Most toddlers who were previously severely stunted or stunted experienced an increase in nutritional status for the better, with the largest proportion from the severely stunted to short category (56,3%) and from stunted to normal (37,2%). In contrast, there were a few children under five years of age who experienced a decline in nutritional status, especially from the normal to stunted category (15,1%). None of the children under five experienced a drastic decline from normal to severely stunted.

The results of the Wilcoxon test conducted on the under-five nutritional status z-score data obtained a p value of 0,08 (p> 0,05). This revealed that there were no significant changes in the nutritional status of under-fives before and during the COVID-19 pandemic in the Kuta Malaka District, Aceh Besar Regency. The results of this study are in line with those of Pane et al. (2022) in Sidomulyo Village, Sibiru-Biru District, North Sumatra, which also showed no significant differences in the nutritional status of toddlers according to LAZ or HAZ before and during the COVID-19 pandemic. All toddlers who initially had a normal status remained in this category during the COVID-19 pandemic period. Pane et al. assumed that the absence of differences in the nutritional status of toddlers was due to the process of increasing height, which takes a long time. Pane et al. assumed that improvements in nutritional status can occur due to the regulation of LSRR and Work from Home (WFH), so that parents have more time to accompany children and pay attention to children's nutritional intake (Pane et al., 2022). This study and the study conducted by Pane et al. (2022) both take rural areas as their research sites. The UNICEF stated that the decline in income during the COVID-19 pandemic was experienced more by households in urban communities than in rural communities. Households facing a ≥25% decrease in income in urban areas reached 44%, while households in rural areas only reached 34% (United Nations Children's Fund (UNICEF), 2021). Family income is an indirect factor that can affect the nutritional status of children under five. Researchers assume that people in rural areas who experience less income decline may be the reason why there is no significant change in the nutritional status of children under the age of five.

Other studies have shown different results. A study conducted by Nurjamillah & Dwiriani showed a significant difference in the nutritional status of toddlers before and during the COVID-19 pandemic in the working area of the Unyur Health Center, Serang District, Serang City (Nurjamillah & Dwiriani, 2022). Most residents of Unyur Village, Serang City, work in the trade sector that was affected by the COVID-19 pandemic (Afrizal & Dewi, 2021; Badan Pusat Statistik Kota Serang, 2021; Sa'diah, 2020). Serang City is also an urban area, where UNICEF stated that 44% of households in urban areas experienced a ≥25% decrease in income. BPS data show that most people in the Aceh Besar District work as employees and laborers (Badan Pusat Statistik Kabupaten Aceh Besar, 2020; BPS Kabupaten Aceh Besar, 2023). We assume that the differences in the results of these two studies could be due to the different research locations between rural and urban areas, and the different occupations of the population between the two research sites.

The government is taking a number of measures to prevent and reverse the impact of the COVID-19 pandemic on people's lives (Hajad et al., 2021) The government has budgeted IDR 699 trillion in emergency response and recovery efforts for the national economy (United Nation Children's Fund (UNICEF), 2021). Social assistance provided by the government, both in the form of cash and non-cash, can help the community meet the daily needs of households, including the fulfillment of food needs (Akseer et al., 2020; Kementerian Sosial Republik Indonesia, 2021; United Nations Children's Fund (UNICEF), 2021). The Ministry of Finance in 2021 revealed that the government has provided cash or non-cash assistance to at least 85% of households (United Nations Children's Fund (UNICEF), 2021).

The use of government programs, such as social assistance, is one of the solutions chosen by the community to deal with difficult conditions to obtain food during the COVID-19 pandemic (Niles et al., 2020). In April 2020, the Aceh Provincial Government distributed social assistance to 61,584 households in Aceh Province, targeting people affected by the COVID-19 pandemic, such as laborers, small traders, and other non-formal workers (Biro

Administrasi Pimpinan Sekretaris Daerah Aceh, 2020). In April 2020, the Aceh Besar District Government handed over 399 food aid packages for lower-middle-income people who were economically affected by the COVID-19 pandemic in the Kuta Malaka Sub-district. (Media Pos Aceh, 2020). Researchers assume that the social assistance provided can help families fulfill their food needs to reduce the impact of the COVID-19 pandemic.

Health services are one of the indirect factors determining the nutritional status of children under five years of age, which is also strived to be available during the COVID-19 pandemic. The Indonesian Ministry of Health issued guidelines related to the implementation of Posyandu, which were adjusted to the presence or absence of COVID-19 cases or LSRR policies and the policies of each local government. The guidelines state that health services for toddlers can be implemented while still focusing on efforts to control and manage COVID-19 (Kementerian Kesehatan RI, 2020b).

Growth monitoring at Posyandu is one form of specific intervention effort that can be carried out to deal with nutritional problems (Kementerian Kesehatan RI, 2020a). Posyandu activities in the Kuta Malaka sub-district continued during the COVID-19 pandemic through the implementation of health protocols. A literature review conducted by Prasida (2022) related to the coverage of posyandu visits showed that five out of six studies revealed that posyandu visits could still be achieved during the COVID-19 pandemic while adhering to health protocols (Praida, 2022). Posyandu activities in Buahan Kaja Village, Gianyar Regency, at the beginning of the pandemic in April and May 2020 were stopped, but posyandu activities throughout 2020 began again in June (Anggari et al., 2021). A study conducted by Desty and Wahyono (2021) also mentioned that in 2020, Posyandu activities in Grantung Village, Purbalingga, were not conducted in April and May.

Visits to Posyandu are related to toddlers' nutritional status (Agustiawan & Pitoyo, 2020; Herlina & Benri, 2023). The participation of toddlers in Posyandu activities during the COVID-19 pandemic is influenced by maternal age, maternal education level, parity, maternal knowledge level, family support, and the role of Posyandu cadres (Desty & Wahyono, 2021). The active role of posyandu cadres in conveying information related to the importance of participation in Posyandu activities, Posyandu implementation schedules, and education related to preventing the transmission of COVID-19 can affect the level of attendance to Posyandu. Posyandu cadres also need to educate their community so that they do not feel worried about coming to Posyandu during the COVID-19 pandemic. A study showed that 89.4% of Posyandu cadres in Kuta Malaka District had good knowledge about stunting (Juhandi, 2023).

Health services for children under five years during the COVID-19 pandemic can also be carried out by providing online consultation services and *door-to-door* health services (Rachmah et al., 2024; Sitoayu et al., 2022; UNICEF, 2020b; Wijianto et al., 2023). The decline in the prevalence of nutritional status problems in toddlers during the COVID-19 pandemic was due to the nutritional intake of toddlers who were fulfilled through food assistance and health services carried out door-to-door (Wijianto et al., 2023).

Measures taken to realize good nutrition in children can be adjusted to determine the determinants of their nutritional conditions. Knowledge about nutritious, safe, and accessible diets must be improved through promotive and educational activities (Octavia & Ratih, 2023; Thacker et al., 2022). Knowledge related to nutrition can affect how people respond to conditions during the COVID-19 pandemic. People with sufficient nutritional knowledge can continue trying to meet their children's daily nutritional needs (Setyorini et al., 2022). The implementation of exclusive breastfeeding and complementary feeding in accordance with the age of the child also needs to be implemented (Octavia & Ratih, 2023; Rahmad et al., 2024). In addition, children's growth should be monitored regularly for early detection if there is a risk of malnutrition (Fore et al., 2020).

The location of this study was not selected using a sampling system but rather by adjusting to the level of stunting incidence and the location of villages that are the locus of stunting interventions determined by the government. Therefore, the limitation of this study is that the results cannot be generalized to represent all sub-districts in Aceh Besar.

Conclusion

There was no significant change in the nutritional status of under-fives before and during the COVID-19 pandemic in the Kuta Malaka Sub-district of Aceh Besar. There were more toddlers with normal nutritional status than toddlers with stunting status both before and during the COVID-19 pandemic.

The results of this study will also be useful for monitoring the success of stunting prevention in the study area. Public health policies can be implemented in Kuta Malaka Sub-district to improve the nutritional status of toddlers, namely monitoring the height growth of toddlers at Posyandu regularly at least 2 times a year, increasing the knowledge of mothers and caregivers of toddlers about toddler nutrition through counseling sessions, and providing additional food tailored to the nutritional status of toddlers so that nutritional needs can be met.

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