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Mother's Knowledge, Attitude and Practices and its Influence toward Nutritional Status of Children in Terengganu

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ABSTRACT

This cross-sectional study aimed to identify the nutritional status, Knowledge, Attitude and Practice (KAP) regarding stunting among mothers and its relationship with stunting among children below two years old in Terengganu. A total of 330 mother-child pairs from Terengganu were recruited through purposive sampling. Anthropometric measurement comprised weight and height. Information on socio–demographic, and a validated questionnaire on knowledge, attitude and practice of stunting were self-reported. Chi-square test was applied in this study with $p<0.05$ considered significant outcome. The majority (61.2%) of the mothers aged 30−39 years old, with tertiary educational level (51.5%) and in the low income group (86.4%). The prevalence of stunting, wasting and underweight was 25.2%, 9.4% and 14.2% respectively for the children below two years old in Terengganu. KAP analysis revealed that 44.5% of mothers had moderate level of knowledge, while 68.8% and 92.7% had good level of attitude and practice, respectively. A significant association ($p<0.05$) was found between knowledge of mothers with stunting among the children, while no significant association between attitudes and practice with stunting. The present study found that mothers' knowledge significantly impacted their child's growth status in relation to stunting. Future intervention programmes should incorporate nutrition education focusing on mothers' knowledge to prevent stunting among children.

Keywords: children, nutritional status, stunting

INTRODUCTION

Early nutrition is essential for children and the growth of adulthood. Inadequate nutrition during the first two years of life can cause morbidity and mortality in children. This period is critical for the growth and development of children; and prevention from malnutrition-related issues such as wasting, stunting and underweight (UNICEF 2017). Thus, subsequently reduce the child mortality rates. Worldwide reported that the prevalence of stunting, wasting and underweight are 21.3%, 7.3% and 13.4%, respectively (Dukhi 2020). Weight-for-Age Z-scores (WAZ), Length/ Height-for-Age Z-scores (LAZ), and Weight-for-Length Z-scores (WLZ) were used to determine the child's nutritional status. Then children who have less than two standard deviations (-2SD) below the Child Growth Standard median guideline are considered undernutrition of underweight, stunting and wasting (WHO 2015).

Childhood stunting is the most significant sign of human development that is affecting globally to children under the age of five years old that approximately 162 million (UNICEF/ WHO/World Bank Group 2020). Therefore, it was estimated that 127 million children under five years old will continue to be stunted in 2025 if the development were to continue (De Onis *et al.* 2013). Usually, stunting occurs in countries with low and middle income. According to the World Bank data, Malaysia's rate of stunting among children under five years old was 20.7%, which was higher than other middle-income countries such as Ghana (18.8%), Mexico (12.4%) and Kazakhstan (8%) (UNICEF 2015).

In Malaysia, the prevalence of malnutrition in children has decreased over the years. A report by the National Health and Morbidity Survey (NHMS) 2019 stated that the prevalence of stunting, wasting and underweight was 21.8%, 9.4% and 14.1%, respectively, among Malaysia children under five years old (IPH 2019). In comparison with the local study, NHMS 2016 was reported that Kelantan had the highest stunting across the different states in Malaysia which is 34%, followed by Terengganu at 26.1% and with the lowest incidence in Kuala Lumpur at 10.5%

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(Baharudin *et al.* 2019). Malaysia has made no progress toward reducing the stunting rate as the prevalence of stunting in children under five years old in Malaysia has increased from 17.2% in 2006; 20.7% in 2016; to 21.8% in 2019 (Global Nutrition Report 2019). In Malaysia, under five years of mortality also increased from 2009 to 2020 (per 1,000 live births) (WHO 2021).

The most striking details in childhood stunting situations in Malaysia aresignificant problems regardless of factors such as household income, parental education, duration of breastfeeding, low birth weight, increase in child age, health status and history of children's recent illnesses, are among the variables of undernutrition (Gebre *et al.* 2019). Environmental factors such as drinking water sources, types of sanitation and household built-up materials were reported can also influence the nutritional status (Kassie & Workie 2020). Mothers with poor knowledge, attitude and practice may also lead to stunting. It shows that stunting in children of the first two years of life is impacted by the mother's lack of maternal knowledge, negative attitude and practice in the feeding process (West *et al.* 2018).

In addition, studies among the mothers and their knowledge, attitude and practice towards the nutritional status of their children is still scarce. Malaysia still had the highest stunting as can be seen in the East Coastal of Peninsular Malaysia like in Kelantan and Terengganu states. Therefore, this study was conducted to determine the association of mother's Knowledge, Attitude and Practice (KAP) towards the nutritional status of their children below two years old in Terengganu. Besides, it could be a reference and guide to other researchers for further investigation or the subsequent related study.

METHODS

Design, location, and time

This study is part of the larger study conducted with ethical approval obtained from UniSZA Human Research Ethics Committee (UHREC) with reference number UniSZA/UHREC/2022/391. A cross-sectional study was conducted from August 2022 until March 2023 to determine the nutritional status and knowledge, attitude and practice of stunting among mothers with childrenbelow two years old in Kuala Terengganu and Kuala Nerus. A list of children aged two years and below and their mothers was obtained from District Development and Safety Committee (JPKK) in Kuala Nerus and Kuala Terengganu and Terengganu Family Development Foundation (YPKT) who meet the inclusion criteria and exclusion criteria of the study.

Sampling

A total of 330 mother-child pairs from Kuala Terengganu and Kuala Nerus were recruited through purposive sampling. The inclusion criteria of the study wereas follows: 1) Female and/or male child that aged 0−24 months; 2) mothers of the children; 3) mothers who are able to read/write/understand Malay and ;4) district of Kuala Terengganu and Kuala Nerus. The exclusion criteria included children with physical disabilities and known diseases.

Data collection

Prior to the data collection, ethical approval was obtained from the UniSZA Human Research Ethics Committee (UHREC) with reference number UniSZA/UHREC/2022/391. The participants were then recruited according to the inclusion and exclusion criteria. A brief explanation was given to the participants, and written informed consent was obtained. The study was divided into three sections of socio-demographic, anthropometric measurements and KAP questionnaires. Anthropometric measurement was comprised of weight and height. Information on socio–demographic, and validated questionnaires on knowledge, attitude and stunting practice were self-reported.

Socio-demographic. This section includes age of the mother and children, sex of the children, race, date of birth, number of children, mother's educational level and estimated household income.

Anthropometric measurements. This section includes all measurements of children that were taken, procedures or measurements and also which growth indices to use (length–for–height). Weight was measured using the SECA 374 baby scale (SECA, Germany), whereby the children must remove all cloth and shoes to the nearest 0.1kg (Ruel-Bergeron *et al.* 2019). To measure the recumbent length of the children, SECA 374 baby scales (SECA, Germany) were used as the babies were lying with arms by sides and flat

feet. Measurements were taken to the nearest 0.1cm. Weight-for-Age Z-scores (WAZ), Length/ Height-for-Age Z-scores (LAZ), and Weight-for-Length Z- scores (WLZ) were determined using WHO AnthroPlus software (version 3.2.2). The nutritional status of the children, namely underweight, wasting and stunting, was determined (Wolde *et al.* 2015).

Knowledge, attitude and practice (KAP) questionnaire. Questionnaire was validated by the expert teams in nutrition, dietitian, health education, lactation counsellor, nurses, paediatrician, psychologist and public health specialist using a validated questionnaire for content validation. The questionnaire includes three sections: C1 for knowledge (29 questions), C2 for attitude (10 questions) and C3 for practice (5 questions). The topics covered within this questionnaire are about stunting in general, mother, infant and young child feeding and WASH. To acquire their information, the responder must complete all the knowledge, attitude and practice questionnaires.

Data analysis

Each of the questions of knowledge and practice needs to answer either 'Yes', 'No' or 'Do not know'. One mark was given to a correct answer, zero for wrong and don't know option. In contrast, the attitude question was scaled from the level agreement ranging from 1 to 5 on a five-point Likert scale (1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree). This method measures respondents' attitudes, whether they are positive or negative. Total scores were then categorized into three classifications, 80% as good, 60−79% as moderate and less than 60% as poor (Jaqtap *et al.* 2017).

The findings were reported in the form of descriptive and inferential statistics. Data with a normal distribution were reported as mean, and SD was used for continuous data, whereas data with a skewed distribution was expressed as median and Interquartile Range (IQR). Numbers and percentages were used to represent categorical variables. Statistical significance is set at $p<0.05$ with 95% Confidence Interval (CI). Inferential statistics such as Pearson's Chi-square test also were presented when all assumptions were fulfilled. Descriptive and Pearson's Chi-square tests were carried out according to the specific objective stated in this study.

RESULTS AND DISCUSSION

Socio-demographic characteristics of the participants

The socio-demographic characteristics of the participants is provided in Table 1. The total samples included in this study were 330 participants, with 53.6% male and 46.4% female children. The majority (61.2%) of the mothers aged 30−39 years old, with tertiary educational level (51.5%) and in the low income group (86.4%). Families with less than three children per house are 76.7%, with more than one pregnancy (69.7%). The respondents that participated in this study were from several races, including Malay, with a significant population of 98.8%.

Prevalence of stunting, underweight and wasting

Table 2 depicts the prevalence of wasting, stunting and underweight among the children. A total of 25.2% of the children were stunted, 14.2% were underweight, and 9.4% were wasting. The prevalence of stunting in this study is quite similar to the stunting prevalence in Terengganu, which was reported by the National Health and Morbidity Survey (NHMS) (IPH 2016). Terengganu is recognized as the second highest state with stunting among children below two years old, after Kelantan, which reported the highest state for stunting cases at 34%. Hence, the prevalence of underweight and wasting is the same as Malaysia's prevalence of underweight and wasting reported by NHMS 2019, which are 14.1% and 9.1%, respectively.

Stunting, underweight, and wasting may occur in an early life that starts from conception until two years old. However, this nutritional status needs to be detected at an early age as early prevention can protect the child's growth from deteriorating. As stated by NHMS 2019, 21.8% of children in Malaysia are stunted. Stunting usually higher among older children. In this study, the majority of stunting the children occurred at the age of 13–24 months. This could be due to the situation that the children started to had solid food and become picky eater and subsequently doesn't get enough nutrition. Beside, most of the boys had a longer recovery times compared to female when sick (Thurstans *et al.* 2022). The prevalence of stunting among children aged 12–24 months was 17% compared to children

Table 1. Socio–demographic characteristics of participants (n=330)

Characteristics of participants	Frequency (n=330)	Percentage (%)
Children's gender		
Male	177	53.6
Female	153	46.4
Children's age (months)		
Below 6	64	19.4
6–12	90	27.3
13–24	176	53.3
Mother's age		
19	1	0.3
20–29	103	31.2
30–39	202	61.2
40–49	24	7.3
Number of children		
Less than 3	253	76.7
More than 3	77	23.3
First pregnancy		
Yes	100	30.3
No	230	69.7
Race		
Malay	326	98.8
Chinese	1	0.3
Others	3	0.9
Education level		
Not formal	3	0.9
Primary	7	2.1
Secondary	150	45.5
Tertiary	170	51.5
Household income		
Low income group	285	86.4
Middle income group	43	13.0
High income group	2	0.6

Table 2. Prevalence of stunting, underweight and wasting among children under two-year-old in Terengganu (n=330)

Nutritional status		Frequency (n=330)	Percentage (%)
LAZ			
	Normal	247	74.8
	Stunting	83	25.2
WAZ			
	Normal	283	85.8
	Underweight	47	14.2
WLZ			
	Normal	299	90.6
	Wasting	31	9.4

LAZ: Length/Height-for-Age Z-scores; WAZ: Weight-for-Age Z-scores; WLZ: Weight-for-Length Z-scores

below six months old at 13.9% (Baharudin *et al.* 2019). Low birth weight might affect the stunting status of the children as they will increase the risk of malnutrition. Low birth-weight may cause children to have various infections, loss of appetite, and poor nutrition intake compared to their normal-weight counterparts (Raymond Leprince *et al.* 2020).

Underweight usually occurs among children aged 6–24 months. In this study, underweight children aged 6–24 months was 14.2%. In Malaysia, 65% of indigenous children (*Orang Asli*) had a higher prevalence of underweight compared to the general population (Chew *et al.* 2022). Poor socio-economic in East Coast Malaysia that led to poor diet, delayed complementary food and frequently sick are reasons for underweight among children. Most of the families cannot afford to buy nutritious food for their children due to poverty. Improving household socioeconomic status can prevent underweight issues for children below two years old in the population.

Children at the age of 11–19 months have the highest chance to have wasting compared to other ages (Lee *et al.* 2022). Boys had a higher chance of being wasted than girls (Lee *et al.* 2019). The findings of the present study is similar, where boys have higher prevalence of wasting compared to girls as their energy requirement are higher especially in terms of physical activity. In addition, the ability to absorb and retain nutrients may be limited with the limitations in eating the nutritious food. At this point, children who are underweight and wasting may have poor dietary intake that affect their growth as they tend to be a picky eater and start to know the taste and type of foods taken. Children that were limited in their variety of food intake will have short stature and have imbalanced diets that are leading to weight loss (Lee *et al.* 2019). Food intake needs to be adequate with macro and micronutrients that are needed by the body.

Knowledge, Attitude and Practice (KAP) of stunting among mothers

In this study, the total scores for knowledge, attitude and practice were determined based

on the questionnaires that were asked. Based on the results, the majority of the mothers had good attitudes and practice, which is 68.8% and 92.7%, respectively, while 44.5% of mothers had moderate knowledge, as shown in Table 3.

Mothers who have a good knowledge of nutrition will try to meet the child's nutrition needs. Even though their child is having a difficult time eating and needs to encourage them to eat beside picky eaters, mothers will make a variety of foods so that it will meet the nutrition needs of the child. However, in this study, 24.2% of mothers still had poor knowledge about stunting. A study by Fadare *et al.* (2019) reported that poor knowledge in mothers would cause negative outcomes for children. Adequate knowledge of mothers will give an adequate nutritional status to children.

In contrast, there are no poor scores for attitude, with 68.8% of the mothers have a good attitude. It can be said that a mother who had a good attitude will be able to reduce stunting among children below two years old. The mother's attitude is the key factors in ensuring the nutritional status of the children. Hygiene, safe and preparation storage and complementary feeding must be practised for their child as it will affect the food's health and the notion of enjoyment. Most of the mothers had a good attitude toward safe preparation and storage, and hygiene. Maternal education toward pregnant women in Malaysia was higher as it can change in attitude and behaviour are greatly influenced in level of educational. KAP study among 320 antenatal and postnatal mothers reported that maternal nutritional knowledge has significant relationship with attitude. Mothers with poor nutritional knowledge will have poor nutritional attitude towards their children (Ikhsan *et al.* 2018).

Furthermore, 92.7% of respondents get a good score in practice. Notable alterations in practice among mothers can reduce the stunting rate in the Terengganu population as they often practice hygiene. Cleanliness and safety are important for mothers to practice in their daily life, especially in handling food for their children. Most of the mothers had good practices regarding hygiene and cleanliness to prevent their child getting sick due to their own actions. Besides, mothers that had good practice in preparing a healthy meal for themselves were potentially preparing healthy and nutritious meals with essential micronutrients and macronutrients (Mondal *et al.* 2021). Thus, this could prevent their child from becoming stunting as well as reducing the prevalence of stunting

Table 3. Knowledge, attitude and practice (KAP) of stunting among mothers in Terengganu (n=330)

Variables	Poor n (%)	Moderate n (%)	Good n (%)
Knowledge	80 (24.2)	147 (44.5)	103 (31.2)
Attitude	-	103 (31.2)	227 (68.8)
Practice	24 (7.3)	-	306 (92.7)

Relationship between Knowledge, Attitude and Practice (KAP) with stunting

There are significant associations between knowledge and stunting status ($p<0.05$), while for attitude and practice with stunting, there are no significant associations, as shown in Table 4. This shows that the risk of stunting was reduced when mothers had adequate knowledge regarding stunting towards their children. Most of the studies concluded that good knowledge of mothers is able to reduce the stunting rates in their children. This statement was supported by the study by Hamlum *et al.* (2021) where mothers with a high level of knowledge will try to meet the nutritional status of their child and will complete the micronutrient and macronutrients of their child.

However, the mother's attitude was not affected by the stunting toward the child, as other factors need to be taken into account. As reported in several previous studies, mothers with positive attitudes will reduce stunting in children as mothers care for their child's feeding practices and nutritional status. As mentioned by Yeganesh *et al.* (2018), the attitude of mothers must come together with the improvement of household food security and the number of people living in one house.

Besides, a study by Nasution *et al.* (2019) concluded that children that had stunting are also with diseases that affected them like diarrhoea, fever or vomiting. When pain occurs, their desire to eat will decline and will eventually reduce their weight, even mothers feeding their children regularly. Besides, children at age below two years old are in the process of growth development. Thus, it is normal for them to lose appetite in eating. This is not because of the mother's

Table 4. Association between knowledge, attitude and practice (KAP) with stunting (n=330)

Variables	Stunting status (n=330) (n%)		X^2 statistics (df)	*p*
	Normal	Stunting		
Knowledge				
Poor (n %)	51 (20.6)	29 (34.9)		
Moderate (n %)	115 (46.6)	32 (38.6)	6.915 (2)	0.032*
Good (n %)	81 (32.8)	22 (26.5)		
Attitude				
Poor (n %)	0 (0)	0 (0)		
Moderate (n %)	75 (30.4)	28 (33.7)	0.329 (1)	0.566
Good (n %)	172 (69.6)	55 (66.3)		
Practice				
Poor (n %)	18 (7.3)	6 (7.2)		
Moderate (n %)	0 (0)	0 (0)	0.00 (1)	0.986
Good (n %)	229 (92.7)	77 (92.8)		

[a]Chi-square for independence; *Pearson's Chi Square test, significant at $p<0.05$

negative attitude that causes their child to become stunted. So, it can be concluded that the attitude of the mothers is not the only factor in stunting.

Moreover, there is no significant association between the practice of the mothers and stunting. Studies regarding practice stated that mothers that have good nutritional practice would decrease the prevalence of stunting in children. Mother's education level is important to determine the practice level of mothers. Education levels is related to the maternal knowledge (Ikhsan *et al.* 2018), and thus the higher the mothers with good nutritional knowledge, the higher the minimum acceptable diet of the children (Pranita *et al.* 2023). Similarly, a study in the village of Kosona among 150 mothers, majority of them were older mothers who had low knowledge regarding stunting (Berisha *et al.* 2017). This will affect their practice in the right way, especially in complementary feeding of children where they can't meet the nutritional needs of children to the optimum. Besides, the age of the mothers also play an important role in applying the practice. Older mothers are unable to follow instructions and perform it well. When having limited access to food and with low household income, the cheaper and same food that contains limited nutrients was given to the child to avoid hunger. The mother's practice was not affected by stunting toward the child, as other factors need to be taken into consideration.

CONCLUSION

Prevalence of stunting among children below two years old in Terengganu is 25.2% that need to be decreased. The majority of the mothers have moderate and good knowledge, attitude and practice. However, there are 24.1% with poor knowledge, and 7.3% with poor practice. This study able to measure the level of knowledge, attitude and practice among mothers in Terengganu. There are significant association ($p<0.05$) between knowledge and stunting. This implies that maternal knowledge is the key determinant in ensuring the nutritional status of the children and thus preventing them from becoming stunting. Thus, more health awareness campaign on nutritional status of the infant need to be emphasized among the expectant mothers, or during the maternal's antenatal visit to the health facilities.

Future research needs to be conducted with more focus among children below two years old in East Coastal of Malaysia especially in Terengganu and rural area as to provide a deeper understanding on stunting since most studies focused on children below five years and above that are outside of Malaysia. Besides, more health campaign could be done by the public health specialist in order to create awareness among mothers and to increase their knowledge on monitoring their children's health in reducing

stunting at early stage. Thus, achieving healthy nation in the long run.

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DECLARATION OF CONFLICT OF INTERESTS

The authors have no conflict of interest.

REFERENCES

Baharudin A, Man C, Ahmad M, Wong N, Salleh R, Megat Radzi M, Ahmad N, Aris T. 2019. Associated factors to prevalence of childhood under nutrition in Malaysia: Findings from the National Health and Morbidity Survey (NHMS 2016). Health Sci J 13(1):1−9. https://doi.org/10.21767/1791- 809x.1000627

Berisha M, Ramadani N, Hoxha R, Gashi S, Zhjeqi V, Zajmi D, Begolli I. 2017 Knowledge, attitudes and practices of mothers in Kosova about complementary feeding for infant and children 6−24 months. Arch Med 71(1):37. https://doi.org/10.5455/medarh.2017.71.37-41

Chew CC, Ibrahim HA, Balan VK, Abd-Aziz NA, Puah HM, HSS AS. 2022. Growth management and prevalence of underweight of indigenous children (Orang Asli) in Peninsular Malaysia: A clinical audit. BMC Pediatr 22(1):481. https://doi.org/10.1186/s12887-022-03532-7

Dukhi N. 2020. Global prevalence of malnutrition: Evidence from literature. Malnutrition 1:1–16. https://doi.org/10.5772/intechopen.92006

De Onis, M, Dewey KG, Borghi E, Onyango AW, Blössner M, Daelmans B, Piwoz E, Branca F. 2013. The World Health Organization's global target for reducing childhood stunting by 2025: Rationale and proposed actions. Matern Child Nutr 9:6–26. https://doi.org/10.1111/mcn.12075

Fadare O, Amare M, Mavrotas G, Akerele D, Ogunniyi A. 2019. Correction: Mother's nutrition-related knowledge and child nutrition outcomes: Empirical evidence from Nigeria. Plos One 14(4):e0215110. https://doi.org/10.1371/journal.pone.0215110

Gebre A Reddy, PS, Mulugeta A, Sedik Y, Kahssay M. 2019. Prevalence of malnutrition and associated factors among under-five children in pastoral communities of Afar Regional State, Northeast Ethiopia: A community-based cross-sectional study. J Nutr Metab 1–13. https://doi.org/10.1155/2019/9187609

Global Nutrition Report. 2019. Country Nutrition Profiles. Global Nutrition Report. https://globalnutritionreport.org resources/nutrition-profiles/asia/southeasternasia/malaysia [Accessed 25th September 2022].

Hamlun N, Khattak MMAK. 2021. Assessment of knowledge of mothers on Stunting: A survey in Perak Tengah. In In: 36th Scientific Conference 7−8 September 2021 (page 7−8). Malaysia. http://irep.iium.edu.my/93051/

[IPH] Institute for Public Health. 2016. National Health and Morbidity Survey (NHMS) (2016). https://www.researchgate.net/publication/320628242_Institute_for_Public_Health_IPH_2016_National_Health_and_Morbidity_Survey_2016_NHMS_2016_Maternal_and_Child_Health_Vol_I_Methodology_and_General_Findings_2016_120pp [Accessed 25th September 2022].

[IPH] Institute for Public Health, National Institutes of Health, & Ministry of Health Malaysia. 2019. National Health and Morbidity Survey (NHMS) 2019: NCDs-Non-Communicable diseases: Risk factors and other health problems. In Institute for Public Health, National Institutes of Health (NIH), Ministry of Health Malaysia (Vol. 1). http://www.iku.gov.my/nhms-2019 [Accessed 25th September 2022].

Ikhsan LN, Mohamad Nasaruddin NAM, Othman F, Abd Aziz KH, Ismail H. 2018. Nutritional knowledge, attitude and practice among antenatal and postnatal

mothers in Hospital Tengku Ampuan Afzan (HTAA), Kuantan, Pahang. Int Med J Malays 17 (Special Issue 1):167−173. https://doi.org/10.31436/imjm.v17i1.1028

Jagtap RP, Todkar RR, Gawit KG, Ghongane BB. 2017. Evaluation of knowledge, attitude and practices of resident doctors, interns and nurses on adverse drug reaction monitoring and reporting in a tertiary care hospital. J Med Sci Clin Res 05(03):19052–19059. https://doi.org/10.18535/jmscr/v5i3.120

Kassie GW, Workie DL. 2020. Determinants of under-nutrition among children under five years of age in Ethiopia. BMC Pub Health 20(1):1–11. https://doi.org/10.21203/rs.2.17004/v4

Lee WS, Tee CW, Tan AGS, Wong SY, Chew KS, Cheang HK, Lim T, Lum L CS, Aw MM. 2019. Parental concern of feeding difficulty predicts poor growth status in their child. Pediatr Neonatol 60(6):676–683. https://doi.org/10.1016/j.pedneo.2019.04.004

Lee WS, Jalaludin MY, Khoh KM, Kok JL, Nadarajaw T, Soosai A P, Mukhtar F, Fadzil YJ, Anuar Zaini A, Mohd-Taib SH *et al.* 2022. Prevalence of undernutrition and associated factors in young children in Malaysia: A nationwide survey. Front Pediatr 18(10):913850. https://doi.org/10.3389/fped.2022.913850

Mondal M. 2021. "complementary feeding practices among under and unserved slums dwelling mothers of Kolkata." Prevention of Violence against Children: Challenges and Opportunities. https://doi.org/10.30954/ndp/povac.20

Nasution SS, Oktavinola F, Hariati. 2019. Mother's knowledge and attitude abouts tunting of children in namorambe distric. ABDIMAS TALENTA: Jurnal Pengabdian Kepada Masyarakat 4(1):61–65. https://doi.org/10.32734/abdimastalenta.v4i1.2386

Pranita RN, Briawan D, Ekayanti I, Triwinarto A. 2023. Minimum acceptable diet and its associated factors among children aged 6–23 months in Indonesia. Journal Gizi dan Pangan. 18(1):1−10. https://doi.org/10.25182/jgp.2023.18.1.1-10

Raymond Leprince J, Sariman S. Basir Mohammed RB. 2020. Parental child feeding practices and growth status of Orang Asli children in Negeri Sembilan, Malaysia.Br Food J 122(10):3239–3248. https://doi.org/10.1108/bfj-01-2020-0053

Thurstans S, Opondo C, Seal A, Wells JC, Khara T, Dolan C, Briend A, Myatt M, Garenne M, Mertens A, Sear R, Kerac M. 2022. Understanding sex differences in childhood undernutrition: A narrative review. Nutrients 14(5):948. https://doi.org/10.3390/nu14050948

[UNICEF] United Nations Children's Fund. 2015. Progress for children beyond average - learning from the MDGS. https://archive.crin.org/en/library/publications/unicef-progress-children-beyond-averages-learning-mdgs.html [Accessed 10th August 2022].

[UNICEF] United Nations Children's Fund. 2017. Malnutrition in children – UNICEF data. https://data.unicef.org/topic/nutrition/malnutrition/ [Accessed 10th August 2022].

[UNICEF / WHO / World Bank Group] United Nations Children's Fund/ World Health Organiztion/ World Bank Group. 2020. Joint child malnutrition estimates key findings. https://data.unicef.org/resources/jme-report-2020/ [Accessed 10th August 2022].

West J, Syafiq A, Crookston B, Bennett C, Hasan MR, Dearden K, Linehan M, Hall C, Torres S. 2018. Stunting-related knowledge: Exploring sources of and factors associated with accessing stunting related knowledge among mothers in rural Indonesia Health 10(09):1250–1260. https://doi.org/10.4236health.2018.109096

Wolde M, Berhan Y, Chala A. 2015. Determinants of underweight, stunting and wasting among schoolchildren. BMC Pub Health 15:1–9. https://doi.org/10.1186/s12889-014-1337-2

[WHO] World Health Organization. 2015 Stunting in a nutshell. https://www.who.int/news/item/19-11-2015-stunting-in-a-nutshell [Accessed 3rd October2022].

[WHO] World Health Organization 2021. Infant and young child feeding. https://www.who.int/news-room/fact-sheets/detail/infant-and-young-chil-feeding [Accessed 3rd October2022].

Yeganeh S, Motamed N, NajafpourBoushehri S, Ravanipour M. 2018. Assessment of the knowledge and attitude of infants' mothers from Bushehr (Iran) on food security using anthropometric indicators in 2016: A cross-sectional study. BMC Pub Health 18(1):1–9. https://doi.org/10.1186/s12889-018-5531-5