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Understanding Stunting in Toddlers: Factors Impacting Knowledge Levels among FKIKUAJ Medical Students (2017-2020)

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Abstract

Introduction: Stunting is short stature in children due to chronic malnutrition in the first 1000 days of life. Medical students' knowledge plays an important role in preventing stunting. This study aims to determine the factors that are associated with the level of knowledge of FKIK-UAJ students class 2017-2020 about stunting in children under five.

Methods: This is a cross-sectional study of FKIK-UAJ students class of 2017-2020. Data collection using a questionnaire and data analysis using the chi-square test.

Results: The total respondents were 136 students with 135 included in the inclusion criteria and 1 person included in the exclusion criteria. The 135 students who filled out the questionnaire were dominated by female gender, class of 2020, clinic education stage, had not participated in the pediatrics clerkship, and had never participated in activities on stunting or child health with the level of knowledge obtained was in the good category 13.3%, sufficient 51.9% and less 34.8%. The chi-square test found that the factors of class (p=0,045), stage of education (p=0,023), and pediatrics clerkship (p=0,039) influenced the level of knowledge about stunting while gender (p=0,688) and activities about stunting or child health (p=0,903) had no effect.

Conclusion: The results showed that the factors of class, stage of education, and pediatrics clerkship had a relationship with the level of knowledge about stunting.

Keywords: stunting - knowledge - students

INTRODUCTION

Stunting is short stature in children due to chronic malnutrition in the first 1000 days of life. Short stature is when a child's height is below -2 standard deviations (SD) according to the World Health Organization (WHO) by age. Factors that contribute to chronic malnutrition include maternal health statuses such as iron deficiency anemia, recurrent infections in the child and mother, maternal knowledge, environmental factors, and others. [1-6]

Stunting is a child health problem that has become a major concern for the world's health workers.[1] Stunting has a major impact on child development, causing various health and socio-economic problems in the future due to the reduced quality of the country's human resources.[1, 2]

The prevalence of stunting in the world in 2017 was 22.2% and decreased to 22.0% in 2020 with the most cases in Asia at 53%.[2,7] Indonesia is the country with the second largest number of stunted children in Southeast Asia with 32.9% in 2015 and decreased to 31.8% in 2020.[8] However, it still has not met the national Sustainable Development Goal target of below 19% by 2024. [9]

Medical students are students who take part in medical education carried out in universities or medical faculties as well as prospective health workers who will provide education and health services to the community by knowledge they get during medical education.[10] The knowledge obtained by medical students during medical education is influenced by several factors such as gender, age, experience, education, sources of information, and the environment around students.[11]

Knowing this information, researchers are interested in conducting research on "Understanding Stunting in Toddlers: Factors Impacting Knowledge Levels among FKIKUAJ Medical Students (2017-2020)" with the factors studied in the form of gender, class, stage of education (preclinical and clinical), pediatric clerkship, experience and information.

This study aimed to determine the factors associated with the level of knowledge of 2017-2020 FKIK-UAJ students about stunting in children under five and to improve skills and knowledge about stunting in health students based on factors that correlate with the level of knowledge of students.

METHODS

Study Design

This study was a cross-sectional design and data was collected using Google Forms (online) and had met directly with FKIK-UAJ students (offline) from April 2023 until May 2023.

Subject and Sampling method

The study population was preclinical and clinical medical students studying in the School of Medicine and Health Sciences, Atma Jaya Catholic University of Indonesia. Sampling was carried out using the unpaired categorical analytic formula with values of α= 5% and β = 10% and the minimum number of respondents required was 125 students. The total sample was then divided by student classes using stratified random sampling from four classes (class of 2017, 2018, 2019, 2020) by multiplying the minimum number of respondents and the population of the number of students per class and dividing by the total

population. The inclusion criteria were active university students of classes 2017–2020 who agreed to participate and fill out the questionnaire, while the exclusion criteria were those who did not agree to fill out the questionnaire such as left the online chat group that had been created and did not fill out the questionnaire completely to reduce errors in determining the p-value and to be able to immediately replace the excluded sample with another sample per class.

Data Collection

This study has been granted approval by Atma Jaya's Ethics Committee with the letter number: 07/10/KEP-FKIKUAJ/2022. Data was collected online using Google Forms and offline at the School of Medicine and Health Sciences, Atma Jaya Catholic University of Indonesia, Pluit, North Jakarta because due to the implementation of a semi-online-offline teaching system due to the transition period of the COVID-19 pandemic status during the data collection period. The knowledge questionnaire on stunting underwent validation and reliability testing. It comprised 15 questions covering various aspects of stunting. The validation test involved 37 participants (n=35), with a correlation coefficient (r) exceeding 0.334. The reliability of the questionnaire was assessed using the split-half method, yielding a reliability coefficient of 0.623.

Statistical Analysis

The research data obtained was processed into Microsoft Excel and the results were presented in the form of a frequency distribution of the research data. After that, data processing was carried out using the SPSS v22 software to conduct a chi-square test to find out the factors that influence the level of knowledge of students about stunting in children under five.

RESULTS

Among 135 respondents ranging from 2017-2020, most are female (64,4%), from the year 2020 (24,4%), from clinical education (50,3%), and those from clinical education who had not attended pediatric clerkship (78,7%), and had not participated in activities about stunting or child health (60%) (Table 1).

Table 1. Frequency Distribution of FKIK-UAJ Students' Characteristics

Characteristics	Distribution	
	n	%
Gender		
Male	48	35,6%
Female	87	64,4%
Total	135	100%
Class Year		
2017	33	24,4%
2018	32	23,7%
2019	32	23,7%
2020	38	28,2%
Total	135	100%
Stage of Education (Study Programme)		
Academic (Preclinical)	55	40,7%
Profession (Clinical)	80	50,3%
Total	135	100%
Pediatric Clerkship		
Has Attended	17	21,3%
Has Not Attended	63	78,7%
Total	80	100%
Participation in Activities About Stunting or Child Health		
Has Participated	54	40%
Has Not Participated	81	60%
Total	135	100%

Most respondents ranging from class years 2017-2020 have sufficient knowledge about stunting in toddlers (70%) meaning the respondent's answer got a score of 56-75. Meanwhile, respondents with good knowledge (13,3%) get a score of 76-100, and those with poor knowledge (34,8%) get a score of ≤ 55 (Table 2.).

Table 2. Knowledge of Stunting in Toddlers

Level of Knowledge	n	%
Good	18	13,3%
Sufficient	70	51,9%
Less	47	34,8%
Total	135	100%

Chi-square was used because the variable tested for correlation was between 1 dependent variable (knowledge) and 5 independent variables. The test shows a significant correlation between stunting knowledge with the class of year (p-value=0,045), stage of education (p-value=0,023), and pediatric clerkship (p-value=0,039). There is also no significant correlation between stunting knowledge with gender (p-value=0,688) and participation in activities about stunting or child health (p-value=0,903) (Table 3).

Table 3. Correlation Between FKIK-UAJ Students Characteristics With Stunting Knowledge

Characteristics	Level of Knowledge			n	P
	Good	Sufficient	Less		
Gender					
Male	6	23	19	48	
Female	12	47	28	87	0,688
Total	18	70	47	135	
Class of Year					
2017	9	18	6	33	
2018	3	19	10	32	
2019	4	13	15	32	0,045
2020	2	20	16	38	
Total	18	70	47	135	
Stage of Education (Study Programme)					
Academic (Preclinical)	2	32	21	55	
Profession (Clinical)	16	38	26	80	0,023
Total	18	70	47	135	
Pediatric Clerkship					
Has Attended	7	7	3	17	
Has Not Attended	9	31	23	63	0,039
Total	18	70	47	135	
Participation in Activities About Stunting or Child Health					
Has Participated	8	28	18	54	
Has Not Participated	10	42	29	81	0,903
Total	18	70	47	135	

DISCUSSION

The total number of respondents in the study was 136 people with 135 respondents included in the inclusion criteria. Most of the respondents were female (64,4%), from the year 2020 (28,2%), from clinical stage education (59,3%) and most of them have not yet entered the pediatrics clerkship (78.7%), and 81 respondents did not participate in activities about stunting or children's health (60%).

This study shows the majority of students of the School of Medicine and Health Sciences, Atma Jaya Catholic University of Indonesia, have sufficient knowledge of stunting toddlers (51,9%) (score 56-75). Followed by the poor knowledge category (34,8%) (score ≤ 55) and the good knowledge category (13,3%) (score 76-100).

This aligns with Filayeti AN study conducted on 144 students of the medical faculty of UIN Syarif Hidayatullah Jakarta which was assessed with 4 categories excellent knowledge category (13%) (score 71-80), good knowledge category (75%) (score 61-70), bad knowledge category (9%) (score 51-60), and poor knowledge category (0%) (score 41-50). [12]

This shows that the level of knowledge about stunting among FKIK-UAJ students and UIN Syarif Hidayatullah Jakarta students is almost the same. However, this result still cannot be used as a definitive conclusion because this study and Filayeti AN study used 2 different questionnaires with different numbers and questions as well as different measuring the score of students' knowledge level. To ensure alignment between this study and the Filayeti AN study, it is essential to employ identical measurements, scores, and questionnaires.

The knowledge level of FKIK-UAJ students about stunting has no significant relationship with the student's gender which in this study was dominantly filled by female students (64.4%) with a p-value of 0,688 (>0,05). This shows that gender does not have a big role in determining the level of knowledge possessed by students and these results are similar to the results obtained by Filayeti AN with the respondents were dominated by female respondents but no relationship was found between both of them.[12] This may be due to the knowledge gained by students while pursuing medical education increased the knowledge possessed by students regarding stunting in children in toddlers even though in the study of Utami NES and Yonanda NA it was stated that gender could indirectly affect learning achievement and journals that written by Amin MS which states that mindset and brain structure are related to a person's gender.[13, 14]

There is a significant correlation between the level of knowledge about stunting and the class of the students with a p-value of 0,045(<0,05).

This may be caused due to the higher class of students the more knowledge which is obtained by students such as growth and development in children's material in the second academic year, and so on. In addition, the higher the level of the student force, the more it increases the age of the student according to Budiman and Riyanto, the age of a person plays an important role in shaping the mindset, and the older you get, the more experiences that person possesses.[11] In this study, many students with a good level of knowledge about stunting come from the class of 2017 (9 students), and the class with the less level of knowledge the most is from the class of 2020 (16 students). These results align with research conducted by Filayeti AN, which stated that the higher the class of the student, the higher the level of knowledge of the student.[12]

The result of this study indicates there is a significant relationship between medical students' stage of education with level of knowledge about stunting. Respondent of this study was dominated by students from clinical education (59,3%). Analysis got a p-value of 0,023 (<0,05). This is inseparable from the factor class of year because most of the students from the class of 2017-2019 have entered clinical education so they have experience and use practice learning methods compared to the class of 2020 which uses lecture/theory learning methods. In accordance with Maula-Aduli et al's research article which examines the topic of medical student transition at James Cook University's College of Medicine and Dentistry from academic education to professional education. The results in Maula-Aduli's study stated that in the transition period from academic education to professional education, clinical students gain knowledge through various things such as experiences, learning methods, education and work/learning culture in professional education, perceptual arrangements and learning strategies and personal development/adaptation of students during the profession education period.[15]

This study found that attendance in the pediatrics clerkship correlates with the level of knowledge about stunting. 17 (21,3%) clinical students who passed pediatrics clerkship have an increased level of knowledge about stunting associated with a focus on studying, serving. and learning about child health and nutrition in the field than in other clerkships. In accordance with the research article by Wimmers et al who studied the influence of experience on the knowledge of clinical students, it was found that the knowledge possessed by students increased at the end of the clerkship period although the level of knowledge was the same at the beginning of the clerkship. In general, the effectiveness of the clerkship rotation that students go through is not influenced by one factor alone but is influenced by many factors

such as the variation in the number of patient cases handled and the quality of the supervising doctor on duty. Furthermore, the quality of supervising doctors plays an important role in improving students' knowledge when the number and variety of patient cases is low.[16]

It is seen in this study that there is no significant correlation between students' participation in activities about stunting or child health and their level of knowledge about stunting. This is possible because formal education through medical institutions is sufficient to provide medical students with knowledge about stunting in children under five through academic and professional education. Non-formal education such as seminars and other social activities can be said as one way for students to gain additional knowledge about stunting and other child health issues.

There are several limitations of this research including that other factors that influence knowledge about stunting were not investigated such as student attitudes, other sources/media of information, student activity units activities, other non-formal education, the number and variety of cases in the clerkship, supervising doctors on duty in the clerkship, etc. As well as the number of respondents who have entered the pediatrics clerkship is far different than those who have not entered. So there is a possibility that the correlation value obtained is different if the number of respondents does not differ greatly.

CONCLUSION

The total number of respondents in this study was 136 students with 135 agreeing to take part in the study and 1 who did not agree to take part in the study. Most respondents are female (64,6%), from the class of 2020 (28,2%), have entered clinical education (59,3%), and those from clinical education who had not attended pediatric clerkship (78,7%) and had not participated in activities about stunting or child health (60%).

This study shows a significant correlation between stunting knowledge with the class of year, stage of education, and pediatric clerkship. There is also no significant correlation between stunting knowledge with gender and participation in activities about stunting or children.

In further studies, it is recommended to examine other factors that can affect the level of knowledge of medical students about stunting in children and take samples of respondents not only from 1 medical university but from 2 or more different medical universities. As well as determining the minimum number of respondents with stratified random sampling for the characteristics of students who have and those

who have not attended the pediatric clerkship to avoid the number of respondents being significantly different between the two.

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CONFLICT OF INTEREST

There is no conflict of interest from any related parties in this study.

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