



BEHAVIOR DETERMINANTS OF *STUNTING PREVENTION* IN ADOLESCENT GIRLS IN THE TIDORE ISLANDS

Sulastri Marapil ¹, Osnawati H. Marsaoly ², Arif Musfota ³

¹ Bumi Hijrah Tidore of University

² Public Health Study Program, Faculty of Health Sciences, Bumi Hijrah Tidore University

³ Public Health Study Program, Faculty of Health Sciences, Bumi Hijrah Tidore University

Correspondence email: osnawatihamzahmarsaoly@gmail.com

ABSTRACT	Keywords
Stunting remains a challenging health problem in Indonesia and has long-term impacts on quality of life. Adolescent girls are a strategic group in stunting prevention because their nutritional and health status determine the health of future pregnancies. This study aims to analyze the relationship between knowledge, attitudes, and social environment on stunting prevention behavior in adolescent girls at SMA Negeri 5 Tidore Islands. The study used a quantitative method with a cross-sectional design on 73 respondents selected through simple random sampling. Data were collected using a valid and reliable questionnaire, then analyzed using the chi-square test. The results showed a significant relationship between knowledge ($p=0.000$; $OR=17.409$), attitude ($p=0.000$; $OR=31.963$), and social environment ($p=0.000$; $OR=19.419$) and stunting prevention behavior. Adolescents with good knowledge, positive attitudes, and a supportive social environment were more likely to demonstrate good preventive behavior. These findings emphasize the importance of nursing interventions based on education, health promotion, and environmental support in improving the self-care abilities of adolescent girls. The role of nurses as educators and facilitators is essential to strengthen stunting prevention behaviors from adolescence.	Stunting, Knowledge, Attitude, Social Environment, Nurses

INTRODUCTION

Stunting is problem nutrition chronic which is still become challenge big for development health in Indonesia (Arum et al., 2024) . Conditions This happen consequence lack nutrition chronic especially at 1000 HPK and impact permanent until mature (Maya et al., 2023) . Although national stunting prevalence has decreased , the numbers Still tall namely 21.6% in 2022 , more big from the WHO target of 14% (Laksono et al., 2024) , so that required effort comprehensive prevention And sustainable (Dyastuti & Arifuddin, 2023) . Teenagers daughter become group important in cycle prevention of stunting due to nutritional status And health they will influence health fetus in the future (Dina Fitriana Rosyada, Marko Ferdian Salim, 2020) , so that preparation since teenager very required (Adelfia Soleman, Anto J. Hadi, Alprida Harahap, 2024) .

Tidore City Islands , the prevalence of stunting is still classified as high , namely 23,1 % in 2024 (Service Health , 2024). In the region Community Health Center Galala In North Oba District , 17 cases of stunting were recorded , spread across two districts. ward and 11 villages (Report Annual Nutrition Program , Community Health Center Galala , 2024). Survey introduction at State Senior High School 5 Tidore Archipelago show that 7 out of 10 female students own knowledge not enough about stunting prevention , and 8 female students own attitude negative to effort the findings . This in line with study Syahfitriani et al., who stated that low knowledge And attitude negative become obstacle important in prevention of stunting in teenager (Aldi et al., 2024) . Research previously only research factor single , even though behavior health formed from interaction various internal factors and external (Juniarti et al.,

RESULTS

2025) . Because that , research This own novelty with analyze knowledge , attitudes , and environment social in a way simultaneous to behavior stunting prevention

In world nursing , ability individual in doing self-care is influenced by knowledge , attitudes , and environment . On teenager daughter , ability nurse self very important For maintain nutritional status , prevent anemia, and apply style life Healthy as form prevention of stunting since early . Because that , third variables the become factor determinant in formation behavior prevention , if happen lack on Wrong One aspect can hinder ability teenager in do prevention And increase risk of stunting when enter time pregnancy during front .

METHOD

Study This use method quantitative with design cut cross -sectional and held at State Senior High School 5 Tidore City Islands in May– June 2025. Population study totaling 274 female students , with sample of 73 selected respondents through technique *simple random sampling* . Framework sample arranged based on list Name female students in DAPODIK, then the randomization process done use method arisan , namely all over Name entered to in receptacle And drawn until reach amount required samples .

Every selected name furthermore selected based on criteria inclusion , namely willing become respondents And sign *informed consent* , is participant educate active , capable understand instruments , as well as present on moment data collection . If selected name No fulfil conditions , done drawing repeat .

Table 1.
Operational Definition

Variables	Operational definition	Measuring instrument	Data scale	Criteria & scores
Stunting Prevention Behavior	Actions taken by adolescent girls aimed at preventing <i>stunting</i> .	Questionnaire	Nominal	OK, if the score obtained is ≥ 30

					Not Good, if the score obtained is <30
Knowledge	Understanding of adolescent girls about the meaning, risk factors, symptoms, and impacts that can arise from <i>stunting cases</i> , as well as ways to prevent <i>stunting</i> in adolescent girls.	Questionnaire	Nominal		OK, if the score obtained is ≥ 30 Not good if the score obtained is <30
Attitude	Responses or assessments of adolescent girls regarding <i>stunting cases</i> and actions that can be taken to prevent <i>stunting incidents</i> .	Questionnaire	Nominal		Positive, if the score obtained is ≥ 30 Negative, if the score obtained is < 30
Social Environment	The social conditions experienced by adolescent girls in efforts that can be made to prevent <i>stunting</i> , such as support from family, teachers, health workers and peers .	Questionnaire	Nominal		OK, if the score obtained is ≥ 30 Not Good, if the score obtained is <30

Instrument study use questionnaire that has been through test validity (r count > r table)

and reliability with results Cronbach's Alpha is 0,912. Data analysis was performed use chi-square test with SPSS version 25 assistance .

Table 2. Respondent Characteristics Based on Age, Class, Iron Consumption, Parental Occupation, Stunting Prevention Behavior, Knowledge, Attitude, and Social Environment of Adolescent Girls at State Senior High School 5 Tidore Islands

Variables	Category	Number (n)	Percentage (%)
Age	15 years	27	36,9
	16 years	34	46,6
	17 years	12	16,5
Class	X	26	35,6
	XI	37	50,7
	XII	10	13,7
Consuming Iron Tablets	Never	14	19,2
	Seldom	26	35,6
	Often	33	45,2
Parents' job	Civil Servants/TNI/Polri	12	16,5
	Farmer	33	45,2
	Fisherman	6	8,2
	Self-employed	22	30,1

Stunting Behavior	Prevention	Good	49	67,1
		Not good	24	32,9
Knowledge		Good	51	69,9
		Not good	22	30,1
Attitude		Positive	45	61,6
		Negative	28	38,4
Social Environment		Good	52	71,2
		Not good	21	29,8

Based on table demographics , it is known that respondents teenager daughter at State Senior High School 5 Tidore Archipelago dominated by group 16 years old with frequency of 34 respondents (46,6%). Most of them big respondents is at on class XI with total of 37 respondents (50,7 %) . variables increased tablet consumption blood , majority respondents including category often taking additional tablets blood with total 33 respondents (45,2 %).

Seen from parents ' jobs , some big parents respondents Work as farmer with total of 33 respondents (45,2 %). At

variables behavior stunting prevention , the majority respondents own good behavior with frequency of 49 respondents (67,1 %). Based on level knowledge , known that part big respondents own knowledge Good about prevention of stunting, namely as many as 51 respondents (69,9 %). On variables attitude, majority teenager daughter show attitude positive to stunting prevention with total of 45 respondents (61,6 %). Meanwhile that , on variables environment social , known that majority respondents own environment good social And support effort stunting prevention , namely as many as 52 respondents (71,2 %).

Table 2. Cross-tabulation between knowledge and stunting prevention behavior in female adolescents at State Senior High School 5 Tidore Islands in 2025

Adolescents at State Senior High Schools - Flores Islands in 2020								
Knowledge	Stunting Behavior		Prevention		Amount		<i>p-value</i>	<i>OR</i>
	Good		Not good					
	n	%	n	%	N	%		
Good	42	82,4	9	18,6	51	100	0,000	17,409
Not good	7	31,8	15	68,2	22	100		
Total	49	67,1	24	32,9	73	100		

Table 1 shows that 42 students (82,4%) with good knowledge showed good stunting prevention behavior. Furthermore, the results of the risk analysis through the Odds Ratio (OR) calculation showed an **OR value of 17,409** . This high OR value illustrates that adolescent girls with good knowledge have approximately **17 times greater chances** of engaging in stunting prevention behaviors compared to adolescent girls with poor knowledge. This

large OR value is statistically reasonable, because the 2x2 table shows a very unbalanced cell distribution. The number of adolescents with good knowledge who behave well is much higher than the group with less knowledge, while on the other hand, adolescents with less knowledge are dominated by poor prevention behaviors. This sharp imbalance in proportion causes the OR calculation results to increase significantly.

Table 3 Cross-tabulation of Attitudes and Behaviors for Stunting Prevention in Adolescent Girls at State Senior High School 5 Tidore Islands in 2025

Attitude	Stunting Behavior		Prevention		Amount		<i>p-value</i>	<i>OR</i>
	Good		Not good					
	n	%	n	%	N	%		
Positive	41	91,1	4	8,9	45	100	0,000	31,963
Negative	8	28,6	20	72,4	28	100		
Total	49	67,1	24	32,9	73	100		

Based on the results of the analysis, there is a significant relationship between attitudes and stunting prevention behavior in female adolescents at State Senior High School 5 Tidore Islands, as evidenced by the **p value = 0,000 (p < 0,05)** . Adolescents with positive attitudes showed a much higher proportion of preventive behavior (**91,1%**) compared to adolescents with negative attitudes (**28,6%**). This very

striking difference in proportion resulted in a high Odds Ratio (OR) value, namely **31,963** , which indicates that adolescent girls with positive attitudes have approximately **32 times greater chance** of carrying out stunting prevention behavior than those with negative attitudes. Thus, positive attitudes are proven to be a very influential factor in stunting prevention behavior in adolescent girls.

Table 4 Cross-tabulation between social environment and stunting prevention behavior in female adolescents at State Senior High School 5 Tidore Islands in 2025

Social Environment	Stunting Behavior		Prevention		Amount		p-value	OR
	Good		Not good					
	n	%	n	%	N	%		
Good	43	82,3	9	18,7	52	100	0,000	19,419
Not good	6	28,6	15	72,4	21	100		
Total	49	67,1	24	32,9	73	100		

The results of the study showed a significant relationship between the social environment and stunting prevention behavior in adolescent girls at SMA Negeri 5 Tidore Kepulauan, as evidenced by a **p value of 0,000 (p < 0,05)** . Adolescents with a good social environment tend to have good stunting prevention behavior (**82,3%**), while adolescents with a less good social environment show more poor prevention behavior (**72,4%**). This sharp difference in proportion results in an Odds Ratio (OR) value of **19,419** , which means that adolescent girls who have a good social environment have approximately **19 times greater chance** of carrying out stunting prevention behavior than adolescents with a less good social environment. Thus, the social environment is proven to be an important factor influencing stunting prevention behavior in adolescent girls.

DISCUSSION

The results of the study indicate that *stunting prevention behavior* in adolescent girls at Senior High School Negeri 5 Tidore Islands is influenced by knowledge, attitudes, and the social environment. These three factors complement each other in shaping adolescents' capacity to take health actions. From *Dorothea Orem's Self-Care perspective* , adequate knowledge, a positive attitude, and social support are essential components that shape *self-care agency*, enabling adolescents to recognize their health needs and take appropriate preventive measures. This aligns with Green and Kreuter's theory, which positions knowledge and attitudes as predisposing factors, and the environment as a supporting and reinforcing factor for health behavior. Meanwhile, Blum's theory emphasizes that behavior is a significant determinant of health after the environment (Hafifatul et al., 2021) , and

that individual perceptions are influenced by experience and cognitive abilities (Amalia et al., 2022).

Positive attitudes toward stunting prevention have been shown to have a strong relationship with preventive actions taken by adolescents. Positive attitudes, such as belief in the importance of taking iron supplements, maintaining a balanced diet, and practicing good hygiene, encourage adolescents to apply their knowledge to practical behavior (Rasmaniar et al., 2022 ; Rosyada et al., 2020) . In Orem's terminology, motivation and willingness are integral to self-care skills. Furthermore, the social environment, such as parents, peers, teachers, and school culture, plays a crucial role in reinforcing healthy behaviors. Good social support serves as a reinforcement that makes it easier for adolescents to maintain stunting-preventive behaviors (Sari Wardani, 2018) . These findings confirm that internal factors (knowledge and attitudes) and external factors (environment) interact in shaping health behaviors.

In context education , nurses school own role strategic in strengthen all over factor the . Nurse play a role give education about nutrition , anemia and health reproduction , doing screening health , accompanying implementation of the UKS program, as well as Work The same with community health center in distribution of additional tablets blood . Nurse Also functioning as counselor for students who have problem health so that in a way direct increase knowledge And attitude they at a time create supportive environment . In a way overall , findings This show that behavior stunting prevention is results synergy knowledge , attitudes , and environment social . This is consistent with Green framework and Kreuter that factor predisposition , support , and amplifier Work together in form behavior health (Tirthawati et al., 2020) as well as in line with Orem's theory which asserts that *self-care* formed through ability cognitive , motivational , experiential , and support environment .

CONCLUSION

Stunting prevention behaviors in adolescent girls at State Senior High School 5 in Tidore Islands are influenced by knowledge, attitudes, and the interacting social environment. These three factors shape adolescents' ability to perform self-care according to Orem's Self-Care concept. Overall, stunting prevention is the result of a synergy of internal and external factors, necessitating educational efforts, positive attitude building, and strengthening the social environment, including through the strategic role of school nurses.

REFERENCE

- Adelfia Soleman, Anto J. Hadi, Alprida Harahap, H. A. (2024). Pengaruh Konseling Gizi Terhadap Pola Makan Remaja Dalam Pencegahan Stunting Di Sma Negeri 1 Tana Toraja Tahun 2023. *Media Publikasi Promosi Kesehata Indonesia*, 7(2), 450–455.
- Aldi, M., Pebriana, O. P., Carolin, P., Nabila, P., Karina, D., Agustin, N. S., Ma, N., Nofrizal, D., Palimbo, A., Hakim, A. R., & Sari, N. W. (2024). Edukasi Tentang Pentingnya Konsumsi Makanan Bergizi Dan Suplemen Kesehatan Pencegah Stunting Sejak Dini Pada Siswa Sdn Handil Bujur 1. *Majalah Cendekia Mengabdi*, 2, 64–67.
- Amalia Ara, Elviera Gamelia, S. M. (2022). Relationship Attitude Knowledge And Environmental Conditions With Personal Hygiene Parents Of Stunting Baduta Banyumas Regency. *Jurnal Kesmas Indonesia*, 14(1).
- Arum, E., Putri, C., Hakim, F. A., Purwanto, E., Izzatunnisa, N., & Reny, I. (2024). Prevention Of Stunting With Nutrition And Reproductive Health Education Of Adolescents In West Lombok , West Nusa Tenggara , Indonesia. *World Journal Of Advanced Research And Reviews*, 2, 0–5.
- Dina Fitriana Rosyada, Marko Ferdian Salim, M. S. (2020). Perception Of Prevention Stunting Through Healthy Lifestyle In Adolescent Girls : Case Study Of Adolescents In Bantul ,

- Yogyakarta. *Jurnal Ilmu Dan Teknologi Kesehatan*, 7(2).
- Dinas Kesehatan Kota Tidore Kepulauan. (2024). *Profil Dinas Kesehatan Tidore Kepulauan*. Tidore: Dinas Kesehatan Kota Tidore Kepulauan.
- Dyastuti, E., & Arifuddin, H. (2023). Epidemiological Model Of Stunting Determinants In Indonesia Adhar. *Healthy Tadulako Journal*, 9(2), 224–234.
- Hafifatul Auliya Rahmy, Mutia Rahma, Idral Purnakarya, M. (2021). Studi Kasus Perilaku Makan Dan Status Gizi Remaja Di. *Prepotif Jurnal Kesehatan Masyarakat*, 5(2).
- Juniarti, N., Alsharaydeh, E., Windani, C., Sari, M., Yani, D. I., & Hutton, A. (2025). Determinant Factors Influencing Stunting Prevention Behaviors Among Working Mothers In West Java Province , Indonesia : A Cross-Sectional Study. *Bmc Public Health*.
- Laksono, A. D., Izza, N., Trisnani, T., Paramita, A., Sholikhah, H. H., Andarwati, P., Rosyadi, K., & Wulandari, R. D. (2024). Determination Of Appropriate Policy Targets To Reduce The Prevalence Of Stunting In Children Under Five Years Of Poor Communities In Age In Urban- - Indonesia : A Secondary Data Analysis Of The 2022 Indonesian National Nutritional Status Survey. *Bmj Open*, 1–8. <https://doi.org/10.1136/bmjopen-2024-089531>
- Maya, I., Sari, M., Yanti, D. E., Aryastuti, N., & Amirus, K. (2023). Behavioral Factor Analysis Of Blood Supplement Tablet Consumption In Adolescent Girls As An Effort To Prevent Stunting. *Jurnal Penelitian Pendidikan Ipa*, 9(6), 4294–4302. <https://doi.org/10.29303/jppipa.V9i6.3532>
- Puskesmas Galala.(2024). *Laporan Gizi, Puskesmas Galala 2024*. Galala: Psukesmas Galala.
- Rasmaniar, Nurlaela Euis,A Ahmad, N. (2022). Pendidikan Teman Sebaya Melalui Pemberdayaan Kader Posyandu Remaja Terhadap Pengetahuan , Sikap , Dan Perilaku Remaja Tentang Manfaat Gizi Dalam Pencegahan Stunting : Penelitian Kuasi Eksperimen Peer Education Through Empowerment Of Youth Posyandu Cadres. *Health Information Jurnal Penelitian*, 14(1), 76–88.
- Sari Wardani Simarmata, F. I. K. K. (2018). Pengaruh Teman Sebaya Terhadap Perilaku Menyimpang Siswa Kelas X Smk Swasta Satria Binjai Tahun Pelajaran 2017/2018. *Ansiru*, 3(1), 63–72.
- Tirthawati, S., Rosidi, A., Sulistyowati, E., & Ayuningtyas, R. A. (2020). Pengetahuan , Sikap Remaja Putri Dan Dukungan Petugas Kesehatan Terhadap Konsumsi Tablet Besi Folat Smkn 1 Bangsri Jepara : Sebuah Studi Cross Sectional. *Jurnal Gizi Uinmus*, 9(2), 201–214.