

AN OVERVIEW OF THE DETERMINANTS OF NUTRITIONAL STATUS OF ADOLESCENT GIRLS IN TELOK PAKEDAI KUBU RAYA SUB-DISTRICT, WEST KALIMANTAN

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KEYWORDS

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ABSTRACT

One of the efforts to reduce stunting in children under five is to pay attention to nutrition problems in adolescents. This is important considering that nutrition problems in adolescents have many determinants. The main problems in the form of diet and infection still do not get a clear picture. Especially in geographically isolated areas. The purpose of this study was to determine the description of nutritional status and determinant factors associated with the nutritional status of adolescents in Telok Pakdai District, Kubu Raya Regency. This type of research is *crosssectional*, which is a study in which data collection is done at one time. The population in this study were all adolescent girls. The sample in this study were all adolescent girls from 10 villages in Telok Pakedai District. Data analysis shows that there is a relationship between diet and knowledge of nutritional status, but there is no relationship between history of infectious diseases and nutritional status in adolescent girls in Telok Pakedai District.

INTRODUCTION

Adolescence is a transitional period where it undergoes rapid changes physically, psychologically, and socially. (RI, 2007). Physical changes in adolescents occur due to physical growth including the growth of reproductive organs (sexual organs) towards maturity. (Diananda, 2019). Psychic changes are changes that can be seen through the ability to behave socially, emotionally, morally and intellectually. (Ida Umamu, 2019). While social changes in adolescents are closely related to various environmental change processes. (Sridianti, 2022).

The three changes in adolescents are closely related to diet and nutrition. In research Ni'mah & Indrawati, (2022) stated that *body image* is related to nutritional status. While eating patterns in adolescents are related to the environment (Khoirunnisa, Indanah, Kusumastuti, & Ika, 2020)..

Nutritional problems in adolescents, especially undernutrition according to Qomarasari & Mufidaturrosida (2022), is 32.5%. While in other studies it was 17.2% (Margiyanti, 2021). Nabilah, Pasaribu, & Riasiti (2022), combined more and less nutritional status at a prevalence of 51%. Another study found that of 110 adolescent girls, most had normal nutritional status, namely 63 adolescents (57.3%). In addition, it can be seen that out of 110 adolescent girls, most of them experienced anemia, namely 82 adolescents (74.5%). (Nurjannah & Putri, 2021)

Nutritional problems in adolescents vary by region, especially by geography. According to Dwiningsih & Pramono, (2013) The prevalence of overweight among adolescents in urban areas (10.2%) is higher than that of adolescents in rural areas (6.6%). Meanwhile, the undernutrition status of adolescents in rural areas (31.1%) was higher than that of adolescents in urban areas (8.2%). Meanwhile, another study found that in rural areas the undernutrition status was 17.6% and in urban areas 8.8%. (Fariski, Dieny, & Wijayanti, 2020)..

Nutritional problems in adolescents are related to many things. However, nutrition is directly related to nutrient intake and infection. According to Damayanti (2022), diet has a

relationship with nutritional status. In other studies, energy and protein intake have a relationship with nutritional status. (Veronika, Puspitawati, & Fitriani, 2021).. A study reported that infection is associated with nutritional status in adolescents (Jannah, 2021). (Jannah, 2021).

Attention to nutrition in adolescents has an important effect on stunting in children under five. The condition of one-third of adolescent girls suffering from shortness is very concerning, because it will affect the condition of the fetus they are carrying later. (Trihono et al., 2015) The problem of short toddlers illustrates the existence of chronic nutritional problems, influenced by the condition of the mother / prospective mother, fetal period, and infancy / toddler period, including diseases suffered during the toddler period. (Noviasty, R., Mega I., Fadillah R., 2020)

Telok Pakedai sub-district is a sub-district in Kubu Raya Regency that has been isolated. The area, which is a source of marine fish, used to only be accessible by river. In recent years, it has been possible to travel. This study aims to assess the nutritional status and determinants of nutritional status of adolescents in Telok Pakdai Sub-district, Kubu Raya Regency, West Kalimantan Province.

This study aims to determine the description of nutritional status and determinant factors associated with the nutritional status of adolescents in Telok Pakdai District Kubu Raya Regency.

RESEARCH METHOD

This type of research was survey research with a *crossectional* approach, namely research where data collection is carried out at one time. This research was conducted in July 2022 in the Telok Pakedai District, Kubu Raya Regency, West Kalimantan. The population in this study were all adolescent girls. The number of samples was 361 taken from adolescent girls from 10 villages. The sample was taken purposively with the age of 11 to 19 years. The data collected were nutritional status, diet, nutritional knowledge and infection. Nutritional status was assessed by measuring upper arm circumference. The statistical analysis used was the *Chi-Square* Test.

RESULT AND DISCUSSION

Result

Regional Overview

Teluk Pakedai with a population of 19,404 people (BPS data 2012) with an area of $\pm 29,190 \text{ m}^2$. The sub-district capital is located in Selat Remis which is 38 km from Pontianak City. Teluk Pakedai Sub-district has 14 villages, most of which are located on the river or sea coast. Employment as a fisherman ranks third, at 9.9% of the working age after self-employed (22.2%) and agriculture (20.6%).

Respondent Overview

1. Distribution of Respondents by Village

Samples were taken from 10 villages in Telok Pakedai sub-district, with the distribution as shown in Table 1. It can be seen that the smallest number of samples came from Telok Pakedai 1 village, while the largest number of samples came from Sungai Deras village.

Table 1. Distribution of Respondent Data by Village in Telok Pakedai Sub-district

Village	Total	%
Heavy Current	28	7,8

Madura	27	7,5
White Sand	34	9,4
Remis Strait	40	11,1
Swift River	46	12,7
Nipah River	21	5,8
Teluk Gelam	39	10,8
Teluk Pakedai 1	34	9,4
Teluk Pakedai 2	47	13,0
Teluk Pakedai Hulu	45	12,5
Total	361	100,0

2. Age

The age of respondents in the range of 10 to 19 years with an average of 14.6 years. The most common age was 14 years old, as many as 83 respondents. The following in Table 1 is the age of adolescents grouped according to the grouping by BPS.

Table 2. Distribution of Respondents by Age in Telok Pakedai District, Kubu Raya West Kalimantan

Age	n	%
Age 10-14 years	191	52,9
15-19 years old	170	47,1
Total	361	100,0

3. Education

The education information described by the school status data shows that as many as 2.8% of adolescents are no longer in school. More details can be seen in the following table

Table 3. Distribution of Respondents by Age in Telok Pakedai District, Kubu Raya West Kalimantan

School Status	n	%
Still	351	97,2
No	10	2,8
Total	361	100,0

Of the 351 who are still in school, most are still at the junior high school level, namely 215, senior high school 105 and college as many as 31 teenagers. Meanwhile, for those who are not in school, 2 respondents are already working and the remaining 8 are still not working.

Univariate Analysis

1. Adolescent Girls Education

The data showed that most of the adolescent girls in Telok Pakedai sub-district were still in school. Only 10 (2.8%) adolescents are no longer in school. The definition of not in school is that they have graduated from high school or junior high school and are not continuing. Those who are in school are mostly still at the junior high school level (97.2%). More details can be seen in the following table.

Table 4. School Status of Adolescent Girls in Telok Pakedai Sub-district

Education Status	n	%
Still in School	351	97,2
Not in School	10	2,8
Total	361	100,0

Table 5. Level of Education of Adolescent Girls in Telok Pakedai Sub-district

Education	n	%
SMP	215	59,6
HIGH SCHOOL	105	29,1
Higher Education	31	8,6
Not in School	10	2,8
Total	351	97,2

2. Adolescent Girls receiving Fe Tablets and History of Fe Tablet Consumption

According to the admission of adolescent purti in Telok Pakedai sub-district, 37.1% admitted to receiving Fe tablets. While only 17.9% claimed to consume Fe tablets regularly.

Table 6. History of Adolescent Girls receiving Fe Tablets from Health Services

Getting Fe Tablets	n	%
Yes	134	37,1
No	227	62,9
Total	361	100,0

Table 7. Data of Adolescent Girls who Routinely Consume Fe Tablets

Fe Tablet Consumption	n	%
Yes	24	17,9
No	110	82,1
Total	134	100,0

Diet and Nutritional Status

Information on dietary patterns was obtained through interviews that asked about the frequency of consumption and the diversity of foodstuffs. After cross-table analysis, it was found that adolescents whose diet was considered poor were more prevalent among adolescents with SEZ nutritional status (66.7%) than among adolescents with normal nutritional status (47.1%). As shown in table 4 below.

Table 8. Distribution of Diet and Nutritional Status among Adolescent Girls in Telok Pakedai District

Nutrition Status	Good		Less		Total	
	n	%	n	%	n	%
Normal	110	56.1	86	43.9	196	100,0
SEZ	64	38.8	101	61.2	165	100,0

$p = 0.01$ (Chi Square Test)

After the *Chi-Square* test, it was stated that diet was associated with nutritional status in adolescent girls in Telok Pakedai District ($p = 0.026$).

History of Infectious Diseases and Nutritional Status

Infectious diseases asked in this study were related to ispa and diarrhea, with a duration of more than 3 days or more than 3 times during one month. Cross-table analysis showed that adolescents who had experienced illness were more likely to have SEZ nutritional status (69.4%) than those with normal nutritional status.

Distribution of Infectious Disease History and Nutritional Status among Adolescent Girls in Telok Pakedai District

Nutrition Status	Ever		Never		Total	
	n	%	n	%	n	%
SEZ	25	69,4	11	30,6	36	100,0
Normal	59	18,2	266	81,8	325	100,0

$p = 0.295$ (Chi Square Test)

The results of the *Chi-Square* analysis showed that there was no relationship between the history of infectious diseases and nutritional status in adolescents in Telok Pakedai Kubu Raya District, West Kalimantan ($p = 0.295$).

Knowledge and Nutritional Status

Assessment of nutritional knowledge in adolescents is focused on knowledge of the sources and functions of nutrients, especially those related to anemia.

Table 10. Distribution of Knowledge and Nutritional Status among Adolescent Girls in Telok Pakedai District

Nutrition Status	Good		Less		Total	
	n	%	n	%	n	%
SEZ	101	61.2	64	38.8	165	100,0
Normal	86	43.9	110	56.1	196	100,0

$p = 0.006$ (Chi Square Test)

Discussion

Studies of nutritional problems in various literatures explicitly state that they are directly influenced by nutritional intake and infection (illness). In addition to these two problems are activity-related factors. In practice, knowledge is needed to choose good food and present hygienic behavior. This study found a relationship between nutritional status and diet and knowledge, but no relationship with infection.

Nutrient intake is the amount of nutrients consumed by a person through the food and drinks they consume every day in order to meet the needs for physical activity, tissue growth and regulation of body functions. (Anisa et al., 2017). In humans in general, the fulfillment of food needs is more dominant because there is a stomach request expressed by the brain that he is hungry (Kadir, 2022). (Kadir, 2022). But hunger can also be caused by the decline of nutrients in the blood that must be met immediately for smooth metabolism. In the case of hypoglycemia, there is even a feeling of excessive hunger even though the stomach is not empty. (Chitra, 2021). Apart from physical and metabolic hunger, hunger can also occur due to psychological conditions, namely hungry desires due to psychological needs, namely the desire to eat when the stomach does not feel hungry. (Detikhealth, 2010). In a paper, hunger is also part of *circadian rhythms*, which is a habit that repeats within a 24-hour time span. (Halford, Wanninayake, & Blundell, 1998).

Humans eat because they are hungry for various reasons and eating is added to *circadian rhythms*. In fulfillment to eliminate hunger, various habits and behaviors arise

which later become a term called eating patterns. Diet is a way for a person to meet dietary needs according to Lie Goan Hong in Sri Karjati (1985): Various information that provides an overview of the types and amounts of food eaten every day by one person and is typical for a particular community group. According to Suriyati, Hapsari, & Rubai, (2021) Diet is influenced by education, occupation, knowledge and family income. Diet is complex because many factors influence it.

In relation to nutritional status, a good diet will make a person have an optimal nutritional status. The optimal size is based on the function of the nutrient. A good diet is characterized by regulation in quantity, type and frequency. In people who have problems with degenerative diseases, careless regulation of these three things turns out to be sensitive. (Nuraini & Astuti, 2021). In elementary school children, diet is related to nutritional status (Khalimatus Sa'diya, 2016).. In adolescents, it was also found that there was a relationship between diet and nutritional status (Mokolensang, Manampiring, &., 2016). (Mokolensang, Manampiring, &., 2016).. However, some studies have come to different conclusions. Analysis of dietary patterns shows there is a relationship with the incidence of anemia in adolescents. (Muhayati & Ratnawati, 2019).. In theory, there is a relationship between diet and nutritional status. But apparently not all studies conclude this. For example research Hasrul, et al (2020) and research Pujiati, et al (2015).

Knowledge is the basis for humans to behave or act. A study shows that students with good knowledge have a correlation with attitudes about nutrition and with food intake. (Aulia, 2021). The importance of capitalizing on knowledge in human development, in principle, is to make humans independent in behaving and behaving well. Indeed, knowledge does not always correlate with attitudes and behavior. For example, in research Rahmadi, Lestari, & Yenita, (2013) which states that there is no relationship between knowledge and attitudes towards smoking. However, it is important to note that this does not mean that knowledge is not important. Because even those who are knowledgeable do not necessarily have attitudes that are in line with their knowledge, let alone those who do not know.

But there is also a lot of influence between knowledge and attitude. Knowledge is the accumulation of information and understanding about something. Although knowledge can give a person an understanding of what to do or how to behave properly, it does not always result in appropriate action. Attitudes and behaviors are influenced by more complex psychological factors, emotions, personal values, and life experiences. (Saleh, 2003). Although knowledge is not everything, all planning, organizing, structuring, and organizing people's lives are almost all based on science. (Wahana, 2016)

CONCLUSION

1. There is a relationship between diet and nutritional status in adolescent girls in Telok Pakedai Subdistrict.
2. There is no association between history of infectious diseases and nutritional status among adolescent girls in Telok Pakedai Subdistrict.
3. There is a relationship between knowledge and nutritional status among adolescent girls in Telok Pakedai Subdistrict.

REFERENCES

- Anisa, A. F., Darozat, A., Aliyudin, A., Maharani, A., Fauzan, A. I., Fahmi, B. A., ... Hamim, E. A. (2017). Permasalahan Gizi Masyarakat Dan Upaya Perbaikannya. *Gizi Masyarakat*, 40, 1–22.
- Aulia, N. R. (2021). Peran Pengetahuan Gizi Terhadap Asupan Energi, Status Gizi Dan Sikap

- Tentang Gizi Remaja. *Jurnal Ilmiah Gizi Dan Kesehatan (JIGK)*, 2(02), 31–35. <https://doi.org/10.46772/jigk.v2i02.454>
- Chitra, M. (2021). Baru Makan Tapi Sudah Merasa Lapar Lagi? Ini Lho Penyebabnya. Retrieved from <https://lifestyle.bisnis.com/read/20210602/106/1400253/baru-makan-tapi-sudah-merasa-lapar-lagi-ini-lho-penyebabnya>
- Damayanti, E. R. (2022). Hubungan Pola Makan, Aktivitas Fisik, Dan Citra Tubuh Dengan Status Gizi Lebih Pada Remaja Putri Di Sma Negeri 3 Tambun Selatan. *Indonesian Journal of Health Development*, 4(1), 35–45. <https://doi.org/10.52021/ijhd.v4i1.69>
- Detikhealth. (2010). Beda Lapar Fisik dan Lapar Psikologis. Retrieved from <https://health.detik.com/hidup-sehat-detikhealth/d-1344088/beda-lapar-fisik-dan-lapar-psikologis%0AJakarta>
- Diananda, A. (2019). Psikologi Remaja Dan Permasalahannya. *Journal ISTIGHNA*, 1(1), 116–133. <https://doi.org/10.33853/istighna.v1i1.20>
- Dwiningsih, D., & Pramono, A. (2013). Perbedaan Asupan Energi, Protein, Lemak, Karbohidrat Dan Status Gizi Pada Remaja Yang Tinggal Di Wilayah Perkotaan Dan Pedesaan. *Journal of Nutrition College*, 2(2), 232–241. <https://doi.org/10.14710/jnc.v2i2.2748>
- Fariski, C., Dieny, F. F., & Wijayanti, H. S. (2020). Kualitas Diet, Status Gizi Dan Status Anemia Wanita Prakonsepsi Antara Desa Dan Kota. *Gizi Indonesia*, 43(1), 11. <https://doi.org/10.36457/gizindo.v43i1.401>
- Halford, J. C. G., Wanninayake, S. C. D., & Blundell, J. E. (1998). Behavioral Satiety Sequence (BSS) for the diagnosis of drug action on food intake. *Pharmacology Biochemistry and Behavior*, 61(2), 159–168. [https://doi.org/10.1016/S0091-3057\(98\)00032-X](https://doi.org/10.1016/S0091-3057(98)00032-X)
- Hasrul, H., Hamzah, H., & Hafid, A. (2020). Pengaruh Pola Makan Terhadap Status Gizi Anak Sekolah Dasar. *Jurnal Keperawatan Muhammadiyah*, 5(2). <https://doi.org/10.30651/jkm.v5i2.4621>
- Ida Umamu. (2019). *Psikologi Remaja*. Yogyakarta: Idea Press.
- Jannah, A. M. (2021). *Hubungan Asupan Zat Gizi Makro, Pengetahuan Gizi, dan Penyakit Infeksi Dengan Kejadian Kurang Energi Kronis Pada Remaja Putri SMA Negeri 1 Tanjung Raja*. Palembang. Retrieved from https://repository.unsri.ac.id/59639/64/RAMA_13211_10021381722074_0209088803_01_front_ref.pdf
- Kadir, S. (2022). *Kuliner Bergizi Berbasis Budaya*. Yogyakarta: Absolute Media. Retrieved from <https://repository.ung.ac.id/get/karyailmiah/9535/Sunarto-Kadir-Kuliner-Bergizi-Berbasis-Budaya.pdf>
- Khalimatus Sa'diya, L. (2016). Hubungan Pola Makan Dengan Status Gizi Anak Pra Sekolah Di Paud Tunas Mulia Claket Kecamatan Pacet Mojokerto. *Midwifery*, 1(2), 69. <https://doi.org/10.21070/mid.v1i2.350>
- Khoirunnisa, F. N., Indanah, I., Kusumastuti, D. A., & Ika, N. (2020). Korelasi Variasi Jenis Makanan Dan Lingkungan Dengan Pola Makan Anak Usia Sekolah. *Indonesia Jurnal Kebidanan*, 4(1), 14. <https://doi.org/10.26751/ijb.v4i1.1000>
- Margiyanti, N. J. (2021). Analisis Tingkat Pengetahuan, Body Image dan Pola Makan terhadap Status Gizi Remaja Putri. *Jurnal Akademika Baiturrahim Jambi*, 10(1), 231. <https://doi.org/10.36565/jab.v10i1.341>
- Mokolensang, O. G., Manampiring, A. E., & F. (2016). Hubungan Pola Makan Dan Obesitas Pada Remaja Di Kota Bitung. *Jurnal E-Biomedik*, 4(1). <https://doi.org/10.35790/ebm.4.1.2016.10848>

- Muhayati, A., & Ratnawati, D. (2019). Hubungan Antara Status Gizi dan Pola Makan dengan Kejadian Anemia Pada Remaja Putri. *Jurnal Ilmiah Ilmu Keperawatan Indonesia*, 9(01), 563–570. <https://doi.org/10.33221/jiiki.v9i01.183>
- Nabilah, A. S., Pasaribu, M., & Riasiti, Y. (2022). Hubungan Status Gizi dengan Siklus Menstruasi pada Mahasiswi Fakultas Kedokteran Universitas Mulawarman. *Jurnal Verdure*, 4(1), 374–377.
- Ni'mah, S. Z., & Indrawati, V. (2022). Hubungan Body Image Dan Perilaku Makan Dengan Status Gizi Remaja Putri Di SMK Negeri 1 Driyorejo Kabupaten Gresik. *Jurnal Gizi Unesa*, 02(2012), 128–132.
- Noviasty, R., Mega I., Fadillah R., F. (2020). EDUWHAP Remaja Siap Cegah Stunting Dalam Wadah Kumpul Sharing Remaja. *Jurnal Ilmiah Pengabdian Kepada Masyarakat*, 4(2), 494–501. Retrieved from file:///C:/Users/HP/Downloads/Documents/458-1-1543-1-10-20210127.pdf
- Nuraini, E., & Astuti, Z. (2021). Gambaran Pola Makan Berdasarkan Jenis, Frekuensi dan Jumlah Makan Terhadap Peningkatan Kadar Asam Urat : Literature Review. *Borneo Student Research*, 3(1), 118–138.
- Nurjannah, S. N., & Putri, E. A. (2021). Hubungan Status Gizi Dengan Kejadian Anemia Pada Remaja Putri Di Smp Negeri 2 Garawangi Kabupaten Kuningan. *Journal of Midwifery Care*, 1(02), 125–131. <https://doi.org/10.34305/jmc.v1i02.266>
- Pujiati, Arneliwati, & Rahmalia, S. (2015). Hubungan Perilaku Makan dengan Status Gizi pada Remaja Putri, 2(2), 207–218.
- Qomarasari, D., & Mufidaturrosida, A. (2022). Hubungan Status Gizi, Pola Makan Dan Siklus Menstruasi Dengan Kejadian Anemia Pada Remaja Putri Kelas Viii Di Smpn 3 Cibeber. *Jurnal Ilmiah Kesehatan Ar-Rum*, 6(2), 43–50. <https://doi.org/10.36409/jika.v6i2.150>
- Rahmadi, A., Lestari, Y., & Yenita, Y. (2013). Hubungan Pengetahuan dan Sikap Terhadap Rokok Dengan Kebiasaan Merokok Siswa SMP di Kota Padang. *Jurnal Kesehatan Andalas*, 2(1), 25. <https://doi.org/10.25077/jka.v2i1.62>
- RI, D. (2007). *Modul Pelatihan Pelayanan Kesehatan Peduli Remaja (PKPR)*. Jakarta.
- Saleh, A. A. (2003). *Psikologi Sosial*. Parepare: Nusantara Press. Retrieved from [http://repository.iainpare.ac.id/3342/1/PSIKOLOGI SOSIAL.pdf](http://repository.iainpare.ac.id/3342/1/PSIKOLOGI%20SOSIAL.pdf)
- Sridianti. (2022). Perubahan Sosial pada Remaja. Retrieved March 24, 2023, from <https://fiqihislam.id/news/8-perubahan-sosial-pada-masa-remaja.html>
- Surijati, K. A., Hapsari, P. W., & Rubai, W. L. (2021). Faktor-faktor yang Mempengaruhi Pola Makan Siswa Sekolah Dasar di Kabupaten Banyumas. *Nutriology : Jurnal Pangan, Gizi, Kesehatan*, 2(1), 95–100. <https://doi.org/10.30812/nutriology.v2i1.1242>
- Trihono, Atmarita, Tjandrarini, Id. H., Irawati, A., Utami, N. H., Tejayanti, T., & Nurlianawati, I. (2015). *Pendek (Stunting) di Indonesia, Masalah dan Solusinya* (Vol. 21). Jakarta: Balitbangkes. Retrieved from <http://journal.um-surabaya.ac.id/index.php/JKM/article/view/2203>
- Veronika, A. P., Puspitawati, T., & Fitriani, A. (2021). Associations between nutrition knowledge, protein-energy intake and nutritional status of adolescents. *Journal of Public Health Research*, 10(2), 385–389. <https://doi.org/10.4081/jphr.2021.2239>
- Wahana, P. (2016). Filsafat Ilmu Pengetahuan. *Pustaka Diamond*, 1–211. Retrieved from [https://repository.usd.ac.id/7333/1/3. Filsafat Ilmu Pengetahuan \(B-3\).pdf](https://repository.usd.ac.id/7333/1/3.Filsafat%20Ilmu%20Pengetahuan%20(B-3).pdf)