

DESCRIPTION OF KNOWLEDGE AND ANXIETY FACING MENARCHE TIME ON ADOLESCENTS IN SDN PANTAI MAKMUR 02 WEST JAVA DISTRICT OF BEKASI

Yuni Istiananingsih^{1*}, Riri Indriyani², Revinel³

¹Yuni Istiananingsih (Indonesia)

²Riri Indriyani (Indonesia)

³Revinel (Indonesia)

*Corresponding author: yunienu@gmail.com

Abstract

According to 2018 RI Ministry of Health data, the average age of menarche in Indonesia occurs at the age of 12.4 years, with 60% aged 9-10 years. The prevalence of menarche occurs earlier due to psychological influences and socioeconomic factors. This has an impact on the emergence of adolescent anxiety, where 49.1% of adolescents in Indonesia experience anxiety related to menstruation. Anxiety that arises is caused by a lack of knowledge about menstruation, causing negative feelings such as anxiety and fear. To describe knowledge and anxiety in facing menarche at SDN Pantai Makmur 02 Bekasi, West Java. This type of research uses a descriptive analytic approach with a cross-sectional study. The sampling technique used total sampling in order to obtain a sample of 104 grade V students at SDN Pantai Makmur 02, Bekasi Regency, West Java. Data analysis technique with univariate analysis using computer software using the SPSS program. The results of the analysis showed that the majority of adolescents' knowledge about menarche at SDN Pantai Makmur 02 Bekasi West Java was quite good 64.4%, 19.2% poor and 16.3% good. Most of the teenagers had mild and not anxious levels of 26.9% respectively; weight 23.1%; moderate 20.2% and very heavy 2.9%. The level of anxiety indicator symptoms each dominated by the moderate category of anxiety 51.0%; tension 30.8%; fear 47.1%; sleep disturbance 46.2%; and intelligence disorders 41.3%; autonomic symptoms 31.7%; and interview behavior 29.8%. No symptoms of depression were found 33.5%; somatic symptoms 39.4%; sensory 40.4%; cardiovascular 47.1%; respirator 48.1%, and gastrointestinal 31.7% and the mild category of urogenital symptoms 43.3%. The majority of adolescents have fairly good knowledge regarding menarche with a mild level of anxiety and 26.9% are not anxious.

Keywords: Knowledge, anxiety, menarche, young women.

1. INTRODUCTION

Adolescence is a phase in the life cycle that occurs between childhood and adulthood, characterized by considerable changes such as physical, psychological, and social. One of the important moments in adolescence, or puberty, is when you first experience menstruation or menarche, which is an indicator of sexual maturity.(1). Menarche is a term that refers to the first occurrence of menstruation, usually occurring between the ages of 10 and 16 which is part of the continuous growth and development process from conception to adulthood.(2). According to data taken in Kemenkes RI (2018) the average age of occurrence of menarche in Indonesia occurs at the age of 12.4 years with the distribution of pre-election 60% age of 9-10 years.

Menarche age is accelerating in Indonesia due to external and internal factors such as nutritional status, family socio-economic status and the presence of strong external psychological influences such as films with a love story theme, and stimuli of the opposite sex that can lead to faster sexual maturity. (4). Menarche is a very sensitive topic to discuss in the family and in society, so adolescents often have limited knowledge and understanding of the physical and psychological changes that occur in them.(1). Therefore, a teenage girl's lack of knowledge about menstruation leads to the emergence of negative

feelings such as appearing anxious, afraid, embarrassed, and confused when facing the period of menarche. According to data from the Central Bureau of Statistics (BPS) in 2018, approximately 49.1% of adolescents in Indonesia experience puberty-related anxiety, mainly related to menstrual problems.

One of the important preparations that a teenager should have in the face of anxiety related to menarche is a good knowledge of menarche.(5). Knowledge of menarche in teenage girls is of high importance, including knowledge of the associated physical and psychological changes. Reproductive education in adolescents is crucial and needs attention from all sides, not only from health workers in medical institutions, but also involves the role of parents, close relatives, teachers, religious figures, and local communities in providing early information and emotional support.(6). Based on research findings, there is a positive relationship between the level of knowledge about menstruation and the mental readiness of adolescent girls during puberty in the face of menarche. Based on this background, the author is interested in conducting research with the title Relationship of Knowledge with Anxiety Facing Menarche Time in Adolescents at SDN Pantai Makmur 02 district of Bekasi West Java. The purpose of this research is to know the picture of knowledge and anxiety in the face of the time menarche in SDN Pantai Makmur 02.

2. METHODOLOGY

This type of research is quantitative descriptive research with a widescreen study approach (cross-sectional). This research population is the entire V-class student in SDN Pantai Makmur, Bekasi district, West Java. Samples were taken using the total sampling method, resulting in a sample of 104 samples. The type of data used in this study is primary data, which is obtained directly from the subject of the study. Research instruments used questionnaires to measure the level of knowledge and anxiety of teenage daughters associated with menarche with the Guttman scale. The HARS questionnaire is used to measure adolescent anxiety levels with several indicators.

Before the questionnaire is given to the respondent, a validity and reliability test is performed. The previous knowledge variable questionnaire has been used in research by Yunita Ananda in 2019 and has undergone a validation and reliability process with strong results, namely a validity of 0.834 and a reliability of 0.861. The validation of emergency questionnaires has also been proven that the HARS Scale (Hamilton Anxiety Rating Scale) has a very high level of validity and trustworthiness to measure the level of anxiety in the study, i.e. 0.93 and 0.97. Data processing in this research, includes process editing, coding, processing and cleaning. Data analysis techniques using univariate analysis include data distribution of frequency knowledge menarche and distribution alarm frequencies as well as alarm indicators using computer software using the SPSS program. The ethics of this study is to preserve the privacy of the participants, ensure the confidentiality of participants, fair treatment and participant consent. .

3. RESULTS

3.1 General Overview of Research Places

SDN Pantai Makmur 02 district of Bekasi is a primary school located in the kp.Tanah Baru No .36, Pantai Makmur, Kec.Tarumajaya, Kab Bekasi Prov, West Java. The study was conducted on 07-06-2023 and for this study I included at the age of 9-12 according to the criteria of inclusion, 197 students consisting of 5 classes, and as many as 104 girls who are included who have already menarche 99 girls, and before it there has been no agreement discussing menarche or screening about menarche in the pupils SDN Pantai Makmur 02.

3.2 Knowledge of menarche

Respondent frequency knowledge distribution data related to menarche is presented as follows:

Table 4. Knowledge Frequency Distribution

Variable	Category	Frequency (n)	Percent (%)
Knowlegde	Good	17	16,3
	Enough	67	64,4
	Less	20	19,2
Total		104	100

Based on the frequency distribution table on knowledge among respondents in the SDN Pantai Makmur 02 district of Bekasi, in the sufficient category of 67 pupils (64.4%), 20 pupils (19.4%) have poor knowledge and as many as 17 (16.3) have good knowledge.

Table 5. Distribution of anxiety frequencies

Variable	Category	Frequency (n)	Percent (%)
Anxiety	Non-anxiety	28	26,9
	Mild Anxieties	28	26,9
	Moderate Anxieties	21	20,2
	Severe Anxieties	24	23,1
	Severe Levels	3	2,9
Total		104	100

The level of anxiety in respondents in SDN Pantai Makmur 02 district of Bekasi, in the non-anxiety category as many as 28 schoolgirls (26.9%), 28 girls (26.9%) had a mild anxieties, and as much as 21 (20.2%) had a moderate anxieties, 24 girls (23.1%) have a severe anxieties and so many as 3 girls (2.9%) have severe levels.

Table 6. Distribution of anxiety indicators (ansietas)

Variable	Category	Frequency (n)	Percent (%)
Ansietas	No symptoms or complaints are found	13	12,5
	Mild Anxieties	20	19,2
	Moderate Anxieties	53	51,0
	Severe Anxieties	1	1,0
	Severe Levels	17	16,3

Based on the above table, the highest indicator of anxiety is 53 female students or 51,0% who indicate high levels of anxiousness in the face of menarche and the lowest anxietative symptoms, i.e. in the severity category of 1 female schoolgirl or 1.0%.

Table 7. *Distribution of Anxiety Indicators (Tension)*

Category	Symptom Level	Frequency (n)	Percent (%)
Tension	No symptoms or complaints are found	16	15,4
	Mild Anxieties	20	19,2
	Moderate Anxieties	32	30,8
	Severe Anxieties	29	27,9
	Severe Levels	7	6,7

Based on the distribution of the table above, the majority of stress indicators include an average of 32 schoolgirls or 30.8% and 7 schoolgirls or 6.7% had severe stress symptoms in the face of menarche.

Table 8. *Distribution of anxiety indicators (Fear)*

Category	Symptom Level	Frequency (n)	Percent (%)
Fear	No symptoms or complaints are found	7	6,7
	Mild Anxieties	9	8,7
	Moderate Anxieties	49	47,1
	Severe Anxieties	25	24,0
	Severe Levels	14	13,5

According to the table above, the majority of schoolchildren had moderate anxiety symptoms at 49 or 47.1% and the lowest 7 or 6.7% had no fear symptoms in the face of menarche.

Table 9. *Distribution of Anxiety Indicators (Sleep Disorder)*

Category	Symptom Level	Frequency (n)	Percent (%)
Sleep Disorders	No symptoms or complaints are found	12	11,5
	Mild Anxieties	10	9,5
	Moderate Anxieties	48	46,2
	Severe Anxieties	25	24,0
	Severe Levels	9	8,7

The above data showed that the majority of students had sleep disorders in the medium category of 48 pupils or 46.2% and the lowest number of 9 pupils, or 8.7% had sleep disturbances in the very severe category.

Table 10. *Distribution of Anxiety Indicators (Intelligence Disorder)*

Category	Symptom Level	Frequency (n)	Percent (%)
Intelligence Disorder	No symptoms or complaints are found	20	19,2
	Mild Anxieties	43	41,3
	Moderate Anxieties	1	1,0
	Severe Anxieties	40	38,5
	Severe Levels	20	19,2

If you look at the data above, the majority of schoolchildren have an average intelligence disorder of 43 or 41.3% and the lowest 1 or 1.0% have a severe intelligence dysfunction rate.

Table 11. *Distribution of Anxiety Indicators (Feeling Depressed)*

Category	Symptom Level	Frequency (n)	Percent (%)
Feeling Depressed	No symptoms or complaints are found	35	33,5
	Mild Anxieties	20	19,2
	Moderate Anxieties	31	29,8
	Severe Anxieties	9	8,7
	Severe Levels	9	8,7

Based on the above table, the majority of schoolgirls did not find any depressive feelings: 35 or 33.5% and the lowest 9 or 8.7% had depressed feelings in the category of severe and very severe.

Table 12. *Distribution of Anxiety Indicators (Somatic Symptoms)*

Category	Symptom Level	Frequency (n)	Percent (%)
Somatic Symptoms	No symptoms or complaints are found	41	39,4
	Mild Anxieties	32	30,8
	Moderate Anxieties	25	24,0
	Severe Anxieties	5	4,8
	Severe Levels	1	1,0

Based on the above table, the majority of female schoolchildren had no somatic symptoms as many as 41 or 39.4% and the lowest 1 or 1.0% had very severe somatic symptoms.

Table 13. *Distribution of Anxiety Indicators (Sensory Symptoms)*

Category	Symptom Level	Frequency (n)	Percent (%)
Sensory Symptoms	No symptoms or complaints are found	42	40,4
	Mild Anxieties	39	37,5
	Moderate Anxieties	19	18,3
	Severe Anxieties	1	1,0
	Severe Levels	3	2,9

Based on the above table, 42 schoolgirls or 40.4% did not find any sensory symptoms in the face of menarche and the lowest 1 schoolgirl or 1.0% had severe sensory signs.

Based on the table below it can be seen that the majority of students found no cardiovascular symptoms that is 49 schoolgirls or 47.1% and the lowest 1 schoolgirls or 1.0% had very severe cardiovascular symptoms.

Table 14. *Distribution of Anxiety Indicators (Kardiovascular Symptoms)*

Category	Symptom Level	Frequency (n)	Percent (%)
Cardiovascular Symptoms	No symptoms or complaints are found	49	47,1
	Mild Anxieties	21	20,2
	Moderate Anxieties	26	25,0
	Severe Anxieties	7	6,7
	Severe Levels	1	1,0

Table 15. *Distribution of Anxiety Indicators (Respiratory Symptoms)*

Category	Symptom Level	Frequency (n)	Percent (%)
Respiratory Symptoms	No symptoms or complaints are found	50	48,1
	Mild Anxieties	23	22,1
	Moderate Anxieties	25	24,0
	Severe Anxieties	1	1,0
	Severe Levels	5	4,8

Based on the above table, the majority of female pupils had no respiratory symptoms, 50 pupils or 48.1% and the lowest 1 pupil or 1.0% had severe respiratory signs.

Table 16. *Distribution of Anxiety Indicators (Gastrointestinal Symptoms)*

Category	Symptom Level	Frequency (n)	Percent (%)
Gastrointestinal Symptoms	No symptoms or complaints are found	33	31,7
	Mild Anxieties	11	10,6
	Moderate Anxieties	33	31,7
	Severe Anxieties	27	26,0
	Severe Levels	33	31,7

Based on the above table, the majority of schoolchildren had no gastrointestinal symptoms, with 33 or 31.7 per cent and the lowest 11 or 10.6 per cent having mild gastric symptoms.

Table 17. *Distribution of Anxiety Indicators (Urogenital Symptoms)*

Category	Symptom Level	Frequency (n)	Percent (%)
Urogenital Symptoms	No symptoms or complaints are found	28	26,9
	Mild Anxieties	45	43,3
	Moderate Anxieties	28	26,9
	Severe Anxieties	1	1,0
	Severe Levels	2	1,9

Based on the table above, the majority of students had mild urogenital symptoms as many as 45 schoolgirls or 43.3% and the lowest as 1 schoolgirl or 1.0% had severe urinary symptoms.

Table 18. *Distribution of Anxiety Indicators (Autonomic Symptoms)*

Category	Symptom Level	Frequency (n)	Percent (%)
Autonomic Symptoms	No symptoms or complaints are found	31	29,8
	Mild Anxieties	25	24,0
	Moderate Anxieties	33	31,7
	Severe Anxieties	8	7,7
	Severe Levels	7	6,7

Based on the above table, the highest number of autonomous anxiety symptoms associated with menarche among schoolchildren included an average of 33 or 31.7% and the lowest of 7 or 6.7% had very severe autonomic symptoms.

Table 19. *Distribution of Anxiety Indicators (Interview Behavior)*

Category	Symptom Level	Frequency (n)	Percent (%)
Interview Behavior	No symptoms or complaints are found	28	26,9
	Mild Anxieties	25	24,0
	Moderate Anxieties	31	29,8
	Severe Anxieties	17	16,3
	Severe Levels	3	2,9

Based on the above table, the majority of students had behavior at the time of the interview in the average category of 31 students or 29.8% and the lowest of 3 students or 2.9% had behaviour in the interview category of very severe in the face of menarche.

3.3 Speech

3.3.1 Knowledge of Menarche

Data shows that the majority of schoolchildren have a sufficient understanding of the category about menarche, the number of which reached 67 respondents (64.4%). Knowledge related to menarche quite well describes that the teenage daughter has picked up good information about the menstrual cycle and measures to maintain reproductive health during the period of menstruation. (7). Such knowledge is acquired both through personal experience and through the experience of others. The majority of schoolchildren have a fairly good understanding, which can be seen from the results of the questionnaire on the definition of menarche. All of the students in this study answered correctly, indicating that they realized that menarche referred to the first menstrual period in a woman. Students who have sufficient knowledge, but are not ready to deal with menarche, are influenced by environmental factors around them who consider menstruation to be a taboo topic to discuss. The results of this study specifically suggest that there are a number of respondents who have experienced menarche, so they have a deeper experience and understanding of menstruation. Factors that influence sufficient knowledge with a good environment and information from good parents, as well as factors of poor knowledge are the lack of information possible from parents or lack of learning systems from less facilitating schools. The level of sufficient knowledge in this area is also influenced by factors such as age, experience, education and environment (2). Furthermore, less knowledge is found in 20 schoolgirls (19.2%), where this indicates that teenage girls who have limited knowledge about menstruation are less prepared to face menarche than those who have better knowledge.(8).

3.3.2 Anxiety Facing Menarche

The majority of the 28 schoolgirls (26.96%) did not experience anxiety and had anxieties in the mild category. The student's anxiety was reflected in a questionnaire that indicated that her understanding of dealing with menarche was still inadequate. Many of them still believe in the myths about menstruation, which contributed to the onset of anxiety. This situation is partly due to a lack of knowledge factor. The lack of understanding of menstruation and reproductive health is due to the lack of adequate education, and the pupils never get information from Puskesmas. The statement is supported by previous research, where adolescents who are not well prepared for menarche tend to experience feelings of surprise and fear when experiencing it, due to lack of understanding about menstruation and lack of education from parents. This can cause difficulties for adolescents in receiving and coping with the menarche process (2). A mild anxiety in this case, keeps a person alert and improves his perceptive ability, sharpening his senses. In this case, the rate of adolescent anxiety about mild menarche is also shown in a moderate category on some indicators of anxieties, ranging from the anxietate of 53 schoolchildren (51.0%); the tension of 32 schoolgirls (30.8%); the fear of 49 schoolgirls (47.1%); Sleep Disorder (46.2%); Intelligence Disorder 43 (41.3%); gastrointestinal symptoms 33 (31.7%); urogenital symptoms 45 (43.3%); autonomous symptoms 31 (31.7%) and interview behavior 31 (29.8%). Anxiety is a feeling of excessive fear or anxiety usually caused by a bad experience so that

it feels very loud, too dryness and difficulty breathing normally.(9). Besides, the tension will also make it difficult for him to finish his job because bad thoughts will cause a loss of concentration. (10).In this case, the fear experienced by adolescents related to menarche is also a response to something specific such as pain or threat of danger that causes the fear to have a side effect on the health of the person.(11).

The most common symptom of a sleep disorder is waking up at night, one of the factors causing it to occur is a physical disorder. Causes of poor sleep quality can be harmful to both physical and mental health. The very causes of sleep disorders are stress, anxiety, hormones, digestive problems. (12).When a person's intellectual impairment is inadequate in discovering an understanding, it can be caused by a family environment and a non-family environment, which is common in an environment where your economy is prevented from falling down due to a lack of economy and support from the family (13).Furthermore, mild menarche-related anxiety rates were also supported by analysis results that showed no symptoms found from anxious indicators such as feeling depressed 35 schoolchildren (33.5%); somatic symptoms 41 (39.4%); sensory symptoms 40 (40.4%); cardiovascular symptoms 59 (47.1%); and respiratory symptoms 50 (48.1%). Depressed feelings, commonly marked by very deep feelings of sadness and lack of guilt, tend to move away from interaction with the environment, and experience loss of interest or pleasure in activities that are usually pleasant(14). Somatic disorder, or also known as somatoform disorders, is a set of psychological conditions that produce physical symptoms in the body. As for sensory symptoms, a condition that causes the brain to have difficulty processing information on the senses of the body, one type is sensory processing disorder. (15).Cardiovascular symptoms are rarely obtained in adolescents because most of them have a lack of knowledge and cardiovasculars are of two types: normal and abnormal in teenagers. The incidence of cardiovascular disease can also be associated with the occurrence of a menarche with a cardiovascular, when the level of knowledge is low the sense of anxiety that you have will increase. (16). Furthermore, respiratory symptoms are sputum fluids mixed with sputum, coughing blood, shortness of breath, chest pain, and these symptoms result in the lungs not being able to release enough carbon dioxide. (17).

4. CONCLUSIONS

The results of the analysis showed that the majority of adolescents with knowledge about menarche in SDN Pond Makmur 02 Bekasi West Java include quite well 64,4%, less well 19,2% and well 16,3%. Most adolescents have mild anxiety rates and not anxious respectively 26,9%; weight 23,1%; moderate 20,2% and very severe 2,9%. The level of symptoms indicator of anxieties respectively dominated by the category is anxieted 51,0%; tension 30,8%; fear 47,1%; sleep disturbance 46,2%; and intelligence disorder 41,3%; autonomous symptoms 31,7%; and behavior interview 29,8%. No symptoms of feeling depressed 33.5%; somatic symptoms 39.4%; sensory symptoms 40,4%; cardiovascular 47.1%; respirator 48,1%, and gastrointestinal 31.7% and light categories in urogenital symptoms 43,3%.

For future researchers, it is hoped that this research can serve as a reference material or basic data for further research and become the basis of research with a broader sample and adding attitude or behavior variables of teenagers. It is also expected that the school to carry out reproductive health education, improve the performance of the UKS in the development of reproductive health, and the guidance of counseling teachers to improve adolescent reproduction health.

ACKNOWLEDGEMENTS

On this occasion, the author expresses his gratitude to the Chairman of the Bachelor of Science Program in Obstetrics of the Faculty of Medicine and Health of the Muhammadiyah University of Jakarta who has given the author the opportunity to compile this thesis, the Academic Guidance Lecturer and the Thesis Guiding Lecturist who have always guided the author for 4 years of Education so that the author can complete the period of Education to this day. As well, the Chief of SDN Pantai Makmur 02 School has given the author the opportunity to do research.

REFERENCES

- [1] Viny Nurrauni, I1, Susilawati, Haryani H. Hubungan Pengetahuan Remaja Putri Tentang Menarche Dengan Kecemasan Menghadapi Menarche Di Sd Negeri 1 Pasirhalang Wilayah Kerja Puskesmas Sukaraja Kabupaten Sukabumi. 2019;

- [2] Utami YAP. Hubungan Tingkat Pengetahuan Dengan Tingkat Kecemasan Remaja Dalam Menghadapi Menarche Pada Siswi Kelas V Dan Vi Di Sd Negeri 1 Ceper Klaten. *J Keperawatan*. 2019;4(1):1–12.
- [3] Mahmudah N, Daryanti MS. Kesiapan dalam menghadapi menarche pada siswi sekolah. *J JKFT*. 2021;6(1):72–8.
- [4] Hafidha dkk. Gambaran kejadian menarche pada siswi kelas 4, 5, Dan 6 SD Negeri Beji Wates Kulon Progo tahun 2020. *Repos Poltekkesjogja*. 2020;68(1):1–12.
- [5] Hidayah N, Palila S. Kesiapan Menghadapi Menarche pada Remaja Putri Prapubertas Ditinjau dari Kelekatan Aman Anak dan Ibu. *Psychopathic J Ilm Psikol*. 2018;5(1):107–14.
- [6] Megawati M, Tajmiati A, Rismawati S, Mardiani DE. Pendidikan Kesehatan Reproduksi Remaja Di Sekolah Menengah Pertama. *Media Inf*. 2016;12(2):55–9.
- [7] Nuravni V, Susilawati, Haryani H. Hubungan Pengetahuan Remaja Putri Tentang Menarche dengan Kecemasan Menghadapi Menarche Di SD Negeri 1 Pasirhalang Wilayah Kerja Puskesmas Sukaraja Kabupaten Sukabumi. *J Ilmu Kesehat Karya Bunda Husada*. 2021;7(2):24–32.
- [8] Sholehah. Pengetahuan Tentang Menarche Sebagai Upaya Mengurangi Kecemasan Pada Remaja Putri Dalam Menghadapi Menarche. *J Keperawatan Notokusumo* [Internet]. 2018;VI(1):32–9. Available from: <http://jurnal.stikes-notokusumo.ac.id/index.php/jkn/article/view/68>
- [9] Annisa DF, Ildil I. Konsep Kecemasan (Anxiety) pada Lanjut Usia (Lansia). *Konselor*. 2016;5(2):93.
- [10] Djamaluddin NM. Pengaruh stres kerja terhadap kinerja pada tenaga kesehatan dimasa pandemi Covid-19. *Fair Value J Ilm Akunt dan Keuang*. 2022;5(2):1110–8.
- [11] Ningrum RF, Suprihatin T. Ketakutan Akan Kegagalan Ditinjau Dari Persepsi Terhadap Harapan Orang Tua dan Efikasi Diri Pada Mahasiswa Yang Mengerjakan Skripsi. *Konf Ilm Mhs Unissula 2*. 2019;304–12.
- [12] Hasibuan RK, Hasna JA. Gambaran Kualitas Tidur pada Lansia dan Faktor-Faktor yang Mempengaruhinya di Kecamatan Kayangan , Kabupaten Lombok Utara, Nusa Tenggara Barat. *J Kedokt dan Kesehat*. 2021;17(2):187–95.
- [13] Rahmi P. Mengelola dan Mengembangkan Kecerdasan Sosial & Emosional Anak Usia Dini. *Bunayya J Pendidik Anak*. 2019;VI(2):19–44.
- [14] Muslimahayati M, Rahmy HA. Depresi dan Kecemasan Remaja Ditinjau dari Perspektif Kesehatan dan Islam. *DEMOS J Demogr Ethnogr Soc Transform*. 2021;1(1):35–44.
- [15] Zamroni, Asmedi A, Nuradyo D. Neuropathy symptom score dan neuropathy deficit score sebagai skor diagnostik neuropati diabetik. *Berk Neurosains* [Internet]. 2016;15(1):46–53. Available from: <https://journal.ugm.ac.id/bns/article/view/55726/27534>
- [16] Jumayanti J, Wicaksana AL, Akhmad Budi Sunaryo EY. Kualitas Hidup Pasien Dengan Penyakit Kardiovaskular Di Yogyakarta. *J Kesehat*. 2020;13(1):1–12.
- [17] Yani FF. Tinjauan Pustaka Peran Vitamin D pada Penyakit Respiratori Anak. *J Kesehat Andalas*. 2019;8(1):167–71.