

## The Influence Of Peer Group Support On Knowledge And Personal Hygiene Attitudes During Menstruation In Adolescent Girls At Smp Negeri 2 Tumpang, Malang District

Eri Puji Kumalasari<sup>1</sup>, Imawati<sup>2</sup>, Devy Putri Nursanti<sup>3</sup>, Miftakhur Rohmah<sup>4</sup>, Asasih Villasari<sup>5</sup>

<sup>1,2,3,4</sup>Midwifery Professional Study Program, STRADA Indonesia University, Kediri City, Indonesia

\*Corresponding author: [ery21021989@gmail.com](mailto:ery21021989@gmail.com)

### ABSTRACT

Prevention of poor menstrual hygiene practices in adolescent girls can be done through behavior change interventions starting from providing guidelines, management, developing communication media, information and education. Method *peer group support* as a means for exchanging ideas, mutual discussions, counseling or health education related to the problems being faced, so that groups can achieve success, satisfaction while making life more effective. The aim of this research is to analyze the influence *peer group support* to knowledge and attitudes. The research design used in this research is Pre-experimental method with research design *one grup pretest posttest design* and the sample in this research is young women with a sample size of 80 respondents at SMP N 2 Tumpang, the sampling method in this research uses the technique *simple random sampling*. Test statistics using *Wilcoxon-test* with an  $\alpha$  value  $<0.05$ . Data collection using a questionnaire sheet. There is a significant influence between before it is done *peer group support* with after it is done *peer group support* on the knowledge of young women at SMP N 2 Tumpang with statistical test results obtained with a value of  $p=0.000$ . There is a significant influence between before it is done *peer group support* with after it is done *peer group support* towards the attitudes of young women at SMP N 2 Tumpang with statistical test results obtained with a value of  $p=0.000$ . Method *peer group support* It is hoped that this will be able to raise awareness among young women to improve practice *personal hygiene* during menstruation.

**Keywords:** Menstruation, Peer Group Support, Personal Hygiene, Young Women

## 1. INTRODUCTION

Poor menstrual hygiene practices among adolescent girls can have a negative impact on reproductive health. The menstrual health aspect is an important part of a woman's reproductive health, not only covering physical health aspects, but also mental, spiritual and social health aspects. A young woman needs to know the pattern, distance, amount of blood from each menstruation. The obligation to maintain health and hygiene related to menstruation is often ignored. Many factors cause this, including teenagers' ignorance or lack of attention about reproductive health. Apart from that, support for personal hygiene needs is inadequate, especially in public places such as schools, dormitories, mosques and places of worship, tourist attractions, hospitals, stations, markets and others (Sinaga et al., 2017). Poor menstrual hygiene practices cause a teenager to be 1.4 to 25.07 times at risk of developing Reproductive Tract Infection (RTI) (Sumpter and Torondel, 2018).

*World Health Organization (WHO)* have surveyed in several countries and found that many adolescent girls aged 10-14 years experience reproductive health problems, among the problems experienced are reproductive tract infections, mostly in teenagers (35-42%) and young adults (27-33%). The prevalence of the most common diseases is candidiasis (25-50%), bacterial vaginosis (20-40%) and trichomoniasis (5-15%). Globally, many women and girls face difficulties in managing their menstrual hygiene (Indonesian Ministry of Health's Communication and Community Services Bureau, 2017). The prevalence of poor menstrual hygiene practices is 27.5-40% in Nepal (Yadav et al., 2018) and 68.5% in Bangladesh (Asha et al., 2019). It also ranged between 44.8-81.7% in different studies conducted in India (Kumar et al., 2017). The prevalence of poor menstrual hygiene practices is 45.45% in Uganda (Nakirya, 2019), 74.7% in Nigeria (Yalew et al., 2021),

28.8% in Kenya (Korir et al., 2018) and 69.9% in Ghana (Boakye-Yiadom et al., 2018).

Statistical data in 2017 in Indonesia shows that the menstrual hygiene behavior of teenagers aged 10-14 years is still in the poor category. This condition is supported by the tropical climate in Indonesia which is quite hot and tends to be humid, making it more susceptible to infections in the reproductive tract. Problems that arise when genital hygiene is not good include vaginal discharge, irritation of the genital skin (pruritus), allergies, and even urinary tract infections (UTI). According to the 2017 Indonesian Health Demographic Survey (SDKI), the menstrual hygiene behavior of adolescent girls is still poor, namely 63 percent due to lack of knowledge and information about personal hygiene during menstruation, so that adolescent girls do not have a proper understanding of menstrual hygiene (Gunawan, 2019).

Data from East Java Province shows that the number of ISR cases in East Java, such as candidiasis and cervicitis, which occurred in young women reached 86.5%, found in Surabaya and Malang (East Java Province Health Profile, 2021).

Lack of skills in maintaining hygiene during menstruation has resulted in 88.1% of teenage girls experiencing vaginal discharge with a frequency of 61% "often". As many as 42.9% of female teenagers practice poor personal hygiene during menstruation. This is caused by a lack of information about hygiene during the first menstruation, regarding how to clean sanitary napkins and dealing with symptoms such as pain or odor (Hanissa et al., 2017).

One of the efforts of the government of the Republic of Indonesia to reduce reproductive health problems is by establishing adolescent reproductive health as one of the government programs listed in the Government Regulation of the Republic of Indonesia Number 61 of 2014 concerning Reproductive Health where in article 11 paragraph 1 point b which reads "adolescent

reproductive health services aim to prepare adolescents to live a healthy and responsible reproductive life" and article 11 paragraph 3 which states "the provision of adolescent reproductive health services must be adapted to the problems and stages of adolescent growth and development and pay attention to justice and gender equality, considering moral, religious values, mental development, and based on statutory provisions" (BKKBN, 2018).

In adolescence, a teenager will be closer to their peers than to their own parents, they spend more than 40% of their time with peers (peer group support). The amount of time a student spends with his friends will influence his mindset (Hakim, 2017). Peers have an important role in the social life and development of adolescents. The positive influence of peers includes teenagers getting information, knowledge, and social support from their peer group.

*Peer group support* is peer support, namely by providing information, assistance, or materials obtained from familiar peers. Peer support makes someone feel cared for, appreciated, loved, helped, encouraged and accepted when they are in trouble. Peer group support (*peer group support*) is one of the supports and networks from PIK-R (Youth Information and Counseling Center). PIK-R is a forum for reproductive health information and counseling services as well as preparation for family life managed by teenagers (BKKBN, 2018).

Based on the results of an initial study conducted by interviews with 10 female students at SMP N 2 Tumpang regarding personal hygiene during menstruation, it was found that the personal hygiene carried out was still in the poor category in terms of the use of sanitary napkins, which on average were only done 2-3 times a day, which should be changed every 4 hours, with a percentage of 20% changing sanitary napkins less than 4 times a day. And for the use of underwear, a percentage of 90% of those used are tight underwear made from spandex, not cotton, which is more

absorbent and more comfortable when worn. Personal hygiene, such as hair care, is still in the inadequate category because as many as 80% still do not wash their hair during their menstrual period, and will wash their hair after menstruation or even wash their hair according to the condition of their hair.

*Method peer group support* It is hoped that this will be able to raise awareness among young women to improve menstrual hygiene behavior, gain a deeper understanding of the concept of behavior and information, and behave correctly in menstrual hygiene practices so that researchers want to research the "Influence of *Peer Group Support* Towards Knowledge And Attitude *Personal Hygiene* During Menstruation in Adolescent Girls at SMP Negeri 2 Tumpang, Malang Regency."

## 2. METHODS

In this research the author used a quantitative approach. Creswell (2016) The approach that will be taken in this research is a quantitative analysis approach based on statistical information. A research approach that answers research problems requires careful measurement of the variables of the object under study to produce conclusions that can be generalized regardless of the context of time, place and situation.

This type of research is quantitative research with a pre-experimental research design. According to Sugiyono (2019), experimental research methods can be interpreted as research methods used to find the effect of certain treatments on others under controlled conditions.

The type of design used in this research is *pre experimental with one group pretest-posttest design*. This type of design only uses one group of subjects, measurements are taken before and after treatment (Novita, 2015). According to (Novita et al, 2015) the form of the one group pretest posttest plan is as follows:

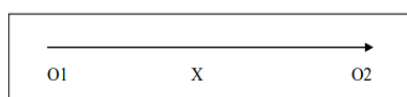


Figure 4.1 Research design *one group pretest-posttest design*

Source: Novita et al, 2016

Information :

O1 = First measurement before intervention *peer group support* (pretest)

X = Treatment or experiment after research has been carried out

O2 = Second measurement after administering the intervention *peer group support* (posttest).

### 3. RESULTS

#### A. Respondent Characteristics

##### 1. Based on Respondent's Age.

Table 4.3 Frequency Distribution of Age Characteristics of Young Women at SMP Negeri 2 Tumpang, Malang Regency

Age	F	%
13 years old	62	77,5
14 years	18	22,5
<b>Total</b>	80	100

Based on table 4.3 above, it shows that almost all of the young women at SMP Negeri 2 Tumpang are known to have the characteristics of the age of 13 years (77.5%).

##### 2. Based on Menstrual History.

Table 4.4 Frequency Distribution of Menstrual Status Characteristics of Adolescent Girls at SMP Negeri 2 Tumpang, Malang Regency

Menstrual Status	F	%
Not yet	1	17,5
Already	4	82,5

	6	
	6	
<b>Total</b>	8	100
	0	

Based on table 4.4 above, it shows that the characteristics of the menstrual status of young women at SMP Negeri 2 Tumpang are almost all known to have menstruated (82.5%).

#### B. Variable Characteristics

##### 1. Knowledge Before Giving Intervention *Peer Group Support*

Table 4.5 Frequency Distribution of Knowledge in Adolescent Girls at SMP N 2 Tumpang Before Being Given Intervention *Peer Group Support*

Knowledge	F	%
Good	12	15,0
Enough	35	43,8
Not enough	33	41,2
<b>Total</b>	80	100

Based on table 4.5 above, it shows that out of 80 respondents (100%) young women at SMP Negeri 2 Tumpang before being given intervention *peer group support* It is known that almost half are in the sufficient knowledge category (43.8%).

##### 2. Knowledge After Being Given Intervention *Peer Group Support*

Table 4.6 Frequency Distribution of Knowledge in Adolescent Girls at SMP N 2 Tumpang After Being Given Intervention *Peer Group Support*

Knowledge	F	%
Good	5	65,0
Enough	2	32,5
Not enough		2,5

	2	
	6	
	2	
<b>Total</b>	8	100
	0	

Based on table 4.6 above, it shows that out of 80 respondents (100%) young women at SMP Negeri 2 Tumpang after being given intervention *peer group support* known to most with good knowledge (65.0%).

### 3. Attitude Before Intervention *Peer Group Support*

Table 4.7 Frequency Distribution of Attitudes among Adolescent Girls at SMP N 2 Tumpang Before Being Given Intervention *Peer Group Support*

Attitu	F	%
<b>Positi</b>	38	47,5
<b>ve</b>	42	52,5
<b>Negati</b>		
<b>ve</b>		
<b>Total</b>	80	100

Based on table 4.7 above, it shows that out of 80 respondents (100%) young women at SMP Negeri 2 Tumpang before being given intervention *peer group support* Most people have a negative attitude (52.5%).

### 4. Attitude After Being Given Intervention *Peer Group Support*

Table 4.8 Frequency Distribution of Attitudes in Adolescent Girls at SMP N 2 Tumpang After Being Given Intervention *Peer Group Support*

Attitu	F	%
<b>Positi</b>	68	85,0
<b>ve</b>	12	15,0
<b>Negati</b>		
<b>ve</b>		
<b>Total</b>	80	100

Based on table 4.8 above, it shows that out of 80 respondents (100%) young women at SMP Negeri 2 Tumpang after being given intervention *peer group support* almost all of them had a positive attitude (85.0%).

		KNOWLEDGE PRETEST		
		GOO D	ENO UGH	NOT ENO UGH
<b>AGE</b>	13 TH	35	25	2
	14TH	18	0	0
<b>MENSTRU A L STATUS</b>	NOT YET	0	12	2
	ALRE ADY	53	13	0

### 5. Cross Tabulation of Age Characteristics, Menstrual Status Characteristics with Knowledge

Table 4.9 Cross Tabulation of Age Characteristics, Menstrual Status and Knowledge of Adolescent Girls at SMP N 2 Tumpang

Based on table 4.9 above, it shows that of the 80 respondents (100%) of young women at SMP N 2 Tumpang, it is known that almost half of them are in the sufficient knowledge category (43.8%) who are around the age of 13 years and almost all of them are known to have menstruated (82.5%).



## 6. Cross Tabulation of Age Characteristics, Menstrual Status and Attitude

Table 4.10 Cross Tabulation of Age Characteristics, Menstrual Status and Attitudes of Young Women at SMP N 2 Tumpang

		ATTITUDE PRETEST	
		POSITIVE	NEGATIVE
AGE	13 TH	AGE	42
	14TH		0
MENSTRUAL STATUS	NOT YET	MENSTRUAL STATUS	14
	ALREADY	38	28

		ATTITUDE POSTTEST	
		POSITIVE	POSITIVE
AGE	13 TH	50	42
	14TH	18	0
MENSTRUAL STATUS	NOT YET	2	14
	ALREADY	66	28

Based on table 4.10 above, it shows that of the 80 respondents (100%) of young women at SMP N 2 Tumpang, it is known that the majority with negative attitudes (52.5%) are around the age of 13 years and almost all of them are known to have menstruated (82.5%).

## C. Statistical Test Results

### 1. Knowledge

Table 4.11 Distribution of Average Results Pretest And Posttest Knowledge Before and After Providing Intervention Peer Group Support In Young Women at SMP N 2 Tumpang

#### Test Statistics<sup>a</sup>

	KnowledgeAfter - KnowledgeBefore
WITH	-7.734 <sup>b</sup>
Asymp. Sig. (2-tailed)	.000

#### Test Statistics<sup>a</sup>

	Attitude After - Attitude Before
WITH	-5.477 <sup>b</sup>
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Based on table 4.11 statistical test results *Wilcoxon* obtained a p value = 0.000, it is concluded that there is a significant influence between before it is carried out *peer group support* with after it is done *peer group support* on the knowledge of young women at SMP N 2 Tumpang.

### 2. Attitude

Table 4.12 Distribution of Average Results Pretest And Posttest Attitudes Before and After Providing Intervention Peer Group Support In Young Women at SMP N 2 Tumpang

Based on table 4.12 statistical test results *Wilcoxon* obtained a p value = 0.000, it is concluded that there is a significant influence between before it is carried out *peer group support* with after it is done *peer group support*

support towards the attitudes of young women at SMP N 2 Tumpang.

#### 4. DISCUSSION

Based on the research results, it shows that 80 respondents (100%) of young women at SMP Negeri 2 Tumpang before being given intervention *peer group support* Almost half of them were known to be in the sufficient knowledge category (43.8%), in the age category almost all were known to be 14 years old (77.5%), in the menstrual status category almost all were known to have menstruated (82.5%).

In line with Aulia Putri's research (2019), the results of her research also showed that the results of the characteristics of respondents showed that as many as 30 respondents (50%) were in the early teens category (11-14 years) and at least 6 respondents (10%) were in the late teens category (18-20 years). Knowledge is the result of knowing, occurs after people sense a particular object (Retnaningsih, 2018). In its understanding, knowledge has six levels, namely: Know (*Know*), Understand (*Comprehension*), Application (*Application*), Analysis (*analysis*), Synthesis (*Synthesis*), and Evaluation (*Evaluation*) (Notoatmodjo, 2019). According to researchers' assumptions, the lack of awareness among young women regarding hygiene practices during menstruation is due to lack of exposure. To overcome this, interventions need to be carried out further upstream, namely to groups of teenagers and young adults by increasing teenagers' knowledge about *personal hygiene* during menstruation through peer education or *peer group support* in adolescents in high school and college.

Based on the research results, it shows that out of 80 respondents (100%) young women at SMP Negeri 2 Tumpang after being given intervention *peer group support* known to most with good knowledge (65.0%).

In line with Alfi Afandi's (2020) research on his research after it was carried out *peer group support* in the treatment group there was an increase in knowledge with statistical test scores *wilcoxon test*  $p=0.001$ . When intervention is carried out on respondents, a learning process occurs for each respondent. This is in accordance with theoretical studies that the learning process is an effort to obtain new knowledge or knowledge that is not yet understood. The learning process can be realized in the form of guidance and social interaction which is the goal *peer group support*. *Peer group support* serves as a source of information for respondents. Deep problem presentation method *peer group support* make respondents convey their problems so that the problem is clarified and various respondents who have problems get additional information and solutions. This can increase respondents' knowledge of knowledge (Grover, 2018).

According to the researchers' assumptions, in accordance with theory, the majority of respondents experienced an increase in knowledge after being given it *peer group support*. This happens because the information is conveyed well with feedback so that the information is more relevant. However, respondents did not experience changes in knowledge. This could be caused by the respondent not paying attention to the facilitator and of course requiring more attention. However, if the information provided is not properly absorbed by the human senses, then the chances of it being absorbed are also smaller.

Based on the research results, it shows that out of 80 respondents (100%) young women at SMP Negeri 2 Tumpang before being given intervention *peer group support* Most people have a negative attitude (52.5%).

Notoatmodjo (2019) states that attitude is a reaction or response that is still closed from a person to a stimulus or object. Attitude is not yet a practice or activity, but is a predisposition to practice a behavior. Knowledge, thinking, beliefs and emotions

play an important role in determining a complete attitude. Attitudes have levels ranging from accepting, responding, appreciating, and being responsible. A person's attitude cannot just change without an underlying process. Through education there will be a process of changing a person's way of thinking because there is open dialogue or discussion to express their own opinions. According to (Ridwan Maulana, Opdenakker, and Bosker 2019) attitudes are actions that are based on beliefs based on existing norms in society and usually religious norms. However, the actions that humans will take usually depend on what the problem is and are truly based on their own beliefs or beliefs.

According to the researchers' assumptions, respondents with a negative attitude category were because they had not received sufficient experience and knowledge about the importance of personal hygiene during menstruation.

Based on the research results, it shows that out of 80 respondents (100%) young women at SMP Negeri 2 Tumpang after being given intervention *peer group support* almost all of them had a positive attitude (85.0%).

Based on behavioral science, behavioral changes occur gradually, starting with changes in knowledge, then changes in attitudes, and after internalization, changes in skills or actions/practices emerge (Green & Kreuter, 2018). Researchers assume that attitudes are still negative with *personal hygiene* influenced by the receipt of the stimulus given and the response is still indifferent so that discussing menstruation with friends or other people and even inviting or influencing other people to respond is still lacking, or because the attitude of young women who have just grown up is still very closed and shy when talking about menstruation.

Based on statistical test results *Wilcoxon* obtained a p value = 0.000, it is concluded that there is a significant influence between before it is carried out *peer group support* with

after it is done *peer group support* on the knowledge of young women at SMP N 2 Tumpang.

This means that this research is in the same direction and in accordance with previous research conducted by Ridwan Maulana, Opdenakker, and Bosker (2019) that through education it can bridge the gap between health knowledge, attitudes and behavior and health education motivates someone to receive health information and act according to this information so that they become more informed and have a more positive attitude. As explained by Sri (2019), that *Peer Group Discussion* has the advantage of attracting attention, respondents can obtain information through various sources, sharing or discussing with each other.

Based on statistical test results *Wilcoxon* obtained a p value = 0.000, it is concluded that there is a significant influence between before it is carried out *peer group support* with after it is done *peer group support* towards the attitudes of young women at SMP N 2 Tumpang.

Researchers' assumptions, *peer group support* as a health education method by forming discussion groups it plays a role in changing attitudes to be more positive *peer group support* as where group members provide themselves as good listeners, respondents get psychological support. Psychological support is able to change a person's attitude, in accordance with Azwar's (2018) statement that the influence and support of other people is one of the factors forming attitudes.

## 5. CONCLUSION

The respondent's level of knowledge before being given the treatment *peer group support* It is known that almost half are in the sufficient knowledge category (43.8%). Respondent's level of knowledge after being given treatment *peer group support* known to the majority with good knowledge (65.0%). Respondent's attitude before being given *peer group support* Most people have a



negative attitude (52.5%). Respondent's attitude after being given *peer group support* almost all of them had a positive attitude (85.0%). There is a significant influence between before it is done *peer group support* with after it is done *peer group support* on the knowledge of young women at SMP N 2 Tumpang with statistical test results obtained with a value of  $p=0.000$ . There is a significant influence between before it is done *peer group support* with after it is done *peer group support* towards the attitudes of young women at SMP N 2 Tumpang with statistical test results obtained with a value of  $p=0.000$ .

## 6. REFERENCES

- Adriani, M., & Wirjatmadi, B. (2013). Pengantar Gizi Masyarakat. Kencana Pranada Media Grup
- Asumah, M. N., Abubakari, A., Aninanya, G. A., & Salisu, W. J. (2022). *Perceived factors influencing menstrual hygiene management among adolescent girls: a qualitative study in the West Gonja Municipality of the Savannah Region, Ghana*. *Pan African Medical Journal*, 41. <https://doi.org/10.11604/pamj.2022.41.146.33492>
- Azwar, Saifuddin. 2018. Sikap Manusia. Edisi kedua. Yogyakarta: Pustaka pelajar
- Burnet Institute, 2021. *Menstrual Hygiene Management In Indonesia* [https://www.burnet.edu.au/system/asset/file/2034/2021\\_Menstrual\\_hygiene\\_management\\_Indonesia\\_FINAL\\_REPORT\\_February\\_2021\\_low\\_res.pdf](https://www.burnet.edu.au/system/asset/file/2034/2021_Menstrual_hygiene_management_Indonesia_FINAL_REPORT_February_2021_low_res.pdf)
- Baron, R. M., & Kenny, D. A. (1986). *The Moderator-Mediator Variable Distinction in Social Psychological Research. Conceptual, Strategic, and Statistical Considerations*. *Journal of Personality and Social Psychology*, 51(6), 1173-1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Fithra, Fillah Dieny. 2018. *Permasalahan Gizi Pada Remaja Putri*. Yogyakarta: Graha Ilmu

Fitryah, 2018. Gambaran Perilaku Hygiene Menstruasi Para Remaja Putri di Sekolah Dasar Negri di Wilayah Kerja Puskesmas Pisangan. Skripsi S1 Fakultas Ilmu Keperawatan, Fakultas Kedokteran dan Ilmu Kesehatan, Universitas Islam Syarif Hidayatullah, Jakarta, 2018.

Fisseha M.A et al. 2020. *Menstrual Hygiene Practice and Associated Factors among seceondary Scchool Girls in Wegera Distrct, Northwest Ethiopia; a cross-sectional study*.

Gultom, R. U., Manik, R. M., Sitepu, A. B., Tinggi, S., Kesehatan, I., Elisabeth, S., & Bunga, J. (2021). *Adolescents' Knowledge Level Of Personal Hygiene When Menstrual At Private Junior High School, Jalan Mangaan I No. 60 Mabar*. In *Journal of Healthcare Technology and Medicine* (Vol. 7, Issue 2).

Hennegan, J., Nansubuga, A., Akullo, A., Smith, C., & Schwab, K. J. (2020). *The Menstrual Practices Questionnaire (MPQ): development, elaboration, and implications for future research*. *Global Health Action*, 13(1). <https://doi.org/10.1080/16549716.2020.1829402>

Hastuti, Rika Kumala Dewi&Rezanti Putri Pramana. 2018. Studi Kasus Tentanag Manajemen Kebersihan menstruasi (MKM) Siswa SD dan SMP. SMERU Research Institute

Hidayati, A.N., Suyoso, S., Hinda, D., dan Sandra, E. 2018. *Superficialis Mycosis in Mycology Divicion*. Berkala Ilmu Kesehatan Kulit dan Kelamin. Artikel Asli. Dep/SMF Kesehatan Kulit dan Kelamin, Surabaya. <http://isjd.pdii.lipi.go.id/admin/jurnal/2110918.pdf>.

Iqbal, W.M. 2018. *Promosi Kesehatan Untuk Kependanaan*. Jakarta: Salemba Medika

Isroin, laily dan sulistyoyo andarmoyo. 2012. *Personal Hygiene*. Yogyakarta: Graha Ilmu

- Kajla, A., & Gaur, G. (n.d.). *Knowledge, Awareness and Practices on Menstrual Hygiene Management among Panjab University Chandigarh Girls' Hostel Residents*.
- Katsuno Et al. 2019. *Quality Of Public School Toilets And The Frequency Of Changing Sanitary Napkins Among Student In Public Secondary Schools In The City Of Manila, Philippnes. Tropical Medicine and Health*  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6329056/>
- Kemenkes RI. 2021. *Manajemen Kebersihan Menstruasi (MKM)*.  
<http://www.depkes.go.id/article/view/17052700001/manajemen-kebersihan-menstruasi-perlu-dipahami-.html>.
- Kemendikbud RI. 2020. *Profil Sanitasi Sekolah Tahun 2020*. Jakarta: Kemendikbud
- Kumalasari, Intan & Iwan Andhyantoro.2018. *Kesehatan Reproduksi*. Jakarta: Salemba
- Malik, M., Hashmi, A., Hussain, A., Khan, W., Jahangir, N., Malik, A., & Ansari, N. (2023). *Experiences, awareness, perceptions and attitudes of women and girls towards menstrual hygiene management and safe menstrual products in Pakistan. Frontiers in Public Health, 11*.  
<https://doi.org/10.3389/fpubh.2023.1242169>
- Magayane, R., & Meremo, J. (2021). *Menstrual Hygiene Management Practices For Adolescent Girls Among Public Secondary Schools In Kibondo District, Tanzania. East African Journal Of Education And Social Sciences, 2(Issue 3), 107-115*.  
<https://doi.org/10.46606/eajess2021v02i03.0109>
- Medika Kusmiran, Eny. 2018. *Kesehatan Reproduksi Remaja dan Wanita*. Jakarta: Salemba
- Medika Lestariningsih, Sri. 2021. *Faktor-faktor yang berhubungan dengan praktik hygiene menstruasi VIII*
- Manuaba, I.B.G., I.A.2018. *Chandranita Manuaba, dan I.B.G. Fajar Manuaba. Pengantar Kuliah Obstetri*. Jakarta: Buku Kedokteran EGC
- Mandang, Jenny, Freike Lumi, Iyam Manueke, Naomy M.Tando. 2018. *Kesehatan Reproduksi dan Pelayanan Keluarga Berencana*. Bogor: In media
- Marimbi, Hanum. 2018. *Biologi Reproduksi*. Yogyakarta : Nuha Medika
- Mariene W, D, dkk.2018. *Faktor Yang Berhubungan Dengan Praktik Hygiene Menstruasi Pada Siswi Sma Negeri 1 Sesean Kabupaten Toraja Utara*. Fakultas Kesehatan Masyarakat, Universitas Hasanudin, Makasar, 2018.
- Mohammed E.M. et al. 2018. *Knowledge, belief, and practices regarding menstruation among saudi nursing student*.
- Nita, Rahman & Desi Ari Astuti. 2018. *Faktor-faktor yang berhubungan dengan perilaku personal hygiene pada saat menstruasi di SMP Muhammadiyah 5 Yogyakarta Tahun 2018*. Program Studi Bidan Pendidik DIV Kebidanan, STIKES Aisyiyah Yogyakarta
- Nursalam, 2020. *Konsep dan Penerapan Metodologi Penelitian Ilmu Keperawatan*. Jakarta: Salemba medika
- Nwimo, I. O., Elom, N. A., Ilo, C. I., Ezugwu, U. A., Ezugwu, L. E., Nkwoka, I. J., Igweagu, C. P., & Okeworo, C. G. (2022). *Menstrual hygiene management practices and menstrual distress among adolescent secondary school girls: A questionnaire-based study in nigeria. African*

- Health Sciences*, 22(2), 397–409. <https://doi.org/10.4314/ahs.v22i2.46>
- Rahman, M. J., Rahman, M. M., Sarker, M. H. R., Ahmed, A., Ali, M., Islam, M. Z., Bubly, J. A., Hawlader, D. H., & Shimpuku, Y. (2024). *The Impact of mHealth Education on Changing Menstrual Hygiene Management Knowledge and Practices Among School-Going Adolescent Girls in Rural Bangladesh: A Quasi-experimental Study Protocol*. *Cureus*. <https://doi.org/10.7759/cureus.52157>
- Setyaningsih, Ajeng, 2020. Hubungan antar sikap dengan perilaku personal hygiene menstruasi. Program Studi Bidan pendidikan DIV, STIKES Aisyiyah Yogyakarta, 2020
- Shumie, Z. S., & Mengie, Z. A. (2022). *Menstrual hygiene management knowledge, practice and associated factors Among School Girls, Northeast Ethiopia*. *PLoS ONE*, 17(7 July). <https://doi.org/10.1371/journal.pone.0271275>
- Sinaga, Ernawati, Nonon Saribanon, Suprihatin, Nailus Sa'adah, Ummu Salamah, Yulia Andani Murti, Agusniar Trisnamiarti, Santa Lorita. 2020. Manajemen Kebersihan Menstruasi. Jakarta: Universitas Nasional, IWWASH, Global One
- Sugiyono, 2018. *Statistika Untuk Penelitian*. Bandung : Alfabeta
- Suhasini K & Metgud Chandra. 2021. *Factors Influencing Menstrual Hygiene Practice Among Late Adolescent Girls in an Urban Area of Belgaum*. <http://www.annalsofcommunityhealth.in/ojs/index.php/AoCH/article/view/172>
- Swaminathan N, Ravichandran L, Ramachandran S, Milanese S. *Blended learning and health professional education: Protocol for a mixed-method systematic review*. *J Educ Health Promot*. 2020 Feb 28;9:46. doi: 10.4103/jehp.jehp\_489\_19. PMID: 32318614; PMCID: PMC7161655.
- Vallée A, Blacher J, Cariou A, Sorbets E. *Blended Learning Compared to Traditional Learning in Medical Education: Systematic Review and Meta-Analysis*. *J Med Internet Res*. 2020 Aug 10;22(8):e16504. doi: 10.2196/16504. PMID: 32773378; PMCID: PMC7445617.
- Wulandari, A. N., & Prihatin, E. S. W. D. (2022). *Efforts to Increase Adolescent Knowledge and Awareness About Menstrual Health Management Through the Provision of Health Education in Boarding School*. *Mattawang: Jurnal Pengabdian Masyarakat*, 3(2), 173–177. <https://doi.org/10.35877/454ri.mattawang908>