

Menstrual Hygiene Management (MHM): A Case Study of Primary and Junior High School Students in Indonesia



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SMERU RESEARCH REPORT

**Menstrual Hygiene Management (MHM): A Case Study
of Primary and Junior High School Students in Indonesia**

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ABSTRACT

Menstrual Hygiene Management (MHM): A Case Study of Primary and Junior High School Students in Indonesia

Hastuti, Rika Kumala Dewi, and Rezanti Putri Pramana

Global studies reveal that there are correlations between sanitation facilities in schools and transition rate as well as attendance rate of female students when they are menstruating. In Indonesia, most primary schools are lacking in terms of sanitation facilities' hygiene, however studies about menstrual hygiene management (MHM) are still limited. Therefore, The SMERU Research Institute collaborated with Plan International Indonesia (Plan) to conduct a qualitative study about the practice and impact of MHM at the primary school and junior high school level as well as to evaluate the existing MHM Program that has been implemented by Plan since 2014. This study was conducted in West Jakarta (DKI Jakarta), Kabupaten Nagekeo (East Nusa Tenggara), and Kabupaten Lombok Utara (West Nusa Tenggara). Information was collected from primary schools which receives the intervention and not receiving the intervention, junior high schools, and stakeholders at the *kabupaten* level and the community level. This study finds that although the condition in DKI Jakarta is comparatively better than the other two regions. In all regions, there are cultural values/myths that can potentially encourage poor MHM practices. At the school level, supporting facilities for MHM are inadequate. Meanwhile, students' knowledge, practice, and skills regarding MHM are still low. During menstruation some students also experience verbal harassment. Menstruation was also found to physical and psychological ailment which affect student's concentration, participation, and attendance. The MHM Program implemented by Plan receives positive responses, but was not too effective in improving the understanding towards the concept and practices of MHM, especially in DKI Jakarta and West Nusa Tenggara, due to, among others, limited activities of dissemination of information. This program must be continued and expanded, but it must be accompanied with improvement such as intensifying the number of dissemination activities and widening its target to improve the understanding of various parties, especially male and female students, towards the issue of menstruation and menstrual hygiene.

Keywords: student, menstruation, hygiene, WASH, reproductive health

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LIST OF ABBREVIATIONS

Bappeda	Badan Perencanaan Pembangunan Daerah	Regional Development Planning Agency
BK	<i>bimbingan konseling</i>	guidance and counselling
BOS	Bantuan Operasional Sekolah	School Operational Assistance
CBTS		community-based total sanitation
CTPS	<i>cuci tangan pakai sabun</i>	hand hygiene with soap
HIV/AIDS		Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
IPA	Ilmu Pengetahuan Alam	Natural Science
KTSP	Kurikulum Tingkat Satuan Pendidikan	2006 School-Based Curriculum
MA	<i>madrasah aliah</i>	Islamic senior high school
MCK	<i>mandi cuci kakus</i>	<i>public washing and sanitation facilities</i>
MHM		Menstrual Hygiene Management
MI	<i>madrasah ibtidaiah</i>	Islamic primary school
MTS	<i>madrasah sanawiah</i>	Islamic junior high school
NTB	Nusa Tenggara Barat	West Nusa Tenggara
NTT	Nusa Tenggara Timur	East Nusa Tenggara
P3K	pertolongan pertama pada kecelakaan	<i>first aid</i>
PDAM	Perusahaan Daerah Air Minum	Local Water Supply Company
Permendiknas	Peraturan Menteri Pendidikan Nasional	Regulation of Ministry of National Education
PHBS	<i>perilaku hidup bersih dan sehat</i>	clean and healthy behavior
PIK	<i>pusat informasi dan konseling</i>	information and counselling center
PJOK	Pendidikan Jasmani Olahraga dan Kesehatan	Physical and Health Education
PK	<i>pelaksana kegiatan</i>	program implementation committee
PKPR	Pelayanan Kesehatan Peduli Remaja	Care for Adolescent Health Services
PLKB	<i>penyuluh lapangan Keluarga Berencana</i>	Family Planning field officer
<i>posyandu</i>	<i>pos pelayanan terpadu</i>	integrated health service post
<i>puskesmas</i>	<i>pusat kesehatan masyarakat</i>	community health center (at sub-district level)
SDG	Tujuan Pembangunan Berkelanjutan	Sustainable Development Goals

SDK	<i>sekolah dasar Katolik</i>	Catholic primary school
SDN	<i>sekolah dasar negeri</i>	state primary school
SMPN	<i>sekolah menengah pertama negeri</i>	state junior high school
TPA	<i>tempat pembuangan akhir</i>	final landfill site
TPS	<i>tempat pembuangan sementara</i>	temporary landfill site
UKS	Unit Kesehatan Sekolah	School Health Unit
UNESCO		United Nations Educational, Scientific, and Cultural Organization
UNICEF		United Nations Children’s Fund
UPTD	Unit Pelaksana Teknis Dinas Daerah	Regional Technical Service Unit
UU	Undang-Undang	Law
WASH		Water Sanitation and Hygiene
WHO		World Health Organization

EXECUTIVE SUMMARY

Background

The Ministry of Education and Culture (2017) reported that 15% of primary schools in Indonesia do not have access to adequate water, 54% do not have separate latrines for female students and male students, and most of them are damaged. According to a UNESCO global study (2014), poor sanitation facilities in schools were closely linked to low rates of female students' transition rate. Poor sanitation facilities in schools and limited knowledge on menstrual hygiene management (MHM) have made menstruating female students to miss classes. Moreover, in many cultures, menstruation is perceived as a taboo thing to talk about because it is perceived negatively, embarrassing, unhygienic, or a form of sickness. Such misconception, exacerbated by limited access to information, is causing many women and girls to have improper knowledge regarding menstruation and how to overcome their problems. Facilities related to menstrual hygiene management in low and middle income countries are also still inadequate. Poor MHM attributes to school dropouts, absenteeism, as well as sexual and reproductive health problems that may cost female students their long-term health and socioeconomic ramifications.

Research on MHM among female adolescents, especially at the primary and junior high school levels in Indonesia, is still limited. Therefore, The SMERU Research Institute (SMERU) in collaboration with Plan International Indonesia (Plan) conducted a study on the practice and impact of MHM at primary and junior high schools. This study also aimed to evaluate the MHM program at the primary level that has been carried out by Plan since 2014 and it serves as a baseline study at the junior high school level which investigates students' knowledge, practices, attitudes and capacities to handle menstrual problems and the availability of MHM facilities.

This qualitative study was conducted in the MHM Plan intervention areas, namely in Kotamadya Jakarta Barat (DKI Jakarta), Kabupaten Nagekeo (East Nusa Tenggara/NTT), and Kabupaten Lombok Utara (West Nusa Tenggara/NTB). In each region, one primary school which receive the intervention from Plan, one primary school which does not receive the intervention, and one junior high school were selected. The data was collected from around 130 in-depth interviews with the stakeholders at the district/municipal level and those within the schools, 27 group interviews at school level, and 9 transect walks. This study is also complemented by a literature of studies that have been carried out on the issue of menstrual hygiene.

To understand the dynamics of MHM among students in the study areas, the Ecological Framework for MHM, developed by Emory University and UNICEF taking into account internal and external factors of individual female students, was employed. The MHM standards refer to the concept of the developed by the school health unit (UKS) Development Team and UNICEF (2016), which are a) using sanitary napkins; b) changing pads every 3-4 hours¹; c) wash hands before and after changing sanitary napkins; d) wrapping disposable sanitary napkins before disposing them in the trash and not burying the sanitary napkins; e) cleaning the pubic area when changing pads; and f) washing sanitary napkins if considerable amount of water is available.

¹The research team converts this to 5-6 per day changing frequency.

MHM External Factors Faced by Students

Talking about menstruation. Informants in the study areas have a rather different perception regarding menstrual discussion and DKI Jakarta is the region with the highest level of openness. DKI Jakarta's informants think that it is not a taboo to discuss menstruation, although there are still parents who consider it as a shameful, unsettling, or inappropriate topic to discuss with men. In NTT, talking about menstruation is not a taboo, but the level of openness is low and discussions tend to be limited among women. Meanwhile, in NTB most informants, including health officials, stated that menstruation is a forbidden topic to discuss, especially in public or with nonfamily members. In fact, there are teachers who say that it is taboo to talk about it at school.

Prohibition during menstruation. In all three study areas, there are cultural or mythical values for menstruating women, such as the prohibition of hair washing, in proximity to their male peers, drinking cold drinks, throwing away fallen hair, cutting nails, going to rice fields/gardens, and bathing. The first three prohibitions are found in all regions and were the most frequently conveyed prohibitions. The reason for the various prohibitions is generally unknown, most of which are irrational, sometimes conflicting, and some mystical. Many of the informants did not believe them, but the majority followed these restrictions because they were worried about the consequences. Generally, the prohibitions are passed down from one generation to another and are delivered largely by mothers, friends, other family members, and teachers.

Availability of infrastructure supporting MHM. There has not been any policy cater specifically for the menstrual hygiene, but the Ministerial Decree by the Minister of Education and Culture (*Permendiknas*) No.24/2007, which regulates the condition of school facilities and infrastructure, seems to have advocated for proper MHM practices. However, the regulation has not been properly implemented in the study locations. At the primary schools visited by the research them, the majority (5 out of 6) of primary schools have separate latrines by sex for their pupils, but only two schools (intervention schools in DKI Jakarta and NTT) whose number of female toilets meets the standards. Schools that have MHM latrines are only primary schools having intervention in NTT and NTB and only these latrines closely meet the standards of safety, comfort and completeness of supporting equipment. At the junior high schools, only those in DKI Jakarta have separate toilets with adequate numbers and are relatively safe and comfortable. At other junior high schools, the latrines are not separated and the numbers are very limited because many are damaged.

Availability of UKS. Although the availability of UKS is regulated in *Permendiknas* No. 24/2007, the UKS rooms in the study locations were inadequate which resulted in a low utilization rate. At the primary schools, three primary schools have their own UKS room. In two other primary schools, the rooms are adjunct to the library. The last one has no UKS room. The UKS rooms in all of these schools are used for other activities such as studying, praying, resting (only for teachers), and *marawis*ⁱⁱ, or were also found to serve as storage room for school equipment. Utilization of the UKS space as a media for promoting MHM was only found in primary schools receiving intervention from Plan in NTT. In all of the primary schools the research team visited, there are beds, but the majority are inadequate, as they are dirty mattresses or filled with paper/posters/boxes or located in a less ideal location, for example in the teachers' room. At the junior high schools, only junior high schools in NTB have a separate UKS room equipped with a bed and medical supplies. In NTT, the junior high school's UKS only has a sports mat and the room is not equipped with medical supplies. In DKI Jakarta, the junior high school does not have a UKS room; a sofa is provided in the teacher's room, but here are medical supplies.

ⁱⁱ*Marawis* is a band using percussion as their main musical instrument and would usually perform religious songs.

Access to information. In general, the formal information channel (community health centers/*puskesmas* and school curricula) and the informal channel (people around the students) have not provided adequate menstrual and MHM information to students. *Puskesmas* do not have special programs related to menstruation nor MHM and they only take part when the PLAN's MHM intervention was implemented. In schools, there are subject matters related to menstruation, but fail to deliver a comprehensive knowledge about menstruation for students. In fact, some primary schools skipped the material, or it is only delivered partly because of the strong assumption of how sensitive or inappropriate the topic is for men to talk about. Meanwhile, generally parents who are the main source of information for students have a minimum comprehension on the concepts and practices of MHM. They usually would provide the information after their children get their menarche. Only 3 out of 22 (13.6%) parents gave information about menstruation and MHM beforehand. No parents were found to provide information to their sons, although a small number of them state that boys need to get menstrual information.

Psychological support of people around. At the primary school, all participating schools allow students who have menstrual problems to rest in the UKS room, sleep in class, go home early, or skip classes. However, school which provides both psychological support and financial support is only the intervention primary school in NTT. Supports provided includes additional lessons and budget allocations for supporting menstrual hygiene facilities such as sanitary napkins, tissue paper, and soap. At the junior high school level, all schools also provide leeway for students who experience menstrual problems, but there were not any schools that have high commitments with an exception of one junior high school in DKI Jakarta that provides, albeit limited amount, sanitary napkins through its Red Cross Club (PMR).

All parents, especially mothers, in the study areas fully support menstruating students and there is no significant difference between parents of primary and junior high school students and between study areas. The form of support includes providing information when children get their menarche, helping them to deal with menstrual pain/discomfort, or allowing them to skip house chores when there are menstrual related ailments. However, due to limited knowledge and influenced by the norms, culture, and myths, the support parents give does not always advocate good MHM practices.

Female friends, both at the primary and junior high levels, were found to be supportive towards menstruating students. Their female peers also become the people to turn to when they want to share their menstrual experience as well as source of information of the subject matter. However, in DKI Jakarta primary schools, it was reported that female students may bully their menstruating peers. It was also found that most male friends are found to be less supportive as they tend to bully their menstruating friends, although at the junior high level some students were supportive as they might help their female peers to find sanitary napkins or accompany them when they are going home early.

Students' Experience in Managing Menstrual Hygiene

Menarche. Of the 75 students who have menstruated, most of them get their first menstruation at the age of 12 with a range of 9-14 years old in DKI Jakarta, 10-13 years old in NTB, and 11-15 years old in NTT. During these years, students generally experience a variety of uncomfortable feelings, such as fear, shock, panic, or confusion, so there are those who screamed for their mothers and some cried. A small percentage of students felt disgusted with their first menstrual blood and felt uncomfortable about what they experienced. There are also students who felt embarrassed and afraid of being teased by friends. However, there are also students, especially those who got their

menarche during junior high school, who felt happy because they regarded menstruation as a sign of being healthy or fertile. Generally, students in all regions did not make special preparations to deal with their first menstruation experience, except for 3 out of 10 DKI Jakarta junior high school students who brought sanitary napkins to school for fear of getting their menarche at school.

Student knowledge. Students get information on menstruation and MHM from mothers, siblings, friends, and teachers. Only a small percentage of students get information before their menarche, most of which is obtained from friends. Almost all students get their information from their parents or siblings during menarche. Knowledge of primary and junior high school students, who are already or have yet to menstruate, is relatively the same. However, there is a tendency that the knowledge of students in DKI Jakarta and junior high school students in the study areas who have had menstruation to be comparatively better. Students tend to interpret menstruation in a general sense. There were only a few students who understand the biological aspect of menstruation, 1 in 44 (2%) of primary school students and 8 of 31 (26%) of junior high school students although not comprehensively. Their understanding of MHM is mostly not in accordance with the recommended standards. Generally, students also do not have a proper understanding regarding their reproductive organ and its' correlation with menstrual hygiene.

Student MHM Practice. Majority of students, both in primary and junior high levels, have not carried out a proper MHM practices in accordance with the recommended standards. MHM practices of primary and junior high school students in the same area are relatively similar, while between regions they are varied to certain degrees, and the MHM practice of students in DKI Jakarta tends to be comparatively better.

- All student informants use disposable pads except for one primary school student in NTT who only wears layered pants and several junior high school students in NTT and DKI Jakarta who also use cloth pads as coatings or when at home.
- The frequency of pad changing varies, depending on the volume of the menstrual blood. When it is high, many students change sanitary napkins 2-6 times per day (in DKI Jakarta the average is 4, whereas in NTB and NTT it is 3) and when it is low, students may change 1 to 3 times per day.
- All primary students wash their used sanitary napkins and mostly use soap for the washing, whereas only a small number of junior high school students use soap.
- In DKI Jakarta, all students wrap used sanitary napkins while in NTT and NTB only a few students do so.
- In DKI Jakarta, used sanitary napkins are disposed in the trash. In NTT most students bury them and some dispose them in the toilet or burn them. Meanwhile in NTB, most students dispose them into rivers or trash bins although there are also some who bury or burn it.
- When changing pads, only a few students wash their hands beforehand, and in fact most of them do not use soap. After changing sanitary napkins, students generally wash their hands with soap.
- At the primary level, 13 out of 44 students have changed pads at school, but only 2 DKI Jakarta students and 2 NTT students do so on regular basis. At the junior high school level, only 3 of the 31 students, all of whom are DKI Jakarta students, have done it at school.
- When changing pads, all students clean the genital area and some of them use soap.

Students' attitudes toward menstruation. It was found that there is little variation between the attitudes of primary school and junior high school students, also between regions. For students, talking about menstruation is not taboo, but they feel hesitant to talk about it openly and avoid having such discussion in proximity to their male peers. Most students feel most comfortable talking

with their mother and a small number discuss it with their friends. Almost all students consider menstruation to be normal, not something disgusting. During menstruation, students generally comply with various restrictions except for some students in DKI Jakarta who might not follow certain restrictions such as the prohibition to wash their hair during their menstruation period when they feel dirty or itchy.

Problems during menstruation and how to handle them. During menstruation, 38 out of 44 (86%) primary school students and 28 out of 31 (90%) informants of junior high school have experienced physical ailments in the form of abdominal pain, back ache, dizziness, and fatigue. About half of primary and junior high school students also have experienced psychological distress in the form of being more emotional and sensitive as well as laziness, and changes in appetite. The majority of students do not bother to report their distress, especially when at school, due to the lack of supporting infrastructure.

At the primary school level, 20 of 44 (48%) students consisting of 10 out of 22 students in DKI Jakarta and 10 out of 17 students in NTB had experienced bullying from their male peers. In fact, 4 students in DKI Jakarta and 1 student in NTB had been bullied by their female peers. However, bullying rate at the junior high school level is relatively smaller than that at the primary school level. Bullying was experienced by 7 out of 33 students (23%), where 2 students were from the NTT junior high school and 5 were from the NTB junior high school. The form of bullying was verbal such as being laughed at, became the topic of their peer conversation, being ridiculed, and some students express disgust to the menstruating students. The way students respond to it is rather diverse; some directly reprimanded or scolded students who mock or threaten that they will report it to the teacher and some ignore the bullying.

13 out of 44 (30%) primary school students and 11 out of 31 (33%) junior high school students also have experienced leakage whereby their menstrual blood stains their cloth while at school. To overcome such problem, the study noted a number of different treatments towards the leakage. Most of primary students choose to stay in school by keeping it quiet, washing stained parts of the uniform, covering with bags/jackets, or asking for permission to go home for a while as to change their uniforms. At the junior high school level, students in DKI Jakarta usually would opt to stay in school by washing the stained area or cover their skirts with jackets, while students in NTT and NTB usually go home early by calling in sick.

Different concepts and practices. The MHM practices of students in the study area are far from ideal due to the limited knowledge of students and the lack of available supporting infrastructure. The partial comprehension on the issue of menstruation and MHM by the student is caused by, among other things, the lack of quality interpersonal interactions with the surrounding individuals, surrounding individuals having lack of knowledge on menstruation and menstrual hygiene, non-supportive cultural norms, and inadequate policies. Meanwhile, the lack of support for MHM facilities is due to the weak implementation of policies related to school toilet standards which play a role in shaping students' decisions to not change sanitary napkins in schools as recommended by the recommended standards.

Impact of Menstruation and MHM Practices toward Students' Activities

Concentration and learning participation. Menstruation affects the learning process of primary and junior high school students. The most significant impact found was the lowering of concentration during school hours, experienced by a quarter of the primary school students and half of the junior

high school students who have suffered from the ailment due to menstruation. However, this condition does not affect their grades as it does not last long and students can improve at other times.

Students who are having their periods generally still follow all learning activities. Only 3 out of 44 (7%) primary school students and 6 out of 31 (19%) junior high school students who claimed to have/occasionally missed physical education lessons because they were worried of the leakage. As for early leave, it is only experienced by 2 out of 44 (5%) primary school students and 6 of 31 (19%) junior high school students due to leakage and abdominal pains. The case of school absenteeism during menstruation is only experienced by three primary school students in NTT and NTB and one junior high school student in NTB. Furthermore, there was no report on the impact of menstruation on school dropouts, both at the school level and in the region.

Daily activities and student social interactions. It was found that menstruation affects the daily activities of both primary and junior high school students. Pain and discomfort cause students to reduce or even miss their house chores. Students also have the tendency to become lazier to have outdoor activities. Religious activities are also affected because there are restrictions, worries about being teased by friends, or worries about menstrual blood staining their clothes. Interaction of students during their menstruation with their male peers is also limited. In NTT particularly, activities on agriculture are also disrupted due to cultural restrictions.

Health and environment. The reported impact of their menstruation experience were mostly on health such as physical and psychological distress. No students reported ailments related to improper MHM practices. Only one primary school student in DKI Jakarta stated that a friend complained about having an itchy genitalia during menstruation. A health worker in NTT stated that in the past year there were three cases of patients with such ailments, but they were not primary nor junior high school students. The potential of MHM practices towards environmental damage arises because of the practice of burying and burning sanitary napkins (in NTT and NTB) and throwing used sanitary napkins in rivers (NTB).

Plan International Indonesia MHM Intervention Program Evaluation

Form of Intervention. In DKI Jakarta, Plan implemented the MHM intervention funded by the Australian Aid through the BERSIH Project in 2017 targeting students in six primary schools and the community in Kelurahan Duri Utara, West Jakarta, as part of the Community Based Total Sanitation (STBM) program implementation. The activities carried out were dissemination of information in the form of workshops and cultural performances (*lenong*) at school and the community hall. In NTT, Kabupaten Nagekeo is one of the three districts receiving MHM intervention from the Australian Aid funded from Civil Society WASH Fund (CS Fund 2) with 17 primary schools receiving the intervention. The schools chosen as the research site received intervention in 2014 in the form of two MHM toilets for female students and teachers, the necessary materials and socialization in the form of counseling to students in grades 4–6, teachers, school committees, and parents' representatives. The school also received 70 books on menstruation and MHM and two menstrual wheels. In NTB, Kabupaten Lombok Utara was one of the two districts involved in the Plan intervention since early 2017. At this kabupaten, the SEHATI project was funded by the Netherland government. At the beginning of the implementation, interventions in this district were carried out in 10 primary schools, including the school chosen as the research site. The form of intervention was the construction of one MHM toilet along with the equipment and socialization in the form of drama performances and workshops for students, teachers, school committees, and student

guardians. Plan also provided socialization at the community level, especially for village officials, and training in making cloth pads for cadres.

Continuity of the Intervention. Although Plan's intervention in the three primary schools has ended, the school is still carrying out related activities in various forms and commitment. The primary school in DKI does not yet have a formal policy but there is an initiative from a 6th grade teachers to deliver information on menstruation and MHM in the classrooms. In NTT, the school is still committed in providing MHM-related material specifically for 5th and 6th grade students and provides MHM toilet necessities. In NTB, the teacher have been giving socialization to students although its occurrence was found to be in a sporadic manner. At the community level, only 3 of the 20 cadres trained were still actively producing cloth pads due to the lack of demand.

Intervention Impacts.

The MHM intervention program generally received a positive response from schools, regional agencies, and communities where the program is being implemented. However, this study found that interventions in DKI Jakarta and NTB proved less effective in making positive behavioral changes. In both areas, the openness to discuss the subject, level of understanding, practices, cases of bullying, and ability to handle MHM issues among students remained unchanged after the intervention and there seemed to be little difference between the outcomes found in the primary school with the intervention and the controlled school. Nonetheless, interventions tend to provide supplementary knowledge and students who have not yet menstruated become more prepared to deal with it. In NTB there also appeared to be an impact of intervention in decreasing the number of students leaving school early during menstruation because of the availability of MHM friendly toilets and materials. In NTT, on the other hand, interventions have significant impacts on various aspects despite having little impact on the practice of MHM which continues to follow the habits of the local community.

In general, the types of intervention activities are aligned with the conditions of the region/school which are in need of knowledge improvement and supporting facilities. However, dissemination of information activities which are typically conducted only once is insufficient to improve understanding and change attitudes. In NTT, particularly, the continuity of dissemination activities at school did not improve the practice of MHM because the material presented did not cover the entire standard of MHM practices. In addition, the utilization of the facilities built was less effective as there were only a small number of primary school students who were already experiencing menstruation.

Policy Recommendations

Menstruation and MHM are considerably an important and fundamental issue, especially for women as they can affect the quality of education and health. Therefore:

1. It is necessary to disseminate information to various parties, particularly government institution which handle the issue of health and education regarding the importance of menstruation and MHM.
2. It is imperative to conduct periodical dissemination of information to a wider community to improve understanding and eliminate the influence of norms and believes which do not support good MHM practices.
3. Children who get their menarche (> 9 years) needs to be considered as a target for the dissemination activities so that they are better prepared to face menstruation physically, psychologically, and with the proper and adequate knowledge.

4. Officials at the sub-district and village levels as well as the community members can take part in the dissemination activities which includes cadre program, *posyandu*ⁱⁱⁱ activities, and educational institutions.
5. The concept of menstruation and MHM needs to be included in the primary and junior high school curriculum, especially in subjects such as science, physical and health education (PJOK), and religion.

Although the MHM program brings positive impacts, it has not been effective. Therefore, the continuation of the program and its expansion are vital with the following adjustments to consider.

1. The target group should be expanded to junior high school level as well because a large number of students do get their menarche at this age.
2. The program should be proposed to be a national program, thus a collaboration with government and related institutions at various levels should take place.
3. The target users of MHM toilet facilities needs to be extended to all female students/ teachers and it should not exclusively used only during menstruation to ensure more effective utilization and the availability of female-friendly facilities.
4. The concept of friendly latrines for the disabled needs to be supported by the provision of strict criteria and supervision so that they can be constructed.
5. Dissemination to students must reach all 4th, 5th and 6th grade students, both male and female, not just student's representatives.
6. The dissemination activities of the program must also target all parents and a wider community reach because they were found to be the main source of information, serving as guidance for children.
7. The MHM material of the intervention needs to be further expanded. For example, the ability to face various issues related to menstruation should be delivered comprehensively as well as combating cultural myth which has the potential to impede proper MHM practice.
8. Dissemination of information should be delivered with more varieties, emphasizing the use of media and role play that encourage students' active role and ensure a more effective and improved understanding and memory.
9. Dissemination activities must be undertaken on regular basis, so that students will internalize the information disseminated and they understand the concept better as they make it as part of their routines.
10. Dissemination of information campaigns on MHM in schools needs to be equipped with devices that are easily accessible to students, such as menstrual wheel boards, posters, and guidebooks that are easy for students to understand.
11. At the school level the following supporting facilities should be provided:
 - a. Teachers who actively conduct counselling regarding menstruation and MHM- by involving existing teachers, especially UKS teachers and counseling teachers (BK).
 - b. Safe and comfortable toilets for female students.
 - c. Supporting facilities such as trash cans, detergent or soap, hand washing soap, sanitary napkins, plastic or used paper, and storage cabinets.
 - d. Spare skirts or uniform that students with leaking menstruation can use.

ⁱⁱⁱPosyandu is a basic health service provided by and for the community with the help of the health officials.

I. INTRODUCTION

1.1 Background and Rationale

The management of WASH (*Water, Sanitation, and Hygiene*) in school requires serious attention as it is of utmost importance to achieve the SDG (*Sustainable Development Goals*), particularly the goal number 3 (health and welfare), goal number 4 (quality education), goal number 5 (gender equality) and goal number 6 (clean water and sanitation).¹ To ensure its occurrence, the Indonesian government is committed to provide universal access to water and sanitation by 2019, including that for students at school.²

However, according to the report of the Ministry of Education and Culture³, 15% of all primary schools in Indonesia lack sufficient access to clean water, 54% of all primary schools lack separate toilet for boys and girls and most of these toilets are damaged. The Global Study by UNESCO (2014)⁴ concluded that there is a correlation between the inadequacy of sanitation facilities and the low level of transition rate, especially for school girls. The study confirmed that 1 out of 5 primary female students did not continue their education to junior high school partly because of the poor condition of the school's sanitation facilities.

The UNESCO study also revealed that during menstruation, female students prefer to stay at home and be absent from school. This condition is mostly the result of the limited sanitation facilities available at school and minimum knowledge about menstruation. In many cultures, menstruation is often regarded as a taboo to be talked about as it is considered negative, embarrassing and even dirty. The results of the study by UNICEF and Water Aid (2018) revealed that 1 out of 3 school girls in South Asia lack knowledge of menstruation before they experience menarche, while 48% female students in Iran and 10% in India believe that menstruation is a disease. In Indonesia, according to the result by UNICEF Indonesia (2015), almost 20% of students in the urban and rural areas consider that menstruation is a disease. They also experience bullying at school because of menstruation and they choose not to go to school when they are menstruating.

This misperception on menstruation is made worse by the limited access to information, both in school or at home. As a result, many female students do not have the knowledge regarding their bodily function during menstruation and how to cope with it. Facilities related to menstrual hygiene management such as the facilities to cope with leakage of menstrual blood, clean water, sanitation and hygiene in low to junior high income countries (in Asia, Africa and Latin America) are considered to be insufficient therefore limiting the choice for students for personal hygiene. This has been worsened by the belief and the misleading culture of taboo which contributed to the loss of dignity, behavioral prohibition and the potential reproductive health risks. Menstruation and its inappropriate management also lead to school dropout, absenteeism and reproductive and sexual health problems which potentially impact on the health of female students and contribute to long term socio-economic problem.

¹<http://www.un.org/sustainabledevelopment/sustainable-development-goals/>.

²Bappenas, 2016.

³Pusat Data dan Statistik Pendidikan dan Kebudayaan, 2017.

⁴UNESCO, Institute of Statistics, 2014.

To date, research in Indonesia on MHM in adolescent girls, particularly in primary school and junior high school is limited. Consequently, there is a minimum understanding on the determining factor and the impact of the current MHM practice on female students which can then be used as an evidence to design a program for intervention. In addition, it is also important to observe the impact of MHM on their condition of education and health. In order to fill in the gap on the knowledge on the impact of MHM, the SMERU Research Institute (SMERU) in cooperation with Plan International Indonesia (Plan) conducted a study on the impact of MHM in primary school and junior high school.

In regard to MHM, Plan has conducted a number of activities since 2014 as part of the WASH project. This activity is financed by the Australian government through the *Civil Society Wash Fund (CS Fund 2) Project* and *BERSIH Project*, the Dutch government through *SEHATI Project*, and the Japanese government through *WASH in School*. Through this activity, to date, Plan has conducted promotional campaign or dissemination activities as well as the construction of MHM-friendly infrastructures in almost 70 primary schools in Kotamadya Jakarta Barat (DKI Jakarta)⁵; Kabupaten Nagekeo, Ende, and Sabu Raijua (East Nusa Tenggara/NTT); as well as Kabupaten Lombok Utara and Dompu (West Nusa Tenggara/NTB). In the future, WASH Project will implement MHM as part of the other project in East Nusa Tenggara, West Nusa Tenggara and other regions. To expand the MHM intervention program, it is necessary to assess the impact of the previous MHM intervention program which Plan has implemented in primary schools to provide suggestion for improvement and the baseline study as the basis for intervention in junior high school.

1.2 Study Objectives

In general, this study aims at identifying and comparing MHM practices and its impact towards level of attendance and participation of female students in primary school which have either received or yet to receive MHM intervention program from Plan.

In particular, the objectives of this study are:

- 1) Identifying the MHM practices of primary school female students in rural and urban areas who have received and yet to receive Plan's MHM intervention.
- 2) Identifying the contribution of MHM practices on level of attendance and participation of female students in primary school.
- 3) Conducting a baseline study on the knowledge, practices, behavior, and the ability of students to handle problems related to the habit and availability of MHM related facilities in junior high schools that have not received the intervention from Plan.
- 4) Providing suggestion and feedback whether the MHM program can be improved and developed, as well as gearing the implementation to be gender transformative and inclusive (particular study results in the East Nusa Tenggara and West Nusa Tenggara).

⁵In the Kotamadya Jakarta Barat, Plan only conducts MHM intervention programme in six primary schools in Kelurahan Duri Utara, Kabupaten Tambora and the intervention is in the form of MHM campaign practice.

1.3 Research Questions

In accordance with the study objectives, the research questions that will be used as the reference in the development of instrument or as the guiding questions will be as follows:

- 1) Does menstruation impact the level of absenteeism and school participation, including school dropout, of female students?
 - What are the factors within the society that lead to inappropriate MHM practices (for instance the myth/belief/taboo regarding menstruation)?
 - What are the consequences of inappropriate MHM practices on health, education and social activity?
 - What are the obstacles and supporting factors, especially from the perspective of gender equality, to improvement MHM practices in schools (for instance boys' bullying to female peers during their menstrual period)?
- 2) What are the current practices and implementation of MHM among primary and junior high school students?
 - What is the condition of the clean water facilities, sanitation and hygiene in school which receive MHM intervention program from Plan? What can be improved?
 - What is the condition of the clean water facilities, sanitation and hygiene in primary school (under intervention and without intervention of MHM from Plan)?
 - What is the level of knowledge, practice and attitude related to MHM from parents, teachers and male students?
- 3) How has the current practice and implementation MHM intervention program influenced the level of attendance and dropout rate in the primary schools which receives the intervention from Plan?
 - Has the implementation of MHM intervention program led to an increase in knowledge, attitude, practice and ability to handle problems related to MHM for parents, teachers, male and female students?
 - Has the implementation of MHM led to a drop in the number of bullying cases on female students who are experiencing menstruation?
 - Has the implementation of MHM impacted on the level of attendance, participation and dropout for female students?
- 4) What are the practical and strategic intervention that can be done to overcome the root problems of MHM practices?
 - How does Plan's MHM intervention program can influence the performance and attendance of female students?
 - How does Plan's MHM intervention program can reduce the level of bullying on female students who are already menstruating?

II. METHODOLOGY AND ANALYTICAL FRAMEWORK

2.1 Methodology

2.1.1 Research Location

This study was conducted in three districts/cities where Plan's MHM intervention program was already implemented. With the help of Plan, the chosen location, are in Kabupaten Nagekeo (NTT), Kabupaten Lombok Utara (NTB), and Kotamadya Jakarta Barat (DKI Jakarta). In each district/city, one sub-district where primary schools receiving the MHM program intervention from Plan are located was selected.

In general, this study is an evaluation study of Plan's MHM intervention program at the primary school and a baseline study for the future implementation of MHM intervention program in junior high school level. For the evaluation part of the study, in every sub-district, two schools are selected as the site of data collection which are one school which receive intervention from MHM intervention program (henceforth known as intervention primary school) and one primary school which do not receive MHM intervention program (henceforth known as control primary school). While, for the baseline study at the junior high school level, in each selected sub-district, data were collected in one junior high school, so in each selected district/city or sub-district, three schools were selected - one primary school with Plan's MHM intervention program (intervention primary school), one primary school without Plan's MHM intervention program (control primary school), and one junior high school.

The selection of schools visited was originally carried out by Plan. However, due to the development of information during the fieldwork, the SMERU Research Team replaced the controlled primary schools and junior high schools which were more in line with the criteria and less likely to be influenced by the impact of Plan's intervention program. The selection of control primary schools takes into consideration the absence of MHM-related interventions, the distance that was not too close to the intervention primary school to avoid the occurrence of spillovers of the MHM Plan program in the same sub-district, and similarities with general school characteristics, such as school status, number of teachers and students, and environmental conditions to better compare the impact of Plan's MHM intervention program. The selection of junior high schools was less strict, as the criteria was that the school have to be located in the same sub-district as the chosen intervention primary schools. The table below enlisted schools visited in each district.

Table 1. School Locations

Lokasi	Intervention primary school	Control primary school	Junior High School
<u>Special Capital Region of Jakarta</u> Duri Utara, Tambora, West Jakarta	SDN ^a Duri Utara 03 Pagi	SDN Jembatan Besi 03 Pagi	SMPN ^b 63
<u>East Nusa Tenggara</u> Marakopot, Aesasa, Nagekeo	SDK ^c Stellamaris	SDN Pomakeke	SMPN 2 Aesesa
<u>West Nusa Tenggara</u> Genggelang, Gangga, North Lombok	SDN 3 Genggelang	SDN 1 Gondang	SMPN 1 Gangga

^aState primary school.

^bState junior high school.

^cCatholic primary school.

2.1.2 Data Collection Method

This study used a qualitative approach by collecting primary data at the school and community level around the school. Data collection included in-depth interviews and group interviews using the interview guidelines developed by the team.

Data were categorized according to the characteristics of the informants, especially gender and age. In gathering information on students, both male and female, interview guidelines including procedures and processes for extracting information and approaches appropriate for the students' age groups and taking into consideration Plan and SMERU guidelines on Ethics and Research Methods with Children. The preparation of the interview guidelines also referred to the Gender and WASH monitoring tool (GWMT) in monitoring the issue of gender equality in the WASH Program. Especially for female students, semi-structured interview guidelines were prepared.

Besides in-depth interviews and group interviews, information was also collected through transect walks in each selected school. Transect walks were intended to determine the condition and availability of clean water, sanitation and hygiene facilities, as well as health, including landfills at the school level. For this activity, a guideline was developed in the form of a table of entries.

In-depth interviews and group interviews were equipped with a voice recording device to ensure that factual information was stored. In addition, the results of the interviews and transect walk were recorded in the form of interview notes (field notes). Furthermore, the data obtained were processed using an analytical matrix and analyzed descriptively.

Data collection at *desa/kelurahan* (rural village/urban village) and sub-district level was only carried out at *desa/kelurahan* and sub-districts where schools receiving intervention were located. In DKI Jakarta, data collection was done at Duri Utara-Tambora Sub-district, while in East Nusa Tenggara, data collection was carried out at Marapokot Village, Aesesa Sub-district, and in West Nusa Tenggara, it was conducted at Genggelang Village, Gangga Sub-district.

Since this study is a qualitative study with a limited number of samples, the findings in this study cannot represent conditions at the national or regional level. The analysis presented in this report only describes the case studies of informant groups in three study areas.

2.1.3 Research Informants

Informants of this study were grouped into informants at the school, community, and related stakeholders at *desa/kelurahan*, sub-district, and district/city. Informants at the school level consisted of principals, teachers, female students, male students, guards or janitors, and representative of the school committees. Informants at the community level were parents, in this case the mothers, and community/religious figures. Stakeholders at the village, sub-district and district/city levels who were selected as an informant were chosen based on their involvement or comprehension on the were those who understood or were directly or indirectly related to health and sanitation issues, whether at school or community level.

The selection of informants in this study was conducted purposively. Female students who became informants were those above 10 years of age or in grades 4 and above, whether they had menstruation or not. Determining students to be selected as informant was done through discussion with the teachers/homeroom teachers. Extracting information from female students was done through in-depth interviews and group interviews as follows:

- (1) In each school, in-depth interviews were conducted with 10 students who are already menstruating. Especially in Nagekeo/NTT, these interviewees included students who were part of Plan's sponsored children. In-depth interviews with female students who had menstruated was conducted to obtain an overview of the experience, knowledge, attitudes, practices, and abilities to deal with menstrual-related problems and MHM.
- (2) In each school, a group interview was conducted with six female students who were yet menstruating. The purpose of this group interview was to obtain an overview of their knowledge and attitudes towards menstruation and menstrual hygiene.

At the school level, another group interview was also conducted with teachers and male students. The criteria of informant for the group interview are as follows:

- (1) Teachers who took part in group interviews were those who had the most contact with students' who are menstruating or regarding their MHM practices. Primary school teachers included the class teachers, sports teachers, and student-clinic teachers (teachers responsible for the school clinics). For junior high school, teachers included homeroom teacher, sports teacher, student-clinic teacher, and counseling teacher (BK). There were six teachers per group interview, and efforts were made to ensure male and female teacher representative. The purpose of this group interview was to determine the level of knowledge and map the behavior, policies, and perceptions of the teachers about menstruation and students' MHM practices.
- (2) Participating male students were those taking classes together with female students who had menstruation, and ensuring representativeness of each grade. Especially in the intervention primary school in Nagekeo, there were children representing Plan's sponsored children. This group interview was intended to map the knowledge and behavior of male students towards female students who were menstruating.

There were at least three parents who became informants in each school. They are parents of female students who were menstruating, parents of female students yet to menstruate, and parents of male students. Meanwhile, the selection of other informants was based on their

positions, which were in accordance with the objectives and interests of the study. The types of all informants in this study can be seen in Table 2.

In total, data were collected from 130 in-depth interviews, 27 group interviews, and 9 transect walks. Information on in-depth interviews were from 75 female students who had menstruated, 30 parents, 3 community leaders, 17 informants from *desa/kelurahan* and 21 from sub-district/district/city levels.

Table 2. Informants of the Study

Level	Informant
School	Principal
	Teacher (6 teachers per school)*
	School Committee
	Female students who had experienced menstruation (10 students per school, except for some primary schools whose female students who were already menstruating were fewer than 10 students)
	Female students who hadn't had menstruation yet (6 students per school)*
	Male students (6 students per school)*
	Janitors or security guards
Society and community leaders from <i>desa/kelurahan</i>	Parents (at least 3 per school: parents of whose children had menstruated, had not menstruated, and were male)
	Religious/community leader
	Village officials
	Bidan Desa
	Village midwives
	Community Health Center Cadres (Posyandu for Youth)
	Family Planning Officer (PLKB) - Information Center and Youth Counseling (PIK-Adolescent)
Sub-district and district	Community-based total sanitation (CBTS) team
	Health Center - Care for Youth Health Services (PKPR)
	Community Health Center – Sanitarian
	Sub-district community-based total sanitation (CBTS) team
	School Supervisor
	Education agency
	Health agency

Note: *Group interview

Each data collection activity, whether through in-depth interviews and group interviews, began by asking the informant for consent. Especially for child informants (under the age of 18: primary and junior high school students), researchers would ask for their consent after obtaining consent from their parents or guardians. Data collection activities with students would only be carried out after obtaining consent from both parents and students. To obtain the consent, the research team would provide a parental informed consent form, the child friendly informed consent form, and the adult informed consent form. The difference in the consent form for adult and child informants

lay only in the simplicity of language, while the core contents remained the same. Parents' consents were given to the students one or several days before the interview which would then be returned to the researcher. Meanwhile, the consent form to be an informant was delivered shortly before the interview took place. Parent's consent for their child and informants' own consent to become an informant were given by signing the consent form. Since many activities with students in this study were carried out in schools, researchers also asked permission from the principal and the teachers verbally to conduct interviews with students. For the convenience of students, the place of interviews, especially individual interviews, was chosen on the basis of students' preference.

2.2 Literature Review

2.2.1 Menstruation and Puberty

Menstruation is a natural process experienced by women whereby a discharge of blood from the uterus which occurs due to the decay of the uterine wall when the egg is not fertilized by sperm cells. Menstruation is part of the reproductive cycle and is an important marker of women's reproductive health. Menstruation occurs every 28 days which lasts 2 to 7 days.

Menstruation is closely related to the development of the body during puberty. Puberty is a period of significant bodily changes from the body structure of children to adults which usually occurs in a span of 3-4 years starting at the age of 8-10 years old (BKKBN, 2012; SRCP, 2012). The main bodily changes which occur during puberty are the start of growth of chest area, breast budding, followed by a surge in height increase, hair growth in the pubic area/in other body parts, and the first menstruation or also known as menarche. Puberty is also characterized by changes in the area of the skin, namely the appearance of the first pimples that usually occur during puberty, and can continue into adulthood. Hormonal changes during puberty can also cause sweat odor (Batubara, 2010; SRCP, 2012).

In addition to physical changes, puberty is also characterized by psychosocial development of children which includes the desire for sexuality (interest in the opposite sex and expressing feelings with actions to attract the opposite sex - which occur due to the maturity of the reproductive organs at puberty), development of understanding of self (including gender identity), the development of relationships with parents and friends (the role of peers becomes greater as a place to exchange stories, while relations with parents tend to decrease due to the need for freedom to explore themselves - which reduces attachment to parents) (Batubara, 2010; Nurhayati, 2016; SRCP, 2012; UNESCO, 2014).

2.2.2 Menstruation Hygiene Management

MHM is an aspect that needs to be considered by women because according to Armanto (in Sinaga, 2017) during menstruation, the uterus becomes easily infected. Without a proper management of menstrual hygiene, women have an increased risk of becoming infected with diseases, especially reproductive-related diseases.

The current definition of MHM proposed by the WHO and UNICEF Joint Monitoring Program is

"Women and girls using a clean absorbing material, which can be changed in places that are guaranteed to be safe, as often as needed, using soap and water to clean oneself, and have access to the disposal facilities" (UNESCO, 2014, p. 31)

The definition does not include all hygiene behavior that must be met during menstruation. However, in Indonesia, the School Health Initiatives development team and UNICEF (2016) developed a guidebook for adolescents related to hygiene behaviors that need to be considered during menstruation, which includes a) using a clean absorbing material (both disposable pads and cloth pads); b) changing the material every 3-4 hours⁶, both when the intensity of the blood comes out a lot or a little, to prevent the proliferation of bacteria; c) washing hands before and after changing absorbent material; d) wrapping disposable materials (using paper or plastic) before disposing them in the trash and not burying sanitary napkins in the ground to prevent impacts on the environment; e) cleaning the pubic area from menstrual blood to clean every time changing pads; f) washing of absorbent material can be done if there is plenty of water, if water is limited, washing sanitary napkins is not recommended in terms of health because used absorbent material contain many bacteria.

The definition of MHM above also shows the need for environmental support to carry out good MHM practices and conduct a proper bodily hygiene during menstruation. Enabling environment is needed in the form of the availability of soap and water ensuring bodily hygiene, a place to change that is safe and accessible at any time, and sanitary disposal facilities. MDWS (2015) adds that women also need psychological support and access to information to be able to manage menstruation with confidence — without fear and discomfort, and the necessity to understand the basic facts of the menstrual cycle. Some important information to increase girls' confidence during menstruation is a strategy that needs to be done when dealing with menstrual blood leakage, bullying from friends, and physical/psychological distress.

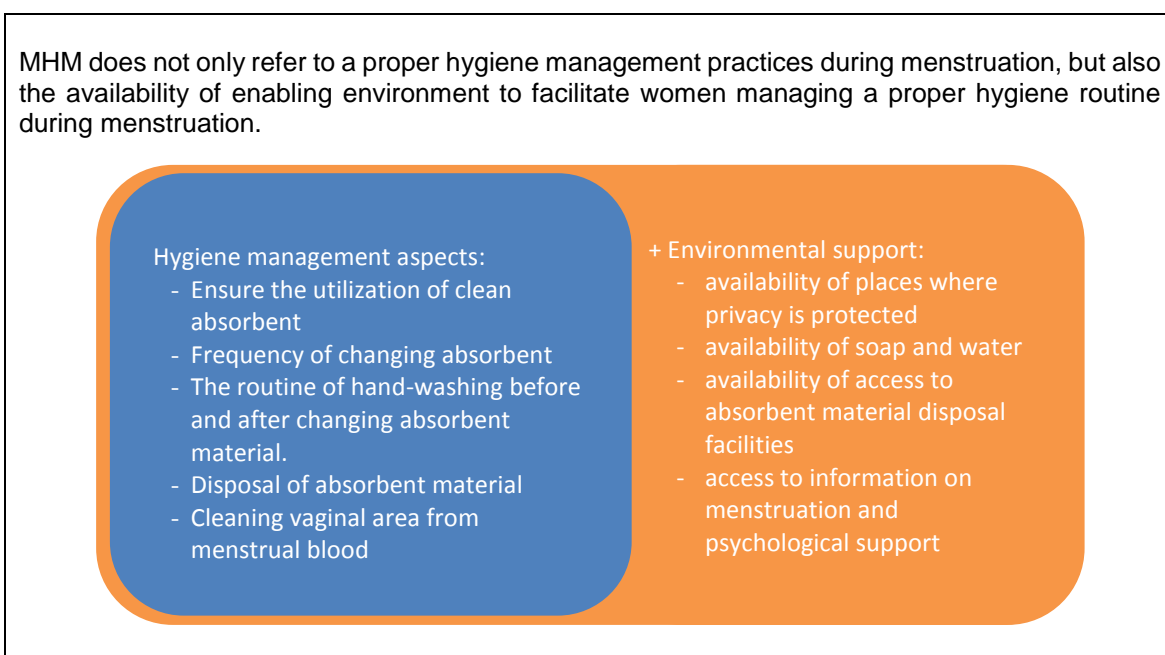


Figure 1. Scope of MHM

Dutta et al. (2016), Johnson et al., (2016) and Sommer et al. (2015) tried to put MHM in the school context and stated that the component necessary to create an MHM-friendly school environment is through the provision of; a) an opportunity to obtain MHM information (from lessons, teachers,

⁶Taking into consideration the sleeping time, researchers converted it to changing pads 5-6 times a day

parents, and health workers; b) adequate and safe clean water and sanitation facilities; c) spare uniforms and clothing; d) school management that supports MHM, and e) break and counseling facilities.

2.2.3 The Impact of Improper Menstrual Hygiene Management Practices

Menstruation has an influence on the mental/psychological condition of women both at the time of first menstruation, and periodically every time they experience menstruation. The experience of the first menstruation can be a daunting experience for women. Meanwhile, every time women have menstruation, hormonal factors become factors that influence women's emotional changes. During menstruation, women tend to be more sensitive, irritable, and experience changes in appetite due to changes in the levels of estrogen and progesterone in the body. Dutta, Badloe, Lee, & House (2016) revealed that the level of knowledge about menstruation and management of menstrual hygiene that children have at the age of puberty has a significant effect on their emotional condition; Knowledge can increase a child's confidence when facing menstruation.

During menstruation, the female genital area becomes moister therefore increasing bacterial proliferation, facilitate injury/irritation, and increase the risk of bacterial contamination. Some reproductive health problems that can arise due to an improper hygiene management during menstruation include reproductive tract infections, bacterial vaginosis infection (disruption of normal flora balance in the vagina), urinary tract infections, cervical cancer, pruritus vulvae symptoms (itching in the vaginal opening), vaginitis, vulpovaginitis, and vaginal discharge accompanied by hives, irritation, odor, and if pregnant, this condition can cause premature and low-births weight (Baradero, 2007; Leppert & Peipert, 2004) in (Savita & Ranjitha, 2017); and (Sommer et al., 2015).

Without a proper hygiene management during menstruation and minimum facilities and support from the surrounding environment, menstruation would not only effect their health but also their educational achievements. Various studies have found that lowered concentration and school absenteeism are educational problems that are often experienced by female students who are menstruating, sometimes even lead to a school dropouts. Among the factors that could be the causes of this are the lack of access to adequate sanitation facilities, lack of access to sanitary napkins, unsupportive attitudes of teachers, and the existence of peer ridicule (both men and women). Consequently, women's rights to education was not met, which in turn can have an impact on educational inequality between men and women (Dutta et al., 2016).

Menstruation can also have an impact on environmental conditions. When compared with disposable pads, cloth sanitary napkins are a type of sanitary napkins that is more environmentally friendly because it can be reused after being washed. When using disposable sanitary napkins, one of the environmental impacts of poor MHM practices is related to improper disposal behavior. Disposable pads cannot be decomposed by the soil, disposing disposable pads by means of being buried can pollute the environment (UKS Advisory Team & UNICEF, 2016).

2.3 Conceptual Framework

The study used an Ecological Framework for Menstrual Hygiene Management developed by Emory University and UNICEF as a conceptual framework to understand the dynamics of student's management in the study area. The MHM Ecological Framework tries not only to look at the factors found in individual to manage their menstrual hygiene, but also to observe factors that are

outside the individual. This concept is in line with the definition of MHM which is developed by the WHO and UNICEF Joint Monitoring Program which see MHM in terms of individual conditions and the availability of support from the surrounding environment.

There are three factors outside the individual or external factors that are mapped by the MHM Ecological Framework as an important factor influencing the practice of MHM, namely interpersonal, environmental, and social factors (see Figure 2). Interpersonal factors were defined as the social interaction of women with people around them including parents, teachers, peers, and health workers. Through social interaction, they can become a source of information related to MHM and can provide psychological support for women to practice a proper MHM. However, interpersonal factors alone are not enough to guarantee a proper MHM practices. Another aspect which needs to be considered as a prerequisite for a proper MHM practice is the environmental conditions that provide adequate supporting infrastructure, as well as the existence of community cultural policies, norms and values in accordance with the principles of MHM.

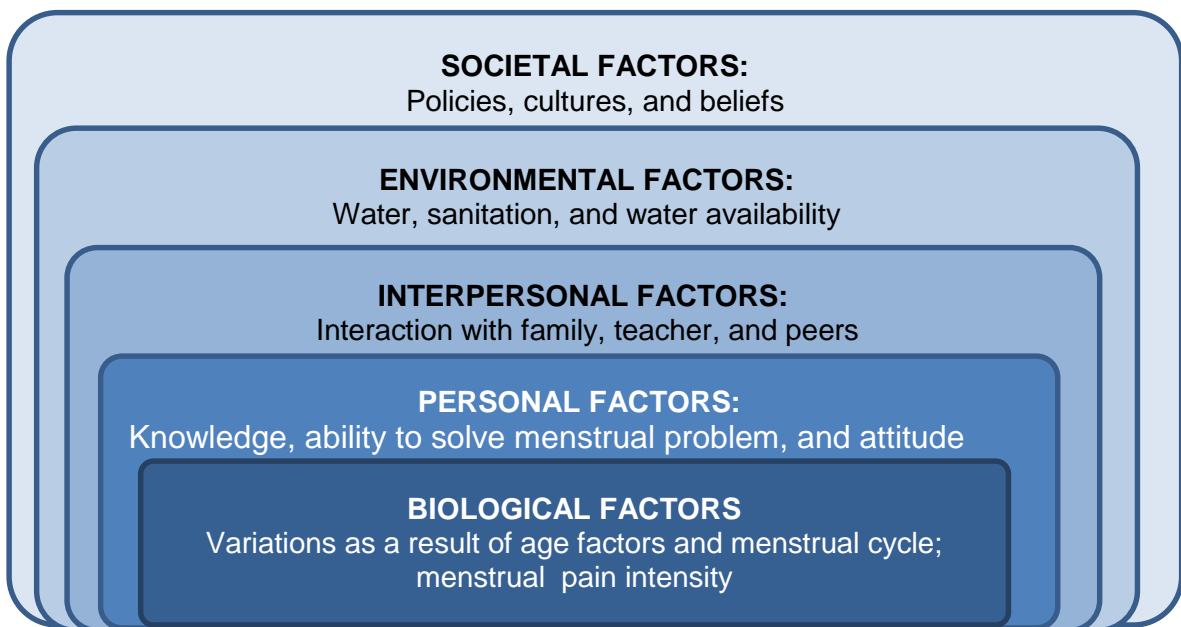


Figure 2. MHM Ecological Framework

Meanwhile, individual internal factors that influence the practice of MHM consist of personal factors and biological factors. Personal factors include knowledge, ability to overcome problems, and individual beliefs regarding menstruation. Biological factors include variations in menstruation due to factors of age and menstrual cycle, and menstrual intensity.

The use of the Ecological Framework for Menstrual Hygiene Management as a conceptual framework in this report does not only describe the conditions of external factors and internal MHM factors in the study area, but also analyzes complex interactions among these factors to understand the behavior of MHM and its impact on the lives of female students in the region.

II. STUDENTS' MENSTRUAL HYGIENE MANAGEMENT (MHM) PRACTICE IN THE STUDY AREAS

This chapter elaborates components of menstrual hygiene management (MHM) Ecological Framework in the study areas. It first presents the external factors influencing female student MHM practices. Then the chapter outlines the students' internal factors in managing their menstrual hygiene. The complex interaction between the internal and external factors in shaping student MHM practices in the study areas is addressed in the Discussion sub-section.

3.1 External Factors Affecting Students' MHM Practice

There are three external factors affecting female student MHM practices in the study areas, namely societal, environmental, and interpersonal factors. The societal factors identified are cultural norms and values in the society. The environmental factors include the existing infrastructure supporting MHM practices available in the surrounding area. The interpersonal factors include the presence of support in the form of information and psychological support from individuals surrounding the students.

3.1.1 Societal Factors: Cultural Norms and Values

a) Talking about Menstruation

The society in the three study areas have different perspectives regarding discussion on the topic of menstruation, but the majority does not consider it a taboo subject although the conversation tends to be limited within an all-female groups. DKI Jakarta appeared to be the most open with the matter. NTT is in the second place because informants generally viewed the topic of menstruation as not taboo but many were still reluctant to openly talk about it. Meanwhile, in NTB there were informants who explicitly considered menstruation a taboo topic.

DKI Jakarta

Adult informants in DKI Jakarta (teachers, parents, community/religious leaders, and cadres and officers from the related offices) reported that conversations about menstruation were common and not taboo, as stated by a *Posyandu* cadre:

“It is common to talk about menstruation, even with boys.” (Posyandu cadre, female, DKI)

Informants in DKI Jakarta stated that dissemination of information and educational activity should reach communities and students, both male and female, for health and education awareness purposes. However, many parents (7 out of 10) still felt uncomfortable and still perceive it inappropriate to talk about menstruation with boys, even with their own sons.

Openness in talking about menstruation in DKI Jakarta was also reported in schools. According to a teacher, it was common for female students to honestly say that the reason for not being able to join the PE session was menstruation even though the PE teacher was male. Furthermore,

students, including male students, did not appear surprised or uncomfortable when the teacher presented teaching materials about human reproduction and menstruation in the class.

NTT

In NTT, generally adult informants also admitted that menstruation was not a taboo topic, but the level of openness varied, considerably low, and tend to be discussed among females only surrounding. Menstruation was generally considered as an adult female matter, so it was not common to be discussed with/by boys and girls who had yet to start menstruating.

Only health officials and teachers in the intervention primary school reported to have discussed menstruation openly with both boys and girls. Parents of female student tend to talk about menstruation with their daughters when or after their first menstruation. Parents avoided discussing menstruation with their sons. Even some admitted that they felt uncomfortable and embarrassed to talk about it with their husbands.

Teachers stated that talking about menstruation at school was not taboo. However, teachers in the control primary school stated that menstruation was not commonly discussed by male students. In general, primary school and junior high school teachers in the group interview reported that if there was a student who asked for permission to go home briefly or early due to menstruation, the reason given by the student was due to sickness, and the person asking for permission to the teacher was not the student who are menstruating herself, but her friend. The same reason, sickness, was commonly used by students or parents when asking for permission to be absent from school.

There was a student who was regularly absent almost every month due to sickness, with a permission letter signed by the parent. The teacher then asked what illness, but [the student] responded by stating the sickness to be headache. (teacher, female, NTT)

NTB

The majority of informants in NTB, including health officials, stated that menstruation remained a topic of taboo, especially when discussed in public or outside the family environment. Teachers from the control primary school, during the group interview, stated that talking about menstruation at school was still considered a taboo because it was a female matter and considered to be sensitive topic to be discussed openly with students. Meanwhile, a junior high school teacher admitted to have raised the topic once, but the male students appeared disgusted.

Yes, there are boys and girls in the class. I mentioned that girls would menstruate, which is a mark of *aqil baligh* (coming of age in Islamic teachings). When I said that, the boys became noisy. They looked disgusted." (Group discussion with junior high school teachers, NTB)

b) Restrictions during Menstruation

In all three study areas, almost all adult informants reported the existence of cultural values, beliefs, or myths in the form of restrictions or prohibition for women who are menstruating. The restrictions identified in all the three study areas include prohibitions on washing their hair, disposing of falling hair, cutting their nails, drinking cold beverages, going to rice field/plantation or performing agricultural activities, combing hair, showering, burning used sanitary pads, and being around male peers. Some of those restrictions could be found in all three areas such as the prohibition to hair washing and drinking cold beverages. However, some are only applicable in certain area; for examples prohibitions on disposing of falling hair, having a haircut, and cutting nail were only found

in DKI Jakarta and NTB, while prohibitions on going to rice field/plantation and cooking were only found in NTT. In DKI Jakarta and NTB, the prohibitions of disposing of falling hair, having a haircut, and cutting nail were originated in the society's understanding of religious teachings to preserve the cleanliness/purity of all the body parts; falling hair has to be collected and washed during the *ghusl*⁷.

It is commonly believed that the more modern an area is, the less prevalent the cultural values, beliefs, or myths become. However, this does not apply to cultural values, beliefs, or myths surrounding menstruation. In DKI Jakarta, the number and variety of prohibition for females who are menstruating reported by the adult informants were more than those in NTT and NTB. Informants in DKI Jakarta on average mentioned three restrictions, while those in NTT and NTB on average mentioned two restrictions (see Table 3). This might be due to better information access and more openness with regard to menstruation discourse in DKI Jakarta.

Table 3. Variety of Restrictions during Menstruation According to Adult Informants (N=53)

Variety of Restrictions	Number/frequency of occurrence		
	DKI Jakarta (N=16)	NTT (N=21)	NTB (N=16)
Hair washing	13	13	8
Disposing of falling hair	10		5
Having a haircut	2		1
Combing/brushing hair	6		2
Nail cutting	9		7
Drinking cold beverages	5	3	3
Drinking soda	2		1
Eating cucumber/pineapple		2	1
Eating spicy food	1		1
Eating fish/fishy food	1		1
Taking a nap	1	1	
Telling others about having menstruation	2		
Being physically active	1	1	
Leaving the house		2	
Going to rice field/plantation		13	
Taking a shower (in the first few days of menstruation/in the evening)		6	
Cooking		3	
Being around boys/men		1	2
Burning used sanitary pads	1	5	
Going to cemetery	1		
Disposing away used sanitary pads carelessly			1
Total	55	50	33
Average restriction per informant	3,4	2,4	2,1

⁷An Arabic term for full-body obligatory shower for ritual purification after the menstruation period

Students in the three study areas, both in primary and junior high school, were also aware of those restrictions. The restrictions reported by them slightly varied among them and among the study areas. However, in general, the restrictions reported by the students reflected those reported by the adult informants in the corresponding area.

There are variations in the emphasis of restrictions reported by the students from the different areas. The emphasis can be seen from the number of students reporting the restrictions. Being around male friends and hair washing were found to be the most prevalent restrictions in the three areas. Variations of the common restriction among the areas were also found. In DKI Jakarta, other main restrictions include drinking cold beverages and nail cutting while in NTT going to rice field/plantation, and in NTB nail cutting and drinking soda (see Figure 3).

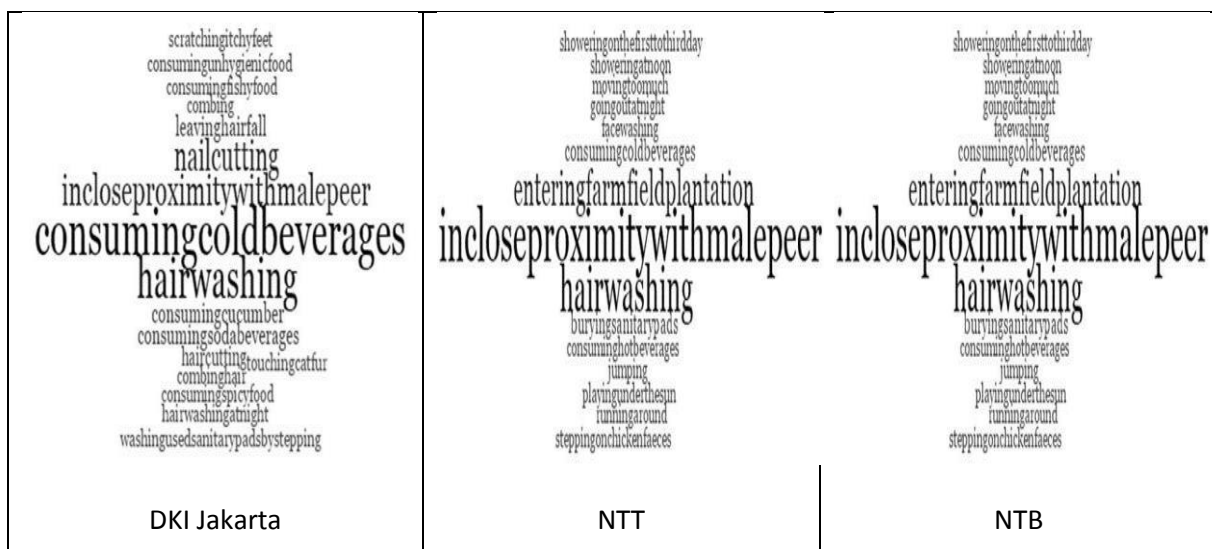


Figure 3. Restrictions during Menstruation According to Primary and Junior High Students who had had Menstruation

Note: The font size corresponds to the frequency of restrictions reported by the students.

By comparing the number and variety of restrictions reported by the adult informants with those by the students revealed several differences in terms of its emphasis in the same restrictions. For example, restriction on being around male peers was reported by a lot of students in all the study areas, but only three adult informants from NTT and NTB who mentioned it despite the fact that the students learned this restriction from their parents. This is probably because this restriction is not part of the culture, beliefs, or myths, but rather come in a form of advice from parents to protect their daughters from the potential negative effect of interaction with opposite sex based on their comprehension that menstruation is a gateway to puberty, which is marked by the attraction to the opposite sex.

The reasons for the various restrictions reported by the adult informants and students remain largely unknown. Meanwhile, several irrational, conflicting and mythical reasons for the same restrictions were also found (see Table 4). Among the informants, many did not believe the restrictions and reasoning behind the restriction. Nevertheless, majority of them admitted to conduct themselves in accordance to the restrictions because they were afraid of the possible consequences.

Table 4. Reasons of the Restrictions during Menstruation

Restriction	Reason
Being around boys/men	Potentially cause pregnancy Causing heavy menstrual bleeding
Hair washing	Causing a headache due to the opening of pores during menstruation Disrupting menstrual bleeding Stopping menstrual bleeding Causing a blood clot in the head Causing vaginal discharge Causing cancer To be safe from the devil
Drinking cold beverages	Causing a stomach pain Potentially causing menstrual blood to become blood clot Disrupting menstrual bleeding Causing cancer
Drinking soda	Causing heavy menstrual bleeding Disrupting menstrual bleeding Causing menstrual blood to become blood clot
Going to rice field/garden	Causing crop failure Causing the crop to die Causing the crop/vegetables to stop growing Causing an illness
Clipping nail	To ensure purity during disposal of body parts
Discarding falling hair	To ensure purity during disposal of body parts
Taking a shower in the first three days/night	Causing problems during labor Causing vaginal discharge

Based on the restrictions and their reasoning above, the relatively acceptable restriction would be the restriction to be around their male peers. This advice was given to daughters to prevent unwanted pregnancies. However, the restriction was not conveyed comprehensively, hence the misunderstanding on the part of the students. For example, they thought that the restriction only applied during menstruation or since their first menstruation.

Generally those restrictions have been passed down from generation to generation. This study found that the students received the information from various sources and their mothers, who became the main inheritor of the menstrual restrictions, became the main source of information for 77% (58 out of 75) students interviewed with the three areas showing similar trends (see Figure 4). The next main information sources for the students were their friends (32%) and other family members (19%). Teachers, despite their role as educators, also contributed to the spread of restrictions for 15% of the students surveyed.

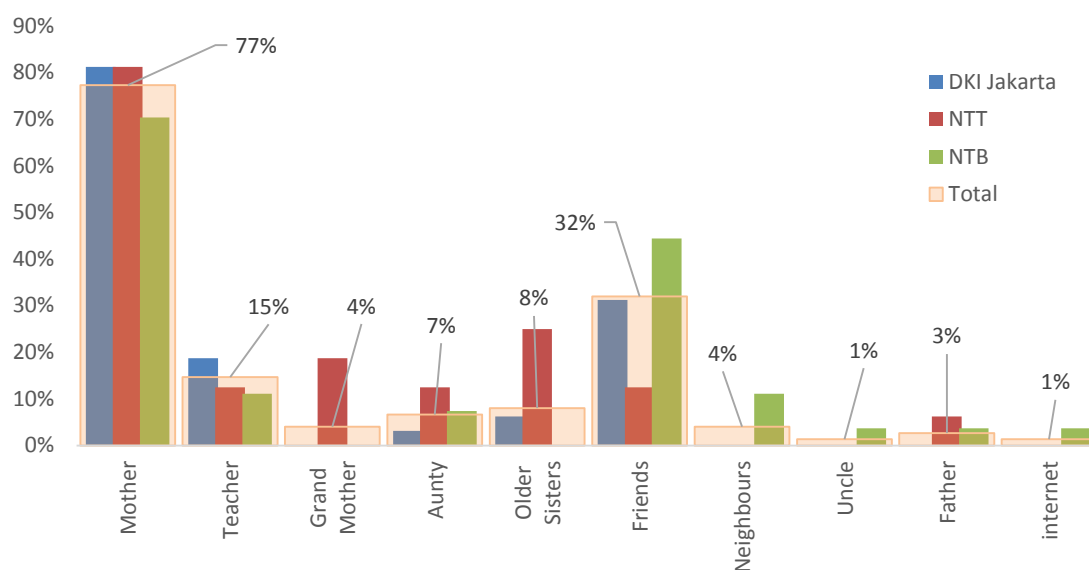


Figure 4. Information Sources of Restrictions during Menstruation for Primary and Junior High Students

This study identified challenges in an attempt to educate matter related to the misconception. The first is the personal experienced which seemed to strengthen the misconceptions. Students perceived the myth as truth because they had experiences that validated the prohibition myth. A student informant in NTT reported that washing her hair in the first three days of menstruation was prohibited because it could cause heavy menstrual bleeding; her experience when she unintentionally got her hair wet in a hot water spring caused her menstrual bleeding to increase. After that experience, the informant admitted to never disobey the restriction. A similar experience was also reported by other students regarding prohibitions on going to the rice field/plantation and drinking icy beverages.

The informant went to a garden during her menstruation, then a peanut plant died. Her grandma, who then found out, prohibited her from doing it again. After that, the informant never again goes to the garden while menstruating. (Junior high school student, female, 13 years old, NTT)

The informant once drank ice while menstruating. The menstruation period then lasted longer than usual, 6 days from the usually 4 days period. (Intervention Primary School Student, female, 12, DKI Jakarta)

3.1.2 The Environmental Factor: Condition of MHM Supporting Facilities and Infrastructure

Adequate facilities and infrastructure play an important role in facilitating female students to engage in a proper MHM practices. These include the availability of safe and comfortable toilet, clean water and common room for students at school to have a rest.

Indonesia currently lacks policy that is specifically designed to improve the students MHM practice, including the policy that is related to the provision of facilities and infrastructure necessary for appropriate MHM practices. However, the government has issued some policies that are likely to support the creation of MHM-friendly environment directly or indirectly.

a) Provision of toilet at school: Policy and its Implementation in the school of study site.

The Ministry of Education issued the Ministerial Decree of the Ministry of Education and Culture (Permendiknas) No.24/2007 which regulates the construction of facilities and infrastructure for Primary School/Madrasah Ibtidaiyah (MI), Junior High School/Madrasah Tsanawiyah (MT) and Senior High School/ Madrasah Aliyah (MA). The minimum standards for toilets which are being regulated included (i) the availability of separate toilet for male and female students which correspond to the number of students, (ii) the toilet construction that fulfills the criteria of being private (walled and roofed), lockable, and (iii) equipped with supporting facilities such as clean water, water tank and waste basket (see Table 5).

Table 5. Toilet Standard at Schools According to Permendiknas No.24/2007

	Male Students' Toilet	Female Students' Toilet
Ratio of toilet and number of students	1 : 60	1 : 50
Size of a single toilet	2 m ²	
Physical criteria of the toilet	<ul style="list-style-type: none"> - Walled - Roofed - Lockable - Easy to clean 	
Compulsory supporting facilities within a toilet	<ul style="list-style-type: none"> - Clean water - Toilet bowl - Water tank - Scoop - Waste basket - Hanger for clothes 	

The established standard ideally would have a positive impact on the safety and comfort of female students in accessing the toilet, including during the menstrual period. The separate toilet between male and female students will allow female students for more privacy. A sufficient ratio between number of toilets and number of students will reduce long queue in the utilization of toilet therefore allowing it to be accessible anytime. Meanwhile, the regulated standard of supporting facilities along with the toilet being lockable and proper walled and roofed provide added comfort for female students, particularly when they need to change their sanitary pad.

(1) Number of toilets

Primary Schools

Most of the primary schools (5 out of 6) have separate toilets for their male and female students. However, the schools which adhere to the minimum standard criteria of Permendiknas No.24/2007 regarding the number of female students' toilet are that of intervention primary school in DKI Jakarta and NTT. Control primary school in DKI Jakarta actually adhere the criteria, however one of the toilet has a broken door therefore it is temporarily not usable. The primary school which has a unisex toilet for their male and female students is the control primary school in NTB.

The schools with a specific toilet for MHM are only the intervention primary schools in NTT and NTB. Particularly for the intervention primary school in NTB, despite the availability of MHM toilet,

they have one toilet which can be used by anyone (teachers, students, male and female) due to the insufficient number of available toilet.

Table 6. Number of Toilets at the Visited Primary School

School	Number of Students		Number of Toilets			Toilet-Students*Ratio	
	Male	Female	Male	Female		Male	Female
				General	MHM		
DKI Jakarta							
Intervention primary school	120	135	2	3	0	1:60	1:45
Control primary school	156	166	2	3 (1 out of order)	0	1:78	1:83
NTT							
Intervention primary school	90	60	1	1	1	1:90	1:30
Control primary school	94	94	1	1	0	1:94	1:94
NTB							
Intervention primary school	184	147	1	0	1	1:115	1:104
			1**		0		
Control primary school	105	85		2	0		1:94

Note: *) The calculation of the ratio of toilet – students is based on the number of functional toilets;

**) Toilets are used by teachers as well.

Junior High Schools

There is only one out the three visited junior high schools have a toilet in a good condition, namely the junior high school in DKI Jakarta. The toilet at this school are separated for their male and female students, although the toilet for MHM is not yet available and the ratio of toilet and number of students is a mere 1:27. Meanwhile, the junior high school visited in NTT and NTB only have a unisex toilet with the number of available toilets being under the recommended standard. The junior high school in NTT possess only one toilet for the total of 89 students (male and female students). There are actually 4 toilets yet two of them are out of order, one is used by specifically for the teachers as two of the teachers' toilets are out of order. This damaged toilet cannot be used at all since there is a root from a big tree growing inside the toilet and the school has no budget to repair it. The same case is found at junior high school in NTB. There have been relatively high number of toilets (11 toilets or the ratio of toilet – students reaching 1:49) yet 8 of these cannot be used as they are clogged, unlockable and considered to have a foul smell. The school are unable to repair the toilet due to the unavailability of the budget.

Table 7. Number of Toilets at the Visited Junior High School

School	Number of Students		Number of Toilet		Toilet-Student*)Ratio	
	Male	Female	Male	Female	Male	Female
Junior High School DKI Jakarta	311	329	12	12	1:25	1:27
Junior High School NTT	40	49	4 (2 out of order, 1 used by teachers)		1:89	
Junior High School NTB	286	196	11 (8 out of order)		1:161	

Toilet: *) The calculation of the ratio of toilet – students is based on the number of functional toilets

(2) Toilet Safety

Primary Schools

The toilets which adhere to the standard of safety for female students in terms privacy (walled and roofed) and functional lock were only found in some of the visited schools (4 out of 6). Schools with problems regarding door safety are intervention and control primary school in DKI Jakarta, intervention primary school in NTT and control primary school in NTB. All of the toilet doors at intervention primary school in in DKI Jakarta and control primary school in NTB are unlockable, whereas in control primary school in DKI Jakarta there is a toilet with its door unhinged. At the intervention primary school in NTT, the lower part of the door has a large hole therefore need to cover it with a bucket.

Table 8. The Safety of Female Toilet at the Visited Primary School

School	Designation	Walled, roofed and enclosed	Lock and Door condition	Uses according to designation
DKI Jakarta				
Intervention primary school	Female	Yes	All (3) broken	No
Control primary school	Female	Yes	2 good 1 broken	No
NTT				
Intervention primary school	MHM	Yes	Good	Complied to rules
	Female	Yes	Broken	No
Control primary school	Female	Yes	Good	No
NTB				
Intervention primary school	MHM	Yes	Good	Complied to the rules
	Mixed	Yes	Good	No
Control primary school	Mixed	Yes	Broken	No

In some of the toilets which adhere to the safety criteria, most of them are not convenient as they are also used by the male students as well. In NTB in both the school intervention and control primary schools, toilets are being used by male and female students. However, even when there

are toilets designated for separate users such as in the primary school in DKI Jakarta and NTT, there have been cases of violation of designation. At the intervention primary school and control primary school there is a number of cases where male (teacher/student) use the females' toilet. This is partly because the females' toilet is considered to be cleaner, while males' toilet is either running out of water or it is being used by other male teachers/ students.

“... whenever he (a male teacher) goes to the toilet, he would go to the females' toilet” (Group interview with female students of control primary school, DKI Jakarta)

“Sometimes there are boys who would go to the girls' toilet.” (Group interview with female students of control primary school, NTT).

Toilets which relatively adhere to the criteria of safety and convenience for female students were the MHM toilets of the intervention primary school in NTT and NTB. These toilets have roofs, walls and enclosed, functioning door lock, used according to the designated user. Yet, in line with their designation, these are only used when students are menstruation. Apart from this condition, school girls who are not having their menstruation would utilize the toilets which are unsafe and inconvenient toilets.

Junior High School

The junior high school with a proper safety condition is the junior high school in DKI Jakarta. In this school the condition of available toilets are not only walled and roofed as well as properly enclosed but with a functioning door lock and usage in accordance with the designation – there was no case found whereby male students would utilize the female toilet. This is due to the fact that the number of toilet is sufficient and the toilet being recently renovated.

Table 9. Safety Condition of Female Students' Toilet at the Visited Junior High School

School	Designation	Walled and Roofed	Lock/Toilet door	Uses according to Designation
Junior High School in DKI Jakarta	Female	Yes	Good	Yes
Junior High School in NTT	Mixed	Yes	Good	NA
Junior High School in NTB	Mixed	Yes	Broken	NA

Meanwhile in the junior high schools in NTT and NTB, toilets are used by both male and female students therefore making the toilet unsafe and inconvenience for the female students to use, including when they are having their menstruation.

(3) Availability of Supporting Facilities in the Toilet

Primary School

The table below depicts the summary of the availability of supporting facilities in the special toilet or the common toilet used by female students in the visited primary school.

Table 10. Availability of MHM-related Supporting Facilities for MHM in the Female Students' Toilet at the Visited Primary School

School	Designation	Clean water source	Wash basin	Hand soap	Waste basket	Sanitary pads	Storage for sanitary pads
DKI Jakarta							
Intervention Primary School	Girls	Ground water	X ^{a)}	X	X	X	X
Control Primary school	Girls	Ground water	X ^{a)}	X	√	X	X
NTT							
School under intervention	MHM	Ground water	√ ^{b)}	√	√	√	√
	Girls	Ground water	X	X	√	X	X
Control school	Girls	Ground water	X	X	X	X	X
NTB							
School under intervention	MHM	Ground water, tap water	√ ^{c)}	√ ^{d)}	√	√	√
	Mixed	Ground water, tap water	X	√ ^{d)}	X	X	X
Control school	Mixed	Ground water, tap water	X	√ ^{d)}	X	X	X

Notes:

^{a)} Faucet for ablution (wudhu) is available and can be used to wash hands

^{b)} Only wash basin, no faucet

^{c)} Washbasin is available in front of the toilet

^{d)} Sometimes hand soap is not available

Basically, all the schools visited during the study have no problems related to water supply at school. All the schools visited during the study have an adequate water source such as in a form of a well or ground water (borehole) and one school in NTB even has tap water. However, schools in NTT have problems regarding supplies of water for the toilet. In the intervention primary school in NTT, the source of water for the toilet is the bucket well which is not in proximity to the toilet. Therefore, every morning, students of grades 4 – 6 need to get the water and carry the bucket to the toilet. The intervention primary school is located near the agricultural field and is part of the coastal area; consequently, the water is brackish, with the water being murky during rainy season and the surface of water receded during dry season. This school used to have borehole water as the source, equipped with a pump, but the well and the pump has been damaged since last year. Whereas at the control primary school, water is available from the well, yet the availability of water in the toilet is inconsistent. The water tank is too small and constructed at such low position making it easily dirty and limited water storage capability.

Hand washing basin in the toilet has yet to become the priorities in all of the visited primary school. Hand washing basin in the toilet can only be found at the intervention primary school in NTT, however the water pipe is damaged. The school used to have a hand washing facility in front of every classroom, yet they became dysfunctional since last year when the borehole was broken. Visited schools in in DKI Jakarta has a faucet for ablution that can be used by students to wash their hands. At the intervention primary school in NTB, a wash basin is available in front of the MHM toilet but not in front of the common toilet, and at the control primary school there is no hand washing facilities.

The availability of hand soap for students has been a challenge as well. Consistent and accessible provision can only be found in one out of six visited primary schools, namely the intervention primary school in NTT, yet this could only been found in the specially constructed toilet for MHM. The availability of hand soap at other schools varies. At schools in NTB, both the primary and control primary school, soap is not always available inside the toilet. Whereas in schools in DKI Jakarta, hand soap is placed in the teachers' room as to avoid it being wasted by students, yet this practice makes it hard for students to use.

In regard to the waste basket facilities as standardized in the Permendiknas No 24/2007, ideally there is supposed to be one unit of waste basket inside every toilet. This standard was only fulfilled by only at three out of six visited primary schools (50%), namely the control primary school in DKI Jakarta, the intervention primary school in NTT and the specially constructed MHM toilet at the intervention primary school in NTB. The school with the least availability of waste basket was found to be at the control primary school in NTT. In this school, the waste basket is only available in sixth grade classroom, whereas the waste basket in other classrooms were damaged. The school provides waste disposal in the form of a hole on the ground behind the classroom building that also serves as the place of burning the school's garbage. Meanwhile, in other schools, waste baskets are available in front of or inside every classroom.

The provision of spare sanitary pad was found in only two out of six visited primary schools. Within these two schools, the spare sanitary pads are placed inside a storage shelf within the MHM toilet and students can access it anytime they are in need. Meanwhile in the other schools such provision was not found, even in the proximity of the school environment as they are also not being sold in the canteen. When female students are in need of a sanitary pad they would either bring it from home, purchase it from outside the school environment, returning home momentarily or returning home early. In DKI Jakarta the study found a case where a student used a spare sanitary pad given by the teacher.

Looking at the hygiene of the toilet, it is commonly observed that the toilets at four out of six visited primary schools (namely intervention and control primary school in DKI Jakarta, intervention primary school in NTB and NTT) could be rated as proper. At these four schools, the toilets were routinely cleaned by the school keeper (the case for primary schools in DKI Jakarta) or by the students themselves (the case for intervention primary schools in NTT and NTB). Whereas at the control primary school in NTB, only the toilet for the teacher was being routinely cleaned, leaving students' toilet dirty and foul smelling with litters scattered in front of the toilet. At the control primary school in NTT, although the toilet is cleaned regularly in the morning by the students, at noon it would become dirty and foul smelling. This could have been caused by the limited amount of water available in the toilet.

Junior High School

The availability of supporting facilities for a proper MHM practice in the junior high schools is comparatively lower than the primary schools, with the exception of junior high school in DKI

Jakarta. The condition of the availability of MHM supporting facilities in junior high schools as summaries in the following table:

Table 11. The Availability of MHM-related Supporting Facilities in Female Students' Toilet at the Visited Junior High Schools

School	Designation	Clean water source	Wash basin	Hand soap	Waste basket	Sanitary pads	Storage for sanitary pads
Junior high school in DKI Jakarta	Girls (6 toilets)	Ground water	X	√	√	X (available at Red Cross Youth)	X
Junior high schools in NTT	Mixed-use (1)	Irrigation water, ground water	X	X	X (a hole in the ground)	X	X
Junior high school in NTB	Mixed-use (1)	Ground water, tap water	X (available outside the toilet)	X	X (available in front of a classroom)	X	X

In regards to the supply of clean water, the availability and quality, have been an issue at schools in NTT and NTB. The school in NTT used to a well as their source of water which is being stored in a water basin. However, since 2017 this water source has been mainly used to water the plants as the water has been contaminated by animal carcass that somehow made its way into the well. After this incident, needs for the school sanitation and toilet use the irrigation water channeled through a pipe. However, the flow is at best inconsistent as the water needs to be used for farming irrigation intermittently. Therefore, the school has issued a policy to demand each student to bring 5 liters of water from home approximately three times a week. Whereas at the school in NTB, the tap water is always available yet the quality is compromised as the water basin is dirty. Other storage problems include leakage, shattered bucket and faulty faucets. Therefore, most of the time students cannot use the water in the toilet but only use toilet to change into physical education costume and not to urinate or defecate.

Handwashing facility with soap can only be found in the junior high school in DKI Jakarta. Whereas junior high schools in NTT and NTB has neither handwashing facilities nor a soap. The junior high school in NTT once provided handwashing facilities by hanging a jerry can along with soap. However, the facility is not functioning anymore.

Availability of an adequate waste basket was only found at the junior high school in DKI Jakarta. At this school, waste basket is available inside the toilet, whereas at the junior high school in NTB, this waste basket could only be found in front of the class room. The junior high school with the least amount of waste basket was the junior high school in NTT – whereby place of disposal was a hole on the ground located behind/beside the classroom building. The provision of this waste basket was once conducted using the fund from the School Operational Cost Program (BOS)⁸ yet according to the teacher, these waste baskets were broken by the students who play with them.

⁸BOS, School Operational Cost program, is the Indonesian school grants program for primary until senior high school.

The availability of sanitary pad for emergency was only found at the junior high school in DKI Jakarta. At this school, this sanitary pad is available courtesy of the Youth Red Cross despite the limited supply of sanitary pads. In addition, the school canteen also sells sanitary pads. At the visited junior high schools in NTT and NTB, these sanitary pads are not sold in the school canteen.

In terms of toilet hygiene, it was found that only the junior high school in DKI Jakarta have toilet in hygienic condition. Aside from being recently renovated and the school also has a janitor's service who routinely clean the toilet. Whereas at the junior high school in NTT and NTB, toilet hygiene was found to be a problem. At these schools, toilets were only cleaned by students as the schools did not have janitors. The hygiene management in the junior high school in NTT was found to be better; toilet was routinely cleaned everyday by students under teacher supervision. However, some students reported that the toilet could sometime be smelly, especially during noon time. Toilets in the junior high school in NTB was however not routinely cleaned. Cleaning the toilet was used as a form of punishment for students with bad behavior or being troublemaker. The cleaning of the toilet would usually only cover some part of the toilet. As a consequence, the toilets would be foul smelling which affect the learning process in the classroom which is nearby the toilet.

"The toilet is too close to my classroom, sometimes I feel like vomiting during class." (Group interview with junior high school students, male, NTB).

b) Availability of School Health Initiative (UKS): Policy and Its' Implementation

The provision of School Health Initiative (UKS) has been regulated through the Permendiknas No. 24/2007, which mandated that each school needs to provide a room for School Health Initiative, equipped with 1 sturdy and stable bed, a shelf and emergency medicine which are not expired and a room with the size of 12 m². In addition to being the primary health treatment center for students who were experiencing health distress, the availability of school health initiative could potentially create a supportive proper MHM practice. The availability of such space could assist female students with physical distress during menstruation so they could take a rest without having to return home.

Primary School

Five out of the six visited primary school had a room for School health initiative (UKS) however only three of these schools have a separate room dedicated for UKS, whereas in the other two schools the room for UKS were located inside the library, separated by a divider (see Table 12). The primary school without any UKS facilities is the intervention primary school in NTB. This school actually has the room for it, however they have been used as a residence of the school keeper.

The room for UKS in all of the primary school are also used for other purposes, not related to health promotion or treatment, such as a classroom, prayer's room, teachers' break room, as site for *marawis* practice and a storage for school's equipment. The function of UKS room as the place for promoting MHM was only identified in the intervention primary school in NTT whereby the UKS has a wheel board, provided by Plan as part of their MHM intervention program, which illustrated the menstruation cycle. The walls of this UKS room is decorated with many health promotion and sanitation posters. Books on menstruation and MHM which have been part of the grants from Plan could be found at the library and students would usually read those books at UKS.

In all of the visited primary schools, including the school which does not have a proper UKS room, a place to lie down is available although not all of the resting place were easily accessible and comfortable for sick students. At the two school in Jakarta, the resting bed is covered by piles of paper, posters and cardboard boxes. Fortunately, the control primary school in DKI Jakarta still has a sofa which could be used as a resting place for students. At the control primary school in NTT, the sports mat placed on the floor, without a base nor cover and additionally being dirty, is used as a resting place for students. The intervention primary school in NTB that has no room specifically for UKS, but they have a sofa which would be used by sick students, however they are located in the teachers' room.

Table 12. The Availability of UKS Room and its Equipment at the Visited Primary Schools

	UKS Room	Other function served by this room	A place to lie down	Medicines supply	Students' Frequency of access
DKI Jakarta					
Intervention primary school	√ (in the library with room divider)	Library, study for additional exercise for Grade 6	√ (on top there are piles of paper and posters)	√ (in teachers' room and Grade 6 room)	Rare
Control Primary school	√ (separate room)	Prayer's room, teachers' common room, site of <i>marawis</i> practice	√ (on top there are piles of cardboard boxes)	√ (in teachers room)	Medium
NTT					
Intervention primary school	√ (separate room)	Food storage room during school event	√	√	Rare
Control Primary school	√ (in the library, with room divider)	Reading library books	√ (sports mat on the floor)	X	Rare
NTB					
Intervention primary school	X	NA`	√ (sofa in the teachers' room)	√ (in the teachers' room)	Rare
Control Primary school	√ (separate room)	Storage room	√	√ (in the teachers' room)	Medium

The visited primary, except the control primary school in NTT, generally have a supply of medicines. However, this supply is placed in the teachers' room. Only the intervention primary in NTT places the medicine supply in the shelves at the UKS room. At the control primary school in Jakarta, the school only provides medicine for external use only, as the demand of oral medicine were rare therefore they would likely be wasted due to its expiry date. In case of emergency, supply of oral medicine could be obtained from a small shop near the school.

The rate of utilization of UKS in all of the primary school was found to be relatively low. This might be due to the fact that students rarely fall ill as well as the inconvenience of the UKS rooms' condition. Students who were ill prefer to return from school early rather than resting in the UKS room. The inconvenience of the UKS room was also stated by the teacher.

“The UKS room can be described as not so comfortable, especially in terms of, as the building is the remnant of the teachers’ former residence.” (Control primary school teacher, male, NTB)

The unavailability of UKS teacher in some school has been identified to be one of the causes of the minimum utilization of UKS. A UKS teacher was only identified in the intervention primary school in NTT. This teacher has been actively conducting activities related to UKS such as providing health knowledge and weigh students’ weight every month. At other schools, UKS teacher is simply not available or no specific teacher has been appointed or would often be assumed by subject teacher or homeroom teacher. This leads to the health facilities at school to be inadequate, merely utilized when students are ill and would actually recommend the students to return home earlier.

Junior High School

At the visited junior high school, only two out of three schools have UKS, namely the junior high schools in NTT and NTB. Between these two schools only the school in NTB has a specific room for UKS. The UKS room in the junior high school in NTT is located at the Students’ Body room separated by a shelf. Meanwhile, the visited junior high school in Jakarta does not have a room for UKS since the school was just recently renovated and currently under negotiation, between the primary and senior high school managements who were occupying the same school ground, regarding the functionality of the room.

Table 13. Availability of UKS Room and the Facilities at the Visited Junior High School

	UKS Room	Other functions served by this room	A place to lie down	Medicines supply	Students' level of access
SMP DKI Jakarta	X	NA	√ (sofa at the teachers' room)	√ (at the schools' secretariat)	-
SMP NTT	√ (in the Students' Body room, separated by a shelf)	Students' Body room	√	X	Rare
SMP NTB	√	-	√	√	Frequent

The UKS room in the visited junior high school in was equipped with a resting place. At the visited junior high school in NTT, this take in a form of a sports mattress that are still being used for physical education class. Whereas at the school in DKI Jakarta, the school provides a sofa in the teachers’ room for students who need to lie down when they fall ill.

Medicines supply was only found to be available at the UKS in the visited junior high school in NTB, whereas at the school in NTT, medicines supply was not available. In cases where students became

ill, students will ask for medicines to the teacher living within the school complex. Teacher's admitted that the scarcity of medicines had become the main obstacle in the management of UKS. There was once a case where a student fainted because she missed breakfast; the student was immediately taken to hospital.

The UKS rooms in NTT and NTB did not serve as a place of health and MHM promotion. However, the UKS room in NTB has a poster promoting the habit of a proper garbage disposal behavior and to danger of garbage burning.

A number of students (7 out of 10) of junior high students in NTB admitted that they have actually used the UKS room frequently to take a rest, regardless whether they are having their period or not. Whereas in NTT none of the informants reported to have used the UKS room. The majority (8 out of 11) admitted that they have no idea where the UKS room was located on the school ground or that they have mistaken the actual location of the UKS room. Students with health distress would return home early. This has been attributed to the fact that the UKS room were merging with other room, the room was too narrow, only have a sports mat for a resting place and the lack of medicines supply and poster.

“ I have been there several times when I have headaches. (Because of menstruation?) No. Because of something else. It is comfortable and convenient so you can take a rest (Junior High school student, girl, 13, NTB)

In the junior high schools, these three schools had no teachers specifically for UKS. The role of UKS supervisor was assumed by a double duty teacher, working both as an UKS teacher as well as being a subject teacher, counselling teacher or a homeroom teacher. With such condition, the UKS-related activity from the appointed UKS teacher was limited at best. They only serve their function in the case of emergency when a student falls seriously ill, such as the case when a teacher in NTB took the student home or in the case in NTB when teacher took the student to the community health center.

3.1.3 Interpersonal Factors: Information and Psychological Supporting from the people around

In practicing MHM at home and school, adolescent women would need not only hard infrastructural support, but also non-physical support in the form of information and psychological support.

a) Access to information

Formally, the channel of information which has a potential to become source of information on the topic of menstruation and MHM for female students would be the community health center's adolescents' health counselling service and the school curricula, while informally, the source of information on menstruation for female students would be the people around them, such as parents, siblings, neighbors, and friends, including teachers outside class hours.

The findings of this study indicated that in general the formal and informal information media in the three study areas had not been able to provide adequate information on menstruation and MHM for female students. The community health center in the three study areas did not have special programs related to menstruation and MHM. Even if the community health center had carried out related educational activities, they were not sustainable, only to fulfill Plan's request. Meanwhile, in general, parents and teachers who were interviewed also had minimum answer

MHM-related capacities, both in terms of understanding of the concepts and practices of proper MHM.

(1) Community health center's adolescents' health counselling service: Policies and Its' Implementation

The management of adolescents' health care has received government attention through various laws and regulations, including Law No. 36/2009 on health, Law No.23/2003 on child protection, Government Regulation No.61/2014 on reproductive health, and Health Ministerial Decree No. 43/2016 on the standard of health services provision. These are intended to prepare a healthy and productive generation in their adulthood. The government realizes attention to the health care of adolescents by forming the Youth Friendly Service Unit (PKPR) at the community health center.

The establishment of the PKPR aimed at providing counseling, health examination and health services for adolescents, educating and delivering information related to reproductive health - which includes education of healthy life, mental resilience through social skills; reproductive systems, functions and processes; risky sexual behavior, as well as other behaviors that are would risk their reproductive health (Government Regulation No.61/2014).

Besides providing health services for adolescents, other main services of the community health center play an important role in helping adolescent girls in practicing a proper MHM. These services include environmental health services, nutrition, disease prevention and control, as well as health services for mothers, children, and family planning (Law no. 75/2014). Examples of health promotion activities in these topics were the practice of hand washing with soap (CTPS), clean and healthy lifestyle, and educational activity on the topic of garbage disposal which could be delivered directly to the community or through the integrated health service post.

To date, the study found that the community health centers in the three study areas did not have special programs related to hygiene management and menstrual health.

Primary School

In the visited primary school, the activities of the community health center in schools were focused on the activities of immunization activities, dental hygiene and health education, good hand washing practice, education activities on HIV/AIDS, and cervical cancer. Information about menstruation was sometimes conveyed by health professionals when educating on the topic of cervical cancer. Dissemination of information in schools focusing on menstrual issues were only found in the intervention primary schools in all three study areas. However, the implementation of the educational activity was not sustainable, but merely to fulfill Plan's requirement; being part of their MHM intervention program.

Table 14. Educational Activities on MHM and Health from the Community Health Center at the Visited Primary Schools

		MHM Education	Other educational topics
DKI Jakarta	Intervention Primary School	√	Hand washing with soap (CTPS), immunization, maintaining personal hygiene, drugs, HIV/AIDS
	Control Primary School	X	HIV/AIDS, cervical cancer, immunization
NTT	Intervention Primary School	√	Dental health, hand washing
	Control Primary School	X	Immunization, dental health, dengue fever
NTB	Intervention Primary School	√	Immunization, health
	Control Primary School	X	Dental health, hand washing

Junior High School

At the visited junior high schools, education activities related to menstruation and MHM were only found in junior high school in Jakarta. In this school, students from one of the local private universities had held socialization related hygiene maintenance during menstruation, including how to change the sanitary napkins properly. Health centers in each region had also provided counseling related to health and hygiene. When delivering the topic of reproductive health and cervical cancer, menstrual issues would also be mentioned.

Table 15. Educational Activities on MHM and Health from the Community Health Center at the Visited Junior High School

	MHM Education	Other Educational Topics from the Community Health Center
Junior high school in Jakarta	√ (from college students)	Cervical cancer
Junior high school in East Nusa Tenggara	X	Dengue fever, hygiene, dental health, HIV/AIDS, and reproductive health
Junior high school in West Nusa Tenggara	X	HIV/AIDS, drugs, reproductive health

(2) Lessons about menstruation at school

School subjects which contained a menstrual related material were natural science (IPA), Physical and Health Education (PJOK), and religious education. In these subjects, there were topics about physical and hormonal changes occurring in men and women in puberty. The science lesson discussed the biological side of menstruation, physical education class provides an explanation on how to maintain genital hygiene and the dangers of premarital sex, while in religious education there was material about understanding themselves and the differences between adolescent male and female.

Learning about menstruation and MHM in the primary and junior high school curriculum was found to be insufficient to provide an accumulative knowledge on menstruation for the students.

This could be seen from the relatively small number of students who were able to explain menstruation from the biological aspect although this material had been taught in 6th and 9th grade science class (information about student knowledge is discussed more deeply in Sub-Section 3.2). This was likely because the result of an ineffectiveness learning process.

One of the possible causes of the ineffective learning process was the inherent taboo value of discussing menstruation by/with men during teaching and learning activities in schools, especially in NTT and NTB. The situation would be worsen when the homeroom teachers for grade 6 were male because homeroom teachers at the primary level were responsible for delivering various lessons, except for a number of subjects such as physical education and religion that would usually be taught by the corresponding subject teachers. As happened in the intervention primary school in NTT, male homeroom teacher of grade 6 stated that they paid less attention to menstruation related lessons. Even the school's principal suggested not to deliver menstrual related material to prevent the possibility of undesirable occurrences. Menstruation related subjects such as the characteristics of women who get menstruation was discussed in religious education which were taught by female teachers.

Similar incidence occurred in the control primary school in NTB. A grade 6 male teachers who participated in group interviews stated that sometimes they would only discussed some parts of reproductive-related material because the material was not supposed to be discussed openly, perceiving the topic to be too sensitive.

"Sometimes it's quite sensitive to discuss menstruation and femininity problems. That's a lesson in grade 6. At most we only tell the students about the characteristics of women who have grown up, and when it becomes more specifically, sometimes I would tell the students to just read their textbooks." (Control primary school teacher, male, NTB).

Menstrual-related material in physical education and religious education were not delivered by teachers in all study areas. Of the 6 Primary Schools visited, only teachers in the intervention primary school in NTT stated that there was menstrual related material in the physical education course. Meanwhile, menstrual related material in religious education was delivered by primary school teachers in NTT and NTB.

Regarding the scope of the material taught, UNESCO has recommendations for MHM subject matter that needs to be delivered to students (Dutta, Badloe, Lee, & House, 2016), namely:

- physical, hormonal and emotional changes related to menstruation,
- how to build confidence and to approach menstruation positively,
- how to maintain hygiene during menstruation (including frequency of bathing in a day, how to use sanitary napkins, how to change sanitary pads, frequency of changing pads, and when and how to wash hands during menstruation),
- explanations regarding misconceptions related to menstruation, as well as
- education to foster a supportive environmental support for menstrual students

By comparing the recommendations of UNESCO and the material taught to students in science and physical education lesson (the biological aspects of menstruation, how to maintain genital hygiene, and dangers of premarital sex), it was found that there were many knowledge gaps that had not been conveyed on school subjects. This shows that the school curriculum was still inadequate as a source of information for the topic of menstruation and MHM.

(1) Informal source of information of menstruation and MHM

Parents, siblings, neighbors, and friends were the people around students who had the potential to be the source of information on menstruation and MHM. Outside school subjects, the teacher would also play the same position for students. Their capacity of comprehending the issue of menstruation and MHM will affect the condition of students' MHM practices. However, this study found that generally parents and teachers interviewed had low MHM-related capacities (were ill-equipped), in terms of understanding the concept and practice of MHM.

Generally, parents' knowledge about MHM was based solely on their personal experience, and they were unable to explain the biological aspect of menstruation. Of the 30 parents of students interviewed in the three regions, only one parent from Jakarta was able to provide menstrual explanations from a biological perspective. The parent stated that menstruation was related to a period of fertility and hormones, and during the fertile period the egg was not fertilized, it would rupture and resulted in menstruation, while other parents mentioned menstruation as a woman's nature, signs of fertility and adulthood, discharge of blood from the vagina, and considered to be a dirty blood. This might occurred due to the fact that the parents interviewed had never received educational activities related to MHM, and even though they had learned related lessons at school, they had forgotten them.

Teachers who were individual and group interview informants were not able to comprehensively elaborate the biological aspect of menstruation. Their explanations varied as a combination of information they got informally, such as from personal experience, subject matter, and for teachers at the intervention primary school, from Plan's MHM intervention program. In addition, their reasoning ability and memory greatly influenced their answers.

MHM practices among parents and teachers were found to be improper as well. There was only one parent who changed their sanitary napkins according to the standard, 5 times a day – although it was only done during the heavy bleeding period. The hand washing practices before and after changing sanitary napkins were only done by 3 out of 30 (10%) parents in NTT. Regarding the practice of disposing used sanitary pads, all parent informants in Jakarta disposed of used sanitary napkins according to the standard, which was to wrap the pad in plastic, then throw it in the waste basket. Meanwhile informants of parents from NTT and NTB disposed of used sanitary napkins by burying them on the ground, throwing them into the river, or throwing them into the toilet pits. The practice was carried out based on their own comprehension and according to local customs which basically prevent the sanitary napkins being seen by others. This was driven by an understanding at the community level, especially in NTT, who were using a used sanitary napkin for black magic practices so that they had to be disposed safely.

Among the teacher informants, only one teacher changed pads frequently according to the standard although this practice was done during heavy menstrual flow; when menstruation was not discharged heavily, the frequency of changing pads was reduced. The practice of washing hands before and after changing sanitary napkins had not become the habit of most informant of teachers. The ideal practice of proper disposal of sanitary napkins, which was by wrapping and disposing of in the waste basket, was carried out by all teacher informants in Jakarta, while in NTT, all of the teachers buried their used sanitary napkins.

b) Conditions of Psychological Support from Surrounding People

In dealing with menstruation, students need psychological support from people around them such as parents, siblings, friends, and teachers, including schools. This support can help students to face menstruation comfortably, especially during menarche.

(1) Capacity of Schools' Environment and Teachers in Supporting Menstruating Students

Primary School

School's support which was also accompanied with a financial support, budget in relation to menstruation, was only found in the intervention primary school in NTT. In this school, there was a provision of educational material about menstruation and budget allocation to provide complete menstrual hygiene management practice (discussed further in section 5.1) supporting facilities. In other schools, there were no specific policies related to menstruation or MHM.

Regardless of the presence of policies specially catered for menstruation, all visited primary schools allowed leniency for students who were menstruating. Leniencies were given by the school/teacher to students who were experiencing ailments due to menstruation, such as abdominal pain, headaches, or leakage of menstrual blood on their clothes. Leniencies were given in the form of allowing students to rest in the schools' clinic, sleeping in class, returning home early, or skipping classes. Even there was a case where a teacher accompanied student to return home early. However, there were also cases where teachers did not allow students to rest at the school clinic because students did not tell the teacher that she was experiencing ailment due to menstruation.

Junior High School

In all of the visited junior high schools, the provision of sanitary napkins was not the school's main concern. However, a positive step had been taken by the Youth Red Cross at the junior high school in Jakarta who provided sanitary napkins - which could be accessed by all students by contacting the Youth Red Cross members, while in other junior high schools, similar initiatives were not found. However, personally, teachers in NTT who lived near the school sometimes would provide students with sanitary napkins who needed them.

A positive attitude towards students who were menstruating had been shown by teachers in all visited junior high schools. Teachers would allow leniency towards who are menstruating to skip physical education, sleeping in class, return home temporarily, or early. Even teachers at the junior high school in Jakarta, NTT and NTB had taken student home when students were experiencing leakage of menstrual blood staining their clothes.

(2) Parental Psychological Support

Parents, especially mothers, in all of the visited primary and junior high schools in all study areas provided full supports to students who got menstruation with no distinctions between school level or areas. However, due to the possession of limited knowledge and influenced by norms, culture, and myths, supports provided by parents were not adequate enough to support a proper MHM practices. As stated in section 3.1.1, in all study areas there were norms, cultures, and myths which resulted in various restrictions for menstruating women. The various restrictions which were usually informed by the parents, among others, caused students to be less likely to maintain a proper personal hygiene when menstruating, such as not shampooing, not bathing, and not cutting nails.

In terms of knowledge on menstruation and MHM, parents were the main source of information for female students. Parents would usually explain about menstruation and MHM when their children experienced menarche. Only a small number of parents reported to give information about menstruation and MHM to their children who were yet to experience menarche.

The majority of the parents (6 out of 10) whose children had not reached menarche stated that a child who had not yet experience menstruation needs to receive an explanation of menstruation to be better prepared or not surprised when getting it, while other parents stated that it was not necessary because the child had not got it yet, and that the child was still too young, and probably the child had received information from other sources. Some parents were also worried that when providing a child with such information, the child would think about it and would experience menarche earlier.

Regardless on their stance on the necessity of menstruation related information prior to their menarche, most parents were found to be reluctant to provide the information to a child who was yet to experience menstruation. For parents of menstruating daughter, only 4 out of 12 (33%) parents stated that they explained about menstruation and MHM before their children experienced menarche. For the parents whose daughter was yet to reach menarche, only 4 out of 10 (40%) claimed to have explained about menstruation and MHM to their children. They provided information prior to them reaching menarche because their children asked, and they also wanted that their children to be better prepared for menarche. They also wanted to straighten out information obtained by children from other sources. However, only two parents whose children had not reached menarche and one parent whose child had menstruated gave a rather detailed explanation. Other parents only gave general explanations and information, such as that menstruation was a sign of fertility, if there was a brown discharge in their underwear then that would be a sign of menstruation and, during menstruation you had to maintain hygiene and the requirement to wash the sanitary napkins themselves.

When children got their menarche, parents would usually provide sanitary napkins. In NTT, there was one case of a male parent who bought sanitary napkins for his daughter in a nearby shop. Some parents in East Nusa Tenggara who lived far apart from their children bought a lot of reserves of underwear to prepare their children for menarche.

In the case of students experiencing ailments related to menstruation, parents generally provided support by letting their children lie down and not do domestic chores, purchase medicine, or making them traditional medicinal drinks. If the child did not go to school or return home early from school, parents did not mind.

(3) Psychological Support from Female Friends

Primary School

Female friends tend to be supportive of female students who needed help or experienced menstruation-related problems. Female friends would usually defend their female students who were bullied by reprimanding or scolding the bullied, informing regarding the stained leakage, covering the skirt with menstrual blood, wiping the floor affected by menstruation, asking permission from teachers on behalf of their menstruating friends or accompanying the friends when returning from school early.

What her female friends would do when they have a stomachache: "sometimes they tell the teacher if she is having a stomachache." (Intervention primary school student, female, 12, DKI Jakarta).

“Female friends would accompany them return home to change their sanitary pads” (Control primary school student, female, 12, NTB)

However, the study also found cases where female friends who did not provide support when there were students who experienced menstrual problems - They did nothing or just kept quiet. In fact, there were cases of female friends who mocked or made menstruating students uncomfortable during menstruation.

For a small number of student informants, female friends, both at school and at home, were a source of information on the topic of menstruation and MHM. Female friends could also be a place to tell or complain about menstrual problems. However, most of the student informants did not make friends, especially at friends from school, as a place to share stories. They still kept secret that they had reached a menarche because they were embarrassed and worried that they would be laughed at or ridiculed.

Junior High School

Junior high school female students tend to have a more positive attitude than primary school students in responding to their friends who were menstruating. Generally, junior high school female students would help their friends who had problems during menstruation. If their female friends were disturbed, female students would remind or scold the bully or report the action to the teacher. When a friend’s menstruation blood stained the skirt, the female student would tell her that her menstruation had stained the skirt, and then the friend would calm her, help find a replacement dressing, lend a jacket to cover the skirt, asked the teacher to go to the toilet or go home, accompanied the menstruating friend to the toilet or home, and helped clean the menstrual blood sticking to the chair. When a friend felt sick, female students would recommend to hold her, massaging, finding medicine, suggesting drinking certain herbs, taking them to the school clinic, or taking her home.

“If there are female friends whose menstruation stain their skirt, usually female friends help by looking for sanitary napkins and asking permission from the teacher.” (Junior high school student, female, 15, NTT).

There were also female friends did not talk to students who experienced menstrual problems. However, this was done to students who laid back in class to restrain her pain because feeling painful during menstruation was considered normal.

In general, for female student informants, female friends were a place to share stories and get menstrual information. Meanwhile, for female students who had not had menarche, female friends, especially those who had menstruated, were a source of information, whether they were aware or not could be their provision to be better prepared for menarche.

(4) Psychological Support of Male Friends

Unlike female friends, most male friends were not supportive of menstruating female students. Male friends tended to bully female students on menstrual issues. This study found a difference in attitudes of male friends at primary and junior high school as well as between study areas.

Primary School

Support from male students in primary school tend to vary between regions. According to female students, both those who had not and had already menstruated, male students in Jakarta and NTB

tended to bully their menstrual friends. Male students usually bully female students when they saw female students who were menstruating stained their skirt. They did this for the sake of fun. From the group interview, male students in NTB stated that they felt disgusted, would pull prank and laughed at female students who were menstruating.

The bullying from male students was also reported during group interview with teacher in Jakarta and NTB primary school primary schools. Teachers in the two primary schools in NTB stated that male students would often mock female students regarding menstruation. The male students even did it during science lessons about human development and male students sometimes laughed and made noises. There were some teachers in the primary school in Jakarta who stated that male students made fun of menstruating female students, while some said that this rarely happened. The attitude of teachers to face students who carried out abuse also varied; some teachers gave warning to the bully, while some other just let it happen since they thought that the mock was not too much.

In NTT, male students were found to not perform any sort of bullying in relation to menstruations. In the group interview with male students at the intervention primary school in NTT, students reported that they appreciated their menstruating female students. One student claimed that he once mocked a friend whose menstruation stained her skirt, but after given an explanation by the teacher, he did not do it again. In the group interview at the control school in NTT, students stated that if they were suspicious of a female friend, those male students would stay away for fear of being suspected and feeling ashamed. Group interview with teachers of control primary school also confirmed these findings, that male students at the intervention school would never tease female students regarding menstruation. The reason according to the teacher was due to the educational activities from Plan, while the reason stated by a control primary school teacher was because the male students did not know that his friends were menstruating.

Junior High School

The psychological support of junior high school male students towards female students who were menstruating tend to vary between regions. Male students in Jakarta's junior high school had a tendency to not bully while male students in NTT's junior high would bully their menstruating female friends, same with in NTB with the prevalence being higher. Group interview with junior high school in NTB stated that there were still friends who liked to make fun of menstruating female students and female students whose menstrual blood stained their clothes. The act was carried out because of mischief or just being ignorant, while in Jakarta, male students had a better understanding and appreciation of female students who were menstruating. Even group interview stated that they were more cautious and did not want to make their menstruating friends angry, because usually women who were menstruating were more sensitive.

Especially in NTT's junior high school, even though there were still cases of bullying, there were also male students who defended female students who were bullied. Participants in the male group interview also admitted that they had never mocked their menstruating friends because they understood that it was normal for a woman. In the same junior high school there were also male students who accompanied menstruating female students by driving his motorcycle to find sanitary napkins outside of school.

There was also a male friend who defended by saying, "e ... that is also experienced by your older sister and mother." (junior high school student, female, 16, NTT).

What had been done when a student had problems with menstruation: "help take home ... help take sanitary napkins ... when primary school, I usually helped call the school clinic teachers." (Group interview of junior high school student, male, NTT).

3.2 Students' Experience in Managing Menstrual Hygiene

This section presents findings about students' experience of getting their menarche, knowledge, practices, attitudes, and abilities to deal with menstruation and MHM-related problems experienced by primary and junior high school students in the study areas. Some of the findings are based on the experience of students who were already menstruating, namely their menarche experience and their MHM practice. Another topic that is presented in this section is the data collected from the interviews of students who had not menstruated on their knowledge on menstruation and attitudes towards MHM.

In the visited primary schools, the number of female students who were already menstruating varied with the least amount of menstruating female students in NTT with less than one third of the 4-6th grade students. In Jakarta and NTB, students who were already menstruating were around 11–23 students per school or around 15–31% of the number of students in grades 4–6, whereas in NTT only 2 and 3 students per school or only 6% of students in grade 4–6. In the intervention primary school in NTT, students who were menstruating were only in grade 6 while in Jakarta there are students in grade 4 who were already menstruating (see Table 16). Some adult informants considered the low number of students who have received menstruation in NTT primary schools to be the general condition in Kabupaten Nagekeo. There are primary schools which do not have students who are menstruating, as it happened in one of the primary schools in the previous year.

Table 16. Number of Menstruating Students in the Visited Primary Schools

Class	Jakarta		NTB		NTT	
	Intervention Primary School	Control Primary School	Intervention Primary School	Control Primary School	Intervention Primary School	Control Primary School
4	6%	-	-	-	-	-
5	3%	16%	3%	23%	-	6%
6	80%	53%	42%	55%	20%	13%
4, 5, 6	17%	24%	15%	31%	6%	6%

Source: school's secondary data and the results of interviews with principals and teachers

At the junior high schools, NTT was also found to have the smallest number of students who were already menstruating. In grades 8 and 9, almost all of the students in the three study areas were already menstruating. However, among the 7th grade students in the study school, only 42% of the students in NTT were already menstruating, whereas in Jakarta and NTB it was estimated that more than 80% of students have menstruated.

3.2.1 Students' Menarche Experience

a) Age of Menarche

First of all, the age of menarche is influenced by many factors, especially nutritional factors. With the improving economic conditions of the community, girls started to experience menarche at a younger age. Girls around the age of 10 or currently in 4th grade are considered normal to experience period of menstruation.

From the results of interviews with 75 female students who have menstruated, it could be seen that the age of menarche ranges from 9–14 years old in Jakarta, 10–13 years old in NTB, and 11–15 years old in NTT. Overall, at the age of 12 or the range of 11–13 years old were the most common age of menarche.

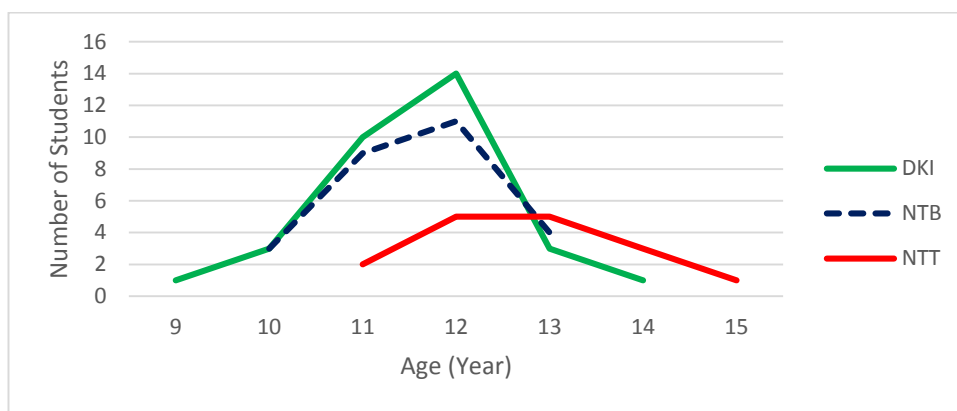


Figure 5. Age of Menarche

Source: Interview results with menstruating students

Amongst informants of junior high school students, 18 out of 31 (58%) had their menarche during their primary school years. Most of the students who got menstruation during primary school years were the students in Jakarta and NTB. By contrast, only 2 out of 11 (18%) junior high school students in NTT experienced their menarche in primary school years.

b) Students' Feelings during Menarche

During menarche, generally students (70 out of 75 or 93%) experienced a variety of uncomfortable feelings that are quite diverse in terms of types and number of discomfort. The types of feeling which were mostly reported by students were fear and surprise when seeing the discharge of blood or its stain in their underwear. They thought they were ill or injured. There were also students who panicked or got confused because they were experiencing something for the first time. The raging feeling caused some students to scream for their mothers and some resorted to crying.

After understanding that what they were experiencing was menstruation, a small number of students felt disgusted with their menstrual blood and felt uncomfortable about what they were experiencing. There were also students who felt ashamed that they were already menstruating because it meant that they were no longer children and becoming an adult. Some of them were also afraid of being laughed at or teased by their friends.

Besides the report of the feeling of discomfort, there were also some students who reported the feeling of happiness upon experiencing their menarche because they believed that menstruation is a sign of being a healthy or fertile woman. The positive feeling was reported by students who, at their menarche, had many friends who were already menstruating.

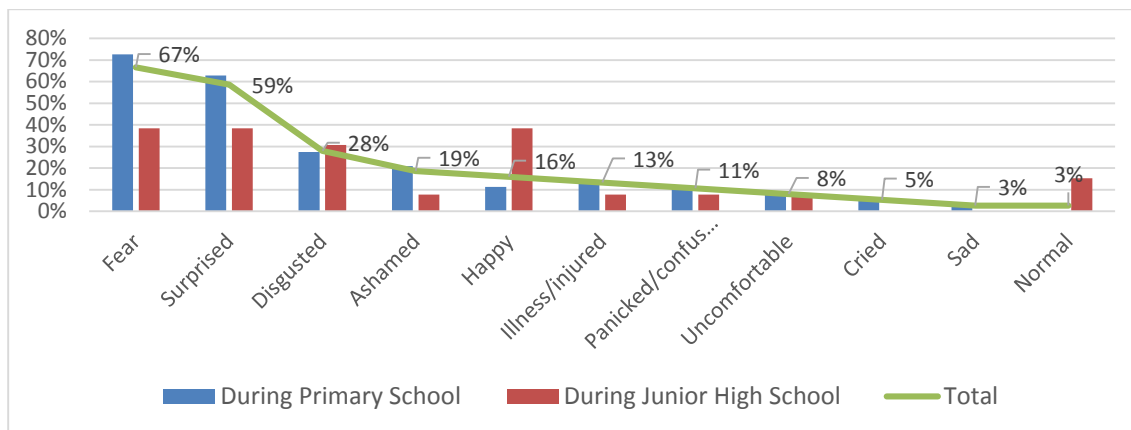


Figure 6. Students' Feelings during Menarche Based on Education Level (N: Primary School=62, Junior High School=13)

Figure 6 indicated that there were differences in feelings amongst the 62 students who got their menarche in primary school and 13 students who got their menarche in junior high school. Students who experienced menarche in their primary school years tend to be more frightened, shocked, embarrassed, and felt less comfortable compared to students who experienced menarche in their junior high school years. Students who got their menarche at a later time mostly felt happy while some did not find it so special.

Some expressions that students conveyed when experiencing their menarche are as follows:

"[I was] shocked, afraid ... [I] burst in tears, thinking [there is] something wrong." (Intervention primary school student, female, 13, Jakarta).

"[I was] horrified, shocked and embarrassed...[I] was instantly crying and told my mom. [I felt] afraid and ashamed that my other friends would know and they would make fun of me." (Control primary school student, female, 12, NTB).

"It felt normal; there was no feeling of shock, fear or shame because I had thought already that it's a menstruation, [and] many other friends had got menstruation." (Junior high school students, female, 13, DKI Jakarta).

"It's normal, I didn't feel shocked or scared because I got a lesson from a science teacher when I was in 6th grade which explained that menses were normal. In fact, I felt happy because [that means] I had entered adolescence, puberty." (Junior high school student, female, 14, NTT)

If we compared the figures by region, there was no specific trend regarding the feelings of students when they got their first period. One aspect that differs was the availability of adequate information about menstruation for students before they experienced menarche. Students who had obtained sufficient information tend to be better prepared, both psychologically and in handling the challenges, as experienced by 6 of 75 (8%) student informants.

"[I was] feeling happy [and] was not surprised because there had been an explanation from the teacher that [when] getting menstruation [we] should not be shocked and must be grateful. If we don't menstruate, it means that there is a disease and we should see a doctor ... I had known how to use sanitary napkins; a senior taught me that during grade 5. "(Junior high school student, female, 15, NTT).

When having their menarche, students generally would inform their mothers first. This is largely caused by the fact that majority of the students experienced their menarche at home as well as perceiving their mother as someone they could talk to and provide them with the needed solution. If the mother is not at home or does not live in the same house⁹, students will usually notify other family members such as aunt, brother, grandmother, or father. However, when they meet their mother, they will usually whine about it. There is one case in Jakarta where student felt hesitant to inform about her menarche to her mom as she feared of being mistaken for being flirtatious; the student told her older sibling first who then informed it to her mother.

c) Preparation for Menarche

Almost all of the student informants did not bring along a sanitary napkins as an anticipatory preparation of their menarche. There were only three students of junior high schools in Jakarta identified in bringing sanitary napkins to school before their menarche. These students did it because they were told by their mother or suggested by friends to take precautions in case they get their menarche at school. A junior high school student in NTT also prepared some sanitary napkin and some pants as a form of precautions, but they were kept at home.

In terms of preparative information, students generally admitted that they did not make specific preparation. Most students (47 out of 75, or 63%) claimed to have received information about menstruation beforehand, although the type of information received varied and tend to be general, such as how to use sanitary napkins and signs of menstruation. Most of them (61%) got this information from friends, especially those who were already menstruating. A small number of the other students claimed to get information from school and parents or siblings before they got their period.

3.2.2 Students' Knowledge on Menstruation and MHM

Students obtained information on menstruation and MHM from various sources, namely mothers, siblings, schoolmates, playmates, and teachers or schools. Information from mothers, siblings, and friends was obtained informally from daily conversation. Mothers serve as the primary source of information for students, particularly during their menarche. On the other hand, students would usually obtained information from school, from the discussion of human reproduction in their science lessons in 6th grade and 9th grade. In the intervention primary school, students also received information from or at schools through the dissemination activities conducted by Plan with the use of various media, including books on menstruation (dissemination activities by Plan will be discussed further in Chapter 5). Information obtained by students was mainly about menstruation, the practice of MHM, and things which should be avoided during menstruation.

The findings of this study indicated that students' understanding on menstruation tends to be general, such as comprehending menstruation merely as a discharge of blood, a discharge of dirty blood, a sign of maturity, fertility, or health. Only one primary school student in Jakarta and about

⁹In NTT there are a number of junior high school students who live in relatives' houses which are located relatively closer to schools than their parents' houses.

a quarter of junior high school students who possessed the biological understanding of menstruation. The majority of the students also did not understand about reproductive organs and its correlation to MHM. Moreover, knowledge on the utilization of sanitary napkins, including how frequent they should be changed and disposal of used sanitary napkins, was only based on the experience of the provider of information, usually mothers, and which are mostly not in accordance with the recommended standards.

Primary School

Based on the group interview with primary school students who were not yet menstruating, some of the students possessed the understanding of menstruation and MHM although not comprehensively. Compared to those in the other regions, however, students in Jakarta tend to have better knowledge. All of the student informants who were not yet menstruating already possess the knowledge regarding sanitary napkins and their functions because they were often asked to buy or had seen their mother or female siblings used them. Most of these students comprehend menstruation in general terms, defining menstruation as a discharge of dirty blood from the genitals, transitioning in children to adolescence or adulthood, and signs of fertility.

Knowledge of students who were not menstruating about the practice of MHM varied but comparatively, the comprehension of students in Jakarta is better. Student informant who were yet menstruating in Jakarta stated that during menstruation they have to change sanitary napkins frequently, i.e. 3–4 times a day, while NTB and NTT students said that they only need to change them 2–3 times a day. All group interview informants stated that the used sanitary napkins must be washed first. Only students in Jakarta who stated that the used sanitary napkins must be wrapped prior to disposal. Students were found to have different opinions about the proper disposal methods. Students in Jakarta said that they should dispose them to the waste basket, while students in NTB said they could be disposed to the waste basket or the river. Students in NTT said the used sanitary napkins must be buried. The variety of answers depends on the information they get from their parents.

All primary school students who were not menstruating yet were able to describe the physical changes experienced by women who have had menstruation, even though the number and the type of changes reported somewhat varies between students and between interview groups. Students stated that women who have had menstruation, tend to show enhancement of some parts of their body, such as the chest, hips, shoulders, and upper arms. In addition, hair will grow in the pubic area and armpit, there are more pimples in the face, and their voice becomes deep and or high-pitched. Students also stated that during menstruation, some of their friends have abdominal pain and their moods are easily influenced; becoming easily irritated and emotionally sensitive.

Primary school students who were already menstruating impose a different comprehension on menstruation, although in general it is not much different from the knowledge of their peers who have not menstruated. Almost all students who were already menstruating could only explain the general understanding of menstruation, defining menstruation as a discharge of blood, dirty blood, a sign of transitioning to adulthood, an indication of being fertile and healthy. Of the 43 primary school students who conveyed their understanding of menstruation, only one student from Jakarta gave an explanation from the biological aspect of menstruation that menstruation occurs because the egg was not fertilized.

Table 17. Comprehension of Menstruating Female Students on Menstruation (n=43)

	N	%
Bleeding	22	51%
Aqil balig (coming of age in Islam)/maturity	15	35%
Dirty blood	11	26%
Fertile	4	9%
Healthy	4	9%
Unfertilized eggs/eggs shed	1	2%

In general, primary school students, whether they have menstruated or not, did not have a comprehensive understanding about the reproductive system. Amongst the group interviews, there were only a few students in Jakarta and NTT who were not yet menstruating, stating that they had heard the word reproductive system. However, it was only the students in Jakarta who could explain more thoroughly on the components of reproductive organs namely genitals, eggs, and ovaries. Moreover, in an in-depth interview with students who have menstruated, there were only four students in Jakarta and one student in NTB who tried to answer question on the identification and role of reproductive. Answers given by the students were partial, such as that reproductive organs are sex organs, genitals, eggs, or uterus. Some students stated that they had got knowledge about reproduction organs from science lessons and posters in the UKS room and Puskesmas, but they had already forgotten. Regarding the relationship between menstrual health and reproductive health, there was only one student at the intervention primary school in Jakarta who were able to provide a proper answer regarding the correlation between reproductive health and menstrual hygiene management by answering: "if during menstruation you can maintain cleanliness and health, then the reproductive organs are also healthy."

Primary school students, whether they have menstruated or not, had a number of questions which were similar in nature regarding menstruation and MHM. Regarding menstruation, they wanted to know what menstruation is, how it feels to menstruate, how menstruation occurs, why they can bleed, what are the benefits of menstruation for the body, why menstruation can suddenly come and suddenly disappear, why only women experience it, how many days the normal period for one menstruation cycle, why there are friends who only menstruate for one day, and what indicates the end of the menstruation cycle. Moreover, what they wanted to know about MHM were: what kind of sanitary napkins are the safest to use, how to replace sanitary napkins, how to use sanitary napkins so that they will not leak, how many times per day to change napkins, how to clean the sanitary napkins properly, and how to maintain cleanliness, health, and comfort during menstruation. Students also wanted to know why menstruation causes pain in the stomach and how to overcome it and why people who are menstruating are often sensitive. Regarding the prohibition during menstruation, students wanted to know what they should not do, what is the reason behind the restriction, and whether some restrictions (drinking ice, shampooing, being around men) are true, anything related to religion that should not be done during menstruation, and how to take a bath after the cycle is over.

Junior High School

The results of the interviews with the junior high school students who have not menstruated indicated that their knowledge of menstruation and MHM was rather similar to the students of primary school who were not yet menstruating. All of the junior high school students knew about

the napkins and its' functions as well as their ability to define menstruation as the discharge of dirty blood from the genitals, a sign of transition from children to adolescents or adults, and a sign of fertility. However, there was one student from Jakarta who could explain menstruation from the biological side which was "the process of shedding of egg maturing or the thickening of the uterine wall; the unfertilized egg will shed and the uterine wall will shed and causing blood to discharge."

Akin to the comprehension of the primary schools students, the knowledge of junior high school students who have not menstruated about the practice of MHM was also found to varied and when compared, the comprehension of students in Jakarta tend to be better. All of the female students, who were not yet menstruating, participating in the group interviews stated that used sanitary napkins must be washed properly. Moreover, some students in Jakarta said that used sanitary napkins need to be wrapped prior to disposal, while the students in NTB would disposed used sanitary napkins in the trash basket or the river. Different from their peers in the other regions, the students in NTT thought that they should be buried. In terms of the recommended standards in changing sanitary napkins, which is every four hours, was only reported by the participants of group interview in Jakarta. Students in the junior high schools in NTB and NTT, on the other hand, stated it should be three times a day, in the morning, at noon, in the afternoon or in the evening.

Based on the science lessons they received, junior high school students who have not menstruated were able to describe some of the changes experienced by women who have menstruated such as the rapid growth of some body parts (e.g. taller, the waist and hips becoming wider, breast enlargement and hardened) and the growth of pubic hair and in the armpit as well as the growth of fine hair in the face. In addition, women who have menstruated will develop attraction to the opposite sex. During menstruation, the body aches and they may have abdominal pain or dizziness.

Meanwhile menstrual knowledge of junior high school students who were already menstruating was relatively better than the knowledge of their peers who have no such experience, which was reasonable. In addition to their own experience, junior high school students had also received lessons in school related to menstruation. However, most of them continued to define menstruation generally be defining menstruation as a discharge of blood, dirty blood, an indication of adulthood, fertility and health. There were only a number of students who tried to explain the basic biology of menstruation cycle: menstruation occurs because the egg was not fertilized or the egg cell broke and indicating the female organ was functioning or ready to be fertilized.

Table 18. Comprehension of Menstruating Female Students on Menstruation (N=31)

	N	%
Bleeding	24	77%
Aqil balig/maturity	10	32%
Dirty blood	8	26%
Unfertilized eggs/shed eggs	8	26%
Reproductive organ functioning /ready for fertilization	3	10%
Fertile	3	10%
Healthy	2	6%

The knowledge of junior high school students, who were already or yet to experience menstruation, on reproductive organ was limited. Regardless of the correctness and the comprehensiveness of the answer, only a few students who were not menstruating and about half of the students were already menstruating managed to answer questions on reproductive system. Some of the answers given were that reproductive organs used for reproduction, an organ where menstrual blood was discharge, and where genitals, egg cells, uterine walls, ovaries, and uterus are. They obtained the information from science lessons at school but they have forgotten most of the detailed explanation. Only a small percentage could elaborate the relationship between menstrual hygiene and reproductive health. They stated that menstruation comes out of reproductive organs, menstrual hygiene is closely related to reproductive health, and if menstrual hygiene was not properly maintained, it could damage or interfered with individuals' reproductive health.

Junior high schools students who were not menstruating were not too enthusiastic about their inquiries regarding menstruation and MHM. Some even did not have any questions. Some of the things that students wanted to know were in relation to the menstrual cycle, pre-menstrual cycle, the normal length of menstrual cycle, how to maintain hygiene during menstruation, which prayer to say, and how to take a bath after menstruation is complete.

Such was a big contrast against junior high schools students who were already menstruating who had a lot of inquiries. The questions were as follow: why menstruation occurs, why menstruation cycle is once a month, why there are irregular menstrual cycles, why there are late menses, what menstrual colors (red or brown) are normal, what types of sanitary napkins are good and safe according to health (there was information that there are sanitary napkins that can cause cancer), how to maintain hygiene during menstruation - including caring for female organs, why menstruation comes with abdominal pain and higher appetite or anger, what painkillers during menstruation are, how to stay healthy during menstruation, whether feminine soap really cleanse and whether there is any effect on feminine health, what restrictions during menstruation there are and what is the scientific reasoning, why during menstruation women are not allowed to wash, whether a menstruating woman can get pregnant if she is sitting close to a male friend.

3.2.3 Student MHM Practices

Almost all primary and junior high school students did not practice MHM in accordance with all recommended standards. However comparatively, there was a tendency for students in Jakarta to possess a better practice. Generally students change napkins, disposal practice and conducting the hand washing practice based to the information or teachings they received, especially from their mothers. There were only a few (5 out of 75) students who claimed to have make adjustments to these practices for reasons of practicality and comfort. For example, they did not bury used sanitary napkins and instead dispose them by flushing the used sanitary napkins in the toilet, not using cloth napkins, and not burying used napkins individually but collect them during the menstrual period then bury them at once.

Primary School

All primary school student informants used disposable napkins except one student in NTT who instead used layered pants as taught by her grandmother. According to her grandmother's teaching was that she was still young and using sanitary napkins might lead to cancer. The informant has menstruated once only so that her insights and experiences about MHM was considerably still limited. Some students have heard of cloth sanitary napkins, and even some

parents have recommended to use them because the cloth sanitary napkins are safer, but no other students were found to have used them.

Reason for its preference was generally because it using disposable sanitary napkins was what their mother bought for them and what was recommended to them. There were also some students who argued that the sanitary napkins are the only type of sanitary napkins they have known. Moreover according to them using sanitary napkins was perceived to be comfortable and widely available in shops and stalls around.

The frequency of changing napkins varies in accordance with times, students, and regions, all of which did not met the required standard. In the early days of menstruation cycle or when discharge of menstrual blood was considerably heavy, the frequency of changing sanitary napkins generally ranges from 2 to 6 times per day. When compared by region, students in Jakarta had the highest frequency of changing, which was 4 times per day. In fact, there were even four students who change napkins in accordance to the recommended standard, 6 times per day. Meanwhile, students in NTB and NTT only changed their sanitary napkins 3 times per day, i.e. in the morning, in the afternoon, and in the evening. In the last days of menstruation or when discharged of menstrual blood would be considerably low, students generally reduce the frequency by about one third to half. The minimum frequency of changing sanitary napkins in NTT appeared to be influenced by economic conditions. Students in NTT reported to have always asked their parents for money when buying sanitary napkins because they generally did not have savings or receiving pocket money. They also generally did not have a supply of sanitary napkins at home.

All primary school students washed their used sanitary napkins, with soap, and then disposed them of in various ways. In Jakarta, all students wrapped the used sanitary napkins that have been washed with paper and or plastic, and then dispose them into the waste basket. In NTT, most students wrapped and bury their used sanitary napkins while a small number of students burned or flushed them down the toilet. Sanitary napkins thrown into the toilet was the cotton fillings, while the plastic lining would be disposed in the waste basket or buried. In NTB, the treatment of used sanitary napkins varies and only a small number of students wrapped prior to disposal. They would usually throw the used napkins into the river, waste basket, or the field where used napkins would be buried or burned.

Related to the practice of hand wash when changing sanitary napkins, only some wash their hands before changing napkins, and most of them did not use soap. Meanwhile, after changing napkins, most students would wash their hands and most conduct practice using bath soap. The practice was found to vary across regions. The proportion of students who wash their hands before and after changing their sanitary napkins was comparatively high in NTT. In Jakarta, the common practice was after changing the sanitary napkins, whereas in NTB the practice of hand washing whether before or after changing sanitary napkins was comparatively low, which was less than half of students.

Overall, 13 out of 44 primary school student informants (29.5%) stated to have changed napkins at school. Of these students, only two in Jakarta and two in NTT who reported to have routinely change napkins at school. The rest of the students rarely changed napkins at school and would only replace at school on specific circumstances such as when they felt that their napkins were already overflowed therefore worry of leakage or when leakage of menstrual blood staining the clothes. These students preferred not to change the napkins at school due to some challenges it imposed such as the fear of being identified as someone who were menstruating, worry they were unable to properly clean the used napkins, considered to be a hassle as the routine of changing sanitary napkins require a lot of time and water supply. Other difficulties were the inconvenience

of the toilet; unclean toilets, unlockable doors, or the queue. There was a slight difference in the practice of how they managed used sanitary napkins. For instance, at school they could not wash the used sanitary napkins with soap, inability to take used sanitary napkins home, therefore they wouldn't buried although some of them would bury or throw them into the field.

When changing their sanitary napkins, all students would clean the female area. The use of soap for the cleaning for their genital area was found to be common in Jakarta and NTT. Soap used was identified to be the common bath soap. Only a small percentage of students in Jakarta use special soap for female areas because that was the mothers' teachings. How their mothers have taught them.

Junior High School

All informant students claimed to have used disposable sanitary napkins, although some of them also use cloth ones as an additional layer or when they are at home. Regarding the use of disposable napkins, students in Jakarta have considered the types of napkin used, such as the size and shape. In the early days of the period, when discharge of menstrual blood was relatively high and during night time, they opted for a longer, winged disposable napkins to prevent leakage.

It was found that some students in Jakarta and NTT used cloth sanitary napkins. In Jakarta, one student usually would use cloth sanitary napkins while at home. In NTT, by contrast, 4 out of 11 (36.4%) students used them at home or as additional lining, but two of them did not use these cloth napkins anymore as they were uncomfortable and prone to leakage.

The reasons for their preference of disposable sanitary napkins were the practicality, ease, and comfort it offers. Some students also stated that disposable napkins were not prone to leakage as they were better at absorbing blood with the plastic in the bottom layers. Another reason stated by students was that this kind of napkins was easy to obtain including in small stalls. Moreover, they claimed sanitary napkins were most commonly used while others perceived sanitary napkins to be more hygienic than cloth sanitary napkin which required washing process that may not necessarily be hygienic.

The frequency of sanitary napkin changing among junior high school students, just like that of the primary school students, varies in terms of time, students, and regions. Students replaced sanitary napkins 2-6 times per day depending on the blood volume, habits, or information obtained. Jakarta students had the highest frequency of sanitary napkin changing with the average of 3.8 times per day followed by NTB with 3.2 times per day and lastly NTT with 2.9 times per day (during heavy menstrual discharge). In Jakarta there was one student who met the frequency standard. As the volume of menstrual blood discharged lowered, most students reduced the frequency by almost half.

Students in NTT were found to use fewer napkins than students in other regions. In addition, there were students who used cloth napkins when they were at home. Economic reasoning was found to be the main cause for such practice, as expressed by a student who used two napkins per day for being economical. Another student used a cloth sanitary napkin at home made from used clothes and she would replace them immediately with another disposable sanitary napkins when experiencing leakage, saying: "We should be wise with sanitary napkins ... because it is not easy to make money ... not to mention for school [fee]. It is difficult to make a living here." (Control primary school student, female, 16, NTT).

The disposal practice of used sanitary napkins varied between regions. In general, students wash their used sanitary napkins although only a small number would clean them using soap. There were only 1-2 students (10%) in each region who would not wash them. In Jakarta, all students wrapped their used sanitary napkins which has been washed with either paper or plastic prior to throwing them in the waste basket. In NTT only a small percentage of junior high school students would wrap their used sanitary napkins, and more than a few burry it, while a small number of them flushed it into the toilet as it was or after being torn up. In NTB, the treatment of used sanitary napkins was more varied after wrapping the used napkins. Place of disposal includes the river, burying or burning them, or throwing them into the waste basket.

In terms of hand washing practice when changing napkins, only some of the students reported to washing their hands prior to changing their napkins although most of them do not use soap. Comparison by region indicated that the highest number of students were found in Jakarta with 7 out of 10 students, followed by NTT (4 out of 10 students), and NTB (1 in 5 students). However, these students also reported to conduct a hand washing practice, with soap, after changing their sanitary napkins.

Overall, only 3 out of 31 (10%) junior high school students had ever changed napkins in schools and all of them are students in Jakarta. Out of the four, three of them reported to rarely change napkins at school or would only change napkins when their sanitary napkins were overflowed and leaking. The practice of replacing sanitary napkins at school is somewhat similar to what they do at home. The difference was that the used sanitary napkins were not washed with soap and some were even taken home. Reasons reported by students for their reluctance in changing napkins at school was the complication they might face because they were wearing shoes, time consuming, would require a lot of water supply, fear of leaving behind trails of menstrual blood, not bringing along spare napkins, fear of being identified by their male peers, unavailability of special toilets or issues with the disposal of sanitary napkins.

All junior high school students washed their genital area when changing sanitary napkins. The number of students who used soap for the washing varied between regions. It was found that some of Jakarta students adopted such practice and while in NTB, only one student reported to conduct such practice. In NTT, nevertheless, almost all students washed their genitals with soap. The type of soap used by these students was their bath soap. Two students in Jakarta reported to not have used soaps especially for the female genital areas because it could affect the organs' PH therefore affecting the health.

3.2.4 Students' Attitude towards Menstruation

In general, this study found that students' attitudes toward menstruation did not differ much between primary school and junior high school students, as well as between regions. For students, it was not considered a taboo to be talking about menstruation, but they were found to be reluctant to talk about it openly and would attempt to avoid talking about it when in proximity to their male peers. Most students felt most comfortable talking about menstruation and MHM with their mothers, and a few others preferred to talk with friends. Almost all students considered menstruation to be normal and not something disgusting. During menstruation, students generally complied with the various prohibitions conveyed by various parties, except for some students in Jakarta.

a) Talking about Menstruation

Primary School

For primary school students, whether they have menstruated or not, talking about menstruation and MHM at home and school was not considered to be a taboo. However, they felt embarrassed and reluctant to talk about it openly.

Almost all students avoided talking about menstruation with and when in proximity of male, even when it was their father or brother. When they were talking to fellow women about menstruation and a male peers would pass by, they would immediately stop the conversation or relocate to another location. However, a group interview with students of control primary school in Jakarta indicated that

"Talking about menstrual problems with men is acceptable because it is part of the knowledge" (Group interview with students of control primary school, female, , Jakarta)."

Students would usually talk about menstruation with their closest people. When at home, students would generally talk to their mothers, and some would also converse about menstruation with their siblings, relatives, or peers. At school, students would usually talk to female friends. Primary school students who reported to have talked to their teachers about menstruation were only at the intervention primary schools, NTT and NTB. In Jakarta, there was one student who asked the Qur'an recital class teacher, not the teacher at the school.

When compared between regions, the primary school students in NTB and NTT tend to be more shy and discreet when conversing about menstruation. Some primary school students in NTT who were already menstruating claimed to have never talked about menstruation at school, even with their female friends due to fear of being identified as someone who was menstruating. Meanwhile, in NTB some students reported the feeling of ashamed to discuss menstruation with anyone; some of the students who have menstruated and one group interview with students who were yet to menstruate considered menstruation to be something of an embarrassment and a private matter, therefore should not be discussed in public. Slightly different, with the condition in Jakarta whereby students did not mind talking about menstruation as long as they do so with fellow women. There was even one student who stated that there was no problem talking about menstruation if there were male friends around her.

In terms of the feeling of comfort in speaking, some students felt most comfortable talking about menstruation with their mothers and others with friends. Talking with their mother was reported to be most comfortable for them because mothers were the closest people in terms of emotional connection, therefore students are likely to feel ashamed when talking about menstruation. In addition, mothers were perceived to be more knowledgeable and experienced, so they could provide explanations and examples to enhance their comprehension.

Students who claimed to be most comfortable talking to female friends argued that because they were at the same age therefore they could talk more closely, comfortably, and freely. Since they were experiencing the same thing, menstruation, they could exchange experiences. Some students claimed to be uncomfortable talking to their mothers because their mothers were busy working or busy taking care after their siblings, so they were afraid to disturb their mothers. Their mothers were also reported to be angry when asked about the topic or taking the conversation too serious thus making them feeling uncomfortable. Following were the statements of some of those students.

"Because my mother works. If I asked, she liked to grumble. Made me lazy to ask again!... My sister also likes to grumble." (Control primary school student, female, 12, Jakarta).

"It's embarrassing to ask mother... it's better to talk with my schoolmates, we are all naughty." (Control primary school student, female, 11, Jakarta).

In one group interview with students who have not menstruated, it was revealed that they have never asked about menstruation to his mother. This was because they felt too young to be asking the question therefore worrying they might anger or being scolded when asking the question.

Junior high school

Just like primary school students, junior high school students who were not yet menstruating stated that talking about menstruation was not considered to be a taboo. In fact, there was a case in NTT where a student was prohibited from talking about menstruation by her grandmother, but she said that she continued to converse about it though she had to whisper when her grandmother was around. However, almost all students argued that it was inappropriate to discuss menstruation in public, especially if there were men.

At home, students would usually talk about menstruation with their mothers and relatives who were menstruating, such as with a sister or an aunt. One students in Jakarta who were not hindered by the presence of their father. At school, students would generally talk to female friends. They would avoid conversing about menstruation when male peers were in proximity although one student in Jakarta reported to perceive talking about menstruation in proximity of their male peers to not be a problem. Students in all three regions had also considered their teachers to be a good place to share stories and asked about menstruation. Of the 30 junior high school student informants, only one student in NTT stated to have consulted a teacher. Students in Jakarta were found to be reluctant to come to the their consulting teachers because of the perception amongst students that counselling teachers were only for troubled students, such as students who were too lazy to learn, naughty, and would often skip class. While in NTT and NTB students felt embarrassed to speak with counselling teachers and in NTB the counselling teacher was male.

Majority of the students felt most comfortable talking about menstruation with their mother. This was because menstruation was considered to be a private matter as mothers had understood about them since they were young, and mothers could calm them down if there were any problems, also mothers can give the advice they need. However, there were also a small number of students who said they were more comfortable talking to friends, because their mother's explanation was sometimes poorly understood; the mother lived far apart, so they rarely met; the mother was busy working and looking after the younger siblings; and friends could keep secrets.

"It is most comfortable sharing stories to friends ... Meanwhile, my mother lives far apart and we rarely meet." (Junior high school student, female, 14, NTT)

"It is more convenient to talk about menstrual problems with female friends compared to mother because my mother works, goes home at night, and is tired and has to take care of my younger siblings." (Junior high school student, female, 14, Jakarta).

b) View on Menstruation

Primary School Level

When menstruating for the first time, almost 1/3 of primary school students who became informants felt disgusted with their menstrual blood. However, only one student in NTB and one student in Jakarta still expressed disgust when this research was conducted. This is because they become more experienced and knowledgeable on menstrual matters as time passes. Menstrual blood was mentioned to be dirty blood, so that a student in Jakarta would clean her sanitary napkins by stomping them using her feet first until the blood was removed, then she washed them by hand.

When menstruating for the first time, some primary school students were also concerned that they were suffering from a disease because they unexpectedly bled. Nevertheless, now these students assume that menstruation is not a disease as it is a natural or normal thing experienced by women and that menstruation is a gift because it is a sign of women's fertility and health. Students who considered menstruation as a disease were only found in NTB. One student said that she always felt dizzy, had stomachache, and even often vomited during menstruation, causing her to have such a wrong assumption about menstruation.

Junior High School Level

When menstruating for the first time, 7 out of 31 (22.6%) of junior high school students also feel disgusted with their menstrual blood. However, currently only one student in Jakarta still expresses disgust. The student would wash her used sanitary napkins with her feet first by trampling until the blood ran out, and then she would wash them by hand. When first menstruating, there were four students who thought of menstruation as a disease. However, currently there are no more junior high school students who consider menstruation as a disease. Students now consider menstruation as a natural thing experienced by women; if a woman does not get menstruation, it means that she is not healthy.

c) Attitude on Prohibitions of Myths

As stated in section 3.1.1, all primary school and junior high school students know that during menstruation there are several restrictions that they must abide. These restrictions tend to be the same between primary school and junior high school students, but there is little difference between study areas.

Most students did not know the exact reasons for or the impact if they violated all the prohibitions. Many students found the reasons or assumed impacts unreasonable, so they chose not to believe them. Nevertheless, the majority of primary school and junior high school students who were the informants of this study obeyed most of the restrictions they knew. They did not dare to violate the teachings of their parents, and they worried about the adverse effects of their violation.

However, some students (9 out of 45 primary school students and 4 out of 31 junior high school students), almost all of whom were from Jakarta, stated that they once or regularly violated several restrictions, either intentionally or by mistake. The students especially violated the ban on shampooing because they felt their hair was smelly and limp or their head was itchy. Students also sometimes violated the prohibition on cutting nails and drinking ice because they forgot, had sharp nails, felt hot, and did not consider it as an absolute prohibition. The three Jakarta students also stated that it was her mother who suggested not to obey the restrictions that she had learned

from her friend. According to her mother, during menstruation it was necessary to maintain cleanliness.

In terms of cleanliness, the prohibition causes students to be unable to maintain personal hygiene during menstruation. Some students in Jakarta did not cut nails and did not wash their hair during menstruation. In NTB, the majority of students did not cut nails and some did not wash their hair during menstruation. Meanwhile in NTT, almost all students did not wash their hair, and there were students who did not take a shower or only showered half the body in the first three days of menstruation.

3.2.5 Problems during Menstruations and the Students' Solutions

A number of students stated that during menstruation they experienced various problems or complaints originating from themselves and others. Some students would experience physical complaints, such as abdominal pain, dizziness, back pain, and weakness; psychological complaints in the form of feeling more emotional, sensitive, and lazy; and bullying from their schoolmates. Some students stated that they kept quiet at their complaints and some other students tried to handle them with coping strategies which varied across complaints, students, locations (at home or at school), and regions.

Primary School Level

i. Physical Complaints

During menstruation, 38 out of 44 (86%) primary school student informants claimed to have experienced physical or health complaints with varying levels of pain. Of these students, 22 experienced two or three health complaints and 16 experienced one type of complaint. The health complaints mostly experienced by students were abdominal pain (77% of students), back pain (25% of students), and dizziness (8% of students).

Table 19. Number of Primary School Students Based on the Types Physical Complaints during Menstruation (N = 44)

Physical Complaints	Number of Students n (%)
Stomach ache	34 (77%)
Back pain	11 (25%)
Dizziness	8 (18%)
Weak body	4 (9%)
Breast pain	4 (9%)

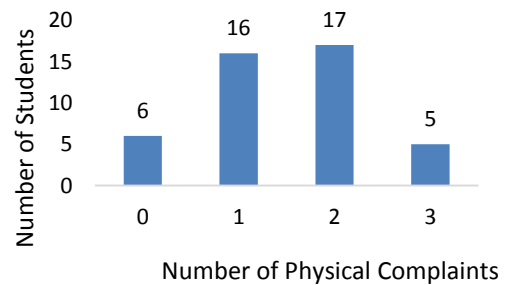


Figure 7. Number of Primary School Students Based on the Number of Physical Complaints during Menstruation (N = 44)

In dealing with physical complaints, the majority of students claimed that they would do nothing especially if they experienced them at school. The lack of available facilities to deal with these complaints appear to be the main cause. Only one student in NTB stated that she would ask for a headache medicine at UKS and one student in Jakarta stated that she was given medication by the teacher. Some students claimed that they would try to reduce the pain by reducing their activities; they would sit quietly on a chair or lie down by putting their heads on the table in class. However,

there were also students in Jakarta and NTT who deliberately did many activities such as moving and playing with friends to distract the pain. When physical complaints occurred at home, some students stated that they would make several attempts to overcome them although most were just by lying down. In Jakarta, some students would take painkillers, drink herbal drinks, and drink warm water when complaints occurred. In NTT and NTB, there were students who used rubbing oil to warm their stomach.

ii. Psychological Complaints

Hormonal problems during menstruation affected the psychological condition of more than half (26 of 44) primary school student informants, namely in the form of emotional changes. There were students who experienced one type of complaint, and there were also those who experienced more. The complaint that most students experienced includes being more emotional so they would usually get angry easily, hit their friends/siblings, and yell at them. Another problem also felt by quite a lot of students is that they became more sensitive, so they easily got offended and upset. Some students also stated that they became lazy to move and quieter, as well as had increased appetite (see Table 20).

Table 20. Number of Primary School Students Based on the Types of Psychological Complaints during Menstruation (N = 44)

Psychological Complaints	Number of Students n (%)
Emotional	18 (41%)
More sensitive	9 (20%)
Lazy to move	4 (9%)
More quiet/moody	3 (7%)
Increased appetite	2 (5%)

In dealing with psychological complaints, both at home and at school, students claimed that they would generally only try to restrain themselves from getting angry by staying quiet. However, in some cases where the students' annoyance due to noisiness had peaked, they would get angry. There was even a case where one student in Jakarta and one student in NTT hit a male student. One student in NTT also used to beat his younger brother while at home.

iii. Bullying

As stated in section 3.1.3 B, in Jakarta and NTB primary schools there were students who had experienced bullying due to menstruation from their schoolmates. The bullying usually occurred when there were students revealed to be menstruating or whose menstrual blood stained their clothing.

About half of the informants in Jakarta had menstruating (11 of 22 (50%)) students, and 11 of 17 (64.7%) students in NTB were bullied by male students. Some of the informants in the two regions had also seen incidents of bullying from male students against their friends who were menstruating. Meanwhile, in NTT primary schools there were no cases of bullying. The form of bullying that occurred is verbal bullying, such as being laughed at, called flirtatious-already adult-already menstruating, or discussed in whispers.

"My male friends sometimes tease... flirtatious, already adult..." (Intervention primary school student, female, 12, Jakarta).

"A naughty male friend who says ... menstruation... menstruation, also they said iiiiii ... Pregnant."
"(Intervention primary school student, female, 12, NTB).

There were also female student informants who experienced bullying from their fellow female students. This was experienced by 4 out of 22 (18%) student informants in Jakarta and 1 in 17 (6%) student informants in NTB.

"There is a female friend who is annoying... You have menstruated, huh? How bad is it? You're quiet because of menstruation. You are naughty." (Control primary school student, female, 12, Jakarta).

"Female friends mocked by saying ... already menstruating, ... already menstruating." (Intervention primary school student, female, 13, NTB).

The way that female students have responded to bullying is rather diverse, and they tended to do the same thing when a friend was being bullied. Female students in Jakarta tended to be more courageous in dealing with bullying they experienced or being experienced by their friends. They would immediately scold the mocking students to immediately stop their bullying. Meanwhile, students in NTB tended to be silent or not face bullying directly. There was only one student in NTB who scolded and mocked back male students who were mocking her friends. Some other students reported their cases to the teacher and then the teacher would scold and advise the bullies.

iv. Menstruation blood staining the clothing

A number (13 out of 45 or 29%) of primary school students have also experienced menstrual blood staining their clothing while at school. They did a number of different strategies in handling this issue. There were students who just left it as it was because their school uniforms are dark or dark red. These students only kept quiet, sat on their chairs until school hours were up, and when they came home from school they would usually turn the back skirt into front and cover the stained part with their school bags. In all regions, there were also students who washed the stained parts of the skirt in the school toilet, then rotated the skirt, and covered it. Some students in NTB and a student in Jakarta went home first to replace their sanitary napkins and skirts and then returned to school. In NTB, there were also 2 out of 17 (12%) informants who asked permission to go home without returning to school. An interesting thing happened in NTT, a student who was advised to go home by his teacher preferred to change her napkin and washed the stained parts of the skirt at school, then continued the learning process.

The teachers who were participants in group interviews in all study areas acknowledged that the teachers and schools provided dispensations to students whose menstrual blood stained their skirt to leave early. The teacher even sometimes encouraged students to go home early. The reason for this, among others, is that the student felt embarrassed and could be a mockery of his friend.

The condition of the toilet and the distance from the school to the house may be a factor causing students to stay at school or to go home. Students who changed sanitary napkins at school were students who attended intervention primary schools whose toilet condition was safer and better than that in control primary schools and had better supporting equipment, such as sanitary napkins. Students who chose to leave early were students in control primary schools due to the

absence of supporting infrastructure. Meanwhile, students who returned home then went back to school were students who lived close to school. However, toilet condition was not always the reason for students' decision to go home. In NTB, for example, there was a student from the intervention primary school who chose to go home temporarily and changed napkins at home because she felt embarrassed.

Junior High School Level

i. Physical Distress

Just like the findings at the primary school level, the majority of junior high school student informants also experienced physical complaints or health complaints during menstruation. Of the 31 students interviewed, 28 (90%) students claimed to have experienced menstrual pain. A total of 15 students experienced one type of illness and 13 other students experienced two or three types. The types of complaints that most students experience were abdominal pain (experienced by 28 student informants) and dizziness (experienced by 10 student informants). Some students also claimed to feel weak and have back pain.

Table 21. Number of Junior High School Students Based on the Types Physical Complaints during Menstruation (N = 31)

Physical Complaints	Number of Students n (%)
Stomach ache	28 (90%)
Dizziness	10 (32%)
Weak Body	5 (16%)
Back pain	4 (13%)

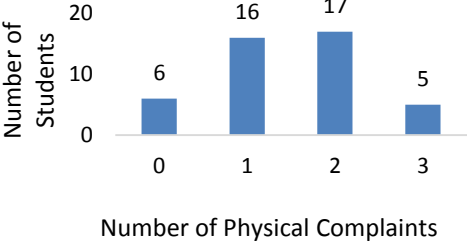


Figure 8. Number of Primary School Students Based on the Number of Physical Complaints during Menstruation (N = 31)

The strategy of junior high school student informants in dealing with various physical complaints during menstruation is also different depending on the location. When experiencing complaints at school, most students did nothing. They would only reduce their activities by sitting still. A student in Jakarta stated that she sometimes joked with friends to forget the pain. Some students tried to lie down with their hands resting on the classroom table at recess. Some students in NTT would also lie in class during class hours and their teachers would understand it. There were two students in Jakarta and one student in NTT who stated that they asked for painkillers and medicated oil from the teacher.

When at home, quite a lot of students, especially in Jakarta, made various efforts to deal with menstrual pain. Some students in Jakarta drank warm water to deal with abdominal pain. There were also students who took a type of herbal medicine, used medicated oil, compressed their stomach with warm water, and propped up their stomach with a pillow. In NTT, most students just let the pain be or lay down. There were only a few students who tried to take painkillers, used medicated oil, or took a type of herbal medicine. On the other hand, there were no students in NTB who made special efforts, they only allowed the pain or lay down.

ii. Psychological Distress

About half (52%) of 31 junior high school informants claimed to have experienced complaints or changes in their psychological conditions during menstruation. Some of these students even experienced more than one type of complaints. The type of complaint that most students experienced was being more emotional, so it was often easy for them to get angry, to hit, and to yell. Some students claimed to feel more sensitive (get offended and upset easily), lazy to move, and more talkative. Some students also experienced changes in appetite, some increased but some decreased.

Table 22. Number of Junior High School Students Based on the Types Psychological Complaints during Menstruation (N = 31)

Psychological Complaints	Junior High School n (%)
Emotional	16 (52%)
More sensitive	4 (13%)
Lazy to move	4 (13%)
Increased appetite	4 (13%)
Decreased appetite	1 (3%)
More Talkative	1 (3%)

When experiencing these psychological complaints, students generally did not make special efforts to overcome them. They usually just kept quiet and sometimes got angry at friends at school or younger siblings at home. Only one student in NTT said that if she got emotional, she would try to take a deep breath to calm herself down.

iii. Bullying

At the junior high school level, the incidence of male students bullying student informants was relatively less frequent than at the primary school level. Bullying cases were identified by 2 out of 11 NTT junior high school students and by 5 out of 10 NTB junior high school students. In addition, a number of student informants in both junior high school (4 in NTT and 7 in NTB) have also seen a friend who was mocked by male students due to menstruation. The form of bullying experienced by junior high school students was verbal bullying, such as mentioning blood on the chair or on the skirt, laughing, saying sleeping with an animal, or talking and showing disgust.

The informant once passed through the school, then there was a male friend who saw then spoke loudly and pointed to the informant, "e ... there is blood overflowing on the chairs." The informant felt embarrassed and finally cried (Junior high school student, female, 16, NTT)

"If for example there are girls who are menstruating, the behavior of male friends is usually expressing disgust... some mocked." (Junior high school student, female, 14, NTB)

Different things happened at a junior high school in Jakarta. All female student informants at the school claimed to have never experienced bullying due to menstruation. There was only one student who had seen students being teased by male students that their menstrual blood stained their skirt.

The way junior high school students dealt with bullying experienced by themselves and experienced by their friends was different between those in NTT and NTB. In NTT, female students tended to immediately reprimand, threatening to report the bully to the teacher, or directly report it to the teacher in class. Usually students who bullied will then stop the ridicule, both after being threatened by the students and after being reprimanded by the teacher. There were also students who chose to keep quiet when bullying occurred because they felt embarrassed or because they were too lazy to respond and argue. They would usually wait until the bullies got silent on their own. In NTB, students usually preferred to overcome bullying without involving the teachers and emotions. They just reprimanded and reminded their male friends not to do so.

iv. Menstruation blood staining the clothing

Junior high school students also had menstrual blood staining through their clothing while at school, which was experienced by 11 out of 31 (36%) informants. In addition, quite a lot of informants have seen their friends experience the same thing. The way students managed this issue of staining menstrual blood was different. In Jakarta, students would usually stay at school by covering their skirts using jackets they owned or borrowed, while in NTT and NTB students would usually choose to go home early with the excuse of feeling ill.

The students' decision when experiencing leaking menstruation blood might have been influenced by various factors. In Jakarta, students stayed at school because of the available infrastructure and the good level of understanding of the students, hence no bullying; female students even helped their menstruating friends who were being bullied. Meanwhile, in NTT and NTB, in addition to limited facilities, male students still bullied their female friends whose menstrual blood stained their skirt, causing female students to return early to avoid bullying.

3.3 Students' MHM Analysis: Concepts and Practices

This sub-chapter presents the analysis of factors influencing the development of menstrual hygiene behaviors of the female students. As mentioned in the Literature Review and Conceptual Framework chapters, the development of menstrual hygiene behavior—as other health behaviors—is a complex phenomenon which is a result of the interactions between internal and external individual factors. Therefore, students' hygiene management behaviors during menstruation cannot be comprehensively understood by merely observing the student's individual condition. The dynamic interactions between individual condition (internal determinants) and their surroundings (external determinants)—as summarized in five components of Ecological Theory—are analyzed in this sub-chapter to explain the MHM practices of students in the study schools which include (i) the utilization of hygienic sanitary napkins; (ii) the frequency of changing sanitary napkins, which is every 3–4 hours per day; (iii) washing hands before and after changing sanitary napkins; (iv) proper disposal of used sanitary napkins; and (v) cleaning genital area from menstrual blood.

In general, as illustrated in Subchapter 3.2, the practices of hygiene management during menstruation of female students in the study areas were still far from the recommended standard. This was reflected in the absence of several practical aspects of menstrual hygiene, especially the practice of washing hands before and after changing sanitary napkins and changing sanitary napkins in accordance with the recommended standard. Although the study was conducted on different age groups, findings from this study were in line with the findings of UNICEF's study in Indonesia which showed that junior high school and senior high school female students tended to wear sanitary napkins longer than the recommended period of time. The lack of proper hand

washing practice and extended use of sanitary napkins were also found to be a common practice in Nigeria, Cambodia, and Thailand.

The interactions between the internal and external factors were essential in shaping each MHM practical behavior as illustrated by the figure below.

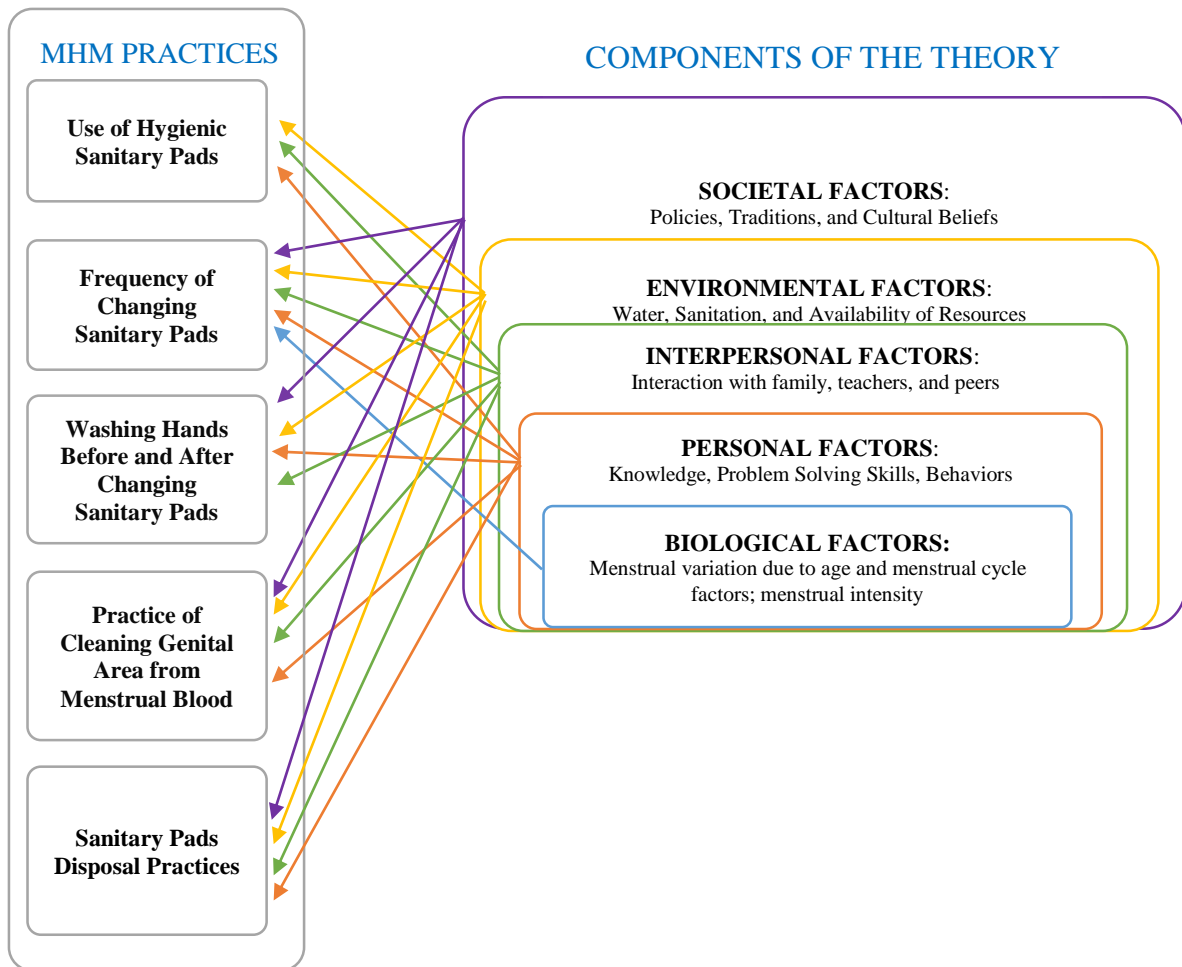


Figure 9. The Application of Ecological Theory for MHM to Female Students' at the Study Site.

Generally, the development of menstrual hygiene routine was the result of the interaction between internal and external determinants of an individual. The developing process is mediated by two factors, which were the students' lack of knowledge on MHM and the lack of available proper MHM infrastructures.

The lack of comprehensive knowledge, of the students, on menstruation and MHM was reflected in their lack of comprehension on the biological aspects of menstruation and the impacts of improper MHM practices, such as the negligence in conducting a proper hand washing practice before and after changing sanitary napkins and the ignorance to follow the recommended frequency of changing sanitary napkins, sanitary napkins disposal method, and apt ways of cleaning genital area from menstrual blood. According to the health belief model, a model widely used to explain changes in an individual's health behaviors, one will only adjust their behaviors to avoid negative health consequences (Coulson *et al.*, 2016). One of the main components of this

model is perceived whereby an individual's tendency to alter their behavior corresponds with their perceived susceptibility to developing a health problem (Coulson *et al.*, 2016). As female students have no understanding on how their menstrual hygiene practice would affect their reproductive health, they never perceived their practice as susceptible to any negative health consequences. This thought process leaves them with no cues to adjust their menstrual hygiene accordingly.

Basing on the Ecology Theory for MHM, the limited knowledge of MHM was the result of the lack of quality interpersonal interaction, presence of unsupportive cultural norms, and the lack of adequate policies. In regards to the interpersonal interactions, this study found that people around female students also had limited knowledge on menstruation. They also did not perform proper MHM practices. Teachers and parents, which were the two main sources of information regarding MHM, for instance, were found to omit the hand washing practice and tend to extend the usage of sanitary napkins. They tended to change sanitary napkins in accordance with their own biological menstrual conditions (when experiencing a heavy flow, they would change sanitary napkins more often). Disposable sanitary napkins, which are ideally disposed to the waste basket after being wrapped, were still found to be disposed of through burial or burning by both parents and teachers (identified in NTT and NTB). These improper MHM practices indicated the parents' and teachers' limited knowledge on proper MHM practices. This then led to the limitation of the female students' knowledge on proper MHM practices. This situation was also worsened by the lack of communication between the students and health workers. As a result, the students continued to adopt improper MHM practices performed by the people around them.

Cultural perceptions also play an important role in triggering an inaccurate understanding of MHM practices. Cultural beliefs of menstruation common among students in the studied regions include the prohibition of hair washing, showering on early days of menstrual cycles, interacting with males, consuming certain types of beverages (cold and carbonated beverages), and the prohibition on agricultural activities. These prohibitions are not as extreme as those found in India, Pakistan, and Afghanistan which physically isolate females who are menstruating from their communities by living in a shack because they are considered impure. However, those restrictions on their daily activities did not only have the potential to cause discomfort but also led menstruation to be perceived as a taboo among the community members in the society. This condition has led to the development of fear among the female students to inquire about menstruation and MHM, including to ask about these issues to health workers. Despite the presence of various policies facilitating accessibility of female students to adequate information—through the provision of PKPR, counselling teachers, and UKS—their implementation and enforcement were found to be ineffective in promoting the improvement of the students' knowledge on menstruation and MHM.

In addition, the interaction pattern between female and male students in school during menstruation tended to be worsened which negatively affected the students' MHM practices. Female student relationship with their male peers were fraught with secrecy, embarrassment, and fear of their male friends finding out they were menstruating. Therefore, instead of taking the risks of being identified as someone who was already menstruating, they opted to change their sanitary napkins at home (after school), therefore extending the usage of sanitary napkins, making it longer than the recommended period of time.

This condition created a unique opportunity for the curriculum to provide a more comprehensive understanding about menstruation from the various subjects taught at schools, but as shown by the findings, the school curriculum delivered the information on menstruation partially. However, the current school curriculum focused on the teaching of biological aspects of menstruation, hygiene maintenance of genital areas (during and not during menstruation), and the danger of

premarital sexual intercourse. However, the curriculum had yet approached (i) the management of menstrual hygiene (such as the frequency of shower per day, how to use and the frequency of changing sanitary napkins, how to dispose them of, and when/how to wash hands); (ii) the relations between menstrual hygiene practices and reproductive health; (iii) misconceptions of cultural values related to menstruation; and (iv) how to build confidence and act positively towards menstruation. In fact, the topics which were already included in the curriculum were not delivered comprehensively to the students. Students were found to misunderstand the biological process of menstruation. In addition, in NTT and NTB, there were cases in which schools had policies that male teachers should not teach all/some of the materials regarding reproductive system as it was considered a taboo and inappropriate.

Aside from student's minimum comprehension, the second mediating factor contributing to the improper MHM practices in the studied region was the lack of supporting facilities, namely clean water, sanitation, and health facilities. Suffice, safe, and comfortable infrastructures had been identified to have a role in shaping students' decision to not change their sanitary napkins at schools, therefore extending the usage of sanitary napkins from the recommended period of time. The necessary infrastructures would not only be a safe and comfortable toilet, i.e. toilet which is clean with adequate supply of water and functional door lock, but also the provision of waste basket. The availability of waste basket in the toilets becomes one of the crucial factors because this strongly relates to the taboo and embarrassment of the female students to dispose of sanitary napkins in public spaces.

To date, the availability of adequate toilet facilities for female students to perform a proper MHM practice was identified to be considerably minimum. This is due to the weak implementation of policies related to school toilet standards, a condition which indirectly resulted in a less MHM-friendly environment at schools. It is important to stimulate awareness on the importance of the provision of toilet facilities in accordance with the Ministry of Education's standards among the authorities and school communities in order to support the female students in maintaining their menstrual hygiene. Thailand, for example, has made a significant progress in MHM by integrating MHM with cross-sectoral policies (education, health, infrastructures), so that they could increase the scope of the concept to the national level. The attention given to MHM has resulted in the formulation of clean water, sanitation, and MHM-friendly hygiene facilities guide which can be implemented to create a conducive environment for female students who are menstruating at school (UNICEF, 2016).

IV. THE IMPACT OF MENSTRUATION AND MHM PRACTICE ON STUDENT ACTIVITY

As has been pointed out in section 3.2, some students experience physical and psychological effects, such as abdominal pains, back pain, dizziness, and mood swings when they menstruate for the first time or have their regular period. Menstruation also causes a small percentage of students to experience bullying from their friends. This, coupled with the culture of shyness of speaking out publicly about menstruation, resulted in a small percentage of students, especially primary school students, to hide their menstrual status. The fear of their peers knowing that they already have menstruation has an effect on their MHM practice at school.

The study found that the interaction between internal and external factors of the individual not only affects how students exercise MHM, but also affects the life of women in general. Cultural standards and values related to menstruation that have evolved in societies, poor support for school infrastructure, insufficient information, and lack of psychological support related to menstruation and MHM for students, as well as biological conditions of menstruation (physical complaint, the intensity of the menstrual blood flow, and the change in emotional state) interact with one another. All of these affect the concentration and participation in learning, as well as the pattern of daily activities and social relationships, especially with male friends.

4.1 Changes in Learning Concentration and Participation

Primary School

This study identifies the existence of menstrual effect on student learning process. The effects can be a decrease in the concentration in learning, low student participation in the lessons, an increase in the frequency of students coming home early, and an increase in student absence in school.

Table 23. The Impact of Menstruation on Learning Process of Primary School Students

	PRIMARY n (%)
Lack of concentration	11 (25%)
Absent from physical education	3 (7%)
Leave school early	2 (5%)
Absent from school	3 (7%)

Note: number of primary school informants who have menstruated: 44 students.

i. Student learning concentration

The most significant effect of menstruation is a decrease in learning concentration, which is experienced by a quarter of primary school informants in the three study areas. The main reason is the menstrual pain experienced by almost all (10 of 11 or 91%) students who suffer from low concentration of study. In fact, one student claimed that her learning focus has decreased due to an uncomfortable feeling caused by the discharge of the blood and the fear of leakage.

"When on menstrual period, I often suffer lack of concentration when learning because of recurrent abdominal pain and there is a feeling of anxiety that it might leak." (Student of control primary school, female, 12, Jakarta).

"When on menstrual period, my concentration in learning is disrupted because of the blood from menstruation and that makes studying uncomfortable." (Student of control primary school, female, 12, NTB).

The impact of menstruation on students' learning concentrations is also conveyed by the teachers. However, the decrease in learning concentration does not seem to further affect the decrease in academic grades of the students. This could be because the effects of menstruation on learning process only occur at a given time (a few days a month), and students can still attend classes and improve their learning at other times. During an interview with a group of teachers in Jakarta, it was found that at an early menstruation stage, students' grades actually decreased due to lack of concentration from their menstruation related ailments, but it was just temporary. Outside of menstrual period or in the following months, students' grades improved.

ii. Participation in lessons

Students that are on menstrual period generally still attend the whole educational activities at school. There are only 3 out of 44 (7%) student informants that have admitted they sometimes do not participate in the physical education, sport, and health (PJOK) lesson. The reason is the fear of leakage if they move a lot.

"I sometimes join sports lessons, sometimes I don't... I am afraid it [blood] will leak if I do too many moves." (Intervention primary school student, female, 12, Jakarta).

"When told to run during sport, ... I will ask for permission from the sport teacher to skip running because of menstruation and fear it may leak." (Control primary school student, 12, NTB).

In addition, some students who are on menstrual period sometimes do not follow some or all lessons. This happens to students whose menstrual blood leaks through their clothes, but still stay in school. In some cases, changing pads takes quite a long time because students need to find new pads; some even have to change pads at home.

iii. Leave school early

The study found that leaving school early only occurs in 2 out of 44 (5%) students from the primary schools in NTB. The students sometimes ask permission to return home early due to menstruation, menstrual blood staining their clothes, and abdominal pain. Meanwhile, most students who suffer from menstrual pains or leakage remain in school. They just conduct some treatments as shown in section 3.2.5.

iv. Skip school and drop out of school

There are three student informants from the primary schools in NTT and NTB that have skipped school due to physical pains which are common during the early days of menstruation.

"I skipped school on Friday due to abdominal pain and dizziness. I came school next Saturday and Monday school as usual." (Control primary school student, female, 11, NTT).

"I skipped school because of stomach ache. If I have menstruation while at school, I immediately go home and don't return to school again" (Intervention primary school students, female, 13, NTB).

There is no information on the level of menstruation-related absence for all students in all primary schools. Schools do not have accurate data on absence due to menstruation because they tend to record them all as sick/ill, as informed by students when asking for permission not to attend classes from teachers. Some teachers, especially in NTT, can only estimate that there are some students who sometimes cannot go to school because of menstruation. This can be seen in the records of students who are mostly absent around the same date.

In the three areas of study, there were no cases of female students dropping out of schools due to menstruation factors. The two students dropping out of school recently in one primary school in NTT were male students, and it was caused by laziness or economic factors and the students being hyperactive. One case of female student dropping out of school about two years ago which the teacher thought might be related to menstrual problems turned out to be caused by other factors, namely family and economic reasons. Adult informants, including parents and community leaders, stated that there were no records of primary school students dropping out of school because of menstruation.

Junior High School

The findings on the impact of menstruation on educational aspects of junior high school students are similar to the findings at the primary school level. Even though menstruation is not a reason for students dropping out of school at the three junior high schools visited, it contributes to the decrease in concentration and participation in learning and in the increase in the frequency of students leaving school early and attendance in school.

Table 24. The Impact of Menstruation on the Learning Process of Junior High School Students

	Junior high school students n (%)
No concentration in studying	17 (55%)
Not attending physical education class	6 (19%)
Take a rest at UKS/other places	5 (16%)
Leave school early	6 (19%)
Absent from school	1 (3%)

Note: the number of students having menstruation: 31 students.

i. Student learning concentration

The decline in learning concentration is the effect of menstruation which is experienced by more than a half (55% or 17 out of 31 students) of junior high school student informants visited. One student in Jakarta also stated that menstruation is very disrupting when having quizzes or exams. The contributing factors are physical complaints, fear of leakage, and fear of being laughed at by male friends, as well as having psychological problems such as feeling more sentimental, weak, and lazy in paying attention to the teacher. This is informed by one female primary school student who stated that she ignored the lessons the teacher discussed because she was more focused on abdominal pain due to menstruation.

"I feel very ill... and I don't care when teacher is explaining the subject. It hurts." (Junior high school student, female, 14, Jakarta).

The effect of menstruation on student learning focus has been conveyed by an interview with a group of junior high school teachers in Jakarta. According to the teachers, there are many students who suffer a lack of focus in learning during menstruation due to fear of leakage or enduring menstrual pain.

ii. Participation in learning

The majority of students will continue to participate in educational activities even though they have complaints during menstruation. Some students sometimes do not participate in physical activities, as experienced by 6 out of 31 (19%) student informants who skip PJOK. The driving factors are complaints about menstrual pain and concerns that the menstrual blood will leak through their clothes.

"Not participating in physical exercise due to abdominal pain or heavy flow... fear of leakage if I move too much (Junior high school students, female, 15, Jakarta).

"If I have menstruation during PJOK, then I'll ask permission not to participate in physical activities." (Junior high school students, female, 15, NTT).

There are also some students who keep participating in PJOK lessons when they experience menstrual pain or fear of leakage. However, their participation is less than optimal as they tend to reduce the intensity of their movement.

The decline in learning participation also happens in other lessons. A number of students in NTT and NTB stated that during menstruation, they sometimes rest at the UKS room or other available places. The students also once accompanied their friend to do the same thing. This usually happens due to unbearable pain. Students prefer to rest at the UKS room or other places at school rather than going home early so that they can return to class after their condition improves.

For students whose home is relatively close to school, the decline in learning participation may still happen because there are students who ask for permission to return home when the lessons are still underway. Students usually ask for permission to replace their pads because they do not carry spare pads with them and the school toilet is a little uncomfortable.

iii. Leave school early

Menstruation has also caused 6 of 31 (19%) junior high school students from NTT and NTB to leave school early once or more than once. The contributing factors are the leakage of menstrual blood to their clothes, unbearable pain, and not bringing spare pads.

A junior high school student informant in NTT said that she had left school early five times because she had menstruation at school. The informant went back home because the blood from menstruation had already stained her clothes or the school did not provide spare pads when it was time to change. The informant did not bring spare pads from home because she was worried that her male friends who usually open her bag to borrow something without permission would find them.

There are more junior high school students that leave school early than primary school students due to limited MHM facility and infrastructure at the junior high schools. In addition to the

unavailability of spare pads, the ratio of toilets against students in junior high schools in NTT and NTB is very high. Moreover, the toilets in junior high school in both NTT and NTB are intended for male and female students (unisex), making it less appropriate for the toilets to be used as MHM facilities.

iv. Absent from school and drop out of school

At the junior high school level, the effect of menstruation on school attendance rate is relatively lower than at the primary school level. This is likely because junior high school students have more experience dealing with menstruation; therefore, they are more capable in handling problems caused by menstruation. There is only one junior high school student informant in NTB that did not go to school while on menstrual period because of severe stomach ache.

Based on teachers' information confirmed by parents, there is one student in junior high school in DKI Jakarta who is often absent from school for 1–4 days every time she is on menstrual period because she suffers severe abdominal pain. The condition is the same as her mother's at a younger age. The student was also never examined by health workers likely due to her family's poor economic condition. The student's mother also admitted that she often did not attend school because she had no money for transport fare.

In relation to the effect of menstruation on students dropping out of school, all informants—at the school level, parents, officials, or related agencies—indicate that there are no junior high school students that drop out of school due to menstruation. Even if there are students who drop out of school, as has happened in NTT, this incidence is caused by their poor economic condition. Some parents in NTT admitted that in the past, when they were still in school, there was actually a friend who dropped out of junior high school due to menstruation. However, it happened long time ago (more than 10 years ago) and it has never happened again.

4.2 Changes in Daily Activities and Social Interaction

Menstruation affects students' daily activities, both in their home and outside of their home. Religious activities are also affected. In addition, menstruation affects the social interaction among students. The impact of menstruation on primary schools and junior high schools students tend to show the same trend in all activities.

Primary School

Menstruation affects the daily activities of students at home. Typically, most students do a variety of activities to help their mothers at home, such as washing the dishes, babysitting their siblings, and cleaning the house. However, when on menstrual period, most students take a break more frequently because they feel lazy, experience pain in their bodies, and feel uncomfortable.

"I become lazy in helping my parents. I usually help them wash the dishes. I want to sit all the time because I can feel the blood running if I stand." (Control primary school student, female, 12, Jakarta)

At the time of menstruation, most students (19 out of 44 or approximately 61%) also feel lazy to conduct activities. Students are more likely to stay at home and not playing with their friends. This is caused by the change in physical and psychological factors, as well as concerns that menstrual blood staining their clothes.

For Muslim students, their religious activities are also affected by menstruation. They do not learn the Qur'an because, on one hand, they are prohibited from doing so when they are on menstrual period. On the other hand, they are also worried about being ridiculed by friends if they find out that they are menstruating by just sitting down without reading the Qur'an or writing.

For students with other religions such as Christian, there is no prohibition on worshipping during menstrual period. However, there are student informants whose religious activities have been affected, such as seldom or not going to church for fear of menstrual leak.

Agricultural activities are also disrupted by menstrual period, as found in NTT. Primary school students in NTT generally do not go to the field to pick up vegetables or fruits because of cultural values that prohibit women who are on menstrual period from doing so.

The social interaction of female student informants with male friends is also affected by menstruation. In the three study areas, there are cultural values that prohibit menstruating students from getting close to male friends, causing most student informants to limit interaction with male friends. Emotional factors (becoming more irritable) during menstrual period also affect students' social interaction with their friends. Students become more silent and limit their social interaction.

Junior High School

Menstruation affects the daily activities of junior high school student informants at their home. During menstrual period, a small part of junior high school student informants seldom help washing the dishes, taking off *clothes* from the clothesline, washing, cooking, and cleaning the house. They sleep more due to laziness, feeling weak and the pain that they feel during menstrual period.

"At home, if I feel dizzy and have stomach aches, I usually only sleep and do not do housework [cooking, washing clothes, cleaning the house]." (Junior high school student, female, 14, NTT).

"When at home, I like to sleep if I am on menstrual period. Otherwise, I seldom sleep." (Junior high school student, female, 13, NTB).

During menstrual period, most (14 of the 31 or about 45%) high school student informants become lazier to do activities outside, such as going to tutorial lessons, playing with friends, and taking a walk. The rush of menstrual blood, fear of leakage, and tiredness are the causes that make students reluctant to do activities outside.

Junior high school student informants who are Muslims do not engage in worship activities such as praying and reciting the Qur'an during menstruation because their religion prohibits them from doing so. As for Christian informants, they go to church less frequently during menstruation due to fear of leakage and menstrual pains.

"Activities at home, playing, worshipping, are disrupted because of stomach ache and the fear that it may leak and stain the clothes." (Junior high school student, female, 13, NTT).

"Worship activity has also been affected. For example, it hurts when standing for quite a long time or after sitting and standing up again. I feel the menstrual blood flowing and it makes me uncomfortable." (Junior high school student, female, 15, NTT)

In NTT, some junior high school student informants admitted to not doing agricultural activities during menstruation. The existence of cultural values that prohibit females who are on menstrual period from entering rice fields/gardens and picking up crops or fruits make primary school student informants limit themselves from doing those activities.

Menstruation has also been found to have an impact on the social interaction of junior high school students. Students become more irritable because they become more sensitive and emotional as well as feel pain during menstrual period. They also become quieter, unwilling to talk with anyone, and want a quiet atmosphere.

Student informants' friendship with male students is also affected. Female students who are on menstrual period tend to keep their distance from male friends and avoid walking near them on their way to school or when they go home. The norm that prohibits them from getting close to men is a major factor affecting this relationship.

4.3 Health and Environmental Impact

This study does not delve into details the effects of menstruation and MHM on health and the environment. The effects of menstruation on health that have been identified tend to be limited to the physical and psychological complaints suffered by most female student informants when they are on menstrual period, such as abdominal pain, dizziness, aches, limp, and unstable emotions.

There are no reports of health complaints related to inappropriate MHM practices from students. Only one female primary school student in Jakarta reported that there was a friend of hers who scratched her vaginal area due to itchiness at that area during menstrual period.

Almost all health workers in the three areas of study stated that there were no visits from patients who had complaints concerning the cleanliness of MHM practices. Only one health worker in NTT who said that in the last one year, there had been three cases of patients who came due to itchiness on their genital. However, they were not primary school or junior high school students. They were housewives and senior high school students.

The lack or absence of patients with complaints related to MHM practices or vaginal area may not be because there are no such complaints at the community level, especially among primary and junior high school students. It is possible that these types of complaints are considered personal, common to be experienced by women (such as complaints of vaginal discharge), or they are too shy to have it checked. This is mainly due to the potential health impact of inappropriate MHM practices in all areas of study, such as not washing hands before and after replacing pads, low frequency of replacing pads, and cultural values that prohibit women from washing their hair, taking a bath, and cutting their nails during menstrual period.

In the areas of study, inappropriate MHM practices have the potential to ruin the environment. The inappropriate MHM practices stem from the cultural values that require used pads to be buried or burned (in NTT and NTB). These values are strongly inherited between generations as parents, including teachers, in both regions practice and believe in these values. In addition, inappropriate MHM practices also stem from lack of knowledge. In NTB, several student informants often throw away used pads to the river. In NTT, there was information from village officials that used pads were often found in the river or in the sewer near the beach.

V. PLAN INTERNATIONAL INDONESIA INTERVENTION PROGRAM EVALUATION

Since 2014, Plan International Indonesia has made efforts to improve the practice of MHM among primary school students with the support of Australian Aid funded Civil Society WASH Fund (CS WASH Fund 2) Project. Through these efforts, Plan is considered the pioneer in the implementation of the MHM program in Indonesia. Pilot programs were carried out in several primary schools in NTT. And then, those programs were replicated in a number of other primary schools. So far, the number of intervention schools in the Plan's MHM program has reached almost 70 primary schools across NTT, NTB, and Jakarta. Kabupaten that were selected as the intervention areas were the ones that have previously implemented other Plan programs, namely STBM.

Plan began the MHM intervention program by conducting training of trainers (ToT) related to the issues of MHM for health workers at the *kabupaten* or *puskesmas* level, such as midwives, sanitarians, and doctors. They then became the spearhead in promoting MHM promotions to principals, teachers, parents, and students.

5.1 Form of Intervention and Target Audience

The form of MHM intervention differs based on the study area. In general, in all three regions there were MHM promotional activities delivered in various forms. Except in Jakarta, form of intervention also includes the construction of MHM-friendly toilets.

In general, the target recipients of the MHM intervention programs are primary school students, especially those in grade 4–6, their teachers, and principal. In NTB and Jakarta, in addition to intervention at the school level, MHM intervention promotion was also directed to the general public. Meanwhile, in NTT the MHM intervention was only promoted at schools. The people to whom the intervention was targeted in NTT were limited in terms of number as they were still within the school framework.

The following table shows the general description of the MHM intervention from Plan in the three study areas.

Table 25. Plan's MHM Intervention Activities in Study Schools and Areas

Areas	Years	Number of Primary Schools	Form and Target of Intervention (In Study Schools)	Continuity of the Program in Study Schools
Jakarta (City of Jakarta Barat)	2017	6 Public Primary Schools in Kecamatan Duri Utara	<ul style="list-style-type: none"> - Workshops in schools for teachers, committees, parents' representatives - Dissemination in schools in the form of <i>lenong</i>¹⁰ for students and teachers - Dissemination at the community hall for the general public (<i>lenong</i>) 	There is no school policy (from the principals), but there is a 6th grade teacher whose initiative was to insert MHM information during lessons
NTT (Kabupaten Nagekeo)	2014–2016	17 primary schools across several villages	<ul style="list-style-type: none"> - Dissemination at the <i>kabupaten</i> and working group for the related agencies, schools, and teacher representatives - Dissemination in schools for teachers, school committees, and representatives of parents - Dissemination in schools for students in grade 4–6 - Construction of 2 MHM toilets (each for teachers and students) - Provision of 70 books on menstruation - Provision of two menstrual wheels 	<ul style="list-style-type: none"> - Teachers deliver material about menstruation and MHM for students in grade 5 and 6. - The school provides equipment for MHM toilet in the form of sanitary napkins, tissue papers, soap, and small towels.
NTB (Kabupaten Lombok Utara)	2017–now	10 primary schools across several villages	<ul style="list-style-type: none"> - Dissemination at the district level for related agencies, schools, and teacher representatives - Dissemination at school in a form of drama performances for all students, teachers, committees, and parents - Dissemination at the district to student representatives (two students from visited primary schools) - Construction of 1 MHM toilet (for both teachers and students) - Dissemination for village officials - Training of making cloth sanitary napkins for 20 cadres from several villages 	<ul style="list-style-type: none"> - Teachers provide dissemination but the implementation sporadic - The principal includes bits of information on menstruation during the school flag ceremony on Monday

5.1.1 Jakarta

In Jakarta, Plan implemented the BERSIH project, a WASH project which includes MHM intervention funded by the Australian Government in 2017. This project conducts educational and promotional activities at the school and community level. The intervention activities at the school level were conducted in six schools within one complex in Kelurahan Duri Utara, West Jakarta. One of the schools was in SDN Duri Utara 03 which was also the school visited for this study. The intervention activities at the community level were carried out in the same *kelurahan*. The core

¹⁰*Lenong* is a traditional theatrical performance.

material of the two activities were on the topic of menstruation, MHM, and how to behave towards women who are menstruating.

Educational activities in SDN Duri Utara 03 were carried out in two stages, once in each stage. The first stage was a workshop attended by teachers, parents, and school committee representatives. The workshop, which was facilitated by a doctor from the community health center, aimed to prepare participants to deal with female students who are on menstrual period. The second stage was dissemination activity aimed at students in the form of *lenong* performed by personnel of the village CBTS team. Topics raised through *lenong* included abuse and how to maintain personal hygiene during menstruation.

In carrying out all of the intervention activities, the school contributed by providing space for the intervention activities. Especially for the *lenong*, the school prepared stage, tent, mats and chairs for the audience. Still related to the dissemination activity, the teachers and students were also involved in the making of MHM video in the classrooms and students' homes for Plan's documentation.

Interventions at the community level were also carried out in the form of *lenong* performed by the village CBTS team. The activity was carried out once at the community hall. The target was the general public in the *kelurahan*.

After Plan's intervention ended, the school did not develop a formal policy on providing continuous education on menstruation and MHM. However, there was an initiative from one of the 6th grade teachers to convey MHM information in her class. The teacher delivered the MHM information not only during science lesson, but also during other lessons, such as Indonesian language.

5.1.2 NTT

NTT was the initial location for the implementation of the Plan MHM intervention program which was implemented across three *kabupaten*. Particularly in Kabupaten Nagekeo, Plan conducted the MHM intervention activities from 2014 to 2016. Initially, this intervention program was carried out in seven pilot primary schools. The program was then replicated in ten other primary schools. The schools that were selected for the intervention program were primary schools with limited infrastructure and had been estimated to have minimal knowledge of MHM and menstruation. Prior to the intervention activities, a baseline survey was conducted involving the education agency and the health agency. After that, each school received two types of interventions, namely assistance in the construction of special toilets for menstruation and dissemination activities on menstruation and MHM.

The school visited in this study was SDK Stellamaris, which was one of the pilot schools that received the intervention program in 2014. Actually, Plan has conducted an intervention at this school since 2011 for sanitation activities by constructing boreholes, clean water networks, hand washing facilities in front of each class, and dissemination on sanitation. Through the MHM intervention, SDK Stellamaris received assistance in the construction of two MHM toilets for female students and teachers. The toilets are equipped with various equipment such as a water tub, waste basket, handwashing facilities, hand washing soap, tissue paper, and additional sanitary napkins.

In the construction of these toilets, the school committee played an active role in planning and managing the construction as well as providing workers. The entire development budget,

including labor cost, was entirely provided by Plan. There was even an excess of funds which Plan agreed to be used to repair four pre-existing toilets.

In addition to physical intervention, SDK Stellamaris also received dissemination of information on the topic of menstruation and MHM for teachers, students, and representatives of parents. Teacher representatives from the school received information at the *kabupaten* level and working group level at the forum which was also attended by relevant agencies. After that, there was dissemination for all teachers, school committees, and parents' representatives, as well as for students in grade 4–6 done at school. During the inauguration of the MHM toilet in 2014, both students and teachers were part of the dissemination activities regarding the use of MHM toilets. Plan also provided 70 books about menstruation and two menstrual wheel boards.

After the inauguration of the toilets, Plan only came to school from time to time for monitoring purposes. The sustainability of the MHM program at school was entirely the responsibility of the school. Up until the research was conducted, the form of program continuation carried out by the school was in the form of providing materials on MHM and menstruation for students in grade 5 and 6 when there were no lessons. The materials were not part of the curriculum. They were treated as an additional knowledge. The school also maintained the MHM toilets although limited in terms of hygiene management, and provided toilet equipment such as clean water, sanitary napkins, soap, tissue paper, and towels.

5.1.3 NTB

In NTB, Plan has been implementing its MHM intervention program in Kabupaten Lombok Utara since the beginning of 2017. The intervention program was conducted with the support of the Netherlands Government through the SEHATI project. The intervention activities began with workshops at the *kabupaten* level which were attended by representatives of schools and officials from local government bodies, such as Bappeda, the health agency, the education agency, and the environmental agency. The topic of the workshop was on the intervention and introduction of MHM.

At the beginning of the implementation, the intervention was carried out simultaneously in ten pilot primary schools. The form of intervention in all schools was the same, namely in the form of physical intervention and non-physical intervention. Besides at the school level, the MHM intervention activities were also carried out at the community level. The intervention activities aimed at providing MHM facilities at the school level and sparking conversations about menstruation so that it was not a taboo topic anymore.

SDN Ganggalang 3¹¹, the location of the study, was one of the pilot primary schools. The school received an intervention in the form of construction of one special MHM toilet that could be used by female teachers and students who were menstruating. The MHM toilets were equipped with waste basket, a complete hand-washing facilities with soaps, additional sanitary napkins, and spare skirts. Besides that, there were educational activities in the form of a drama performance and a workshop.

The MHM educational activities for schools began at the *kabupaten* level for teacher representatives of the intervention school. The materials presented were about how to deal with menstruating female students, how to maintain menstrual hygiene, and how to explain the

¹¹In July 2018, the school building was heavily damaged, as it was collapsed due to an earthquake in Lombok

menstrual cycle using the menstrual wheel board. The teacher representatives were expected to provide further information to the students.

At the school level, the dissemination took place in the form of counseling for the teachers, parents, and students in grade 6. The materials presented included the concept of menstruation, MHM, and the use of environmentally friendly sanitary napkins. The dissemination was conducted through a drama performance which starred students in grade 5 and 6. The performance was held on the school yard and was attended by students, teachers, school committee, guardians of students, and other relevant parties. The aspects of menstruation which was raised in the drama performance included the prohibition of bullying female students who were menstruating, an explanation of menstruation, and how to maintain hygiene during menstruation.

The MHM educational activities for students also took place at *the kabupaten* level. From SDN Geggelang 3, there were two student representatives who were invited; one female student and one male student both from grade 4. The students that attended the educational activities were expected to disseminate the information they obtained to their friends.

At the moment, it can be said that Plan's intervention at SDN Geggelang 3 has ended. The teacher representative took part in the last MHM dissemination about three months before this study was conducted. The program continued by teachers providing education activities for students, but this was not done regularly, depending on the teachers and students' free time. In addition, during the flag ceremony on Monday, the principle would usually convey a message on MHM, including the suggestion not to mock students who were menstruating. Meanwhile, the procurement MHM toilet facilities were still hampered because there was no allocation from the BOS funds for the school.

The MHM intervention at the community level was carried out in the form of dissemination of information to village officials and head of *dusun*. In addition, under the coordination of the health agency, Plan conducted training on how to make cloth sanitary napkins to 20 cadres from several villages who owned sewing machines. The aim of the training was to increase the availability of cloth sanitary napkins at the *kabupaten*, and make these cadres the suppliers of cloth sanitary napkins for the intervention schools. However, based on the interview with the health agency, out of the 20 trained cadres, only 3 cadres were still actively producing sanitary napkins. This was due to the lack of demand because environmentally friendly sanitary napkins were not sought after. According to the teachers, female students deemed the use cloth sanitary napkins and the cleaning of the sanitary napkins impractical and troublesome.

5.2 Impact of Intervention

In the study, the evaluation of the intervention program was conducted by comparing the condition of the school before and after receiving the intervention. Due to the absence of baseline data, the information was collected from interviewing related parties. The impact of this program was also observed by comparing the condition between the intervention school and control school. In NTT especially, as the intervention program has been conducted since 2014, the impact is observed from the information provided by junior high school students who used to go to the intervention primary school (although this was not the visited primary school) and based on the observed conditional differences between students from intervention and control school. The aspects used as indicators were knowledge, practice, attitude, and ability of students in facing problems arising from menstruation and MHM. It was also observed from the impact of the

intervention on the school's participation and the openness of menstruation-related conversation.

Overall, the intervention received positive response from the schools, related agencies and the community in the three areas of study. In general, the activities conducted corresponded to the conditions of regions/schools that needed improvement in the knowledge and supporting facilities for menstruation and MHM. However, the study showed that the program was less effective in shaping positive behavioral changes, especially in Jakarta and NTB, as outlined in the following sections. In addition, the utilization of constructed facilities was not effective in resulting a behavioral change, considering the low utilization rate at the primary school level.

5.2.1 Jakarta

The MHM intervention activities at school or in the community aimed at improving the knowledge of the recipient on the topic of menstruation and MHM to improve their behavior in changing sanitary napkins and disposing used sanitary napkins as well as to reduce bullying towards female students who are on menstrual period. This aligned with the condition at the community and school level which was identified to have limited understanding about menstruation. However, when the intervention activities ended, the impact identified in this study did meet the expectation.

This intervention has a minimum impact on the openness in the community when talking about menstruation. There were no changes identified in the opinion of people since even prior to the intervention, discussion on menstruation was not considered a taboo albeit only discussed within the female circle.

The impact of the intervention was observed at the school level although not significant. This was reflected in the different opinion between teachers of the intervention and control primary school. Teachers in the intervention school stated that because of *lenong*, menstruation was no longer considered as a shameful topic and could be discussed at school. However, teachers at the control school considered the topic of menstruation to be taboo to be discussed within the school premises. Moreover, teachers in control school also admitted that menstruation was yet to become a concern. Meanwhile, students of the intervention and control primary school has the same opinion regarding menstruation, which is menstruation is not a taboo, despite feeling uneasy to discuss about menstruation in public and in front of male students. Moreover, students at the intervention school admitted that after the intervention, they were no longer ashamed to talk about menstruation with their female friends.

In terms of understanding about menstruation and MHM, having interviewed various parties, such as officials, community leaders, and parents, MHM intervention did not have a positive impact. The level of understanding of adults on MHM was based on their practical experience, and some were not actually in par with the recommended standard. Their understanding was at best partial and common. They tended to view menstruation as the sign of transition of female children to adolescence. The understanding on the biological part of menstruation such as the cycle and the fact that it is a regular discharge of blood and shedding of the inner lining of the uterus was only comprehended by few informants, and it was not even due to the dissemination from the intervention.

At the school level, there were not any discernable differences in terms of understanding about menstruation between students of intervention and control school. The understanding about menstruation among female student informants between the two schools tend to be

homogenous, whereby that they all understood menstruation as discharge of blood, sign of adulthood, and natural occurrence. Teachers in both primary schools also have similar understanding about menstruation. However, they could explain menstruation from the biological perspective although not comprehensively.

Most informants at the intervention primary schools stated that intervention was useful as it provided information on the proper frequency to change sanitary napkins, how to handle used sanitary napkins and the prohibition to bully women who were menstruating. However, these students considered the information provided was not new as they already known about that. Most of the student informants admitted to not remember all of the information from the dissemination activities due to various reasons, such as not paying enough attention, not attending the entire event, the volume during the presentation was inaudible, or because the dissemination was only conducted once.

Regardless whether the information on reproductive organs were delivered in the intervention program or not, the study noted that there were more female students that were knowledgeable about reproductive organs in intervention primary school than in control primary school. The prevalence of female students who were knowledgeable on the fact in intervention primary school was 3 out of 11 (27%), whereas in the control primary school was 1 out of 10 (10%).

The intervention that highlighted the issue of MHM was expected to change the MHM practice, particularly in terms of changing frequency of sanitary napkins to every four hours or five to six times every day according to the standard. Comparison on the frequency of changing sanitary napkins of students at the two schools indicates that the intervention program had an impact as the frequency of changing sanitary napkins is higher in intervention school than in control school. However, the results of the interview show that the MHM practices in the intervention primary school female students are rather similar to the practice before receiving the intervention, although not all aspects of MHM are practiced in accordance to the standard. From all informants of the intervention primary school, there was one student who changed the sanitary napkin every four hours in accordance with the information received from the *lenong*. However, since she was yet to experience menstruation when the intervention was implemented, her routine could not be considered a change in behavior.

Table 26. Comparison on the Practices of MHM between Intervention and Control Primary Schools in Jakarta

	Intervention School (n=11)		Control School (n=10)	
	Number	%	Number	%
Washing hands using soap before and after changing sanitary napkin	3	27%	3	30%
Frequency of changing sanitary napkin				
• 2–3 times	2	18%	7	70%
• 4 times	4	36%	2	20%
• 5 times	2	18%	0	-
• 6 times of more	3	27%	1	10%

The lack of impact from the intervention program on the MHM practice of students is also reflected in the absence of behavioral changes, such as the lack of hand-washing practice before and after changing sanitary napkins at the intervention primary schools. At these two schools, there were only three student informants who washed their hands before and after changing sanitary napkins. The number of students who did not even wash their hand before changing sanitary napkins was found to be higher at the intervention primary school compared to the control school. Meanwhile, the practice of washing hands after changing sanitary napkins had been conducted by students from both schools.

Meanwhile, in terms of practice of changing sanitary napkin at school, the study identified that the number of student informants who reported to have changed sanitary napkins at the intervention primary school was higher (more than half) compared to those at the control school (only two out of ten students). This condition, however, was not actually the result of the intervention. Students changed their sanitary napkins at school because they needed to as they felt that menstrual blood would leak through their sanitary napkins due to heavy flow. The fear of being identified of already menstruating, fear of being in the toilet alone, and fear of the inability to wash the used sanitary napkins properly, were identified to be the reasons why student informants at the control school preferred to avoid changing their sanitary napkins at school.

In regard to reducing or eliminating cases of bullying, the study confirmed that the intervention had no significant impact. The number of student informants who were already menstruating and experienced bullying in intervention and control school is relatively the same, which was half of it. The number of student informants who have witnessed bullying of other menstruating female students were found to be higher at the intervention school than control school. There was only one female student who reported that her female friends who used to ridicule her became better after the intervention. Meanwhile, other student informants admitted that there were no behavioral changes among the male peers who taunted and teased menstruating female students. However, a group interview with male students reported a reduction in the frequency of teasing although not entirely due to the intervention since teachers would also scold male students who were teasing their menstruating female students.

In terms of students' ability to overcome menstruation problems, the study noted no significant differences between student informants of intervention and control school. Student informants in both schools who actually experienced leakage were only a few. Even if the incident occurred, students from both schools would replace sanitary napkins and wash part of the clothes that was stained with blood at school or at home, or leave it until the school ends if the stain was not visible due to wearing dark-colored uniform. In overcoming physical and psychological distress, most of the students would simply ignore it. Only two students at the intervention primary schools who tried to drink medicine or some traditional herbal medicine to cope with the distress caused by menstruation. There was one student at the intervention primary school and one student at the control school who tried to relieve their distress by drinking warm water. This recommendation did not come from the intervention program but from their parents instead. To overcome bullying during menstruation, students from both school exhibited the same attitude; they would either simply ignore or rebuke their bullies.

Although the intervention of MHM has not yielded significant impact in general, this activity received positive response from many parties involved as it provided information that was difficult to obtain by the general public. The community that previously considered that information on menstruation was not important, realized the importance of that information after the intervention. This intervention which was conducted through a *lenong* also received positive response.

The medium used for dissemination was one of the strength of the intervention program. In addition to giving basic yet much needed information on menstruation and MHM, the use of entertainment media attracted the attention and facilitated the deliverance of the information to be easier, particularly for children. This is in line with the proposition by Lefa (2014) who stated that primary school children were still in the process of maximizing their cognitive ability. Therefore, it is important to choose the appropriate method that corresponds to their ability in understanding a concept, especially a new concept so they can organize the information into something they can fully understand. In general, primary school children were in the concrete operational stage¹² whereby they could digest new information based on concrete evidence and not the abstract one. Therefore, the presentation of information in visual form can assist them in visualizing the abstract concept into a concept that they can fully grasp.

This was reflected in the students' ability to recall some information delivered through *lenong* by 10 out of 12 (83%) student informants. The unique medium used for educational activities allowed students to understand and memorize the information presented, although not in its entirety. The information that they could recall included the frequency to change the sanitary napkin, ways to wash the sanitary napkin and the practice of hand-washing after replacing sanitary napkin.

Despite the advantages, the study identified the lack of educational activities as the weakness of the intervention program as it resulted in the low impact of the intervention. The intervention that was only conducted once did not lead to a change in students' behavior. The intervention failed to achieve its objective to reduce the rate of bullying towards menstruating female students. The practice of MHM which had been developed into a habit remains unchanged by the intervention that was only lasted for a short time. This was worsened by the fact that there was no monitoring activity after the program.

This study also identified that the weakness of the program conducted in Jakarta was the negligence to accommodate the basic needs of the construction of MHM-friendly infrastructure at school, such as a safe and convenient toilet, waste basket inside the toilet, emergency sanitary napkins and hand soap. As a result, students could not conduct MHM practices in accordance with what they had learned from the intervention, In addition, the lack of sense of responsibility to take care of the facilities was also a challenge. Although school provided special facilities for female students, the lack of maintenance led to the reluctance of female students to use them, further enhancing inappropriate MHM practice within the school premise.

5.2.2 Nusa Tenggara Timur (East Nusa Tenggara)

At the intervention primary school in NTT, the two forms of intervention, physical and non-physical interventions, resulted in a positive impact on almost all indicators although to varying degrees. A positive response to the intervention program was also conveyed by various parties.

"The MHM program by Plan is very useful, and if necessary, it should be included in the national program." (Intervention Primary School Committee, male, NTT).

"The Plan Program is very good because it does not only give theory but also provides facilities such as toilets, waste basket, MHM boxes." (Community Health Center STBM Team, male, NTT).

¹²Stages of cognitive development, a theory developed by Jean Piaget

MHM intervention has encouraged openness in discussing menstruation and MHM. This could be seen from the different conditions between the intervention primary school, which were quite open in talking about such topics, and the control primary schools, which were not used to discussing menstrual matters. It was reported by some that openness to menstruation talks had occurred in recent years, especially since there was a MHM intervention program from Plan.

At the intervention schools, menstrual matters were not considered a taboo to be conversed openly. All parties such as principals, teachers, school committees, and students, both male and female, who were interviewed did not hesitate and were quite open in discussing menstrual matters. The openness was also reflected in the deliverance of the menstruation and MHM topics from school health initiative's teachers to the 5th and 6th graders around once a month on Saturdays. The issue was also part of science and PE lessons for the same grade. The principal and the teachers also knew which students were already experiencing menstruation. Female student informant from the intervention primary school also stated that they were used to talking about menstruation with their female friends at school, and some even asked the teacher.

"It's okay to talk about menstruation. At home I usually talk about it with my mom and aunt, and at school, I talk to my girlfriends. My mom told me that it is okay to talk about it with my female friends because they will also experience it later. They can learn from the sharing." (Intervention primary school student, female, 15, NTT).

Openness to discuss menstruation was also encouraged in the environment around the intervention primary schools. Parents, community leaders, and village officials were not hesitant to discuss the topic on menstruation. There was also a husband who gave response to his wife's answers during the interview. One of the students stated that when she got her first menstruation, it was her father who bought her the sanitary napkin.

Different conditions occurred at the control primary schools which tended to be more reserved and reluctant to talk about menstrual matters. The principal and teachers stated that menstruation did not need to be discussed openly, especially by men. Even the principal had advised the teachers to skip lessons related to menstruation, i.e. material about human reproduction to prevent the students from doing undesirable things, such as trying to have premarital sex. The lack of openness was also reflected in the principals' and teachers' lack of awareness of female students who were already menstruating, and they even reported of having no menstruating students. Students were not used to talking about menstruation at school, even with their female friends because they were embarrassed.

"Talking about menstruation is still considered taboo because it should be a secret and personal and the children also see it that way. No parents have ever stated that their child has reached menarche." (Control primary school principal, male, NTT)

"At home I can talk about it usually with my mom. However, at school, I never talk about it because I was embarrassed to talk about it with friends." (Control primary school student, female, 13, NTT).

Intervention primary school teachers stated that the main benefit of the MHM intervention program was the increase in knowledge regarding menstrual hygiene and understanding about menstruation itself. However, the research finding indicated that knowledge about menstruation and MHM practices of teachers, students, and parents in general were not significantly different between intervention and control primary schools. This was, among others, the result of the dissemination activities being focused on the knowledge of menstrual symptoms or signs which were basically available in science lessons. The dissemination also covered a topic on respecting females who were menstruating. In addition, information about MHM practices related to using

sanitary napkins and the disposal practice of used sanitary napkins continued to be in accordance with the community practices or habits, such as replacing sanitary napkins three times a day (not every 3-4 hours) and washing or burning used sanitary napkins. However, in certain cases, the absence of intervention led to a misinformed knowledge and practices of MHM by the students. For example, one of the students at the control primary school thought that using sanitary napkins could cause cancer, a wrong perception passed down from her grandmother. Therefore, during menstruation, the student only used layered pants even though there was a risk that it would stain her clothes.

Intervention programs, however, have not succeeded in instilling a comprehensive understanding of menstruation. The information conveyed by the teachers was more focused on the practical and social aspects (behaviors and attitudes towards menstruation). Teachers seemed to ignore giving information about the biological and health aspects of menstruation. This was reflected in the absence of additional knowledge which distinguished the understanding of female students in intervention schools and control schools regarding menstruation. Female students in both schools knew that menstruation was a discharge of blood indicating that they were teenagers or adults, but they did not have a comprehensive understanding of its biological aspects. They also did not understand about reproductive organs and reproductive health although some of them stated that they had learned about reproductive organs at school.

The effect of the intervention on the practice of MHM was seen in how MHM was practiced at school. Female students at the intervention primary school said that they usually changed sanitary napkins at school, either when the menstrual blood stained their clothing or when the napkins were full. This, in addition to the availability of special MHM toilets, was due to the availability of reserved napkins and openness at school. Different conditions occurred at control schools; only one student stated that she had changed sanitary napkins at school once. Female students in control schools felt embarrassed, hesitant, and afraid to change sanitary napkins at school because of limited facilities and they were worried that their friends would know they had menstruated.

In terms of the students' readiness to face menarche, there was a significant impact of the intervention. No students from the intervention primary schools felt afraid when they were experiencing menarche. Different things happened at the control primary school. The same pattern of differences occurred among students of junior high school who previously attended the intervention primary school. Junior high school students who were previously from the intervention primary school admitted that they received some preparative information which includes information that menstruation was normal for women.

"The benefit of the Plan program includes students getting enlightenment so that they are not afraid and anxious when they get it." (*Puskesmas STBM Team, male, NTT*)

The effect of the intervention on the frequency of changing pads and the disposal of used sanitary napkins were virtually non-existent. Students of intervention and control schools were identified to have the same practices which did not comply with the MHM standard. The frequency of changing sanitary napkins for informants from both schools was low, only around 2-4 times a day, and even there was a student from the control primary schools who did not use sanitary napkins. Used sanitary napkins were usually buried in the ground, burned, or thrown into the closet. One thing that might have been the impact of the intervention on students in the intervention primary schools, which were not found in students from the control primary schools, was the practice of washing and wrapping used sanitary napkins.

The results of the interview also revealed a change in behavior or attitudes of various parties in the intervention school. According to the teacher's observations, there were changes in female students' participation rate at school. Since there were special MHM toilet facilities and equipment, female students who needed to change sanitary napkins did not need to go home. The school committee also added that the absenteeism level of female students declined. This is because students did not need to be ashamed of their menstruation, so they did not need to be absent from school when they got it or when they had to change pads. Previously, because facilities for MHM were not available, students who got menstruation while at school would need to return home early. Female students corroborated the statement by reporting that they changed napkins at school, so they did not have to go home early.

Behavior changes also occurred amongst male students. The dissemination of information given to male students succeeded in encouraging behavior change in terms of bullying. Male students had better understanding about menstruation and became respectful to female students who were menstruating. As a result, they no longer mocked or laughed at them. Bullying against female students was actually common, but it was not in the context of menstruation. Slightly different attitudes were shown by male students from the control primary school. Although male students did not carry out menstrual related bullying and did not know exactly which students had reached menarche, but when feeling suspicious, they would stay away from the female students because they felt embarrassed.

"It never happened because the teachers repeatedly advised that disturbing female friends who menstruated was the same as disturbing their mother or sister." (Teachers' group interview with the intervention primary school, NTT).

"Before the teacher explained about menstruation, the girls were often made fun of by saying "Hey look, she is menstruating!". [How do you know if a girl is menstruating?] from the blood in the skirt from the side and the laziness – she just stayed in the same place. Then after seeing blood in the skirt, I immediately told other friends about it. After being given an explanation by the teachers, I never mock my friends anymore. They informed us to instead informed the teachers about it." (Group interview intervention primary school students, male, NTT).

The openness and positive change in attitudes at the school level were the result of the continuing exposure to the topic of menstruation. Even though Plan only carried out the educational activities once, the school has continued and also integrated the topic into school lessons, so that unusual topics became prevalent. Furthermore, these activities enhanced students' understanding which further increased the potential for behavior change. This is in accordance with the Mere Exposure Effect theory which states that a new concept will become familiar if it is continuously exposed to the stimulus and the continuous exposure to a certain stimulus could lead to a more positive attitude towards the stimuli (Stafford and Grimes, 2012).

The capability to overcome menstrual problems seemed to be slightly different among students. When menstruation blood was leaking, students of intervention school would not mind changing sanitary napkins and washing their stained skirts at school. In dealing with physical and psychological distress, students in both schools seemed to behave the same, which was to ignore it. For bullying coping skills during menstruation, students in both schools had never experienced such bullying. However, if this happened, students from the intervention primary schools seemed to be better prepared because they had better understanding that menstruation was not something to bully about.

Analysis of the intervention program showed that in terms of types of activities, the program had accommodated the need to support good MHM practices although not yet comprehensively and

effectively. The need for information has been fulfilled through the educational activities and provision of handbooks. Meanwhile, the need for supporting infrastructure was overcome by the construction of two special MHM toilets. However, this study identified that teacher's dissemination of information on menstruation and MHM to students was not entirely in accordance with good MHM practice standards, particularly regarding the frequency of changing pads and disposal behavior of used sanitary napkins. The construction of toilet facilities was found to be corresponding to the condition of the school. There were only a few female students who had reached menarche, so that the utilization of the facilities was minimal. As an illustration, only two people at the intervention primary school who had reached menarche, and they could only use special toilets during menstruation. In the previous year at the school, no students were already menstruating. In addition, the frequency of menstruation for children who just reached menarche was not always routine every month.

"However, the construction of toilet facilities and equipment at the intervention primary school is less effective because the number of students who use it is very small. Fewer than 10 students, only about 5-6 people, had reached menarche at primary school." (Plan facilitator, male, NTT)

The level of utilization of facilities leads to the development of sense of ownership which then affects the sense of responsibility and ultimately affects maintenance behavior to the facility. This is in line with UNICEF's recommendation that ensuring the sustainability of facilities requires a sense of ownership so that a sense of responsibility can emerge. The toilet maintenance carried out by schools was only limited to cleaning, which was carried out by students in the implementation, and providing cleaning equipment, while maintenance in the form of renovation or construction was never done even though the safety fence to the toilet was damaged and the access road from the class to the toilet was a dirt road with a rather tall grass.



Figure 10. MHM Toilet at the Intervention Primary School in NTT

5.2.3 Nusa Tenggara Barat (West Nusa Tenggara)

In general, the types of MHM intervention in the primary school in NTT were the same as those in the primary school in NTT, consisting of both physical and non-physical interventions. However,

the impact level of the intervention slightly differed. The intervention impact in NTB was relatively low, even largely insignificant in some aspects.

One of the intervention goals was to make menstruation a non-taboo conversation topic. To that end, an education and training program was given to the village officials, community (particularly students' parents), teachers, and students. Based on the findings of the study, while this program was aligned with the intervention goal, it was found to be ineffective in achieving the goal. At the community level, menstruation continued to be perceived as a taboo and a shameful topic to be discussed openly. The same was true at the school level. Although teachers in the intervention primary school stated that menstruation was no longer a taboo topic, interviews with female students still indicated sense of discomfort regarding talking about menstruation at school. Female students at both control and intervention primary schools reported that they had only talked about menstruation with their fellow female students. Nearly half of the female student informants from both schools stated that it was uncommon to talk about menstruation with people other than their mother and female friends. There were even some students who were reluctant to talk about it even with their female friends. The students also reported to be uneasy to talk about menstruation with their teachers, so they tended to avoid it.

This study also revealed that the intervention had not successfully increased public understanding of menstruation and MHM. The community, in this case the students' parents who became informants, could only understand menstruation from its' physical occurrence, such as vaginal bleeding, 'dirty' blood, a sign of adulthood, and part of female's fate. They also reported that they had never received information about menstruation, except for one parent who had a consultation with the village midwives. From the interviews at the village and sub-district levels, it was found that the majority of the informants were unaware of the implementation of Plan's MHM intervention program. Informants could only associate Plan with STBM program. This reflected an inadequate outreach, resulting in the limited intervention impact. The interviews with *puskesmas* (community health unit) staff also revealed their minimum MHM knowledge, except for the two staff members who received the training by Plan.

As for the students' knowledge, only few female students admitted to benefitting from the program in the form of increased understanding of menstruation; for example, it is a normal process and experienced by all women. However, the intervention impact on students' knowledge on a more comprehensive understanding of menstruation remained minimum. Table 26 shows only a slight difference between the students of the control primary school and students of the intervention primary school in terms of their understanding on menstruation. Furthermore, no student was able to explain the concept of menstruation from the biological perspective. Their reason for this was they had forgotten the information conveyed during the program on menstruation and MHM at their school.

"I remember seeing a theater/drama performance [MHM], but it was a long time ago. Only once. Already forgot what it was about." (Intervention primary school student, female, 12, NTB)

"I received the information in Grade 5. Don't remember [from where], *puskesmas* (community health service) perhaps. [What was is about?] I forgot, it was already a year ago." (Intervention primary school student, female, 12, NTB)

Table 27. The Definitions of Menstruation According to Students of Intervention and Control Primary Schools

Definition of Menstruation	Intervention Primary School (N=7)		Control Primary School (N=10)	
	Number of Students	%	Number of Students	%
Discharge of red blood	1	14%	2	20%
Discharge of 'dirty' blood		0%	3	30%
A sign of fertility	2	29%		0%
Normal process	1	14%	1	10%
A sign of adulthood (<i>aqil baligh</i>)	4	57%	3	30%
A sign of a healthy female	1	14%	3	30%
A disease	0	0%	1	10%

The intervention impact on students' MHM practice was also insignificant. Interviews with female students from the intervention school showed that their MHM practice remained unhygienic and did not significantly differ from that of female students from the control primary school. Their MHM practice, such as their hand washing practice and the frequency of changing sanitary napkins, had not met the recommended standard. Most students still did not wash their hands using soap before and after changing sanitary pads. There was no student who followed the recommended frequency of changing sanitary pads every 3-4 hours or 5-6 times a day.

Table 28. MHM Practice at Intervention and Control Primary School in NTB

	Intervention Primary School (N = 7)		Control Primary School (N = 10)	
	Number of students	%	Number of students	%
Frequency of changing sanitary pads				
- 2 times	1	14%	2	20%
- 3 times	5	71%	7	70%
- 4 times	1	14%	1	10%
Washing hands using soap before and after changing the pads	3	43%	4	40%

This study also showed no impact from the intervention on the attitude of male students towards female students who were menstruating. At both the intervention and control primary schools, female student informants reported bullying cases in the form of name-calling by male students. The number of bullying cases reported in the two schools was also similar, reported by 5 out of 7 (71%) female student informants from the intervention school and 6 out of 10 (60%) students from the control school. This was also confirmed by male student informants during the group interviews in both schools, who admitted to bully female students who were menstruating.

This bullying behavior by male students in both schools was caused by their limited knowledge on menstruation, which in the intervention school was not positively influenced by the intervention

program. Male students from both schools displayed similar understanding of menstruation, which was partial and tended to be based on the general comprehension; although normal, menstruation was considered disgusting and dirty.

As described in the earlier section, due to various issues, some menstruating students chose to go home early. The MHM intervention seemed to bring an impact to female students' school participation rate. The number of students who went home early due to menstruation in the intervention school was lower than that in the control primary school, 1 out of 7 or 14% of students and 2 out of 10 or 20% of students, respectively. In the control school, there was a student who went home early due to menstruation and then returned to school. The different statistics can be attributed to the availability of facility supporting MHM practice at school. The availability of MHM-friendly toilets and sanitary napkins did not require students to go home when they needed to change their sanitary napkin.

With respect to school as an institution, the MHM intervention program did not bring an impact to the school policy. Both the intervention and the control schools did not have specific regulations supporting MHM practice. Both schools also had an informal policy regarding leniency for menstruating students. Teachers in both schools had a similar attitude towards menstruating students, helping them by giving them permission to go home early or be absent from certain activities, or taking them home.

This study suggested that the minimum impact of the intervention program on various aspects of menstruation and MHM was closely related to the inefficient and ineffective education program. The program for the community was only conducted once with the outreach limited to the village officials. The education program at the district level, organized by the health agency, was only attended by two student representatives from Grade 4, who could not be relied upon to share their knowledge with their peers. The education program reaching more participants (students, teachers, school committee, and students' parents) through a drama performance was only conducted once. Meanwhile, the education program held by teachers as a follow-up activity was only done sporadically, leaving many students unable to participate.

The limited awareness on menstruation concept and cultural misperception which associates menstruation with a taboo and embarrassing topic to be discussed openly had driven the topic to be further isolated, so an information-based intervention program done only once could not effectively tackle the issue. Although information giving is unquestionably a critical step, this is not sufficient to raise awareness and understanding, let alone promoting behavioral change.

This limited intervention impact confirms recent research findings showing that information-based intervention program cannot single-handedly drive behavioral change (Felts *et al.*, 2013). This was particularly hindered by cultural norms and beliefs associating menstruation with a negative matter and limiting the conversations against certain conditions and groups, such as males. In the context of bullying, male students' lack of understanding of menstruation has further driven their negative attitude towards the issue.

Another note regarding the education and training program, the MHM intervention in the form of sanitary napkin-making training did not see further development. The advocacy of the cloth sanitary napkin production was not supported with the information on its benefits. Information about the health and environmental benefits of using these cloth napkins was not shared. As a result, the demand and sustainability of the production were affected. As reported in Section 5.1, only 3 out of 20 training participants still produced the napkins.

Apart from all the limitations, the intervention program has its advantage in that it employed a creative education method in the form of drama performance, which is entertaining and educative, facilitating a comprehensive understanding for the students compared with the lecturing method. As suggested in the aforementioned cognitive development theory¹³, the use of art, visual aids, and movements to convey complex information facilitates understanding. This study found that the students involved in the drama performance received positive influence in the form of increased knowledge and understanding about menstruation, MHM behavioral change, and fewer incidents of bullying. The students involved in the performance, both females and males, had a deeper understanding about menstruation, thereby not bullying their menstruating friends. This was due to their high exposure to information about menstruation and MHM.

¹³Explanation regarding the cognitive development theory could be found in the sub-chapter of DKI Jakarta

VI. POLICY RECOMMENDATION

Menstruation and MHM are vital and fundamental issues, especially for women, because they can affect their quality of education and health. However, the level of understanding of various parties, especially related institutions, on the importance of these issues is still low as seen in the lack of activities/programs targeting the issues. Moreover, the knowledge of these stakeholders, especially the community, towards the substance of the issues is still poor. Therefore, it is necessary to have improved understanding towards menstrual and MHM issues through the following recommendations.

1. Disseminate information to various responsible parties, especially government institutions that deal with health and education, that menstruation and MHM are important issues because they can affect the quality of women's education and health.
2. Conduct periodic dissemination about menstruation and MHM issues to the general public as the public still has low and partial understanding about the issues and is still influenced by myths that do not support good MHM practices.
3. Make children who are at their menarche (starting at age 9) the main target audience of the educational campaign so that they are more physically and psychologically ready to deal with menstruation, and that they have the right and adequate knowledge about menstruation and MHM to provide good foundation for MHM practice.
4. Involve *kelurahan*/village actors as well as the community, including cadres, integrated health posts, and educational institutions, to make up for the lack of human resources in improving the outreach of educational campaign on menstruation and MHM issues.
5. Still related to the outreach of menstrual and MHM issues, it is recommended to include menstrual and MHM issues in junior high school and primary school curriculum, especially in science, PJOK, and religious education, started by improving awareness of the institutions and educators on the importance of understanding and openness in discussing the issue.

The support of Plan through the implementation of the MHM intervention program has given a positive impact although it has not been maximized and its outreach is very limited. Therefore, Plan's MHM intervention program needs to be continued, and its outreach should be widened. However, there needs to be several adjustments to the program so that it can be more effective in achieving its objectives.

1. Poor understanding of menstrual issues and MHM, coupled with the lack of attention from the government, suggests that the continuation of MHM intervention program is of great importance and that its target should cover both primary and junior high school students considering that many students reach their menarche during junior high school year.
2. The MHM intervention program should be established as a national program. Thus, systematic collaboration with the central government is vital to establish cooperation with the government and related institutions at various levels.
3. The target users of MHM toilets should cover all female students and teachers and should not be exclusive during their menstrual periods to ensure of their effective utilization to support the establishment of female-friendly latrines.
4. The concept of MHM toilets, which are also disabled-friendly, must be supplemented with thorough criteria and strict supervision so that the concept can be realized.

5. Dissemination to students must reach all students in grades 4, 5 and 6, both male and female, not just representatives of each grade.
6. To support improved understanding and good MHM practices, educational campaign should not only target students, but also all parents and the community, both of whom are considered as the initial and main sources of information which children used as guidance.
7. Materials delivered need to be expanded, not only on the practice of MHM, but also comprehensive understanding of menstruation—including how to deal with problems caused, myths that have the potential to cause poor MHM practices, and reproductive health—is of great importance. To further ensure the overall delivery of this information, an MHM module must be developed.
8. Dissemination should be done in a more diverse way and encourage the use of media and role play that encourage students' active role so that students can remember and understand the information better.
9. Dissemination/educational campaign must be conducted periodically and continuously so that students will not forget the information and can make MHM practices as part of their daily life, which then can automatically be passed on from one generation to another.
10. Educational campaign needs to be equipped with the provision of supplementary tools in schools that are easily accessible to students, such as menstrual wheel boards, posters, and menstrual/MHM guidelines in forms that are easily understood by students, such as comic strips.
11. To encourage behavior change and to overcome students' menstrual and MHM problems, the following supporting facilities at the school level should be provided:
 - a. Counseling teachers that actively provide menstrual and MHM-related counseling to both male and female students, either individually or in groups. For this activity, the available school teachers, especially those responsible for the UKS and counseling guidance, can be involved.
 - b. A safe and comfortable toilet, not necessarily new, for female students. This could be done through improving existing toilets.
 - c. Toilet facilities such as waste basket, detergent or soap, hand washing soap, sanitary napkins, spare skirt, spare underwear, plastic or used paper to wrap used sanitary napkins, and storage cabinets for MHM needs.

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