

# Assessing Pure Water for the World's Menstrual Hygiene Management Program in Honduran Schools

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**ABSTRACT:** Pure Water for the World's Menstrual Hygiene Management program aims at improving knowledge of menstrual health. The objective of this study is to evaluate the effectiveness of the MHM program in schools for menstruating girls, non-menstruating girls, boys, and teachers. Surveys and focus groups conducted in Trojes community schools have concluded that PWW's MHM program has improved knowledge amongst teachers and menstruating girls. The knowledge of school-aged boys and non-menstruating girls though can still be improved. Of the 209 students surveyed, 49% reported that they had knowledge of the menstrual cycle and menstrual hygiene. Although issues such as response bias could have played a role in this large proportion of students without knowledge of menstruation, the number of students who benefited from the education and training has increased. It is recommended that the teachers use a pre-/post-test system to track the results of the MHM programs in their classrooms. By 6th grade, the students should be receiving lessons on menstruation, sexual health, puberty, and other topics amongst all genders. We recommend that PWW creates a partnership with an organization focused on nutrition to create a program in the schools geared towards menstruating girls, as study results indicate that this is an area of concern. PWW should work more closely with the Ministry of Health to ensure that the importance of menstrual hygiene and sexual health are relayed to the teachers as a way to de-stigmatize menstruation and empower teachers to provide accurate information.

**KEYWORDS:** menstrual hygiene, development, education, nonprofit, nutrition

## Introduction

Pure Water for the World (PWW) is a 501(c)(3) WASH nonprofit with offices in the United States of America, Honduras, and Haiti. PWW, as a nonprofit, began with a focus on access to clean water and teaching proper hygiene and sanitation in 1999. In January of 2015, a Pure Water for the World volunteer released a report evaluating the need for Menstrual Hygiene Management (MHM) in several communities throughout the municipality of Trojes in Honduras and found that the need was high. (Reed 2015) Trojes is located in a remote mountainous region in South-East Honduras in the department of El Paraiso. The municipality has over 300 communities dispersed in the mountains around the main town. Coffee farming and cattle raising are the main activities of the people in the communities of Trojes. Today, PWW has reached 147 of the communities of Trojes with WASH programs, including some that it takes over a couple of hours to reach.

Since 2016, PWW has incorporated menstrual hygiene education into the teachers' workshops and training programs. PWW helps to build gender-specific, private latrines, and hand washing stations in order to reduce the physical barriers girls face while menstruating at school. (See photos 1-4 in the appendix.) PWW trains teachers on the specifics of menstruating and the menstrual cycle, and how to talk to their students about it (boys and girls). PWW also urges schools to make hygiene kits available, which include sanitary pads, toilet paper, and medicine for menstrual pain. PWW employees and volunteers provide MHM training to teachers in various communities throughout the municipality of Trojes in Honduras. This training aims to help teachers integrate WASH topics and programs into their annual lesson plans.

The study conducted by a PWW volunteer in 2015 took place in five different communities surrounding Trojes. These five communities had not received MHM training from PWW. As the topic of menstrual hygiene had not yet been addressed with the members of these communities, it can provide one explanation for the necessity of an MHM program. In this most recent study, the

2019 study, most of the children surveyed *had* received MHM lessons from their trained teachers. These teachers had received training from either PWW, another nonprofit, or the Secretary of Education in Trojes.

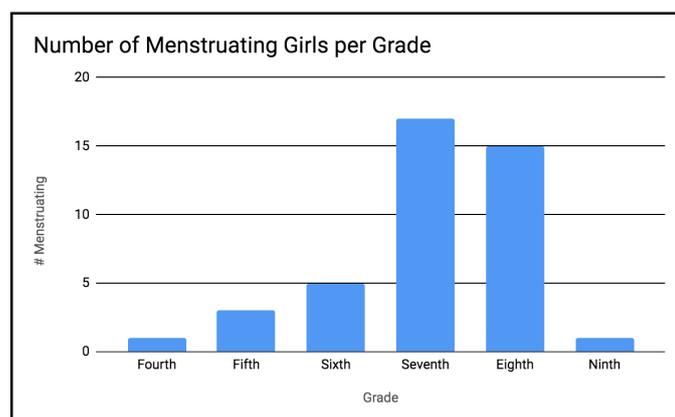
Before proceeding through this study, it is both necessary and relevant to understand that the topic of menstrual hygiene is hard to address, especially with young children and especially within a culture that displays discomfort with the topic. These truths could have affected the accuracy of the results. Additionally, when conducting research on menstrual hygiene in developing countries, it is important to remember the inadequacies that also exist amongst menstrual hygiene education in developed countries.

## Survey Methods

Surveys were administered via tablets to school children, teachers, and medical professionals in four different communities. The selection criteria used to determine which schools would be surveyed included schools in which there are menstruating students who have received the MHM workshop, schools wherein the teachers have received the water, sanitation, and hygiene workshop (WASH), and schools in communities that are currently geographically accessible by foot, truck, or motorbike.

The total number of surveyed students included 109 school aged girls, 100 school aged boys, two medical professionals, and 17 teachers. The grade with the largest number of menstruating girls was seventh grade and the grade with the least number of menstruating girls was in fourth grade. In total, 45 of the girls surveyed were menstruating and 64 were not. The school children ranged in age from eight years old to 17 years old. In each school, fourth through ninth graders were surveyed. The surveys were administered privately to the best of the surveyor's ability and when possible, children were paired with a surveyor of the same gender. Four separate schools participated in the surveys: Escuela Fredy Morazán in Trojes, C.E.B. Dr. Roberto Suazo Cordova in Rio Arriba, C.E.B. Alvaro Contreras in Tapalchi, and C.E.B. Augusto C. Coello in El Porvenir de La Joya.

Table 1. Number of Menstruating Girls per Grade



The two medical professionals surveyed worked in health centers in Trojes and Rio Arriba. These two health centers were geographically accessible and served a large proportion of the students who took part in the surveys. The students were asked between 11 and 38 questions depending on their answers to certain questions. The surveys took between 3 and 15 minutes for each student.

To test the success of PWW's MHM programs, specific questions needed to be asked. Like the 2015 study, boys and girls were asked what they knew about menstruation and the menstrual cycle and who they learned that information from. Both genders were asked to list reasons why they miss school. The girls, specifically, were asked if they were menstruating and at what age they started. If the girls stated that they were in fact menstruating, they were asked another set of questions regarding

their diet, their pain, and what it was like for them to menstruate while in school. Each menstruating girl was also asked what else they felt would help them in school.

The teachers were asked various questions about their knowledge of menstruation/menstrual cycle and whether they have taught the students on the topic. Surveyors also examined the latrines, hand- washing stations, and waste containers without the teachers present. The medical professionals were asked mostly for data regarding the number of girls that have visited the hospital and whether any of these girls visited for reasons related to menstruation.

Table 2. Knowledge of Menstruation

	Teachers	Medical Professionals	Menstruating Girls	Non-menstruating School Aged Girls	School aged- Boys
<b>Knowledge of Menstruation</b>	X	X	X	X	X
<b>Knowledge of Menstrual Cycle</b>	X	X	X	X	X
<b>Reasons for Missing Class</b>	X	X	X		
<b>Age of Menarche</b>	X				
<b>Dietary Changes</b>	X				
<b>Menstrual pain</b>	X	X			
<b>Training on MHM?</b>	X	X			
<b>Taught MHM?</b>	X	X			
<b>Infrastructure</b>	X				
<b># of girls under 17 who visited the medical centers</b>	X				
<b># of girls under 17 with concerns related to menstruation</b>	X				

### Limitations

Before the findings can be discussed, it is important to mention the challenges that arose when gathering data. These issues could have played a prominent role in the data we collected and could have potentially skewed the results of the study. In Honduras, like many countries around the world, it is quite taboo to openly discuss menstruation and menstrual hygiene. This fact alone was the greatest issue in this study and could have contributed to response bias.

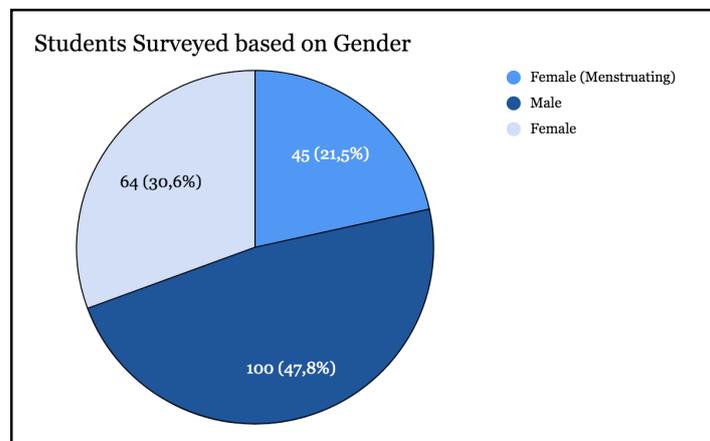
The two groups that were found to be the most uncomfortable talking about menstruation were the school-aged boys as well as the school-aged girls who had not yet begun menstruating. While many of the students, especially the boys, had in fact received education on menstruation, they would report that they knew had no knowledge on the topic during the survey while providing physical cues of discomfort (shrinking into their chairs, giggling, not making eye

contact with the surveyor.) An occurrence that aided to the discomfort was the proximity of the other school children. Often, large groups of children would gather during the survey process causing the child being surveyed to grow uncomfortable. Additionally, the students would gather in groups between surveys and talk with those who had not yet been surveyed providing them with “the answers”. This could have distorted the accuracy of our results. Finally, the two main surveyors of the study were foreigners (citizens of the United States of America and France). Therefore, the school children could have had difficulties properly understanding the questions or the surveyors could have difficulties understanding the answers.

## Findings

As stated previously, the total number of surveyed students included 109 school aged girls and 100 school aged boys. In total, 45 of the girls surveyed were menstruating and 64 were not. The ages of the students surveyed ranged between three years of age and 17 years of age.

Table 3. Students Surveyed Based on Gender



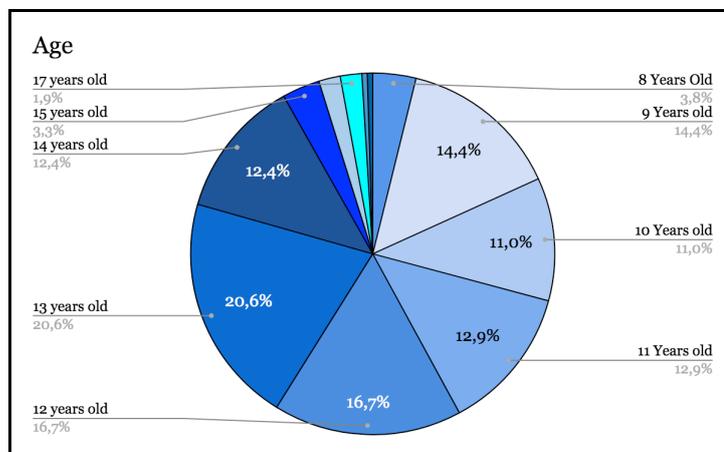
The male students were more often than not very uncomfortable talking about menstruation even if those students were paired with a male surveyor. Of the 100 boys surveyed, 48 reported having no knowledge of menstruation and 86 reported having no knowledge of the menstrual cycle. Twelve boys said they knew what menstruation was but would not provide further detail and three reported knowing about the menstrual cycle, but could not or would not provide further detail. Of those that reported knowing about menstruation and the menstrual cycle, they noted information regarding blood, pain, that it happens only to women, and it happens once a month. Three of the boys knew that menstruation had something to do with development and that menarche is often around 12 or 13 years old. Three male students had what we considered advanced knowledge of menstruation for their age group (11-15) and were able to briefly discuss menopause, sexual consent, and sexually transmitted diseases.

It was also apparent that the younger female students (11 and younger) were mostly uncomfortable talking about menstruation and the menstrual cycle. This discomfort was especially apparent amongst the girls who also reported that they had not yet started menstruating. The older girls (12 and older) and the girls who had started menstruating appeared more comfortable during the survey.

Of the 49 female students who reported knowing about menstruation, their responses varied. Most reported knowing that it only happened to women and that the process involved blood and often some pain. Five of the 49 girls knew that menstruation was a part of development. Other responses included, “dizziness,” “can be irregular”, “must use sanitary pads”, “there are things you shouldn’t eat.” One girl reported that once her friends started menstruating, they “didn’t want to play anymore.”

One of the most important datasets we collected was in regards to the dietary changes of the female students. Of the 44 girls who had already begun menstruating, 88.6% changed their diets during menstruation. During this time, the girls reported that they ceased to eat various food items including: mantequilla (a sour cream-type spread), eggs, avocados, beans, fruits (limes and mangoes mostly), rice, milk, sardines, chili, anything acidic, and coffee. For reference, a common meal in Honduras includes tortillas, mantequilla, beans, eggs, rice, and milk or coffee, which indicates that many girls were significantly altering and limiting their diet during menstruation. When asked why they were changing their diets, most of the girls responded that their mothers had told them to (18 percent). A large portion of the girls, 56 percent, simply stated that “it was bad” to eat those items during their period but did not address who gave them this information. Many said that it would cause pain, stop the bleeding, increase the bleeding, cause infections, or change the consistency of their blood and discharge.

Table 4. Ages of Students Surveyed



One final finding amongst the student surveys was in regards to school attendance. Only 21 percent of menstruating girls reported missing school due to menstruation. Fifty-seven percent of male students reported missing class during the school year and 58.5 percent of female students reported missing class during the school year.

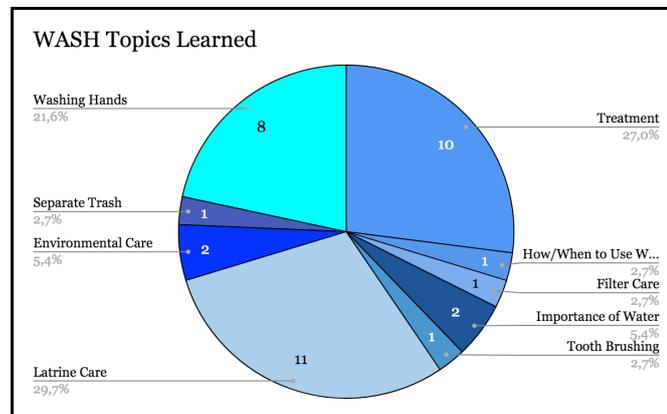
Five of the students surveyed stated that their absences were because they “did not know when class was.” During the time frame that these surveys were taking place, there was a country-wide protest occurring. Protests began in May 2019 over concern about the current Honduran President, Juan Orlando Hernandez and the potential privatization of education and health care in the country. (Palencia 2019) Many teachers in Trojes and the surrounding communities were traveling to Tegucigalpa, a city 173.8 kilometers away, to participate in the protests. Due to this occurrence, class was often canceled as there were not enough teachers available to teach.

At each of the four community schools, the teachers were also surveyed. Of the 17 teachers surveyed, 13 teachers had received WASH training from PWW. Three reported receiving WASH training from either the Secretary of Education or a different Non-Governmental Organization (NGO). Only one teacher, an intern, reported that she had not received WASH training. As per WASH training, teachers receive education on proper bodily hygiene during menstruation and otherwise. They are taught how to make disposable cloth sanitary pads and how to dispose of garbage. It is also recommended that teachers keep sanitary pads, toilet paper, and pain medication in their classrooms.

The teachers were asked what WASH topics they had learned and then, specifically, what they had learned about menstrual hygiene and the menstrual cycle. In regards to WASH topics, the teachers discussed latrine care, hand washing practices, environmental care (like separating trash), tooth brushing, filter care, and the importance of water. When asked specifically about

their knowledge of menstrual hygiene and the menstrual cycle, teachers discussed topics about the length and frequencies of menstruation, bleeding, ovaries, hormones and hormonal changes, sanitary pad usage, menopause, and the idea that it is a natural occurrence.

Table 5. WASH Topics Learned by Teachers



The teachers were surveyed about their garbage disposal habits at the school building as well. Five of the teachers reported that they burned all of the garbage which is a common practice in Honduras. Two teachers reported that they threw the trash in a pile away from the school. Two teachers reported that they would bury all of the garbage and nine teachers reported that they would also bury the garbage but would first separate it into organic and inorganic materials.

Finally, two doctors from Trojes and Rio Arriba were surveyed to gain a broader understanding of menstrual hygiene education and the types of health issues that are occurring regarding menstruation. Of the two health centers surveyed, there were no gynecologists.

Both of the doctors surveyed had given talks on menstrual hygiene by giving speeches. However, the students were not separated by age or gender during these lessons. One of the doctors reported using manuals on adolescence. In the past year, 276 girls under the age of 17 had visited the hospital in Rio Arriba and 12 of those girls had undergone a gynecological exam. General physicians would perform this task as there were not gynecologists in the health centers, as mentioned above. In Trojes, 648 girls under the age of 17 had visited the hospital and 492 had undergone a gynecological exam. In total (both health centers combined), 53 girls reported illnesses or issues related to menstruation.

These illnesses/issues included: heavy bleeding, excessive pain, irregular periods, excessive vaginal discharge, and a lack of knowledge about menstruation. In addition, girls under the age of 17 visited these hospitals to discuss family planning, for pregnancy, to give birth, and for routine Papanicolaou tests (Pap smears).

## Recommendations

From the baseline study in 2015, knowledge of menstruation, menstrual hygiene, and the menstrual cycle has improved amongst the school children. Of the 209 students surveyed, 49% reported that they had knowledge of the menstrual cycle, menstrual hygiene or menstruation. Based on these findings, several recommendations have been determined.

The best way to track the progress of the MHM program in Honduran schools is for the teachers to use a pretest/ post-test system. At the beginning of each school year, teachers should conduct a pre-test, that is not graded, to see what level of knowledge the students have about certain topics related to menstruation, hygiene, puberty, and sexual health. The topics would depend on the age and grade of the students. At the end of the school year, after students have received MHM training from PWW and their teachers, the teachers should conduct a post-test to

see if the students report learning more about these topics throughout the year. Additionally, the teachers should receive a similar type of evaluation from PWW after they receive MHM training to evaluate how much information was understood and learned.

Currently, PWW employees separate boys and girls when discussing topics of menstruation. While this may aid learning at a younger age, it is believed that in later grades, the genders should be combined during menstruation related lessons. Based on the results, it has been concluded that the best practice is to teach menstruation and sexual health related classes every year beginning in third grade. In the younger grades (3rd-5th grade), topics should include hygiene, puberty, development, and brief discussions of menstruation. As the students approach their teenage years (5th-9th grade), the students should no longer be separated by gender and the topics should turn more towards in depth menstruation lessons, sexual health (STDs), birth control (medicinal or barrier methods), pregnancy, and consent.

More consistent communication from an early age about topics related to menstruation and sexual health will, hopefully, relieve the tension around talking about these topics. More consistent communication will aid these topics in becoming less taboo and create a more open dialogue.

The dietary changes that 88.6% of menstruating girls reported making was concerning given the already limited food supply in many households in the communities surrounding Trojes. It is recommended that PWW identifies and creates a partnership with an organization focused on nutrition in order to include a nutrition program in the schools geared towards school-aged girls who are menstruating. It is important that these students are given factual information regarding food that can and should be consumed during menstruation. It is important that the young girls who are menstruating are made aware that their nutrition should not change during their menstrual cycle. (Jahangir 2018) In future studies, more information needs to be gathered on the real reasons girls are told not to eat certain foods during their menstrual cycle and where these reasons and beliefs originated from, acknowledging the strong cultural influence.

The WASH training dedicated to teachers tackles various topics related to water, sanitation, menstrual hygiene and general hygiene. However, it is recommended that PWW place further focus on the topic of menstrual hygiene during the training. Health personnel that work with the communities should also receive training on menstrual hygiene in order to have them replicate the training with communities members.

The final recommendation is in regards to Honduras' educational and health policy. In 2019, PWW created an agreement with the Ministry of Education that aims at working towards incorporating MHM as part of an area of study. It is of utmost importance that the Ministry of Education but also the Ministry of Health collaborate and speak to schools about the importance of incorporating MHM programs into annual school curriculums.

For future studies, a list of questions has been developed that should have been asked or could be useful during a followup study. The questions are as follows: What are the dropout rates in local schools? What are the teen pregnancy rates in Trojes? What are the teen pregnancy rates in Tegucigalpa? Are the teen pregnancy rates lower in the communities PWW has worked in? What are the migration rates from Trojes? What are the migration rates from Tegucigalpa? What are the rates of internal migration? What are the reasons for migration?

Future researchers should meet with the parents of the students surveyed to determine the knowledge level of the parents about menstruation. These questions could be used in a study conducted in the same five communities in which the 2015 study was conducted. This would allow for PWW to evaluate the evolution of the MHM program in communities that have received training.

## **Conclusion**

Approximately three years after Pure Water for the World introduced a Menstrual Hygiene Management program in schools in and around Trojes, Honduras, the results have revealed both

successes and non-achievements. Similar to the 2015 study, findings show that the girls have more knowledge than they had before the introduction of the MHM program but there are still inadequacies and fallacies in the information they are receiving at home and from their peers.

The null hypothesis regarding school-aged boys and school-aged girls who are not menstruating was accepted. These two groups displayed large amounts of discomfort and incomprehension regarding menstruation. In contrast, the study failed to accept the null hypotheses regarding infrastructure, teachers, and menstruating school-aged girls. The study instead found that the MHM programs with these groups were successful.

Young girls need further education regarding their dietary changes and the normalcy of the menstrual cycle. Similarly, young boys drastically require further education to remove the stigma and discomfort around talking about and learning about menstruation. This will require a change in the structure of the MHM education they are receiving in school. It will also be beneficial for the MHM program to include education for the student's parents to ensure the students are receiving accurate information at home.

MHM programs should begin at an early grade level (around third or fourth grade) and continue into the students pubescent years, up until the graduation of each student. Consistent education surrounding menstruation and sexual health will present the information as 'normal'. Additionally, involvement from the Ministry of Health and the Ministry of Education, collectively, will further enforce the importance of health education for young students.

Based on the information collected from the baseline study in 2015, PWW has improved the accessibility to and knowledge of menstrual health education in Trojes, Honduras. However, to thoroughly educate and assist the population in Trojes and the surrounding communities, there are still many changes that need to be made to the MHM programming. Further research and application of the above stated recommendations will help to better serve the students and the overall population of this mountain community.

## Acknowledgements

Research conducted by: Annette Butty, Olivia Laramie, Fredy Rodriguez, Ostilio Ramirez, Darwin Salinas, and Karla Vargas

Acknowledgements: Carolyn Meub, Jamin Gelder, Maria Inestroza, Mauricio Reyes, Melvin Herrera, Megan McLaughlin, Arlen Mejia and Nathalie Pratt

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