

Increasing reproductive health literacy among adolescent females in Islamic boarding schools through peer education

Lu'lu Nafisah, Yuditha Nindya Kartika Rizqi, Aisyah Apriliciliana Aryani

Department of Public Health, Faculty of Health Sciences, Universitas Jenderal Soedirman Jl. dr. Soeparno, Purwokerto, Banyumas, 53123, Indonesia

ARTICLE INFO:

Received: 2022-06-30
Revised: 2022-08-16
Accepted: 2022-12-08

Keywords:

Adolescent reproductive health, Islamic boarding schools, Peer education, Training

ABSTRACT

The importance of reproductive health education in Islamic boarding schools is often overlooked. Whereas the prevalence of reproductive health issues among teenage females in Islamic boarding schools remains high, including anemia, vaginal discharge, dysmenorrhea, premenstrual syndrome, and personal hygiene. These difficulties have an impact such as absenteeism at school, wasting and infertility. Peer education is seen to be capable of addressing these issues since adolescents in Islamic boarding schools engage with their peers more frequently than with their families, instructors, or health workers. The purpose of this activity is to increase participants' knowledge, attitudes, and skills on peer education and adolescent reproductive health. Adolescent reproductive health education, peer education training, and assistance in extracurricular activities that have the potential to help establish healthy madrasas are among the activities carried out. Thirty students who wanted to become peer educators took part in this activity. The results of the activities were evaluated using pre-test and post-test questionnaires, as well as the practice of health education and counseling. The result of this activity is an increase in participants' knowledge about adolescent reproductive health by 8.28 and peer education by 5.17 after participating in the activity. Participants are also able to recognize reproductive health issues that commonly arise in teens and how to prevent them.

©2023 Abdimas: Jurnal Pengabdian Masyarakat Universitas Merdeka Malang
This is an open access article distributed under the CC BY-SA 4.0 license
(<https://creativecommons.org/licenses/by-sa/4.0/>)

How to cite: Nafisah, L., Rizqi, Y. N. K., & Aryani, A. A. (2023). Increasing reproductive health literacy among adolescent females in Islamic boarding schools through peer education. *Abdimas: Jurnal Pengabdian Masyarakat Universitas Merdeka Malang*, 8(1), 38-51. <https://doi.org/10.26905/abdimas.v8i1.8060>

1. INTRODUCTION

Adolescent reproductive health is a health condition that affects the reproductive system, function and process of adolescents. One of the most significant life cycle issues is adolescent reproductive health, and Indonesia's health development needs to be taken into consideration. Adolescent problems arise because they do not know information about problems that occur during the transition from children to adults. Teenagers should therefore be well-informed about reproductive health and the different factors

that can affect it in order to prevent them from doing actions that could harm their reproductive health (Azza & Susilo, 2016; Sulistyoningsih & Fitriani, 2020).

Since most teenagers are still of school age and spend more time in school, it's important to educate them about sexuality, reproductive health, and healthy behavior in school. The Islamic boarding school is one type of educational institution in Indonesia. Pesantren is a center for Islamic education that disseminates Islamic ideas while also offering instruction and counseling. In Indonesia, Islamic boarding schools provide a variety of functions in addition to education, including those of religious, scientific, research, training, and even community development. It serves as a cultural nexus as well. Therefore, Islamic boarding schools can contribute to education by developing students' unique abilities and skills and integrating them with their faith, knowledge, and good deeds (Hidayat et al., 2018; Syafe'i, 2017).

The culture of the pesantren ecosystem is distinct from that of society in general. Simplicity is valued above all else when living in a pesantren. The majority of the students are still in their teenage years, spanning into the age range of 10 to 24 years, and are divided into two groups: *Mukim* students, or students who reside permanently in Islamic boarding schools, and *Kalong* students, or students who do not do so. Islamic boarding schools give teenagers 24-hour access to their social group. Various stakeholders still need to pay attention to the health issues in Islamic boarding schools, including access to healthcare, good lifestyle practices, and environmental health.

Adolescent girls have brought up a number of issues relating to their reproductive health, such as anemia, vaginal discharge, dysmenorrhea, and poor personal hygiene (Hana et al., 2018; Hanura et al., 2018; Nafisah, 2018; Nikmah & Widyasih, 2018; Sya'Bani & Sumarmi, 2016; Setiani et al., 2016; Ummah et al., 2019). Increasing young women's understanding about menstruation and changing their attitudes toward hygiene are two prevention strategies that can be used to prevent reproductive health problems. One such strategy is health education using audiovisual media (Urrahmah et al., 2019). Peer support is crucial in motivating and reminding teenagers to maintain good personal hygiene, particularly when it comes to matters of reproductive health (Avianty, 2020; Mairo et al., 2015; Sulistyoningsih & Fitriani, 2020).

According to the findings of prior studies, female students' understanding of reproductive health is impacted by peer education. This is one of the things that Islamic boarding schools need to start doing, including creating a reproductive health curriculum and routinely providing students with reproductive health counseling services. Peer education also affects students' understanding of and efforts to achieve their dietary needs, as well as their commitment to leading healthy lives and protecting their reproductive organs (Azza & Susilo, 2016; Cahyaningtyas, 2019; Lestari, 2018).

Madrasah Aliyah Al-Ikhsan is a school located in Beji Village, Kedungbanteng District. MA Al-Ikhsan is within the scope of the Al-Ikhsan Islamic Boarding School. Following a preliminary investigation in October 2020, it was discovered that the majority of students lacked knowledge regarding teenage reproductive health, including premarital sex, abortion, HIV/AIDS, and sexually transmitted diseases. Additionally, MA Al-Ikhsan lacks peer educators who might serve as a forum for discussing reproductive health with adolescents in particular and potentially provide counseling. The presence of this Islamic boarding school shows how strongly the culture and religion of Beji Village remain. This service program intends to strengthen students' abilities as peer educators by enhancing their understanding of peer education, adolescent reproductive health, and both. Peer education is acknowledged as being beneficial, and peer-based school and/or community-based programs that address different adolescent health issues can enhance knowledge and alter adolescents' attitudes and behavior. Both peer and non-peer educators can benefit from this activity, which also helps young people's mental health and lowers drug use and violence (Kelly et al., 2019; Shankar et al., 2020; Siddiqui et al., 2020).

2. METHODS

Coordination and Need Assessment

The coordination of community activities with service partners, particularly the Head of MA Al-Ikhsan and Representatives of the PP Al-Ikhsan Girls Dormitory Management, began in June. The preparatory stage begins with permits to related parties to carry out a series of service activities. After that, the service team met with the supervisor of the service location to further discuss the activity's timing and location. Students that participated in this service project were also recruited by the team. Additionally, during the preparation stage, the target population was socialized by dispersing information using flyers or posters in various point of boarding schools or schools. Checking the room and any accompanying equipment, such as LCDs, whiteboards, markers, seats, and sound systems, is part of preparing the equipment and the venue. Media preparation for education and training materials, including modules, posters, pamphlets, and videos. The team also developed a tool for service activity evaluation.

Youth Reproductive Health Education

On Sunday, August 29, 2021, this online health education session was successfully completed with the help of Google Meet. 30 young women at the aliyah level are the major target of this program, and all other targets are young women in the aliyah level who attend Islamic boarding schools. Adolescent reproductive health education through presentations, demonstrations, and question and answer sessions is the first activity in this intervention. The activity was conducted in a classroom at MA Al-Ikhsan. The material presented includes: (1) Adolescent health, including puberty, sexuality, growth and development, nutrition, behavior; (2) Family planning, including family readiness, developmental tasks and family functions, healthy family care.

The material was delivered using a presentation method where the implementing team explained the guidelines for implementing health education with the hope that participants could understand the rules for implementing the activities and as a forum for introducing the implementing teams to the participants. Additionally, presentations are required to explain various aspects of the practice that will be used at each meeting. The participants and the implementing team could therefore interact or communicate using a question-and-answer format.

Peer Education Training

The MA Al-Ikhsan Hall hosted peer education training sessions on Sunday, September 12, 2021, with no problems. 30 young women at the aliyah level are the major target of this program, and all other targets are young women in the aliyah level who attend Islamic boarding schools. Lectures, role plays, simulations, and debates are all used to deliver peer education training sessions. The material presented to the target group is as follows: (1) Basic Material: (a) The Concept of Youth; (b) Concept of Behavior; (c) The Concept of Health Communication, Information and Education (IEC); (2) Core Material: (a) Adolescent Reproductive Health; (b) Adolescent Reproductive Health Problems; (3) Supporting Material: (a) Youth Information and Counseling Center; (b) Peer Counseling.

In order to maximize the delivery of the materials, discussions, and simulations, the training participants were split into two small groups. The first part of this peer education program involves

brainstorming regarding issues with reproductive health that frequently affect students and their fundamental knowledge of peer education. This activity, which is facilitated by a facilitator, tries to align participants' perspectives prior to the training session. The service team also provided all participants with activity papers and simulation sheets. The session was then continued with peer education training using flipcharts, modules, and simulation sheets for a total of 2 hours. Comparisons between knowledge scores before and after training, quiz answer precision, and guided practice under the facilitator's guidance are used for evaluation.

The practical approach is used so that trainees can immediately put the knowledge they learned during the presentation and question-and-answer process to use. The facilitator will also provide some examples that have been put into practice, such as the practice of implementing peer counseling and creating IEC media for teenage reproductive health, as a way to aid participants in deepening their understanding. To demonstrate how the practice is carried out, the participants in the practical method receive direct instruction.

Reproductive Health IEC Media Design and Dissemination

The team created a variety of educational and training modules, flipcharts, powerpoint presentations, and posters as media of communication, information, and education. The purpose of the module in this training is to be utilized by participants as a reference guide during the activity to aid in their understanding of the information delivered by the team members. The used module's content is a summary of the writing's outcomes that the implementing team determined to be necessary.

Assistance

The team assisted the target group and existing youth-related programs to take an active role in delivering information related to female adolescent reproductive health at the conclusion of the service activity. The service team initiates the establishment of information and counseling centers for youth and Poskestren in Islamic boarding schools after training target groups that chose to become peer educators. Additionally, the service team requested that schools and other organizations actively participate by supplying the necessary infrastructure to support health promotion initiatives in classrooms and Islamic boarding schools.

Evaluation

The following three criteria provide evidence of the implementation of this service activity's success: (1) Input indications include letters of cooperation from partners, team performance planning, budgetary information, and supporting facilities and infrastructures, such as IEC media; (2) Process indicators: these can be identified from the execution of good coordination, the presence and activity of participants, the execution of the full series of actions in accordance with the plan, and the delivery of all prepared materials. Tables 1 and 2 provide the schedule for educational and training activities; (3) Output indicators: identified by the increase in knowledge and practice scores after the implementation of activities. In order to evaluate participants' skills, the team has produced an assessment sheet where participants are asked to practice peer counseling.

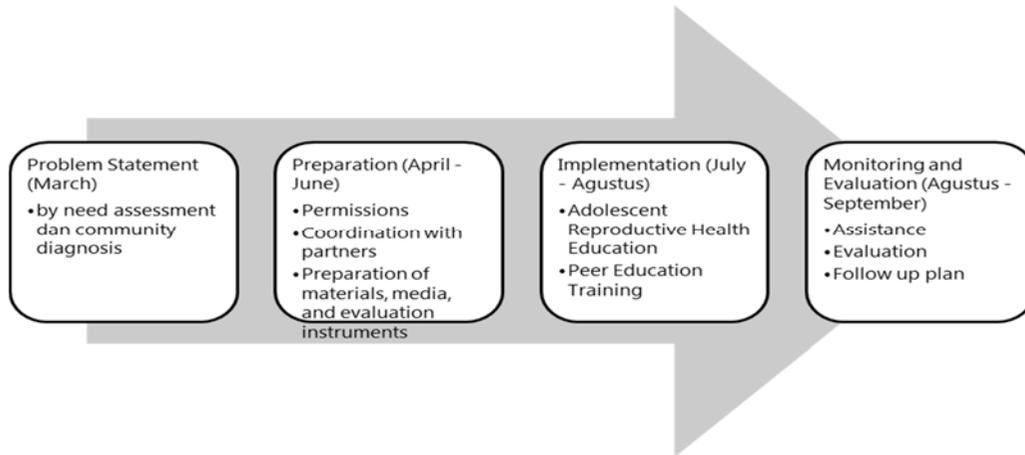


Figure 1. Timeline of Community Services Program

3. RESULTS AND DISCUSSION

The team coordinates with service partners to execute out the scheduled activities in phases. An educational session about adolescent reproductive health was the first thing to be done. Considering that the pandemic is still continuing, this activity was conducted online. As shown in Figure 2, the activity method is made up of presentations where the team disseminates information on reproductive health using PowerPoint media and activity modules. In order to keep participants from getting bored during the 45-minute session, the team included supplemental Powerpoint media. The activity was followed by a question-and-answer session, when participants were encouraged to raise any issues, they had that had not yet been addressed, either through the comments function in the column or in person when specifically invited by the moderator. Access to the presentation materials is available at the following URL <https://bit.ly/MateriKesproSantri2021>.

Peer education training is the following action. This activity is still a continuation of the preceding activity, in which participants first learn about numerous issues relating to reproductive health. They are then introduced to one strategy for enhancing adolescents' reproductive health status, namely peer education. Figure 3 shows that this activity was successfully completed and that 30 students participated. Access to the presentation materials is available at the following URL: <https://bit.ly/MateriKesproSantri2021>.



Figure 2. Online adolescent reproductive health education



Figure 3. Peer education training

Media Design and Dissemination of IEC Reproductive Health

The purpose of this stage was to familiarize participants with various IEC media kinds and prepare them to put together health-related IEC media with the help of a facilitator from our team. Posters, pamphlets, and flipcharts were just a few of the IEC media that the participants introduced and created. Successfully created posters regarding preventing school violence, one of the issues with youngsters that are frequently claimed to occur in schools or madrasas. Regarding the booklets, there are 2, the first of which is titled "Reproductive Health Education Series for Young Women at Islamic Boarding Schools" and the second is titled "Peer Education Training for Adolescents at Islamic Boarding Schools." The flipchart also has information on peer education, adolescent reproductive health, and health centres for Islamic boarding schools (Poskestren). Figure 4 displays the following IEC media that was developed.



Figure 4. IEC health media

Evaluation

The implementation of community service comes to a close at this level. For further evaluation by the implementation team, participants were asked to perform health counseling activities. The team then presented a comprehensive evaluation and follow-up strategies for this series of community service programs before the event finally ended.

Assistance

Mentoring is one type of follow-up to this activity. Technical activities are conducted regularly by the implementation team through direct visits to Islamic boarding schools as well as the use of communication channels like WhatsApp groups. The initiative a Pesantren Health Center and the selection of Santri Husada Cadres is one of the mutual agreements between the implementing team and partners.

Activity Material

The material used in this service refers to teaching materials and the results of literature reviews and joint discussions carried out by the implementation team with service partners. The development of the material also considers the level of the participants' comprehension of the information, thus clear, straightforward language is used, and it is complemented by supporting illustrations like pictures, graphics, and other types of visual aids <https://bit.ly/MateriKesproSantri2021> as can be seen in Figure 5 below.



Figure 5. Education and training material

Exposure to Adolescent Reproductive Health Information

The majority of the young people taking part in this program claimed that they had never heard of adolescent reproductive health. Adolescents who had access to information on reproductive health stated that it had been provided through counseling sessions held at community health centers and universities. Materials on drug abuse, environmental health, HIV/AIDS, and personal hygiene have been acquired.

There is still a paucity of knowledge regarding issues related to adolescent reproductive health, such as early marriage, family planning, adolescent nutrition, sexuality, and other related topics. It is crucial to investigate topics related to reproductive health and adolescent sexuality, such as: Premarital sexual activity, unintended pregnancies, abortion, sexually transmitted illnesses (STI), and HIV-AIDS. One of the things that affects adolescent risky sexual behaviors is knowledge. The knowledge index about adolescent reproductive health in Central Java is still low at 58.1% (Umaroh & Karjoso, 2021).

Providing information both online and offline is an effort to increase adolescent knowledge about reproductive health and sexuality in order to avoid dangerous sexual behavior. Youth training to provide adolescent reproductive health education by utilizing the latest technology is known to be able to increase the knowledge of the target audience and change the attitude of adolescents towards the importance of maturing the age of marriage (Azinar & Fibrina, 2018). There are many sexual health interventions for teenagers, most of which have been proven to have positive effects. Due to their widespread acceptance and privacy issues, mobile app use can be more beneficial for vulnerable individuals in particular (Brayboy et al., 2018).

Increasing Adolescent Knowledge of Reproductive Health

Education about reproductive health is crucial for the development of young women. In order to build a society that is physically, spiritually, socially, and economically healthy, health education is needed. The instructions offered relates to preserving adolescent reproductive health, preventing teens from engaging in unprotected sex, and minimizing the likelihood of early marriage (Fatmawati & Istiqomah, 2017; Madinah et al., 2017). Table 3 shows the outcomes of the participant education on adolescent reproductive health.

Table 3. Distribution of the average level of educational knowledge regarding reproductive health among female adolescents at Islamic boarding schools in 2021

Knowledge Score	Mean	SD	SE	p value	N
Pre-test	25.27	1.87	0.31	0.0001	30
Post-test	33.55	1.21	0.19		

The average score of knowledge on teenage reproductive health increased from 8.28 before to 8.32 after participation in the activity, according to table 3. The knowledge score before and after engaging in the activity differs significantly, as shown by the statistical test findings, which had a value of 0.001. In the beginning, the majority of the participants lacked sufficient understanding about topics related to reproductive health, such as youth nutrition issues like anemia, and personal hygiene. However, the prevalence of stunting and underweight among students, where unhealthy eating knowledge and behavior is the cause, is still often reported. As a result, it must be addressed through specialized school-based nutrition education and interventions (Indriasari et al., 2020). This demonstrates how education and training can improve adolescents' understanding of and attitudes toward reproductive health.

The results of previous studies showed an increase in knowledge in adolescents after attending reproductive health education (Handayani, 2019; Johariyah & Mariati, 2018; Wijaya & Matahari, 2018). This is a result of the participants receiving new information and being given media that they can read to deepen their knowledge of reproductive health. However, the respondent's capacity to gather knowledge through the sense of hearing is relatively constrained, therefore the knowledge each respondent will possess will vary. Therefore, there is a need for efficient health education. Media is used in health education to help make the information being given clearer, such as presentations that are more visually appealing, user-friendly, and sensory-rich. According to studies, using Android apps for reproductive health can help people learn more and have better attitudes about premarital sex (Justin et al., 2020).

The results of previous research indicate that health education affects the knowledge, attitudes and personal hygiene behavior of female students both during menstruation and in everyday life (Fatmawati & Istiqomah, 2017; Urrahmah et al., 2019). Students learn more about how to protect their reproductive health, avoid vaginal infections, and avoid other sexually transmitted infections because of risky sexual behavior and adolescent development through reproductive health education. Consequently, it is advised that specific techniques and media utilization be regularly used in Islamic boarding schools to provide health education (Khabibah, 2016; Setyawati & Zakiyah, 2016).

Increasing Youth Knowledge and Skills about Peer Education

Peer education, or the process of learning through discussing a subject with each person being a peer, is one strategy to improve the knowledge and behavior of adolescents (Mulyani & Khoirunisa, 2020). The results of the 2012 Indonesian Demographic Health Survey (IDHS) revealed that adolescents aged 15-19 years, both boys and girls, prefer to discuss reproductive health issues with their peers. Provision of reproductive health education with peer education is proven to increase the knowledge of respondents (Oktarina et al., 2017). The goal of this service project is to improve the participants' peer education knowledge and abilities. The team conducted an evaluation by distributing questionnaires before and after the implementation of the peer education training activities to see whether these aims had been met. Table 4 displays the findings of the participants in education and training's responses about peer education.

Table 4. Distribution of the average level of knowledge regarding peer education training for young women at the Al-Ikhsan Islamic Boarding School in 2021

Knowledge Score	Mean	SD	SE	p value	N
Pre-test	10.36	1.17	0.21	0.001	30
Post-test	15.53	0.75	0.14		

The average score of knowledge of life skills before and after engaging in events increased by 5.17 points, according to Table 4. Given that the statistical test yielded a value of 0.001, it is clear that the participants' abilities and knowledge in peer education increased as a result of this training activity. Both prior to and following the course, participants are required to respond to 20 question items. These inquiries focused on the terms, advantages, types of activities, phases, and enabling and impedimental elements of peer education.

Participants initially lacked sufficient understanding regarding peer education. This is evident from the significant majority of participants who gave inaccurate responses to questions about the advantages, phases, and components of peer education. According to the discussion's findings, this is because young people attending Islamic boarding schools don't have access to enough knowledge on policies, programs, and types of services related to adolescent reproductive health.

The findings of earlier research have revealed the necessity for educational interventions relating to students' poor environmental behavior and high levels of personal hygiene. Additionally, it was discovered that knowledge, personal behavior, and room cleanliness all significantly improved following the intervention (Widyasari et al., 2020). It's essential to provide this information to the group of adolescents before they start teaching them about health. This is in line with how peer educators are trained, according to BKKBN (2008), who also states that peer educators receive guidance and training so they can effectively communicate health information to their friends. Peer educators are given a collection of materials based on predetermined topics as a reference in providing information to their group members.

Most of the participants initially had no idea what a peer educator's responsibilities and obligations were with regard to this. A peer educator's responsibility is to provide information in a language that is almost identical to the target language so that friends may readily understand it. Adolescents' peers have a significant role in their social lives as they spend more time with them. Teenagers typically consider their friends as role models. Peers can also communicate openly and casually with other educators by sharing their views and feelings, which makes it possible for them to convey secret messages (Ningrum & Sumaryani, 2017).

Peer education is known to play a role in increasing the knowledge and attitudes of young women about dysmenorrhea, personal hygiene during menstruation, and knowledge about vaginal discharge (Fikriyyah et al., 2017; Mulyani & Khoirunisa, 2020; Nafisa, 2019; Sari et al., 2019; Saputri, 2017). In addition, peer education has been shown to have an impact on drug abuse prevention, premarital sex prevention, attitudes toward breast self-examination, understanding of HIV infection and prevention of HIV-AIDS, and prevention of risky sexual behavior in adolescence (Anggraeni & Angraeni, 2019; Demirezen et al., 2020; Ningrum & Sumaryani, 2017; Oktarina et al., 2017; Sodik, 2018; Timol et al., 2016). Peer educators will do peer education more effectively if they can focus while learning, choose the right time for instruction, and provide a friendly environment (Ningrum & Sumaryani, 2017). In adolescent information and counseling centers, the function of competent peer educators enhances adolescent knowledge about the three key aspects of adolescent reproductive health 2.74 times more than the role

of poor peer educators (Utami, 2017). Additionally, the effective implementation of health education depends on the use of media like flip charts and videos (Susanti & Erwani, 2020; Utami, 2017).

The transition from face-to-face to online implementation methods, the very limited participation of participants who participate in online activities because they are not accustomed to using online meeting platforms (such as Google Meet), and the less stable network are all factors impeding the implementation of this activity. Additionally, despite the development of a communication group, only a small number of participants actively participated in responding to the materials and information provided by the community service implementation team. The massive support from the school and the quick response from school representatives in aiding the community service team are the aspects that enable the successful implementation of this program. Cohesiveness within the team and effective communication between team members, who always respond promptly and correctly to any issues that arise, are other factors. The division of roles and duties also significantly helps in the proper operation of this task.

4. CONCLUSION AND RECOMMENDATIONS

Participants in this community service program, particularly teenagers, are expected to learn new skills and gain new knowledge. This program aims to improve participant knowledge and abilities related to peer education and adolescent reproductive health. The implementation of this program is divided into 3 stages, that is planning, implementation, and evaluation stages. The essential components in completing the goals of this program successfully are the use of technology, teamwork, partners, equipment and support facilities. After participating in this program, participants reported having a greater understanding of female adolescent reproductive health and peer education. Following this session, adolescents were better able to present information using flipcharts and booklets. Students may be inspired by this activity to contribute to maintaining and enhancing their health in order to realize the goal of creating healthy madrasas and/or Islamic boarding schools.

The curriculum for the madrasah and/or the materials for extracurricular activities should include this activity on a regular basis. Participants must be monitored and mentored in order for them to become peer educators who share the knowledge they learn with their friends. Assistance is also advised so that the positive effects of this activity can remain and contribute to preventing issues with young women's reproductive health in madrasas, Islamic boarding schools, and the surrounding area. Additionally, this activity has to be improved so that it may be used in a larger context. In order to determine a more comprehensive reaction to the execution of a community service program that has been carried out, it is preferable if the program can be followed up through collaboration with other partners or other parties outside the institution. Partners in this program could serve as role models for the establishment of healthy madrasas in the Banyumas Regency.

ACKNOWLEDGEMENTS

The team would like to extend our gratitude to MA Al-Ikhsan Beji of the Kedungbanteng District in the Bayumas Regency for assisting us in gathering participants and supplying the equipment needed to perform out this activity. Additionally, we wish to express our gratitude to Jenderal Soedirman University for giving funding through the Institute for Research and Community Service (LPPM Unsoed) for the implementation of this project.

REFERENCES

- Anggraeni, S., & Angraeni, C. N. (2019). Effectiveness of health education with peer education method on the attitude of student BSE (Breast Self-Examination) In Senior High School 5 Kediri. *Journal of Nursing Practice*, 2(2), 136–142. <https://doi.org/10.30994/jnp.v2i2.57>
- Avianty, I. (2020). Faktor-faktor yang berhubungan dengan tingkat genital di Pondok Pesantren Darussalam Kabupaten Bogor. *PROMOTOR Jurnal Mahasiswa Kesehatan Masyarakat*, 3(1), 56–63.
- Azinar, M., & Fibriana, A. I. (2018). Youth centre model peningkatan pengetahuan dan sikap remaja di daerah tinggi kehamilan berisiko. *HIGEIA (Journal of Public Health Research and Development)*, 2(4), 663–672. <https://doi.org/10.15294/higeia.v2i4.26801>
- Azza, A., & Susilo, C. (2016). Model pembelajaran reproduksi sehat melalui kelompok sebaya pada remaja putri. *Jurnal Ners*, 11(1), 142–146. <https://doi.org/10.20473/jn.v11i1.1579>
- BKKBN. (2008). *Modul kesehatan reproduksi remaja*. Yogyakarta: BKKBN.
- Brayboy, L. M., McCoy, K., Thamocharan, S., Zhu, E., Gil, G., & Houck, C. (2018). The use of technology in the sexual health education especially among minority adolescent girls in the United States. *Current Opinion in Obstetrics and Gynecology*, 30(5), 305–309. <https://doi.org/10.1097/GCO.0000000000000485>
- Cahyaningtyas, R. (2019). *Hubungan Usia, Lama Tinggal, Kondisi Lingkungan Pondok, Pengetahuan, Sikap, Dan Tindakan Personal Hygiene Genitalia Dengan Keputihan Patologis Pada Santri Putri Di Pondok Pesantren Assalafi Al-Fithrah Surabaya* [Thesis, University of Airlangga].
- Demirezen, D., Karaca, A., Konuk Sener, D., & Ankarali, H. (2020). Agents of change: The role of the peer education program in preventing adolescent substance abuse. *Journal of Child and Adolescent Substance Abuse*, 28(5). <https://doi.org/10.1080/1067828X.2020.1766618>
- Fatmawati, D. A., & Istiqomah, S. B. T. (2017). Pendidikan kesehatan reproduksi bagi santri putri di Asrama Pondok Pesantren Darul'Ulum Jombang. *EDUMidwifery*, 1(1), 15–21.
- Fikriyah, S., Dewi K, M. N., & Astrika, F. (2017). Pengaruh metode peer education terhadap pengetahuan kesehatan reproduksi pada siswi SMP di Pondok Ta'mirul Islam Surakarta. *Jurnal EDUNursing*, 1(2), 64–71.
- Hana, C., Zuhdy, N., & Widyasih, H. (2018). Stres psikososial dan kejadian fluor albus patologis pada santri. *Jurnal Forum Kesehatan*, 8(1).
- Handayani, S. (2019). Hubungan Tingkat pengetahuan personal hygiene dengan perilaku vulva hygiene saat menstruasi pada remaja putri di Ponpes Al_Ghifari Gamping Sleman Yogyakarta. *Jurnal Kesehatan Samodra Ilmu*, 10(1), 79-89.
- Hanura, A. W., Heni, P. W., & Widyasih, H. (2018). *Gambaran faktor-faktor yang berhubungan dengan dismenorea pada santri putri Pondok Pesantren Al Munawwir Kompleks R2 Krapyak tahun 2018* [Dissertation, Poltekkes Kemenkes Yogyakarta].
- Hidayat, T., Rizal, A. S., & Fahrudin, F. (2018). Peran pondok pesantren sebagai Lembaga Pendidikan Islam di Indonesia. *Ta'dib: Jurnal Pendidikan Islam*, 7(2), 1–10. <https://doi.org/10.29313/tjpi.v7i2.4117>
- Indriasari, R., Fitayani, N. S., Mansur, M. A., & Tunru, A. (2020). Alarming nutrition problems among adolescent students attending islamic boarding school in Indonesia. *Enfermeria Clinica*, 30(August), 44–47. <https://doi.org/10.1016/j.enfcli.2019.10.037>

Increasing reproductive health literacy among adolescent females in Islamic boarding schools through peer education

Lu'lu Nafisah, Yuditha Nindya Kartika Rizqi, Aisyah Apriliciliana Aryani

- Johariyah, A., & Mariati, T. (2018). Effectiveness of adolescent reproductive health education by giving module to the change of youth knowledge. *Jurnal Manajemen Kesehatan Yayasan RS Dr.Soetomo*, 4(1), 38–46.
- Kelly, R., Bentley, A., Marston, C., & Prost, A. (2019). Peer-facilitated community-based interventions for adolescent health in low- and middle-income countries: A systematic review. *PLoS ONE*, 14(1) 1–22. <https://doi.org/10.1371/journal.pone.0210468>
- Khabibah, U. (2016). *Pengaruh pendidikan kesehatan terhadap perilaku pencegahan keputihan (Flour albus) santri remaja putri di Yayasan SMPAA Desa Turi Kecamatan Turi Kabupaten Lamongan*. [Thesis, Sekolah Tinggi Ilmu Kesehatan Muhammadiyah Lamongan].
- Lestari, D. I. N. (2018). *Analisis faktor yang berhubungan dengan upaya pencegahan anemia saat menstruasi pada remaja putri di Pondok Pesantren Wilayah Jenu Kabupaten Tuban*. [Thesis, Universitas Airlangga].
- Madinah, S., Rahfiludin, M., & Nugraheni, S. (2017). Pengaruh pendidikan kesehatan reproduksi terhadap tingkat pengetahuan tentang pendewasaan usia perkawinan (Studi pada remaja di SMP NU 06 Kedungsuren Kabupaten Kendal). *Jurnal Kesehatan Masyarakat (e-Journal)*, 5(1), 332–340. <https://doi.org/10.14710/jkm.v5i1.15573>
- Mairo, Q. K. N., Rahayuningsih, S. E., & Purwara, B. H. (2015). Kesehatan reproduksi remaja putri di Pondok Pesantren Sidoarjo Jawa Timur. *Majalah Kedokteran Bandung*, 47(2), 77–83. <https://doi.org/10.15395/mkb.v47n2.457>
- Mulyani, Y., & Khoirunisa, N. (2020). Pendidikan kesehatan kelompok sebaya (peer group) terhadap pengetahuan dan sikap remaja putri tentang Dhysmenorrhea di Pondok Pesantren Sukamiskin Bandung. *Journal for Quality in Women's Health*, 3(1), 62–66. <https://doi.org/10.30994/jqwh.v3i1.51>
- Nafisa, A. Z. (2019). *Pengaruh peer group education tentang manajemen kebersihan menstruasi terhadap pengetahuan pencegahan pruritus vulvae pada remaja* (Doctoral dissertation, University of Muhammadiyah Malang).
- Nafisah, R. (2018). *Gambaran pengetahuan dan sikap santri tentang personal higiene di Pondok Pesantren Asshodiyyah Kaliwage Semarang* [Thesis, Unissula].
- Nikmah, U. S., & Widyasih, H. (2018). Personal Hygiene habits dan kejadian flour albus patologis pada santriwati PP AL-Munawwir, Yogyakarta. *Media Kesehatan Masyarakat Indonesia*, 14(1), 36. <https://doi.org/10.30597/mkmi.v14i1.3714>
- Ningrum, S. A. W., & Sumaryani, S. (2017). Peer education prevents sexual risk behaviors among adolescents in rural areas. *INJEC*, 2(2), 193–199. <http://dx.doi.org/10.24990/injec.v2i2.172>
- Oktarina, J., Marono, H. M., & Purnomo, W. (2017). Pengaruh pendidikan kesehatan reproduksi oleh sebaya terhadap pengetahuan dan sikap dalam pencegahan seks pranikah di SMAN 1 Sukamara, Kabupaten Sukamara, Kalimantan Tengah. *Buletin Penelitian Sistem Kesehatan*, 20(1), 26-33. <https://doi.org/10.22435/hsr.v20i1.6180.26-33>
- Sari, R., Idris, F. P., Fachrin, S. A., Asrina, A., Kurnaesih, E., & Arman, A. (2019). Pengaruh peer education terhadap pengetahuan personal hygiene masa menstruasi remaja awal di Pondok Pesantren Puteri Kota Makassar. *Journal of Islamic Nursing*, 4(2), 44–53. <https://doi.org/10.24252/join.v4i2.10234>
- Saputri, I. F. (2017). *Pengaruh peer education terhadap sikap menghadapi kejadian dismenore pada remaja putri di Pondok Pesantren Islamic Centre Binbaz Yogyakarta* [Skripsi, Poltekkes Kemenkes Yogyakarta].

- Setiani, T. I., Prabowo, T., & Paramita, D. P. (2016). Kebersihan organewanitaan dan kejadian keputihan patologi pada santriwati di Pondok Pesantren Al Munawwir Yogyakarta. *Jurnal Ners dan Kebidanan Indonesia*, 3(1), 39. [https://doi.org/10.21927/jnki.2015.3\(1\).39-42](https://doi.org/10.21927/jnki.2015.3(1).39-42)
- Setyawati, S., & Zakiyah, Z. (2016). Pelatihan pencegahan merosotnya moral santri melalui belajar seksualitas dengan kajian kitab kuning dan kesehatan reproduksi remaja di Pondok Pesantren Romlah Assomadiyah Kecamatan Cilongok. *Islamadina*, 17(2), 21–30. <https://doi.org/10.30595/islamadina.v0i0.1323>
- Shankar, P., Sievers, D., & Sharma, R. (2020). Evaluating the impact of a school-based youth-led health education program for adolescent females in mumbai, India. *Annals of Global Health*, 86(1), 1–9. <https://doi.org/10.5334/aogh.2791>
- Siddiqui, M., Kataria, I., Watson, K., & Chandra-Mouli, V. (2020). A systematic review of the evidence on peer education programmes for promoting the sexual and reproductive health of young people in India. *Sexual and Reproductive Health Matters*, 28(1). <https://doi.org/10.1080/26410397.2020.1741494>
- Sodik, M. A. (2018). Analysis of improved attitude of youth in HIV/AIDS prevention through the provision of health education with peer education. *The 2nd Joint International Conferences*, 2(2), 495–502.
- Sulistyoningsih, H., & Fitriani, S. (2020). Upaya peningkatan personal higiene organ reproduksi perempuan santri Pondok Pesantren Ummul Quro Salopa. *Jurnal Abdimas Kesehatan Tasikmalaya*, 02(02), 1–4. <https://doi.org/10.48186/abdimas.v2i02.303>
- Susanti, D., & Erwani. (2020). The effect of the use of “Triad-Krr Flipcharts” in dealing with the triad behavior (Sexuality, Drugs, HIV/AIDS) of adolescent reproductive health to peer’s education to adolescent’s attitude and knowledge in Padang City. *Indian Journal of Applied Research*, 10(1), 63–64.
- Sya’Bani, I. R. N., & Sumarmi, S. (2016). Hubungan status gizi dengan kejadian anemia pada santriwati di Pondok Pesantren Darul Ulum Peterongan Jombang. *Jurnal Keperawatan Muhammadiyah*, 1(2), 8–15.
- Syafe’i, I. (2017). Pondok pesantren: Lembaga pendidikan pembentukan karakter. *Al-Tadzkiyyah: Jurnal Pendidikan Islam*, 8(1), 85–103. <https://doi.org/10.24042/atjpi.v8i1.2097>
- Timol, F., Vawda, M. Y., Bhana, A., Moolman, B., Makoae, M., & Swartz, S. (2016). Addressing adolescents’ risk and protective factors related to risky behaviours: Findings from a school-based peer-education evaluation in the Western Cape. *Sahara J*, 13(1), 197–207. <https://doi.org/10.1080/17290376.2016.1241188>
- Umaroh, A. K., & Karjoso, T. K. (2021). Komunikasi kesehatan tentang kesehatan reproduksi dan seksual komprehensif (Studi di Youth Center Pilar Jawa Tengah). *PREPOTIF/ : Jurnal Kesehatan Masyarakat*, 5(1), 210–227. <https://doi.org/10.31004/prepotif.v5i1.1530>
- Ummah, N. K., Susanto, T., & Susumaningrum, L. A. (2019). Hubungan harga diri dengan perilaku pemeliharaan kesehatan reproduksi remaja santri putri di Pondok Pesantren Kabupaten Jember. *Jurnal Kesehatan Reproduksi*, 10(1), 79–88. <https://doi.org/10.22435/kespro.v10i1.1397.79-88>
- Urrahmah, A., Emma, S., & Jatmika, D. (2019). *Pengaruh media audio visual terhadap pengetahuan dan sikap personal hygiene menstruasi pada santri di Pondok Pesantren Al Muna 2 Bantul Personal hygiene menstruasi merupakan bagian dari kebersihan perorangan yang mempunyai peran penting dalam derajat kesehatan* [Universitas Ahmad Dahlan]

Increasing reproductive health literacy among adolescent females in Islamic boarding schools through peer education

Lu'lu Nafisah, Yuditha Nindya Kartika Rizqi, Aisyah Apriliciliana Aryani

- Utami, W. (2017). Peran konselor sebaya sebagai upaya meningkatkan pengetahuan remaja tentang triad kesehatan reproduksi remaja. *Medika Respati: Jurnal Ilmiah Kesehatan*, 12(1), 1–8. <https://doi.org/10.35842/mr.v12i1.4>
- Widyasari, V., Widyasari, V., Prabandari, Y. S., & Utarini, A. (2020). Training intervention to improve hygiene practices in Islamic boarding school in Yogyakarta, Indonesia: A mixed-method study. *PLoS ONE*, 15(5 May), 1–13. <https://doi.org/10.1371/journal.pone.0233267>
- Wijaya, O., & Matahari, R. (2018). *Laporan program pengabdian kepada masyarakat reguler: Pelatihan Penanggulangan Penderita Gawat Darurat (PPGD) bencana dan manajemen kesehatan reproduksi sebagai upaya dalam kesiapsiagaan bencana di Desa Potorono, Kabupaten Bantul, DIY.*
- Yustin, E., Wijanarka, A., & Ashari, A. (2020). Efektivitas aplikasi android kesehatan reproduksi remaja terhadap perbaikan perilaku seksual pranikah di SMK X Yogyakarta. *JHeS (Journal of Health Studies)*, 4(1), 96–103. <https://doi.org/10.31101/jhes.1357>
-