

## **Online Gambling Disorder and Its Psychosocial Impact on Adolescent Mental Health: Outcomes of a Multidisciplinary Community**

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### **Abstract**

Online gambling has become a serious threat to the mental health of Indonesian adolescents, with rising cases of addiction (gambling disorder), anxiety, depression, social isolation, and suicide risk. PPATK (2024) recorded online gambling transactions totaling IDR 359.8 trillion involving 16.38 million active players, yet community-based psychological education on the issue remains scarce. This community service study assessed how effectively a multidisciplinary interactive webinar improved adolescents' understanding of, and psychological resilience to, the effects of online gambling. The webinar was delivered via Zoom on 28 June 2025 to members of Angkatan Muda Muhammadiyah (AMM) and the general public aged 15–24, with Dr. dr. H. Kusbaryanto, M.Kes., FISPH., FISCAM. as the mental health speaker and Desy Eliana as panelist. Understanding was measured with a pre-test and post-test administered through Google Forms. Attendance reached 85% of the target, and mean comprehension scores rose by 42% after the webinar, in line with Hartono and Cahyati (2022), who reported similar gains in a comparable psychoeducation program. Participants were able to identify the DSM-5 criteria for gambling disorder, its neuropsychological consequences, and evidence-based prevention strategies. The findings suggest that a multidisciplinary webinar is an effective and replicable model for community intervention.

**Keywords:** community webinar, gambling disorder, mental health, online gambling, psychosocial impact

### **Introduction**

Rapid advances in digital technology have made information easier to access, but they have also introduced new and troubling risks. One of the most visible is the spread of online gambling, which can now be accessed from smartphones, tablets, and computers and therefore reaches people of all ages, including adolescents, who are among the most vulnerable. Rohmah and Khodijah (2024) note that adolescents' limited awareness of the dangers of online gambling leaves them highly exposed to its social consequences once they become involved.

According to the Indonesian Financial Transaction Reports and Analysis Center (PPATK, 2024), online gambling turnover reached IDR 359,813,614,827,891 across 209,572,573 transactions, with 16,381,384 active players. Most alarming is that children under the age of 10 made up 2% of all players, or roughly 80,000 children. By February 2025, the Ministry of Communication and Informatics had blocked 5,840,278 items of

online gambling content. The provinces with the highest levels of online gambling activity are shown in Table 1.

Table 1. Provinces with the Highest Online Gambling Activity in Indonesia (Source: PPATK, 2024)

| No. | Province     | Number of Players | Transaction Value (IDR) |
|-----|--------------|-------------------|-------------------------|
| 1   | West Java    | 553,644           | 3.8 trillion            |
| 2   | DKI Jakarta  | 238,588           | 2.3 trillion            |
| 3   | Central Java | 201,963           | 1.3 trillion            |
| 4   | Banten       | 150,302           | 1.022 trillion          |
| 5   | East Java    | 135,227           | 1.01 trillion           |

The harm caused by online gambling goes well beyond financial loss; it extends into mental health and psychosocial well-being. In a systematic review of more than 200 studies, Calado and Griffiths (2016) describe gambling addiction in terms of gambling disorder as defined in the DSM-5, which is characterized by excessive preoccupation, increasing tolerance, repeated unsuccessful attempts to control the behavior, and restlessness when trying to stop. Their review also found that 60% of problem gamblers experienced severe financial strain, which in turn led to prolonged, chronic stress.

From a neuropsychological perspective, the unpredictable outcomes of betting activate the brain's dopaminergic reward system on an intermittent basis, producing a powerful reinforcement pattern that is difficult to break. Over time, this leads to emotional dysregulation, greater impulsivity, and a reduced capacity for rational decision-making. Wood and Williams (2011) reported that 30% of online gamblers experienced a serious decline in the quality of their interpersonal relationships, while a national survey in Canada (Newman & Thompson, 2007) found that problem gamblers had 3.43 times higher odds of attempting suicide than the general population.

A systematic review by Airlangga et al. (2025) identified social learning theory as the dominant theoretical framework in research on adolescent online gambling, with game-based gambling and sports betting the most frequently studied forms. These findings point to the need for structured, multidisciplinary, community-based educational interventions. In response, Universitas Siber Muhammadiyah and Angkatan Muda Muhammadiyah (AMM) designed an interactive webinar that focused specifically on the mental health dangers of online gambling.

## Methods

### Type and Design of the Activity

This activity was conducted as community service research using a pre-test–post-test intervention design. A multidisciplinary webinar format was chosen because a similar approach had worked well in an online psychoeducation program for adolescents reported by Ferawati et al. (2021), which proved highly effective in improving participants' knowledge and engagement.

### Stages of the Community Service Program

The program was carried out in four systematic stages, as illustrated in Figure 1. Hartono and Cahyati (2022) showed that a well-planned sequence of stages, particularly one combining psychoeducation with pre–post evaluation, significantly improved participants' understanding, raising knowledge scores by 29 points. Their study served as the reference for the evaluation design of this program.

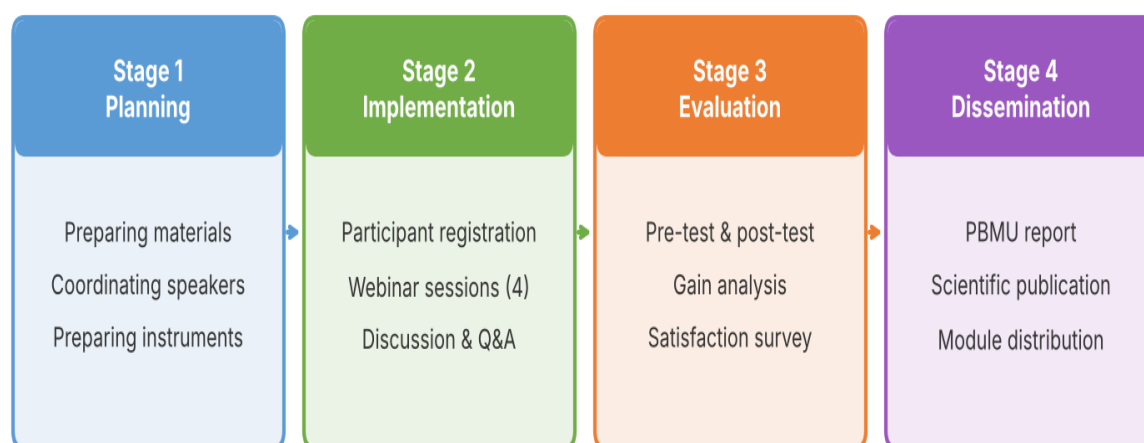


Figure 1. Stages of the Community Service (PkM) Program

The first stage (Planning) involved preparing the materials, coordinating with the speakers and the panelist, and developing the evaluation instruments. The second stage (Implementation), held on 28 June 2025, consisted of four thematic sessions followed by a panel discussion. The third stage (Evaluation) covered the analysis of pre-test and post-test data and a satisfaction survey. The fourth stage (Dissemination) included the official report and a scientific publication.

### Location, Time, and Participants

The webinar was held online via Zoom on Saturday, 28 June 2025, from 08:00 to 12:00 WIB (Western Indonesian Time). It was intended for members of Angkatan Muda Muhammadiyah (AMM), the academic community of Universitas Siber Muhammadiyah, and members of the public aged 15–24.

### Session Structure and Speakers

The webinar comprised seven sessions, including a panel discussion led by Desy Eliana of Universitas Siber Muhammadiyah as panelist. The mental health session was delivered by Dr. dr. H. Kusbaryanto, M.Kes., FISPH., FISCM. The full program is presented in Table 2.

Table 2. Webinar Program

| No. | Time        | Session / Topic        | Speaker / Panelist   | Moderator |
|-----|-------------|------------------------|----------------------|-----------|
| 1   | 08:00–08:15 | Registration & Opening | MC / Organizing Team |           |

|   |             |                                                                                               |                                                                                |                       |
|---|-------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-----------------------|
| 2 | 08:30–09:15 | Session 1 – Mental Health Literacy: The Psychosocial Impact of Online Gambling on Adolescents | Dr. dr. H. Kusbaryanto, M.Kes., FISPH., FISCM. (Univ. Muhammadiyah Yogyakarta) | Bagus Kelana          |
| 3 | 09:15–10:00 | Session 2 – Digital Literacy: Cybersecurity and the Technology behind Online Gambling         | Hendri Kurniawan, S.Kom., M.Cs. (IT Practitioner)                              | Hazmi Sugiyono        |
| 4 | 10:00–10:45 | Session 3 – Digital Legal Literacy: The Legal Consequences of Unlawful Conduct                | Dr. Muhammad Fatahillah Akbar, S.H., LL.M. (Univ. Gadjah Mada)                 | Nur Andhyk Prihatmoko |
| 5 | 10:45–11:30 | Session 4 – Financial Literacy: Economic Ethics and Islamic Finance                           | Rosid Wahyu Nugroho, M.Ak. (PT BPRS Almabrur)                                  | Hapsoro               |
| 6 | 11:30–11:50 | Panel Discussion – Cross-Perspective Reflection: Mental Health, Law, and Finance              | Desy Eliana (Panelist – Universitas Siber Muhammadiyah)                        | Amalina Nur Arifah    |
| 7 | 11:50–end   | Q&A, Group Photo, and Closing                                                                 | MC / All Speakers                                                              |                       |

### Data Collection and Analysis

Data were collected through a Google Forms questionnaire administered twice: a pre-test before the webinar and a post-test after all sessions had ended. The questionnaire covered five areas: (1) gambling disorder according to the DSM-5, (2) anxiety and depression, (3) social isolation and interpersonal problems, (4) risk of suicidal ideation, and (5) evidence-based prevention strategies. The data were analyzed descriptively by calculating the percentage increase in scores, following the approach used by Afrioza, Padilah, and Mursiah (2024) to measure the effect of online gambling education on adolescent mental health.

## Results

### Participation and Participant Characteristics

The webinar drew 35 active participants, representing 85% of the target. They included AMM members from various regions, students of Universitas Siber Muhammadiyah, and members of the public. Figure 2 shows the webinar in progress and the geographical spread of the participants.

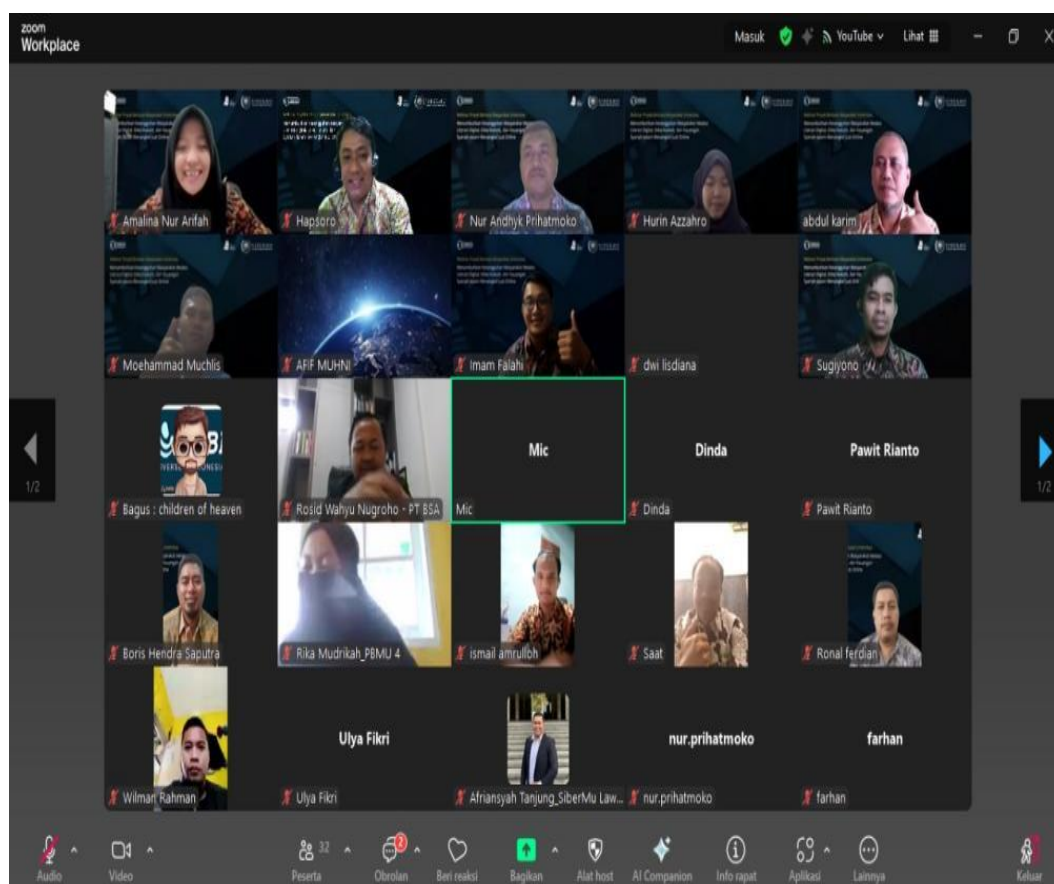


Figure 2. The Webinar on Zoom: Participants Joining from Various Regions, 28 June 2025

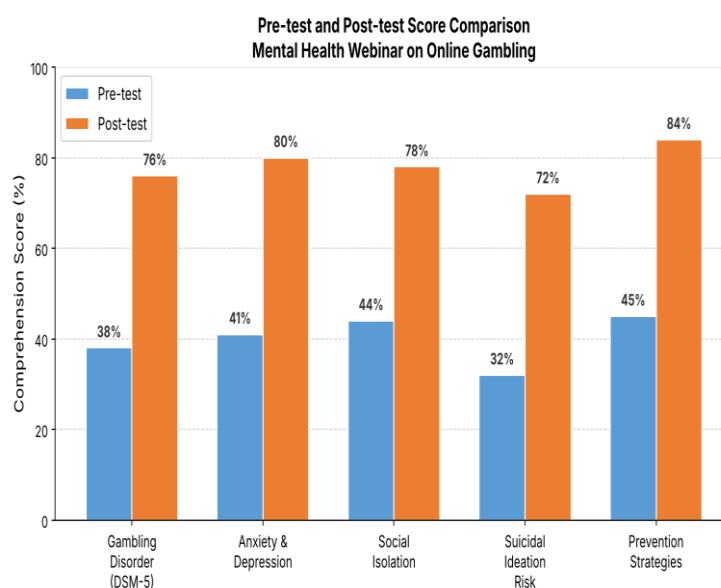


Figure 3. Pre-test and Post-test Scores across Five Areas of Mental Health Understanding Related to Online Gambling

### Improvement in Understanding from Pre-test to Post-test

The evaluation showed a mean increase of **42%** in comprehension scores from the pre-test to the post-test. This is consistent with Hartono and Cahyati (2022), who reported a 29-point gain in knowledge scores in a similar psychoeducation program, and is higher than the average effectiveness of online health education reported by Ferawati et al. (2021). Figure 3 compares the scores across the five areas measured.

The largest gains were in *prevention strategies* (45% → 84%) and *anxiety/depression* (41% → 80%). The *risk of suicidal ideation* area showed the largest relative increase, from 32% to 72%, indicating that this topic was the least understood beforehand but was conveyed most successfully by Dr. Kusbaryanto.

### Session 1 Material: Gambling Disorder and Its Mental Health Effects

Dr. Kusbaryanto explained that, from a medical perspective, gambling is classified as gambling disorder when the behavior is persistent and recurrent and causes significant distress or impairment (Calado & Griffiths, 2016). From an Islamic perspective, gambling (*maisir/qimar*) is prohibited in the Qur'an, Surah Al-Mā'idah (5): 90–91. The range of mental health problems he described included addiction, with loss of control at the core of the diagnosis; chronic stress and anxiety resulting from repeated losses; sleep disturbances and poor concentration; and impulsive or aggressive behavior. Figure 4 shows the slides from this session.

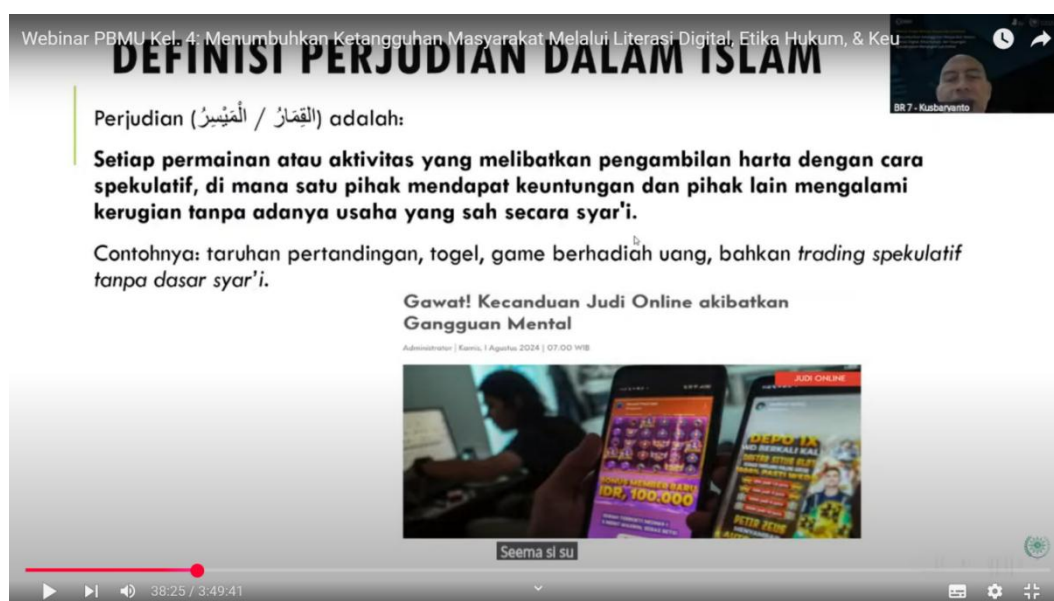


Figure 4. Session 1 Slide: The Definition of Gambling in Islam and Its Relationship to Mental Disorders

### Psychosocial Impact and the Risk of Suicidal Ideation

The most critical point raised in Dr. Kusbaryanto's session was the link between online gambling and suicide risk. Newman and Thompson (2007) found that problem gamblers had an odds ratio of 3.43 (95% CI: 1.37–8.60) for attempted suicide compared with the general population, a figure presented directly to participants to convey how serious these effects can be. Rohmah and Khodijah (2024) likewise stress that the social

isolation caused by online gambling is one of the main drivers of psychological crises among adolescents. Figure 5 shows the slide on psychosocial impact presented in this session.

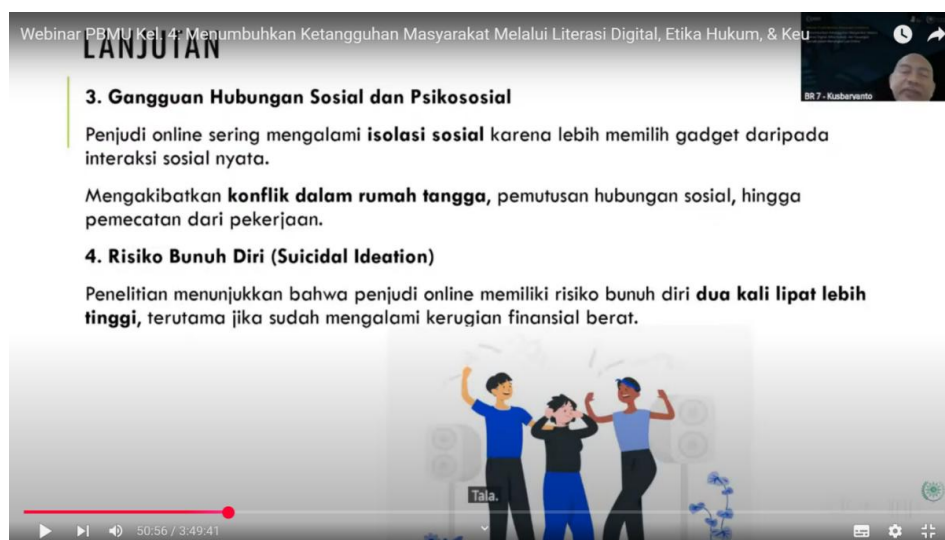


Figure 5. Session 1 Slide: Disrupted Psychosocial Relationships and Suicide Risk Associated with Online Gambling

The psychosocial effects identified fall into three dimensions: (1) disrupted family relationships, including household conflict and domestic violence driven by financial pressure (Rohmah & Khodijah, 2024); (2) progressive social isolation, as gamblers neglect real-life interaction in favor of the screen; and (3) declining academic and professional productivity, with long-term consequences (Airlangga et al., 2025).

### Panel Discussion and Collective Commitment

The panel discussion, led by Desy Eliana, provided an effective space for bringing the different disciplines together. By encouraging critical reflection across medical, legal, and Islamic finance perspectives, the discussion led participants to make a collective declaration to build a gambling-free community within the Muhammadiyah network, backed by concrete action plans: AMM peer-group mentoring, community-based mental health counseling, and anti-gambling educational content for social media. This outcome is in line with Afrioz et al. (2024), who found that group-based education reduced the risk of mental health problems among adolescents exposed to online gambling.

## Discussion

### The Multidisciplinary Webinar as a Community Intervention Model

The overall 42% increase confirms the effectiveness of the multidisciplinary webinar approach. This result exceeds the average effectiveness of comparable online education programs and is consistent with Ferawati et al. (2021), who reported that Zoom-based psychoeducation webinars for adolescents were highly effective because participants saw the topics as directly relevant to their own lives. It also agrees with Hartono and Cahyati (2022), who showed that structured psychoeducation significantly

improved the knowledge scores of health cadres ( $p = 0.0001$ ). The social learning approach, which Airlangga et al. (2025) identified as the dominant framework in studies of adolescent online gambling, is reflected in the design of this webinar, in which the expert speakers acted as positive role models who shaped participants' perceptions of gambling risk.

### **Neuropsychological Mechanisms: From Addiction to Suicidal Ideation**

Online gambling operates through neuropsychological mechanisms that closely resemble those of substance dependence: the dopaminergic reward system is activated intermittently by uncertain outcomes, creating a compulsive pattern that is very hard to break (Calado & Griffiths, 2016). The pathway from gambling disorder to suicidal ideation involves activation of the HPA axis, persistently elevated cortisol, and impaired prefrontal cortex function, made worse by social isolation and deep shame over being unable to stop gambling. This is consistent with the finding by Newman and Thompson (2007) that problem gamblers have 3.43 times higher odds of attempting suicide.

### **Psychosocial Dimensions: Evidence from Indonesian and International Studies**

These findings are consistent with both Indonesian and international literature. Wood and Williams (2011) reported that 30% of online gamblers experienced a serious decline in the quality of their relationships, while Calado and Griffiths (2016) found that 60% of problem gamblers faced severe financial strain. In the Indonesian context, Rohmah and Khodijah (2024) point out that online gambling advertisements on social media are the main route through which adolescents are exposed. This supports the argument that community-based interventions, particularly those aimed at youth organizations such as AMM, are among the most strategic and efficient responses. Afrioza et al. (2024) further confirmed that online gambling education had a significant effect on adolescent mental health ( $p < 0.05$ ), which supports the approach taken in this program.

### **The Role of the Panel Discussion in Consolidating Multidisciplinary Understanding**

The main innovation of this program was the addition of a panel discussion facilitated by Desy Eliana of Universitas Siber Muhammadiyah. The session served as an integrative capstone that brought the four speakers' perspectives together into a single, coherent picture. This approach strengthened participants' internalization of anti-gambling values, as reflected in their enthusiasm during the Q&A session and the measurable collective commitment that emerged from it.

### **Limitations and Future Research**

The main limitations were the short session length (45 minutes per topic), an evaluation that captured only short-term understanding, and the inability to measure actual behavioral change after the webinar. Airlangga et al. (2025) recommend multilevel interventions that combine digital literacy education, regulation of game content, and a stronger role for families, and this agenda should be built into follow-up programs. A webinar series based on cognitive behavioral therapy (CBT), combined with structured peer-group mentoring, is recommended as a follow-up model.

## Conclusion

This study shows that an interactive multidisciplinary webinar is an effective community intervention model for improving adolescents' mental health literacy regarding the psychosocial effects of online gambling. The 42% increase in comprehension scores and the 85% attendance rate reflect the success of this approach and are consistent with Hartono and Cahyati (2022) and Ferawati et al. (2021). The panel discussion led by Desy Eliana helped participants integrate the different perspectives and internalize anti-gambling values. Participants gained a thorough understanding of gambling disorder as defined in the DSM-5 (Calado & Griffiths, 2016), its psychosocial effects, including suicidal ideation (Newman & Thompson, 2007), and evidence-based prevention strategies.

Recommendations: (1) develop an ongoing series of thematic webinars; (2) set up an online counseling service following the webinar; (3) involve adolescents as peer educators; (4) evaluate long-term impact at one to six months; (5) integrate the material into the extracurricular curriculum of Muhammadiyah Islamic boarding schools (*pesantren*); and (6) distribute infographic education modules through AMM's social media channels.

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