

Empowering Youth through Peer-Based Drug Prevention: A Participatory Action Research in Pandanan Village

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ABSTRACT

Adolescent drug abuse remains a significant public health and community concern, particularly because peer relationships can influence young people's attitudes and risk-taking behaviors. This study aimed to examine the implementation of a peer-based drug prevention program for adolescents in Pandanan Village, Gresik, Indonesia. A Participatory Action Research (PAR) approach was employed through four stages: planning, implementation, monitoring, and reflection. The program involved KKN students, village authorities, Karang Taruna, the Komunitas Pemuda Anti Narkoba (KOPAN), and local adolescents. Data were obtained through observation, participant interaction, discussions, and reflection during the intervention. The findings indicate that the program encouraged active adolescent participation and provided opportunities to strengthen understanding of drug types, potential health and social consequences, negative peer influence, prevention strategies, and rehabilitation. The involvement of KOPAN created a peer-oriented communication environment that made prevention messages more accessible and relevant to adolescents. However, the absence of standardized pre-test, post-test, and longitudinal evaluation limits conclusions regarding long-term behavioral change. The program demonstrates the potential of positive peer influence as a foundation for sustainable, community-based adolescent drug prevention.

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INTRODUCTION

Adolescence is a transitional developmental period between childhood and adulthood, characterized by substantial physical, cognitive, emotional, and psychosocial changes. The World Health Organization (WHO) defines adolescence as the period between 10 and 19 years of age and emphasizes that this stage is particularly important for establishing patterns of behavior that can influence health and well-being throughout the life course (World Health Organization [WHO], 2024).

During adolescence, individuals experience rapid physical growth, increasing cognitive capacity, identity development, and greater independence in decision-making. These developmental changes also make adolescents particularly sensitive to social influences and risk-taking behaviors.

One of the social environments that significantly influences adolescent development is the peer group. As adolescents increasingly expand their social relationships beyond the family, peers become an important source of social learning, emotional support, behavioral models, and social norms. Peer relationships can have positive effects when adolescents are involved in supportive and constructive social environments. Conversely, negative peer influence may increase adolescents' vulnerability to risky behaviors, including alcohol consumption, smoking, and illicit drug use. Recent research indicates that peer conformity is associated with adolescents' substance-related behaviors because young people may adjust their attitudes and behaviors to gain social acceptance or maintain membership within a peer group (Violita et al., 2025). Thus, peer relationships should not only be viewed as a risk factor but also as a potential protective resource in substance-use prevention.

Substance use among adolescents is a significant public health concern because adolescence represents a sensitive period of brain and psychosocial development. The United Nations Office on Drugs and Crime (UNODC, 2025) reports that the prevalence of drug use among young people can be similar to or higher than that among adults, while initiation during adolescence may have more profound consequences for individual development. Early exposure to drugs is associated with an increased risk of developing substance-use disorders and may interfere with educational achievement, social relationships, and the transition to adulthood (UNODC, 2025). Therefore, preventing substance use during adolescence is important not only for individual health but also for educational, social, and community development.

Drug misuse refers to the harmful or inappropriate use of psychoactive substances that can produce changes in perception, mood, cognition, and behavior. Drugs differ in their pharmacological properties and potential harms; therefore, prevention programs need to provide adolescents with accurate, age-appropriate, and evidence-based information rather than relying solely on fear-based messages. The WHO and UNODC emphasize that effective drug-prevention strategies should be evidence-informed and should address individual, family, school, peer, and community factors simultaneously (United Nations Office on Drugs and Crime [UNODC] & WHO, 2018). Adolescents who begin using substances at an early age may face greater risks of dependence and other adverse consequences later in life (UNODC, 2025).

The social environment plays an important role in shaping adolescent substance-use behavior. Research has demonstrated that peer influence, family relationships, social norms, and community environments can either increase or reduce adolescents' vulnerability to substance use. In particular, association with peers involved in risky or delinquent behaviors may increase adolescents' exposure to substance use, whereas supportive peer relationships can function as protective factors (Kusumastuti & Hadjam, 2017; WHO, 2024). Consequently, prevention efforts should not focus exclusively on adolescents as individuals but should also strengthen the social environments in which they interact.

Evidence-based prevention strategies emphasize the importance of developing adolescents' knowledge, social competence, decision-making skills, and ability to resist negative peer pressure. The International Standards on Drug Use Prevention recommend prevention programs that strengthen personal and social skills while creating supportive environments for children and adolescents (UNODC & WHO, 2018). Similarly, WHO guidance indicates that school- and community-based interventions incorporating social influence, social competence, and life-skills approaches can contribute to reducing substance use among young people (WHO, 2024). Peer-led approaches are particularly relevant because adolescents may perceive messages delivered by individuals of a similar age as more relatable and socially acceptable.

In Indonesia, peer education has increasingly been considered a potential strategy for preventing drug abuse among adolescents. A study of the “Hey Peer Educator” program in Surabaya found that students who participated as peer educators perceived improvements in their knowledge, analytical skills, counseling abilities, and capacity to maintain positive behaviors related to drug-abuse prevention (Nadia et al., 2024). This finding is consistent with WHO recommendations emphasizing meaningful youth participation and peer-led activities as components of adolescent health promotion (WHO, 2024). Peer educators can therefore function not only as information providers but also as positive behavioral models who encourage their peers to make healthier decisions.

Community-based peer approaches are also relevant because adolescent behavior is shaped by social interactions that extend beyond the school environment. Community interventions can create spaces in which young people discuss substance-related risks, develop resistance skills, and strengthen positive peer networks. Previous community-based initiatives in Indonesia have demonstrated the potential of peer-group approaches for increasing adolescents' awareness of the dangers of drug abuse and strengthening protective social relationships (Hanim et al., 2022). Such approaches are particularly important in rural or village settings where youth organizations and community groups can become strategic partners in health-promotion activities.

Based on observations conducted in Pandanan Village, there was an identified need to provide adolescents with further education concerning the dangers of drug abuse. The need for intervention was related not only to adolescents' knowledge of drugs but also to their ability to recognize negative peer influence and make responsible decisions. Therefore, increasing awareness among adolescents was considered an important preventive measure. Adolescents represent an important social group because their behaviors and developmental trajectories will influence the future condition of families and communities. In response to this situation, the community assistance team initiated a drug-abuse prevention program for adolescents in Pandanan Village. The program involved the Komunitas Pemuda Anti Narkoba (KOPAN), a youth-based anti-drug community, as the main peer educators. The involvement of KOPAN was designed to create a communication process that was closer to adolescents' everyday social experiences. Rather than positioning adolescents merely as recipients of information, the program encouraged young people to learn from and interact with peers who could serve as positive role models.

The use of peer educators is supported by evidence suggesting that peer-led interventions can strengthen adolescents' knowledge, self-efficacy, social skills, and ability to resist negative social influence. WHO identifies peer interaction and peer-led approaches as potentially valuable components of substance-use prevention, particularly when peer educators are appropriately trained and supported (WHO, 2024). The approach also corresponds with the principle of meaningful youth engagement, in which young people are actively involved in designing, communicating, and promoting health-related messages within their communities (WHO, 2024).

Therefore, the drug-abuse prevention program in Pandanan Village was designed not merely as a one-way socialization activity but as a community-based educational intervention that utilized positive peer influence. Through KOPAN's involvement, adolescents were expected to gain greater knowledge about the risks of drug abuse, develop stronger awareness of negative peer pressure, and strengthen their commitment to avoiding drug-related behaviors. Ultimately, the program aimed to contribute to the development of a supportive youth environment in Pandanan Village in which adolescents could become agents of positive change and actively participate in preventing drug abuse within their peer community.

METHODS

This community-based study employed a Participatory Action Research (PAR) approach under the guidance of Muhammad Arifudin, M.Pd., Pristiwiyanto, S.H., M.H., and M. Indra Adi Gunawan, M.Pd. PAR was selected because it positions community members not merely as research subjects but as active participants in identifying problems, planning interventions, implementing actions, and evaluating the outcomes of the program. This approach emphasizes collaboration, participation, reflection, and collective action to address problems that emerge within the community (Kindon et al., 2010; MacDonald, 2012). The PAR process in this program consisted of four interconnected stages: planning, implementation, monitoring, and reflection. These stages were conducted collaboratively by the KKN students, village authorities, youth organizations, and community members. The participatory process enabled the research team to understand the local context and develop an intervention that was relevant to the needs of adolescents in Pandanan Village.

The planning stage began with coordination between the KKN students from Universitas Islam Al-Azhar and the village government of Pandanan. The students communicated with the village head, village officials, youth representatives, and local community members to identify community concerns and obtain permission to conduct the program. The initial assessment indicated the need to strengthen adolescents' knowledge and awareness regarding the risks of drug abuse. The planning process focused on understanding concerns related to drug circulation and potential drug-abuse risks in Kedamean District, particularly in Pandanan Village. Rather than treating the community as passive recipients of information, the KKN students involved local stakeholders in determining the most appropriate form of intervention. The village government and youth representatives subsequently agreed that an anti-drug education and awareness program should be conducted for adolescents affiliated with the village youth organization (Karang Taruna). The planning process also included determining the appropriate time, location, participants, and resource persons. The Pandanan Village Hall was selected as the venue because it was accessible to community members. A representative from the Komunitas Pemuda Anti Narkoba (KOPAN), Gresik Selatan regional coordinator, was invited as the main speaker. The involvement of a youth-based anti-drug organization was intended to create a more relatable communication environment for adolescent participants.

The implementation stage consisted of an anti-drug socialization and educational session conducted on December 2, 2023, at 7:00 p.m. Western Indonesian Time (WIB) at the Pandanan Village Hall. The activity was organized by KKN Group 03 in collaboration with the Pandanan Village government and local youth organizations. The program involved several stakeholders, including the Head of Pandanan Village and village officials, the Babinsa team, representatives of the Kelompok Inti Pemuda Anti Narkoba (KIPAN), members of the Komunitas Pemuda Anti Narkoba (KOPAN), and adolescents from Karang Taruna Pandanan Village. The educational session focused on increasing adolescents' understanding of the dangers of drug abuse, potential social and health consequences, and the importance of resisting negative peer influence. The use of peer-oriented speakers was intended to facilitate communication between the resource persons and adolescent participants. This strategy was based on the understanding that adolescents may respond more positively to messages delivered through socially relevant and participatory interactions. Evidence-based prevention approaches emphasize the importance of strengthening adolescents' social competence, decision-making skills, and ability to resist negative peer influence (United Nations Office on Drugs and Crime [UNODC] & World Health Organization [WHO], 2018).

The monitoring stage was conducted to assess the implementation and initial outcomes of the program. The KKN students observed participants' involvement during the activity, including their attention, participation in discussions, responses to questions, and interactions with the speakers. Monitoring was also used to identify whether the information presented was understood by the

participating adolescents. The main evaluative question was whether the anti-drug education program contributed to increased understanding among Karang Taruna adolescents regarding the risks and consequences of drug use. The monitoring process therefore focused on participants' responses and observable changes in awareness during and after the educational session. The monitoring findings indicated that participants demonstrated active engagement throughout the activity. Adolescents participated in discussions and responded to questions concerning drug-related risks and strategies for avoiding negative peer influence. These observations provided an initial indication that the intervention was relevant to the needs of the participants. However, because the program was conducted as a community-service intervention without a standardized pre-test and post-test design, the findings should be interpreted as evidence of increased awareness and engagement, rather than as definitive evidence of a measurable causal effect.

Reflection constituted an important component of the PAR process. The students and community stakeholders reflected on the implementation of the program, the participation of adolescents, and the relevance of the information provided. Reflection allowed the participants to identify strengths and limitations of the intervention and consider possible follow-up activities. The PAR approach emphasized an equal and collaborative relationship between the community and the student facilitators. Community members were positioned as active participants in identifying problems, determining priorities, planning activities, and supporting program implementation. Meanwhile, the KKN students served as motivators, facilitators, catalysts, and companions who supported the community throughout the intervention process.

This division of roles reflects the fundamental principle of PAR, in which knowledge and action are developed collaboratively rather than being imposed externally by researchers. PAR encourages communities to participate in producing knowledge about their own conditions while simultaneously taking collective action to address identified problems (MacDonald, 2012). In this context, the anti-drug program was not solely an educational activity delivered by university students but a collaborative community intervention involving village authorities, youth organizations, anti-drug communities, and adolescents. The overall methodological process can therefore be understood as a cyclical process of identifying problems, planning actions, implementing interventions, monitoring outcomes, and reflecting on future improvements. This participatory cycle provided a foundation for developing a community-based strategy to strengthen adolescent awareness of drug-abuse risks in Pandanan Village.

FINDINGS AND DISCUSSION

Implementation of the Anti-Drug Awareness Program

The anti-drug awareness program was conducted at the Pandanan Village Hall with a resource person representing the Komunitas Pemuda Anti Narkoba (KOPAN) of Gresik Regency. The activity was attended by adolescents from Pandanan Village and several community stakeholders. During the program, the adolescents demonstrated considerable enthusiasm and actively participated in the activities, including the presentation, discussion, and question-and-answer session.

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Figure 1. Opening of the Anti-Drug Awareness Program

The active participation of adolescents during the program indicates that drug-abuse prevention remains a relevant topic within the local youth community. This finding is consistent with recent evidence showing that adolescence is a particularly sensitive developmental period for substance-use initiation. The United Nations Office on Drugs and Crime (UNODC, 2025) reports that drug use among young people can be comparable to or higher than that among adults, while early initiation may increase the risk of developing substance-use disorders and other negative consequences later in life.

The initial stage of the activity involved asking participants several questions concerning drug use and its potential consequences. This informal assessment was intended to identify participants' initial understanding before the main material was delivered. The responses indicated that several adolescents had limited knowledge regarding the risks associated with drug misuse. This finding supports the importance of providing adolescents with accurate and accessible information concerning substance use.

The need for adolescent drug education is also supported by recent research. A systematic review of adolescent substance-use prevention programs found that effective prevention requires attention to both risk and protective factors and the use of evidence-informed intervention components (Rhames et al., 2026). Similarly, Liu et al. (2023), through a scoping review of adolescent substance-use interventions, identified cognitive-behavioral skills, peer interventions, family-school cooperation, and other educational approaches as important components of prevention efforts. Peer-Based Delivery of Drug Prevention Information



Figure 2. Resource Person Delivering the Educational Material

The main educational session addressed the definition of drug misuse, types of psychoactive substances, potential health and social consequences, prevention strategies, and the importance of seeking professional assistance when substance dependence occurs. The material was delivered by a representative of KOPAN, allowing the program to adopt a peer-oriented communication approach. The use of peer-oriented education was particularly relevant because adolescents' attitudes and

behaviors can be influenced by their social environment. A recent meta-analysis involving longitudinal studies found a significant positive effect of peer influence on adolescent substance-use behavior. The findings indicated that adolescents tended to change their substance-use behavior in accordance with the substance-use patterns of their peers (Allen et al., 2024).

Peer influence, however, should not always be interpreted as direct peer pressure. Adolescents may be influenced by perceived social norms, acceptance, and the behaviors of people within their social groups. Therefore, prevention programs can potentially transform peer influence from a risk factor into a protective mechanism by promoting positive norms and healthy behavioral models. This perspective is important in the context of Pandanan Village. Rather than relying exclusively on adult-led health education, involving young people and youth organizations can create a communication environment that is closer to adolescents' social experiences. A systematic review of school-based peer education found that peer-led interventions demonstrated promising effects, particularly in improving health-related knowledge, although evidence for sustained behavioral change remained more limited (Kim et al., 2022).

Evidence from Indonesia provides further support for this approach. Nadia et al. (2024) found that students participating as peer educators in a drug-abuse prevention program in Surabaya perceived improvements in their knowledge, analytical skills, counseling abilities, and capacity to maintain positive behaviors. These findings strengthen the relevance of involving youth-based organizations such as KOPAN in community drug-prevention activities. Interactive Discussion and Participants' Questions



Figure 3. Question-and-Answer Session

After the presentation, the moderator opened a question-and-answer session. Participants and invited guests actively asked questions concerning drug abuse and the role of government institutions in dealing with drug-related cases. One question concerned the role of the National Narcotics Agency (BNN) in processing individuals apprehended by law enforcement authorities and the possibility of rehabilitation. The resource person explained the general role of BNN and the possibility of rehabilitation for individuals with substance-related problems. The explanation was delivered using relatively accessible language, allowing participants to engage in discussion without being limited by technical terminology. This interaction was important because prevention education should not merely provide information but should also provide opportunities for adolescents to clarify misconceptions and discuss concerns related to substance use.

The interactive nature of the activity is consistent with contemporary approaches to adolescent health promotion. WHO, UNICEF, and UNESCO (2023) emphasize the importance of integrated and whole-school approaches to substance-use prevention, highlighting the role of supportive educational environments in promoting adolescent health and well-being. Although the Pandanan program was community-based rather than school-based, the same principle of creating supportive social environments can be applied within youth and village settings.

Understanding the Risks and Warning Signs of Substance Use

One participant subsequently asked about characteristics that may be associated with individuals who use or are dependent on certain substances. The resource person described several possible physical and behavioral changes associated with substances such as methamphetamine, cannabis, heroin, and ecstasy. However, the discussion emphasized that such characteristics should not be interpreted as definitive evidence of drug use. Physical or behavioral changes can arise from many other health, psychological, or social conditions. Therefore, suspected substance use should be assessed by qualified professionals rather than determined solely from external appearance. The educational discussion nevertheless provided participants with an initial understanding that substance use can manifest through changes in behavior, mood, cognitive functioning, social interaction, and physical condition. Such knowledge can help adolescents recognize potential risks and encourage them to seek appropriate assistance when they encounter substance-related problems among peers or family members. This approach is preferable to stigmatizing individuals who use drugs. Contemporary prevention strategies emphasize health promotion, early intervention, and access to appropriate treatment rather than relying solely on fear or punishment. The UNODC and WHO standards for drug-use prevention emphasize evidence-based interventions that address individual, interpersonal, and environmental risk and protective factors (UNODC & WHO, 2018).

Drug Types and Their Potential Consequences

The socialization program also introduced participants to several psychoactive substances, including cannabis, cocaine, ecstasy/MDMA, heroin, and methamphetamine. The resource person explained that different substances have different pharmacological effects and health risks. The discussion also highlighted that some substances have legitimate medical applications under strict professional supervision, whereas non-medical or illicit use can cause serious harm. The distinction between medical use and misuse is important because not every substance classified as a narcotic is inherently prohibited in every context. Some substances may be legally used for medical or scientific purposes under strict regulation. Therefore, drug-prevention education should avoid presenting all substances as pharmacologically identical and instead explain the differences between therapeutic use, misuse, dependence, and illicit trafficking.

The potential consequences discussed during the activity included impaired cognition, altered perception, impaired consciousness, psychological problems, dependence, overdose, and death. Drug misuse can also affect educational participation, employment, financial stability, family relationships, and social functioning. Recent international evidence reinforces the seriousness of these risks. UNODC (2024) identifies continuing global challenges associated with illicit drug markets and drug-related harms. Furthermore, UNODC (2025) emphasizes that early drug initiation can have a particularly significant impact because the adolescent brain is still developing.

Drug Prevention through Positive Youth Activities

The program did not merely emphasize the negative consequences of drug use but also provided practical recommendations for prevention. Adolescents were encouraged to avoid experimenting with drugs out of curiosity, develop positive peer relationships, increase their knowledge of drug-related risks, and participate in constructive activities. The emphasis on positive peer relationships is particularly relevant to the findings of recent research. Field et al. (2023) demonstrated that adolescents' perceptions of substance-use norms among parents, close friends, and popular peers are associated with subsequent substance-use patterns. This suggests that prevention programs need to address not only individual knowledge but also adolescents' perceptions of what is considered normal or socially accepted among their peers.

Accordingly, youth organizations can play an important preventive role. Sports, religious activities, educational programs, community service, youth organizations, and other constructive activities can provide adolescents with opportunities to develop social connections without exposure to substance-use environments. The use of culturally and socially relevant prevention strategies is also supported by recent systematic evidence. Bo et al. (2023) found that culturally sensitive substance-use prevention programs can contribute to reducing substance-use outcomes among adolescents, although intervention effects may differ according to the type of substance and characteristics of the target population. Therefore, prevention programs should be adapted to local social and cultural contexts rather than implemented as standardized information campaigns without consideration of community characteristics.

Rehabilitation and Recovery

The program also explained that individuals who have developed substance dependence require professional assistance and may benefit from rehabilitation. Rehabilitation was presented as a recovery-oriented process rather than merely a form of punishment. Participants were informed that individuals experiencing dependence should receive appropriate assessment and treatment from qualified professionals. The resource person introduced three broad components of recovery: medical rehabilitation, psychosocial or non-medical rehabilitation, and aftercare. Medical rehabilitation may include health assessment and management of withdrawal or other medical complications. Psychosocial rehabilitation may include counseling, group-based support, and other therapeutic interventions. Aftercare focuses on maintaining recovery and supporting individuals' reintegration into family, educational, occupational, and community environments. This recovery-oriented perspective is important because stigma can discourage individuals from seeking help. Prevention activities should therefore communicate that substance dependence is a health and social problem requiring appropriate professional support. The emphasis should be placed on early identification, access to treatment, family support, and community reintegration.

Community Impact and Sustainability

The overall implementation of the program demonstrated that the adolescents of Pandanan Village were willing to participate in discussions concerning drug prevention. The initial questions indicated that participants' knowledge was not yet comprehensive, while the subsequent discussion created opportunities for participants to obtain information directly from an anti-drug youth organization. The program's most important contribution was therefore not simply the delivery of information but the creation of a community-based space for adolescents to discuss drug-related risks with peers and community stakeholders. This finding is consistent with research showing that peer education can improve health knowledge and may provide a promising mechanism for adolescent health promotion, although stronger evaluation designs are required to establish long-term behavioral effects (Kim et al., 2022). The program should nevertheless be understood as an initial preventive intervention rather than definitive evidence of long-term behavioral change. Because the activity did not employ a standardized pre-test and post-test or longitudinal follow-up, it is not possible to statistically demonstrate that the program caused a sustained reduction in drug use. The observable enthusiasm and participation of adolescents can instead be interpreted as evidence of engagement and the relevance of the educational topic.

For sustainability, the anti-drug prevention initiative should be continued through collaboration among the village government, Karang Taruna, KOPAN/KIPAN, schools, families, health professionals, and relevant government agencies. Regular peer-education activities, youth discussions, awareness campaigns, and referral information could strengthen the continuity of the program. Such collaboration is consistent with whole-system approaches to adolescent health promotion, which

emphasize coordination between education, health, family, and community sectors (WHO et al., 2023). Overall, the Pandanan Village program demonstrates the potential of peer-based community education as an entry point for adolescent drug-abuse prevention. The involvement of KOPAN allowed the program to combine health education with youth participation, while the interactive discussion provided adolescents with opportunities to clarify their understanding. The intervention therefore represents a practical community-based strategy that can be developed further through continuous peer education, systematic evaluation, and stronger collaboration among local stakeholders.

Implications and Sustainability

The implementation of the anti-drug awareness program in Pandanan Village has several implications for adolescent health promotion and community-based drug prevention. First, the program demonstrates that peer-based education can provide a relevant communication strategy for reaching adolescents. The involvement of the Komunitas Pemuda Anti Narkoba (KOPAN) enabled the delivery of drug-prevention messages through a youth-oriented communication environment. This approach is important because adolescents' attitudes and behaviors are strongly influenced by their social relationships and perceptions of peer norms. Previous research has shown that peer influence can significantly shape adolescent substance-use behavior, suggesting that peer networks can function either as risk factors or as protective resources (Allen et al., 2024).

Second, the program has implications for strengthening adolescents' health literacy. The initial interaction with participants indicated that their understanding of drug-related risks was not yet comprehensive. The educational session provided opportunities for adolescents to obtain information, ask questions, and clarify their understanding of drug use, dependence, prevention, and rehabilitation. This interactive approach is consistent with evidence indicating that peer education can be effective in improving health-related knowledge among young people, although improvements in knowledge should not automatically be interpreted as evidence of long-term behavioral change (Kim et al., 2022). Therefore, future programs should complement socialization activities with structured learning activities, repeated discussions, and opportunities for adolescents to apply prevention knowledge in their everyday lives.

Third, the program has implications for strengthening the role of youth organizations in community health promotion. The involvement of KOPAN, KIPAN, Karang Taruna, and village authorities demonstrates that drug prevention can be implemented through collaboration among multiple community actors. Rather than positioning adolescents merely as recipients of information, youth organizations can be developed as partners in prevention activities. This is particularly relevant because peer educators can function as positive role models and communication bridges between health institutions and young people (Nadia et al., 2024). Such an approach can contribute to creating a community environment in which healthy and drug-free behavior becomes a shared social norm.

The sustainability of the program requires continuous involvement from the village government, youth organizations, families, educational institutions, health professionals, and anti-drug organizations. The current intervention should therefore be viewed as an initial step rather than a one-time activity. Regular peer-education sessions, youth discussions, awareness campaigns, and community-based activities can be developed as follow-up programs. WHO, UNICEF, and UNESCO (2023) emphasize the importance of coordinated approaches involving educational, health, family, and community environments in promoting adolescent well-being and preventing substance-related problems.

Sustainability can also be strengthened by developing a group of trained adolescent peer educators in Pandanan Village. These peer educators could receive basic training concerning drug-prevention information, communication skills, recognizing potential risks, and appropriate referral pathways. Their role should not be to diagnose or treat substance-use disorders but to provide accurate

information, encourage healthy behaviors, reduce stigma, and direct individuals who require assistance to qualified professionals. Such a model would enable drug-prevention activities to continue even after the completion of the KKN program.

In addition, future implementation should incorporate more systematic monitoring and evaluation. The present activity demonstrated participant engagement and provided opportunities for knowledge exchange, but it did not employ a standardized pre-test and post-test or longitudinal follow-up. Consequently, the program cannot establish a causal effect on participants' knowledge or behavior. Future programs could measure changes in knowledge, attitudes toward drug use, perceived peer norms, and self-efficacy in refusing drugs before and after the intervention. Follow-up assessments could also be conducted several months after the intervention to examine whether the educational effects are sustained.

Another important implication concerns the need to move from information-based prevention toward a broader community-support system. Adolescents should have access to positive recreational, educational, religious, and social activities that reduce exposure to risky environments while strengthening supportive peer relationships. Research indicates that adolescent substance use is influenced by multiple social contexts, including parents, close friends, and broader peer groups (Field et al., 2023). Therefore, sustainable prevention requires simultaneous attention to the adolescent, family, peer group, school, and community.

Ultimately, the Pandanan Village program demonstrates the potential of peer-based community education as an entry point for sustainable adolescent drug-abuse prevention. Its long-term contribution will depend on whether the initial socialization activity can be transformed into a continuous youth-led prevention movement. By strengthening peer educators, institutionalizing collaboration among community stakeholders, conducting periodic education, and implementing systematic evaluation, Pandanan Village can develop a more resilient community-based prevention model. Such a model can position adolescents not only as beneficiaries of drug-prevention programs but also as active agents in promoting healthy, safe, and drug-free communities.

CONCLUSION

The implementation of the anti-drug awareness program in Pandanan Village demonstrates that a peer-based, community-oriented approach can provide a relevant strategy for strengthening adolescents' awareness of drug-abuse risks. Through the Participatory Action Research (PAR) approach, the program involved village authorities, youth organizations, anti-drug communities, KKN students, and adolescents in identifying local concerns, implementing educational activities, monitoring participation, and reflecting on future prevention efforts. The involvement of the Komunitas Pemuda Anti Narkoba (KOPAN) created a communication environment that was relatively close to adolescents' social experiences and encouraged active participation through presentations, discussions, and question-and-answer sessions.

The findings indicate that adolescents showed considerable enthusiasm and engagement during the program and obtained opportunities to expand their understanding of drug types, potential health and social consequences, prevention strategies, negative peer influence, and rehabilitation. The activity also demonstrated that peer networks can be transformed from potential sources of risk into protective resources by promoting positive behavioral models and healthy social norms. However, the findings should be interpreted cautiously because the program did not employ standardized pre-test and post-test measurements or longitudinal follow-up. Therefore, the program provides evidence of participant engagement and increased awareness during the intervention rather than definitive evidence of long-term behavioral change.

Sustainability requires the program to move beyond a one-time socialization activity toward a continuous community-based prevention system. Collaboration among the village government,

Karang Taruna, KOPAN/KIPAN, families, schools, health professionals, and relevant government institutions should be strengthened through regular peer education, youth activities, referral mechanisms, and periodic evaluation. Training adolescent peer educators can further institutionalize the program and enable young people to become active agents of prevention. Future interventions should also employ systematic evaluation to measure changes in knowledge, attitudes, perceived peer norms, self-efficacy, and longer-term behavioral outcomes. Overall, the Pandanan Village experience demonstrates the potential of youth participation and positive peer influence as foundations for developing a sustainable, collaborative, and locally responsive approach to adolescent drug-abuse prevention.

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