



Skill-based Health Education for Adolescent Mental Health through the HOPE

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Abstract: Globally, it is estimated that 10-20% of adolescents experience mental health problems and remains underdiagnosed and untreated. Mental health activities have not been active in Sekaran Public Health Center. Community partnership provide mental health education, training to overcome and prevent mental health problems, and to be peer educators by HOPE (Health Educated, Organized, Practiced, and Empowered) method. Twelve adolescents were screened by Strengths and Difficulties Questionnaire (SDQ). All youth cadres had normal difficulty scores, emotional symptoms, and hyperactivity. Two adolescents have threshold category in behavior problems, an adolescent has threshold category in peer problems, and an adolescent has abnormal category in proposocial behavior. There is a difference in mental health knowledge between before and after education is given ($p=0,014$). It is important for health facilities to regularly provide education and empowerment of adolescents in mental health. This HOPE method can be implemented for other health facilities.

Keywords: Mental health; HOPE; SDQ; adolescents; health education; Youth Health Integrated Centre

Introduction

About 1.2 billion people or 1 in 6 of the world's population are adolescents aged 10-19 years. Most of the adolescents are healthy, but there are still cases of premature death, disease, and injury among adolescents.¹ A variety of physical, emotional, and social changes, including exposure to socioeconomic problems, abuse, or violence, can

¹ WHO, "Adolescents: Health Risks and Solutions."

make adolescents vulnerable to mental health problems. Adolescents need to be mentally healthy and protected from bad experiences and risk factors that can affect their potential to thrive. This is important so that physical and mental health can develop well now and in the future.²

Adolescence is an important time for developing and maintaining the social and emotional behaviors that are essential for mental health. Some of these include adopting healthy sleep patterns, doing regular exercise, developing stress coping skills, problem solving, interpersonal skills, and learning to manage emotions. A supportive environment in the family, school and community greatly affects adolescent mental health. It is estimated that 10-20% of adolescents globally experience mental health problems, but this condition remains underdiagnosed and untreated.³ The consequences of not handling mental health problems from adolescents to adults will damage physical and mental health and limit opportunities to live a good life as an adult.⁴ Some of the mental health problems of adolescents include emotional disorders (anxiety, depression, frustration, anger), behavioral disorders (hyperactivity, difficulty focusing attention, excessive behavior), eating disorders (anorexia nervosa, bulimia nervosa, and binge eating disorder), psychosis (hallucinations, delusions), suicide and self-harm, and risky behaviors (drug use, free sex, smoking, and alcohol consumption).⁵

The prolonged COVID-19 pandemic has a significant impact on the mental health of adolescents, both direct and long-term impacts. The direct impacts that arise include difficulty and hopelessness, irregular food intake, trauma, difficulties in socializing, and loss of care. The long-term effects include delays in brain development, obesity, drug abuse, emotional disturbances, psychological disorders, and suicidal thoughts.⁶

According to a systematic review study, mental health disorders in adolescents can be intervened through school-based interventions, communities, digital platforms, and individuals/families. School-based interventions show that these interventions are effective in reducing symptoms of depression, anxiety, and suicide. Community-based interventions had several positive effects on changes in behavior, self-confidence, self-esteem, level of knowledge, and physical activity. Other findings from digital platform-based interventions can help prevent anxiety and depression. Individual and family-

² WHO, "Adolescent Mental Health."

³ Ronald C Kessler et al., "Lifetime Prevalence and Age-of-Onset Distributions of Mental Disorders in the World Health Organization's World Mental Health Survey Initiative," *World psychiatry: official journal of the World Psychiatric Association (WPA)* 6, no. 3 (October 2007): 168-176.

⁴ WHO, "Adolescent Mental Health."

⁵ Gregory A Aarons et al., "Association Between Mental and Physical Health Problems in High-Risk Adolescents: A Longitudinal Study," *Journal of Adolescent Health* 43, no. 3 (September 2008): 260-267; WHO, "Adolescent Mental Health."

⁶ Camila Saggiore de Figueiredo et al., "COVID-19 Pandemic Impact on Children and Adolescents' Mental Health: Biological, Environmental, and Social Factors," *Progress in Neuro-Psychopharmacology and Biological Psychiatry* 106 (2021): 110171; Josefine Rothe et al., "Changes in Emotions and Worries during the Covid-19 Pandemic: An Online-Survey with Children and Adults with and without Mental Health Conditions," *Child and Adolescent Psychiatry and Mental Health* 15, no. 1 (2021): 11.

based interventions can increase self-confidence and reduce anxiety.⁷ A study introduced an intervention called Teen Mental Health First Aid (tMHFA) which was effective in improving adolescents' mental health literacy in the short term. This intervention is a classroom-based training program for students aged 15–18 years to increase supportive behavior towards peers, increase mental health literacy, and reduce stigma.⁸

The population of adolescents in Semarang City is 16% of the total population. One of the sub-districts in Semarang City with a growth rate above 1% is Gunungpati District. Most of the adolescents are concentrated in the Sekaran Village.⁹ Based on the preliminary survey, several problems related to the mental health of adolescents in the working area of Sekaran Public Health Center (PHC) is the implementation of the Youth Integrated Healthcare Center (YHIC) that focuses on adolescent mental health has not been optimally implemented.

Health literacy intake in adolescents is mostly obtained from social media that does not yet know the truth. The second problem is that there is no activity at school because the pandemic has made adolescents only active at home by surfing in cyberspace. This can lead to a decrease in self-confidence and anxiety in adolescents, even in adolescents who before the pandemic had experienced mental health disorders. The third problem is the fast access to information through social media. As many as 90% of adolescents in the working area of the Sekaran PHC obtain health information through social media. The fourth problem is that not all parents accompany their children in the online learning process and activities in cyberspace. Related to their emotional condition, adolescents need less parents as a safe haven. When viewed from the social aspect, adolescents are more likely to seek support from peers than their parents. Adolescents also usually want greater freedom from parents as part of identity development and adolescents are less willing to accept help from parents¹⁰.

Based on these problems, it is necessary to intervene in adolescent mental health problems through a peer group approach in the working area of the Sekaran PHC through community service activities "Skill-Based Health Education for Adolescent Mental Health through the HOPE".

⁷ Jai K Das et al., "Interventions for Adolescent Mental Health: An Overview of Systematic Reviews," *The Journal of adolescent health: official publication of the Society for Adolescent Medicine* 59, no. 4S (October 2016): S49–S60.

⁸ Laura M Hart et al., "Helping Adolescents to Better Support Their Peers with a Mental Health Problem: A Cluster-Randomised Crossover Trial of Teen Mental Health First Aid," *The Australian and New Zealand journal of psychiatry* 52, no. 7 (July 2018): 638–651.

⁹ BPS Kota Semarang, *Kota Semarang Dalam Angka 2021* (Kota Semarang: BPS Kota Semarang, 2021).

¹⁰ Sabrina Koepke and Jaap J A Denissen, "Dynamics of Identity Development and Separation–Individuation in Parent–Child Relationships during Adolescence and Emerging Adulthood – A Conceptual Integration," *Developmental Review* 32, no. 1 (2012): 67–88.

Method

This service activity was carried out on Friday, October 8th, 2021 with strict health protocols in the Sekaran PHC Auditorium, Semarang. The service in collaboration with the Sekaran PHC was attended by 12 active youth representatives from 5 YHICs of Sekaran PHC. A total of 12 adolescents consisted of 8 boys and 4 girls. Adolescents who take part in this service activity are on average 16-18 years old.

In carrying out this public health education activity, methodologies of activities are used which are considered relevant to the achievement of the goals and conditions of the target audience. The method is called the HOPE (Health Educated, Organized, Practiced and Empowerment).

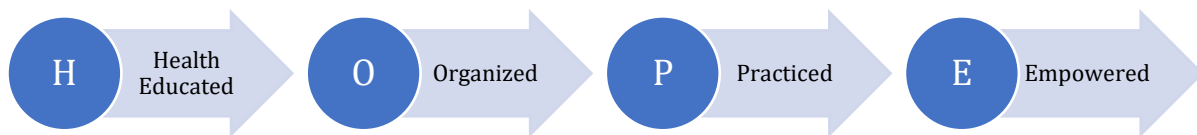


Figure 1. Community Service Method

Health Educated

The initial step taken in solving this problem is to provide health education to adolescents regarding mental health. The provision of education is carried out by counseling method with a Psychiatrist from Dr. Kariadi Central General Hospital Semarang, dr. Soesmeyka Savitri, Sp.KJ. Counseling using presentation media with illustrated power points, that showed in Figure 2. Health education provided about mental health includes what adolescents know about ways to maintain health, such as knowledge about mental health, factors related to and or influencing mental health, knowledge about health care facilities, and knowledge to avoid mental disorders.

Organized

After being given health education, a youth organization was formed as Youth Health Cadres. This is necessary to arrange for these youth to become willing or have an attitude towards mental health and to increase the participation and role of adolescents as peer educators for their peers. Attitude towards mental health is the opinion or assessment of adolescents on matters relating to mental health maintenance.

Practiced (Training of Trainer)

The next step is to improve the mental health practices of youth cadres. Mental health practices are all activities or activities of youth cadres in the context of maintaining mental health, such as actions on mental health, actions on factors related

to and or affecting mental health, actions on health service facilities, and actions to avoid mental disorders.

Empowered

The last step is to empower youth cadres. The goal is for these youth cadres to be effective in improving the mental health of their peers. This activity has the main mission of enabling youth cadres (enabled), making them able to maintain and improve their mental health independently, by exploring all the potential that exists for mental health improvement, by providing training, providing information and a supportive environment, especially within the scope of their peers.

In addition, this activity also measures and screens difficulties and mental health for approximately the last 6 months in adolescent (11-18 years) through the SDQ (Strengths and Difficulties Questionnaire) questionnaire which contains 25 questions. These 25 questions are divided into 5 subscales: difficulty level, emotional symptoms (E), behavioral problems (C), hyperactivity (H), peer problems (P), and prosocial behavior (Pro).¹¹

Result

Early detection of adolescent mental health disorders with the SDQ instrument

Before the Health Educated stage was carried out by the resource persons, the cadres were asked to take self-measurements on their level of difficulty, emotional symptoms (E), behavior problems (C), hyperactivity (H), peer problems (P), and their prosocial behavior (Pro). Through the SDQ instrument containing 26 questions about behavior carried out for approximately the last 6 months.

A total of 12 youth cadres were asked to fill out a questionnaire to see their level of difficulty, emotional symptoms (E), behavioral problems (C), hyperactivity (H), peer problems (P), and their prosocial behavior (Pro). The distribution of 12 adolescents consisted of 8 males and 4 females. The results of the SDQ measurement can be seen in table 1 as follows:

¹¹ Louise G Nielsen et al., "The Predictive Validity of the Strengths and Difficulties Questionnaire in Preschool Age to Identify Mental Disorders in Preadolescence," *PLOS ONE* 14, no. 6 (June 2019): e0217707.

Table. 1 SDQ (Strengths and Difficulties Questionnaire) interpretation results of 12 adolescents in YHICs

		Total Difficulty Score	E	C	H	P	Pro
Male	Normal	8	8	6	8	7	7
	Threshold	0	0	2	0	1	0
	Abnormal	0	0	0	0	0	1
Female	Normal	4	4	4	4	4	4
	Threshold	0	0	0	0	0	0
	Abnormal	0	0	0	0	0	0

Based on the results of the interpretation of the Strengths and Difficulties Questionnaire scores, it can be seen that the majority of aspects of score interpretation show normal results. All 12 youth cadres had normal scores of difficulty, emotional symptoms (E), and hyperactivity (H). In the behavioral problem aspect (C), a total of 10 adolescents had score interpretation results in the normal category and 2 adolescents had score interpretation results in the threshold category. In the aspect of peer problems (P), a total of 11 adolescents had score interpretation results in the normal category and an adolescent had score interpretation results in the threshold category. In the aspect of prosocial behavior (Pro), a total of 11 adolescents had score interpretation results in the normal category and an adolescent had score interpretation results in the abnormal category.

All female respondents showed normal results of questionnaire interpretation. While the male respondents, 2 adolescents showed a threshold category in the aspect of behavioral problems (C), an adolescents showed a threshold category in the aspect of peer problems (P), and an adolescents showed an abnormal category in the aspect of pro-social behavior (Pro).

Health Educated

Providing mental health education through media presentations and by dr. Soesmeyka Savitri, Sp.KJ from Dr. Kariadi Central General Hospital, Semarang. The material provided is in the form of knowledge about mental disorders, emotions, and depression in adolescence as well as early screening for emotional and behavioral problems in children and adolescents.



Figure 2. Providing Mental Health Education by dr. Soesmeyka Savitri, Sp.KJ

Prior to education on mental health, adolescents were given a pretest to measure the level of knowledge and understanding of adolescents about mental health at their teenage years. The pretest was given through a questionnaire containing questions about mental health in adolescents.

The pretest - posttest results can be seen in table 2 as follows:

Table 2. The Difference between Pre-test and Post-test Mental Health Knowledge

	Mean	Standard Deviation	n	p-value
Pre-Test Knowledge	7.78	0,65	0 ^a	0,014
Post-Test Knowledge	8.22	0,59	7 ^b 5 ^c	
Total			12	

a. *posttest < pretest*

b. *posttest > pretest*

c. *posttest = pretest*

Based on the descriptive analysis of 12 adolescent respondents, the average pretest score for mental health knowledge was 7.78 and the post-test average was 8.22. Thus, it can be said that there is an increase in the average value of mental health knowledge of adolescent respondents between before being given education and after being given education. Then, an analysis test was conducted to see the statistical differences between pretest and posttest of mental health knowledge in adolescents.

Based on the results of the analysis presented in table 2, it shows that there are no adolescents with lower mental health knowledge outcomes after giving education than before education. There are 5 adolescents with fixed knowledge results, both before and after being given education. There are 7 adolescents who have better mental health knowledge than before education was given. The results of the Wilcoxon test showed a p-value of 0.014 ($p < 0.05$), which means that there is a significant difference in mental health knowledge in adolescents between before and after education is given.

Organized

After mental health education and early detection of mental health disorders were carried out, the youth were formed as Youth Health Cadres for adolescent mental health. Youth cadres are formed as peer educators for their peers.



Figure 3. Formation of Youth Cadres by the Team

Practiced

The next stage is the provision of training to adolescents as Youth Health Cadres to become peer educators for their peers. Adolescents' skills and abilities were trained as Youth Health Cadres to become peer educators of mental health for their peers. After the training, the youth are guided to practice ways of educating their peers and screening for early detection of mental health disorders independently.

Empowered

Assistance to youth cadres after mental health education is provided to increase the knowledge and understanding of their peers about mental health and prevention efforts. Devotion does not stop at the implementation stage, but continues in the future. This stage in the sustainability program is carried out through mentoring of mental health peer groups carried out by a service team for the formation of mental health youth cadres with their peers.

After mentoring, monitoring is carried out to determine the level of program sustainability or the application of the model in the YHIC in the working area of the Sekaran PHC. The evaluation stage is carried out to find out the extent to which the program has been achieved and all its advantages and disadvantages. By doing an evaluation, the youth cadre program for mental health can be carried out better in the future.



Figure 4. Group Photo with Youth Cadre

Discussion

This activity is carried out with the stages of HOPE (health educated, organized, practiced, and empowered) activities, as well as early detection of adolescent mental health disorders through the SDQ questionnaire. Based on the results of early detection with the Strengths and Difficulties Questionnaire, it can be seen that the majority of aspects of score interpretation show normal results.

All female respondents showed normal results of questionnaire interpretation. While the male respondents, 2 adolescents showed a threshold category in the aspect of behavioral problems, an adolescent showed a threshold category in the aspect of peer problems, and an adolescent showed an abnormal category in the aspect of prosocial behavior. In research conducted by Bøe (2016) stated that there is a tendency for female to show symptoms of emotional problems and prosocial behavior more often. But there are no specific differences in response patterns in other aspects by gender.¹²

The SDQ was used in Hall's research to understand the structural aspects of the SDQ in referral clinics for ADHD patients, the validity of the SDQ as a screening/diagnosis tool, and as a measure of treatment outcome in clinical and research medicine. The SDQ category in the aspect of hyperactivity disorder (H) is a good clinical predictor and can be used as a tool for the diagnosis of ADHD, and the diagnosis of hyperkinetic disorders in research.¹³

The SDQ as a predictor and screening tool for mental health has been reviewed in various studies. In Wimbarti's study showed a significant correlation between SDQ-PR

¹² Tormod Bøe et al., "The Strengths and Difficulties Questionnaire (SDQ): Factor Structure and Gender Equivalence in Norwegian Adolescents," *PLOS ONE* 11, no. 5 (May 2016): e0152202.

¹³ Charlotte L Hall et al., "The Validity of the Strengths and Difficulties Questionnaire (SDQ) for Children with ADHD Symptoms," *PloS one* 14, no. 6 (June 2019): e0218518–e0218518.

and child psychologist diagnoses for hyperkinetic and behavioral disorders, but not for emotional problems. Wimbari's study concluded that of the 5 subscales or original aspects of the SDQ-PR, only 3 could be used for mental health screening tools in children filled out by parents.¹⁴

At the stage of health education, the intervention group showed a significant difference in mental health knowledge between before and after education was given. The results of this service are in accordance with a study conducted by Zare that after the health education intervention, the intervention group showed a significant increase in Mental Health Literacy (MHL) scores. The analysis of covariance confirmed an increase in MHL in the intervention group after controlling for the pretest scores but not in the control group.¹⁵ Likewise with the results of the study of Mundakir, et al. in 2021 found a decrease in adolescent anxiety scores in the face of a pandemic after being given education.¹⁶

The study conducted by Ahorsu also stated that mental health awareness increased significantly after the implementation of health promotion programs. The mean score of seeking mental health professional help increased from pretest to posttest, but no statistically significant difference was observed. Qualitative analysis revealed that mental health promotion programs helped respondents learn about coping strategies (dealing with situations that cause psychological stress or trauma) for themselves and others.¹⁷

In the organized stage, youth cadres are formed as peer educators for their peers. The existence of youth participation in the community is very effective because it can act as an educator for their peers and assist health workers in conveying information related to mental health in preventing stress or mental disorders among their peers. Peer educators are formed so that sensitive issues or messages can be conveyed more openly because the educators are peers.¹⁸ Peer group mental health is considered as the main key in preventing mental health in the peer environment.

¹⁴ Supra Wimbari et al., "Strengths and Difficulties Questionnaire Parent Report (SDQ-PR) As Screening Instrument of Children Mental Health in Indonesia," *Jurnal Psikologi*; Vol 46, No 2 (2019) DO - 10.22146/jpsi.46698 (August 2019).

¹⁵ Somayeh Zare et al., "Promoting Mental Health Literacy in Female Students: A School-Based Educational Intervention," *Health Education Journal* 80, no. 6 (May 2021): 734–745.

¹⁶ Mundakir et al., "Menurunkan Kecemasan Remaja Pada Masa Pandemi Covid-9 Melalui Pendidikan Kesehatan Secara Daring Di Dukuh Sutorejo Kecamatan Mulyorejo," *Aksiologi: Jurnal Pengabdian Kepada Masyarakat* 5, no. 4 (2021): 600–609.

¹⁷ Daniel Kwasi Ahorsu et al., "Effect of a Peer-led Intervention Combining Mental Health Promotion with Coping-strategy-based Workshops on Mental Health Awareness, Help-seeking Behavior, and Wellbeing among University Students in Hong Kong," *International Journal of Mental Health Systems* 15, no. 1 (2021): 6.

¹⁸ Nopi Nur Khasanah, Herry Susanto, and Samsudin Samsudin, "Pengabdian Masyarakat Melalui Penerapan Metode Peer Counselor Dengan Pendekatan Spiritual Pada Pemrakarsa Kelompok Anti Kekerasan Seksual Pada Anak," *Engagement: Jurnal Pengabdian Kepada Masyarakat* 4, no. 1 (2020): 156–165.

The practiced stage is providing training to youth to become peer educators. It is hoped that after the training, the peer educator can practice educating their peers and perform screening for early detection of mental health disorders independently.

Mental health promotion is the first step to reducing stigma and increasing mental health awareness.¹⁹ Youth cadres at the YHIC who attend as participants can know and understand mental health and its prevention. In addition, youth cadres also become more skilled in providing education or counseling to their peers after being given training of trainers. Adolescents are a group of people who generally depend on the environment and their peers in deciding an action.²⁰ Therefore, it is important to train adolescents to become peer educators for their peers so that they are able to influence them to act in terms of mental health.

In the empowered stage, mentoring is carried out, monitoring is carried out to determine the level of program sustainability or the application of the model in the YHICs in the Sekaran PHC. The evaluation stage is carried out to find out the extent to which the program has been achieved and all its advantages and disadvantages. By conducting an evaluation, the youth cadre program for mental health can run better in the future.

This hope was conveyed by one of the health workers who attended this service activity representing the Sekaran PHC.

"This activity is very beneficial for us as health services and adolescents in particular. Mental health, which is rarely discussed, is very important for adolescents to provide awareness of the importance of health not only physically but mentally which is sometimes neglected. We hope that this collaboration can continue, and adolescents can continue to be active as peer educators for their friends." (YHIC Coordinator, 2021)

It is not only the public health center that provide good feedback for this activity. Hopes and good impressions were also conveyed by the adolescents at the end of the activity. According to them, this activity provides new insights and knowledge about their mental health. This activity for most of them is a new thing for them and they hope that this activity will be carried out regularly at the YHICs.

"It was fun. This activity is useful. I learned about mental health. Previously, never given about this (mental health). It is hoped that activities like this will be routinely held at the YHIC." (1st youth cadre, 2021).

¹⁹ Ahorsu et al., "Effect of a Peer-led Intervention Combining Mental Health Promotion with Coping-strategy-based Workshops on Mental Health Awareness, Help-seeking Behavior, and Wellbeing among University Students in Hong Kong."

²⁰ Bela Novita Amaris Susanto, Nofri Zayani, and Maylinda Indah Sari, "Pemberdayaan Siswa Sebagai Peer Educator Pencegahan Perilaku Seksual Beresiko Di SMK Negeri 28 Kabupaten Tangerang," *Aksiologi* : Jurnal Pengabdian Kepada Masyarakat 5, no. 4 (2021): 459-465.

Adolescents' readiness to become Youth Cadres as peer educators for their peers was also conveyed by a representative from the YHICs.

"I'm ready to be a Youth Cadre. Hopefully we at the YHIC are given regular training on this (mental health)." (2nd youth cadre, 2021)

Conclusion

All 12 youth cadres had normal difficulty scores, emotional symptoms, and hyperactivity. In the aspect of behavior problems, a total of 10 adolescents had score interpretation results in the normal category and 2 adolescents had score interpretation results in the threshold category. In the aspect of peer problems, a total of 11 adolescents had score interpretation results in the normal category and an adolescents had score interpretation results in the threshold category. In the aspect of proposocial behavior, a total of 11 adolescents had score interpretation results in the normal category and an adolescents had score interpretation results in the threshold category. There is a statistically significant difference in mental health knowledge between adolescents before and after education is given

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