

# Nutrition and Mental Health Empowerment Project for Counseling Teachers and Students of Senior High Schools in Yogyakarta



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## ABSTRACT

Mental disorders can affect people of any age, including teenagers of school age, which can disrupt their productivity and quality of life if not managed properly. There is growing evidence that nutrition is vital in mental health, which helps manage mental disorders. Simple interventions for mental disorders among teenagers through health promotion, education, and nutritional interventions are needed to prevent mental disorders or provide early treatment for those in need. Our project aimed to train counseling teachers and students of senior high schools in Yogyakarta to have the capability to perform simple management of mental disorders and promote a healthy nutritional status. Our project consisted of three phases: phase I (webinar and workshop), phase II (practice and implementation at schools), and phase III (monitoring and evaluation). We used pre-and post-tests to assess respondents' knowledge and questionnaires for participants' evaluation of the project. Twenty counseling teachers and forty students from 20 senior high schools in Yogyakarta participated in this project. Our project slightly improved students' knowledge of the importance of nutrition and mental health but not the teachers' knowledge. All participants welcomed our project positively. Most participants agreed that they learned new and essential information and stated that the project helped combat nutritional problems and mental disorders. Our project was perceived positively and improved participants' skills and knowledge of nutrition and mental health issues. This suggests that the project has empowered them to perform essential management of nutritional problems and mental disorders among teenagers at their schools. Additionally, more projects are still needed to widen and maximize the coverage of these critical topics.

**Keywords:** Counseling; Mental Disorder; Mental Health; Nutrition; Peer Support.

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## INTRODUCTION

According to the World Health Organization (WHO), health, in general, is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.<sup>1</sup> Further, the WHO defines mental health as a state of mental well-being that enables people to cope with the stresses of life, realize their abilities, learn and work well, and contribute to their community.<sup>2</sup> In line with this definition, mental health in Indonesia is defined as a condition in which a person develops physical, mental, spiritual, and social attributes. It uses those to support clear thinking in their mind, helping them withstand pressure, work productively, and contribute to their

society.<sup>3</sup> It is clear that mental health, as part of general health, is essential for people to maintain optimum functioning and well-being.

Mental disorders, which threaten mental health, can affect people regardless of age. *Riset Kesehatan Dasar* (Riskesdas) in 2018 reported that about 11 million people aged 15 or above in Indonesia had experienced depression and anxiety disorders. About 6.2% of these numbers were teenagers or adolescents between 15 and 24 years old.<sup>3,4</sup> Besides depression and anxiety, eating disorders (bulimia or anorexia) are another form of mental disorder commonly found in teenagers that affects not only the mental state but also the nutritional state of affected

teenagers.<sup>5,6</sup>

Growing evidence reports that diets can influence a person's mental health.<sup>7,8</sup> Healthy dietary patterns are essential not only for physical health but also for the mental health of teenagers.<sup>9</sup> Healthy diets are associated with an excellent mental state, while unhealthy dietary patterns are associated with a poorer mental state in children and adolescents.<sup>10</sup> Therefore, having a good nutritional status is one of the ways to prevent mental disorders in teenagers.<sup>11</sup>

Mental disorders should be managed comprehensively, including prevention and promotion efforts.<sup>12</sup> This comprehensive approach should be delivered as early as possible in a small community, including

schools where high-risk teenagers spend their time.<sup>13</sup> Teachers are essential in improving teenagers' mental health in this community.<sup>14</sup> However, the lack of knowledge on mental health issues among school residents (teachers and students) makes such management approaches challenging.<sup>13,15</sup>

In this project, we conducted a training program to empower counseling teachers and senior high school students to know about the vital role of nutrition in mental health and increase their ability to perform basic and straightforward management of mental health disorders. Here, we trained counseling teachers since they have essential counseling competencies, and we also trained students to be peer support for other students who need help.

## METHODS

### Project design

The Faculty of Medicine, Public Health and Nursing (FK-KMK) and the Faculty of Psychology, Universitas Gadjah Mada (UGM), Yogyakarta, Indonesia, initiated the project to train counseling teachers and high school students. It was conducted from July to October 2022 in FK-KMK UGM. All data collection had been approved by the Medical and Health Research Ethics Committee (MHREC) FK-KMK, UGM, with reference number KE/FK/1236/EC/2022, and informed consent was given to participants involved in data collection.

Generally, the project consisted of three phases (Figure 1). First, we organized two-day webinars and workshops to train counseling teachers and high school students. On day one, participants joined an online webinar series that discussed basic nutrition knowledge, nutrition's role in mental health for teenagers, and simple nutritional therapy for mental health among teenagers. Moreover, participants were also introduced to mild mental disorders commonly found among teenagers, especially those in high schools. On day two, participants were trained in a workshop on nutritional state determination and performing basic counseling techniques.

Second, for about two months, all participants were given time to practice and implement their new skills in their



**Figure 1.** Overview of the project design. The project is divided into three phases (blue box), with a pre-test before the first phase (pink box) and a post-test after the third phase (pink box).



**Figure 2.** The location of all districts and the schools in Yogyakarta city participated in this project.

schools. In this phase, every participant in each school had to measure the nutritional status of at least ten different people. They also had to educate other students at their school about the importance of nutrition and mental health.

Lastly, we organized a monitoring and evaluation session. We discussed and reflected on participants' performance during the last two months to implement their skills. Participants shared their challenges and discussed what they could do to overcome those challenges.

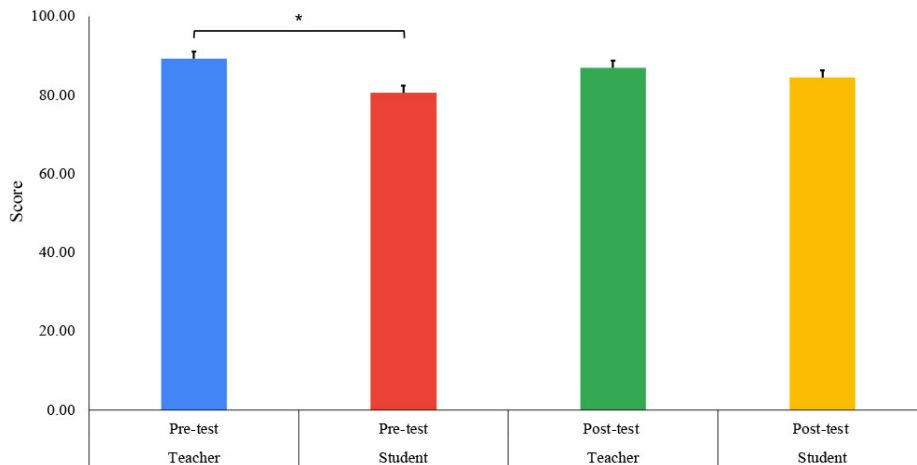
### Study population

Sixty participants, consisting of 20 counseling teachers and 40 high school students, participated in this project. All participants (20 counseling teachers and 40 students) were from 20 senior high schools across Yogyakarta City, Indonesia (Figure 2). The counseling teachers

who participated in this project were all members of the professional organization *Musyawah Guru Bimbingan Konseling (MGBK)* Yogyakarta. This project also included other senior high school students in Yogyakarta (165 students) as subjects for the nutritional state measurements performed by participants trained in the webinar and workshop.

### Data analysis

We used a pre-test/ post-test to investigate whether our project could significantly improve their knowledge of nutrition and mental health among teenagers. A questionnaire was frequently used to gather participants' evaluations after events (workshops, webinars) in our facility. However, it has not been validated yet. The data were analyzed using Microsoft Excel. All statistical analyses were considered significant at  $p < 0.05$ .



**Figure 3.** Pre-test and post-test scores of teachers and students. Data are shown as a bar chart with standard error. \* $p=0.01$ .

## RESULTS

### Participants' knowledge of nutrition and mental health

Pre-test/ post-tests were used to test the participants' nutrition and mental health knowledge. As shown in Figure 3, the teachers scored significantly higher than the students in the pre-test ( $p=0.01$ ), with a mean score of  $89.23 \pm 8.62$  (mean  $\pm$  SD) and  $80.56 \pm 8.73$  for teachers and students, respectively. These results might indicate that the teachers' prior knowledge was better than the students. A similar pattern was observed in the post-test results, where the teachers scored slightly higher than the students, with a mean score of  $86.92 \pm 9.47$  and  $84.44 \pm 9.84$  for teachers and students, respectively, although it was not statistically significant.

Remarkably, there was an increase in the post-test score of the students from the pre-test, although it was insignificant. The higher post-test scores indicated an improvement in the student's knowledge of nutrition and mental health. Although students' prior knowledge was lower than that of the teachers, the project improved students' understanding of the importance of nutrition and its role in mental health among teenagers. On the contrary, there was a slight decrease in the teachers' post-test scores. An extended period, about two months apart, between the pre-test and post-test may have contributed to this decrement.

### Participants' perceptions of the project

A questionnaire assessed participants' perceptions of the project, including the general and technical aspects (Table 1). Respondents scored their agreement level to each parameter with a score ranging from one (totally disagree) to five (highly agree). We received 35 responses from all 60 participants who participated in this project.

The first part of the questionnaire consisted of 9 statements and explored participants' perceptions of the general aspect of the project. As shown in Table 1, the vast majority of respondents showed positive responses to all questions. When asked whether they became more aware and understood the role of nutrition in mental health, only one respondent gave a neutral answer. In contrast, other respondents agreed or highly agreed. Apart from this particular statement, all respondents agreed or highly agreed with the other statements. This project's training topics, time, duration, and delivery methods were compelling, and all participants learned new and vital information.

The second part of the questionnaire consisted of 7 statements. It explored participants' evaluation of the project's technical aspects, including the organization, committee, and facilities we provided in this project. All respondents agreed or highly agreed that the project was well-organized and the training location was conducive. The vast

majority of respondents stated that they agreed with all of the other statements. One respondent gave a neutral answer when asked about the usefulness of the supporting materials and the workshop kit. Two respondents were neutral about the committees' responsiveness and the meal quality during the workshop. Three respondents were also neutral on the effectiveness of the time and duration of the training in this project (Table 1). Considering the questionnaire results, our project was highly accepted by those who responded to our questionnaire.

## DISCUSSION

### Wide coverage area of the project

Mental disorders among teenagers are still common in Indonesia, with depression and anxiety contributing the highest proportion, especially in those aged 15 or above.<sup>3,4</sup> Apart from the high prevalence of mental disorders among teenagers, nutritional problems were also a common finding that might worsen or put teenagers at risk for mental disorders.<sup>16</sup>

Yogyakarta has a dense student population prone to nutritional problems and mental disorders. In 2022, over 76,000 students aged over 15 studied in Yogyakarta.<sup>17</sup> According to the Indonesian Health Profile, it was estimated that about 4,700 students (6.2%) residing in Yogyakarta might experience depression or anxiety but may not be detected.<sup>3</sup>

Indonesia implemented a zonation system for schooling system where students will be admitted into a school closest to where they live, especially for those who want to study in public schools.<sup>18</sup> For instance, students who live in the Umbulharjo district will study at school in the Umbulharjo district. The zonation system is helpful to our project because there is no need to train all schools in the city.

Here, we trained 20 senior high schools covering nine districts in Yogyakarta city (Figure 2), and this number is enough to reach almost all areas of the city where students reside. It is worth noting that some districts in Yogyakarta have no public senior high schools or registered private senior high schools. Schools in the neighboring districts cover students living in those districts.<sup>19</sup> The distribution

**Table 1. Results of the questionnaires**

Parameter	Statement	Agreement level (%)				
		1 (Totally disagree)	2 (Disagree)	3 (Neutral)	4 (Agree)	5 (Highly agree)
General aspect	1. I became more understanding of the role of nutrition and mental health	0%	0%	3%	17%	80%
	2. The project improved my knowledge	0%	0%	0%	6%	94%
	3. I enjoyed all the programs of the project	0%	0%	0%	40%	60%
	4. The training topic was highly informative	0%	0%	0%	31%	69%
	5. I learned new things during the project	0%	0%	0%	20%	80%
	6. The training topic was delivered well	0%	0%	0%	31%	69%
	7. There was time for an interactive discussion	0%	0%	0%	31%	69%
	8. The webinar was valuable and effective	0%	0%	0%	23%	77%
	9. The workshop was valuable and effective	0%	0%	0%	29%	71%
Technical aspects	10. The project was well organized	0%	0%	0%	43%	57%
	11. Supporting materials were useful	0%	0%	3%	34%	63%
	12. The workshop kit was useful	0%	0%	3%	17%	80%
	13. The committees were responsive	0%	0%	6%	29%	66%
	14. The training location was conducive	0%	0%	0%	9%	91%
	15. The meal was good	0%	0%	6%	14%	80%
	16. The time and duration of the training were effective	0%	0%	9%	23%	69%

of schools that participated in this project is vital to ensure we could detect any potential nutritional and mental health disorders in all areas of Yogyakarta city.

### Impact of the project on counseling teachers and students

Our project was designed to empower counseling teachers and students to have the capability to detect mild nutritional problems and mental disorders and to give simple interventions at an early stage. Moreover, counseling teachers and students as front-liners must have the basic skills to deliver simple interventions to teenagers with nutritional problems or mental disorders.

Our project aligned with previous studies highlighting the importance of well-being and resilience in preventing or reducing mental health problems in children, including school-age children, so they can function as well-being and contribute meaningfully in daily life.<sup>20-22</sup> Students' mental health can be achieved through a school-based mental health promotion program, either through a universal or a targeted approach.<sup>20</sup> Our project first adopted a targeted approach by

training counseling teachers and students. However, in practice, we can say that our project promotes a universal program in schools. A universal program is defined as a mental health promotion program delivered in a class-based approach for all students.<sup>23</sup>

After completing the first phase (webinar and workshop), participants were encouraged to practice their new skills and knowledge at their schools. In addition, participants were encouraged to train and teach other students in their schools, ensuring that they achieved the most effective learning method according to the learning pyramid. In this manner, our project can benefit other students more expansively and ensure a universal mental health program for all students.

Based on the questionnaire's results, most participants (counseling teachers and students) stated that they agreed with the training method of our project (Table 1). The training method of our project was considered effective in improving their skills and knowledge of nutrition and mental health disorders. Moreover, they agreed that technical aspects, including location and training facility, supported

their learning activity effectively.

### Project limitations and improvements

Admittedly, we could only invite some schools in Yogyakarta to this project due to resource limitations. In this study, we could only accommodate 20 schools (public and private, ten schools each) out of 42 schools in Yogyakarta (11 public and 31 private schools).<sup>24,25</sup> The other twenty-two schools might have nutritional and mental health problems that this project could not cover. We plan to organize this project again in the following year to cover the remaining schools so that all schools in Yogyakarta city will have the capability to detect and deliver primary interventions for mild nutritional and mental problems.

Participants' engagement was another challenge in this project. Participation and engagement are essential domains to create community changes and capacity building apart from leadership, vision, and partnership.<sup>26</sup> We may need to improve the trainer-trainee relationship, trust, and communication in the next project to increase participants' engagement and later empower the community to be physically and mentally healthier.

Although the three-phase design was considered adequate, the long duration of the project was prone to a loss of follow-up. Measurement has been conducted by creating a communication group with teachers to prevent loss of follow-up. Through this means of communication, teachers' engagement was maintained and monitored. In this process, we assumed that teachers would be positioned as student coordinators in each school and supervise students who participated in the project. Even so, we still experienced disengaged participants, primarily students, probably due to the busy school schedule.

At the end of the project, about half of the students responded to our questionnaires. The remaining others who have yet to respond may not have had enough time to respond or may not have had access to the questionnaire since we only shared the questionnaire with the teachers using the communication group we created. It might be better to create a communication group with students as well.

## CONCLUSIONS

This project design was well accepted by the participants and empowered them to perform straightforward management of nutritional and mental problems. Nevertheless, participants' engagement was a challenge for improvement in a future project that needs to be addressed. Future projects must be organized to train counseling teachers and students in other areas.

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## CONFLICT OF INTERESTS

All authors declare no conflict of interest.

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