1st International Conference on Health and Medicine
Volume 2023
http://dx.doi.org/10.11594/nstp.2023.3512

NST Proceedings
OPEN ACCESS

Conference Paper

Detecting Adolescent Students' Mental Health Problems at a School in Ambon City, Indonesia

Lidya Bethsi Evangeline Saptenno*

Public Health Department, Faculty of Medicine Pattimura University

*Corresponding author:
E-mail:
beiimpact27@gmail.com

ABSTRACT

Globally, the primary disease burden for adolescents today is mental health conditions, which are still often not taken seriously. Many adolescents spend time at school, making it an ideal place to prevent mental health problems. Thus, this research was conducted to detect early adolescent mental health problems at a school in Ambon City. This mixed method study detected mental health problems of adolescent students using the Pediatric Symptom Checklist-17 (PSC-17) questionnaire on 300 respondents. In addition, in-depth interviews were conducted with four informants from the education and health sectors. Forty-one percent (95 girls and 28 boys) of the respondents had a total PSC-17 score ≥ 15, 57.7% (135 girls and 38 boys) had an internal score ≥5, 21.3% (49 girls and 15 boys) had an attention score ≥ 7 and 9.7% (13 girls and 16 boys) had an externalization score ≥ 7. This indicates a risk of problems with overall psychosocial functioning with difficulties associated with mostly the internalization subscale and more problems in adolescent girls except for the externalization subscale. With $p<0.05$, it shows a significant relationship between almost all scores, except internalization scores, with age and grade level. In-depth interviews have shown slightly different opinions about mental health problems in adolescents. Nearly half of the adolescents in this study are at risk of emotional behavior problems, which are often poorly understood and as a result, go unnoticed. This shows how important an early detection strategy is.

Keywords: Mental health, problem, pediatric symptom checklist-17 (PSC-17), adolescent, school

Introduction

Adolescence is a challenging period where various changes occur, including biological, psychological, and social, which, if not appropriately passed, will trigger mental health disorders (IDAI. 2013). WHO defines adolescents as residents aged 10-19 years, and according to the Regulation of the Minister of Health of the Republic of Indonesia Number 25 of 2014, are residents aged 10-18 years (Kementerian Kesehatan Republik Indonesia, 2015). Global data show that 1 in 7 adolescents has mental health problems and accounts for more than 10% of the worldwide disease burden, which unfortunately is mainly unrecognized and untreated (World Health Organization, 2021). The most common mental health problems among adolescents are depression, anxiety, post-traumatic stress, behavioral problems, and problems with attention deficit and/or hyperactivity (World Health Organization, 2021; Center for Reproductive Health, University of Queensland & Johns Bloomberg Hopkins School of Public Health, 2022; The American College of Obstetricians and Gynecologists, 2017). Indonesia – The National Adolescent Mental Health Survey (I-NAMHS) has reported that in the past year, around 35% of adolescents have one mental health problem (Center for Reproductive Health, University of Queensland & Johns Bloomberg Hopkins School of Public Health, 2022). Nearly 28% of adolescents complained of depressive symptoms in a previous study in Indonesia (Purborini et al., 2021). According to the Riskesdas data on 2018, Maluku Province is in 11th place out of 34 Provinces with a prevalence

How to cite:
Saptenno, L. B. E. (2023). Detecting adolescent students' mental health problems at a school in Ambon City, Indonesia. *The 1st International Conference on Health and Medicine*. NST Proceedings. pages 94-100. doi: 10.11594/ nstp.2023.3512

of mental-emotional disorders in residents ≥ 15 years (Kementerian Kesehatan Republik Indonesia, 2018). Adolescents' poor mental health affects performance at school and increases the risk of substance use and self-harm. Furthermore, problems can persist into adulthood and limit opportunities to lead a fulfilling and prosperous life.

Promotive and preventive efforts will be able to help more adolescents recognize and reduce mental health problems earlier and minimize the serious impact of health conditions. Preventive and early detection interventions allow for more effective treatment pathways because you can take action before the problem gets worse (Colizzi et al., 2020). School, as one of the places where adolescents spend a significant amount of time, becomes a strategic location for carrying out preventive mental healthinterventions for a large population. Thus, this study was conducted to detect early adolescent mental health problems at a school in Ambon City.

Material and Methods

This study used a mixed-method which combines quantitative and qualitative research methods. This type of research uses Concurrent embedded, where the researcher collects qualitative and quantitative data simultaneously integrates and interprets the results thoroughly.

YOUTH PEDIATRIC SYMPTOM CHECKLIST-17 (Y PSC-17)

Name: _____ Record #: _____

Date of Birth: _____ Today's Date: _____

Please mark under the heading that best fits you:	NEVER	SOMETIMES	OFTEN
Fidgety, unable to sit still	0	1	2
Feel sad, unhappy	0	1	2
Daydream too much	0	1	2
Refuse to share	0	1	2
Do not understand other people's feelings	0	1	2
Feel hopeless	0	1	2
Have trouble concentrating	0	1	2
Fight with other children	0	1	2
Down on yourself	0	1	2
Blame others for your troubles	0	1	2
Seem to be having less fun	0	1	2
Do not listen to rules	0	1	2
Act as if driven by a motor	0	1	2
Tease others	0	1	2
Worry a lot	0	1	2
Take things that do not belong to you	0	1	2
Distract easily	0	1	2

OFFICE USE ONLY

Total _____ Total _____ Total _____ Grand Total + + _____

Form adapted with permission for *Feelings Need Check Ups Too*, 2004
©1988, M. Jellinek & J.M. Murphy, Massachusetts General Hospital (PSC-17 created by W. Gardner & K. Kelleher)
and Bright Futures in Practice: Mental Health, 2002

Figure 1. PSC-17 Questionnaire in English (Jellinek & Murphy, n.d).

Quantitative study

This study collected data through a survey and purposive sampling, in which the researcher selected samples based on specific characteristics, from schools that have implemented a referral

system between BK teachers (Guidance and Counseling Teachers) and psychologist. Through previous discussions with Psychologist, only six schools have implemented a referral system in Ambon City, and the school where the research was conducted was chosen because it had the most students. The sample was calculated using the Taro Yamane formula. Three hundred (300) adolescent students filled out the PSC-17 (Pediatric Symptom Checklist) questionnaire. Samples were selected per generation by simple random sampling using Microsoft Excel. The PSC-17 Questionnaire is a shorter and simpler version of the PSC-35 Questionnaire. This questionnaire has been used widely and is recommended by the American Academy of Pediatrics as a screening tool for early identification and assessment of problems with changes in emotion and behavior (Murphy et al., 2016). This questionnaire has been validated and translated into various languages including Indonesian. Students were asked to fill out the questionnaire according to their situation in the past year. There are 17 questions in total, which are divided into three subscales: internalization, attention, and externalization. Responses to the questionnaire used a modified Likert scale (never = 0 points, sometimes = 1 point, often = 2 points (see Figure 1). The data were analyzed using SPSS software.

Qualitative study

Qualitative data was obtained through in-depth interviews with 4 informants from the education and health sectors. The informants were the principal, two BK Teachers, and a Psychologist, who had conducted consultation sessions at the school where the study was conducted.

Results and Discussion

Quantitative study

The research data was gathered through a survey of 300 respondents, with women outnumbering men (59.3%) and the average age being 13-15 years. The student population is evenly distributed across all grade levels. Forty-one (41.0%) of the sample had a total PSC score ≥ 15, 57.7% had an internalization score ≥ 5, 21.3% had an attention score of 7, and 9.7% had an externalization score ≥ 7. This can be seen in Table 1.

Table 1. Characteristics of adolescent students at one of the referral system schools in Ambon City, 2022

Variable	Distribution
Gender	
Girl	178(59.3%)
Boy	122(40.7%)
Age	15.38 ± 0.86
13 – 15	163(54.3%)
16 – 17	137(45.7%)
Grade level	
1	100(33.3%)
2	102(34.0%)
3	98(32.7%)
Total Score	13.21 ± 5.61
< 15	177(59.0%)
≥ 15	123(41.0%)
Internalization Score	5.06 ± 2.46
< 5	127(42.3%)
≥ 5	173(57.7%)
Attention Score	4.88 ± 2.09
< 7	136(78.7%)
≥ 7	64(21.3%)
Externalization Score	3.28 ± 2.35
< 7	271(90.3%)
≥ 7	29(9.7%)

A total score ≥ 15 is above the mean range and indicates the possibility of significant problems with overall psychosocial functioning. A score ≥ 5 on the internal subscale suggests a high risk in this area and the likelihood of having problems with anxiety or depression. A score ≥ 7 on the attention subscale indicates increased risk in this area and possible problems with attention. At the same time, a score ≥ 7 on the externalization subscale indicates a high risk in this area and the possibility of disruptive behavior problems (Jellinek & Murphy, n.d).

Based on the bivariate results in Table 2, the number of girls with a total score ≥ 15, an internalization score ≥ 5, and an attention score ≥ 7 are more than boys. Meanwhile, boys have an externalization score ≥ 7 more than girls. With a p-value <0.05, there are significant differences in almost all scores except for the externalization score.

Table 2. Differences in PSC-17 scores by gender

Variable	Girl	Boy	p
Total Score			
< 15	83(46.6%)	94(77.0%)	0.000
≥ 15	95(53.4%)	28(23.0%)	
Internalization Score			
< 5	43(24.2%)	84(68.9%)	0.000
≥ 5	135(75.8%)	38(31.1%)	
Attention Score			
< 7	129(72.5%)	107(87.7%)	0.000
≥ 7	49(27.5%)	15(12.3%)	
Externalization Score			
< 7	165(92.7%)	106(86.9%)	0.648
≥ 7	13(7.3%)	16(13.1%)	

α= 0.05

Table 3, with a p-value < 0.05, shows a significant relationship between almost all scores, except for the internalization score, with age and grade level. R-value shows weak level of correlation.

Qualitative study

The informants focused on obvious problems such as changes in behavior or changes in concentration. Behavior change problems such as being difficult to manage, rebelling, lazy to do assignments, abusing cellphone use, and swearing.

"There was once a problem of students swearing at the teacher. Most are lazy to do assignments" (BK teacher 1)

"They become rebellious when they have a problem. They do not want their parents to have power over them. Wrong in thinking about how to properly use acellphone. Many students struggle to concentrate" (BK Teacher 2)

Another problem mentioned was being seen as withdrawn and aloof, which only focused on a few students. Other informants mentioned that there were no visible emotional or mental health problems in students.

"He (student) does not want to participate in activities, he prefers to be alone. So, the student doesn't want to take part in activities, don't want to be active, just stay at home, just stay in the room" (Principal)

"*The emotional (problem) yesterday was the child who was referred (to a psychologist). Two years ago. Over the past year there have been no (emotional problems)" (BK teacher 1)*

On the other hand, problems with students were also difficult to find out because of the online learning process during the pandemic. However the BK teacher also tried to make an initial assessment tool to find out the student's condition.

"We (learning) are online, because of corona condition, so there are no visible symptoms" (BK teacher 1)
The BK teacher now wants to make an initial assessment to see what the child's condition is like" (BK teacher 1)

According to Psychologist, problems with students today can occur due to the transition from online to face-to-face learning at school. Adolescents also go through a developmental process that can lead to internal conflicts, coupled with external conflicts resulting in changes in behavior.

"Right now there are brawls which are the root of the problem from the students' emotional problems. There are a lot of roots. From the family indeed, the pressure from the school rules that they are (in) the transition period from online to moving to school. (So) there is rebellion, and they (students) are stressed. They can't handle it, then added to the development of teenagers, the hormones are increasing, and they are also looking for identity. So finally their internal conflict is coupled with external conflict. If the conflict is not resolved, it will result in behavior that is not following the prevailing norms "(Psychologist)

According to the interview results, adolescents who are considered to have problemsare those who have demonstrated behavioral changes. Furthermore, with the current presence of two BK teachers, assessing all students becomes more difficult. Meanwhile, based on the results of the questionnaire, 41% of adolescent students in this study had a total score of 15, indicating significant problems with overallpsychosocial functioning. If we look further at each subscale, the internalizationsubscale has the most problems, with 173 out of 300 adolescents experiencing problems. This is followed by an attentional subscale that points to problems with attention and externalizations that point to problems with disruptive behavior. This means that more adolescents are likely to be at risk of emotional problems with anxiety or depression. Unicef data in 2019 shows that around 40% of adolescents aged 10-19 years suffer from anxiety and depression disorders (Unicef, 2019). This is supported by research conducted by Fransiska K and colleagues in Indonesia in 2021, which also shows that the highest prevalence of mental health problems in students aged 16-24 years is anxiety (Kaligis et al., 2021). Unfortunately, emotional and mental problems in adolescents are often poorly understood, and as a result, they go unnoticed. This was also seen in the results of the interviews, where the informants mentioned that emotional problems only occurred in some students. This is also realized when it is already in the stage of behavior change and requires further professional handling. The online learning process during the pandemic also added to the difficulty for teachers to assess the problems experienced by students.

The results also show that the risk of mental problems, especially emotional problems, is more common in girl students and the risk of behavioral problems is more common in boys. The Institute of Medicine (US) and the National Research Council (US) discovered the same thing, and in line with several studies by Pieckering et al. (2019) Mubasyiroh et al. (2017), Institute of Medicine (US) and the National Research Council (US) Committee on the Science of Adolescence (2011) on junior and senior high school students in Indonesia that the risk of emotional symptoms, anxiety was greater in girl students. Other literature mentions this can be related to the internal role of hormones, external such as social, psychosocial, and economic roles that can increase emotional problems in women (Institute of Medicine (US) and National Research Council (US) Committee on the Science of Adolescence, 2011; Silva et al., 2020; Basta et al., 2022).

Other findings indicate that there is a relationship between mental problems, age, and grade level, but it has a weak relationship. The higher the age and grade level, the greater the risk of experiencing mental health problems, except on the internalization (emotional) subscale. This is slightly different from the research of Mubasyiroh et al., which shows that the higher the age and grade level, the greater the risk of experiencing emotional symptoms (Mubasyiroh et al., 2017).In 2018, the Ministry of Health issued a Guidebook for implementing Mental Health Services in Schools integrated with the School Public Health. The Ministry of Health includes a flowchart for screening and mental examination, where prevention through early detection is carried out quickly and on a mass basis using the PSC questionnaire, at least twice a year (Kementerian Kesehatan Republik Indonesia, 2018). This is in line with the recommendation of the American Academy of Psychiatry to conduct psychosocial screening as part of an annual examination (Murphy et al., 2016). If the PSC questionnaire results indicate psychosocial problems, the assessment will continue with the SDQ (Strengths and Difficulties Questionnaire). This flow of examination can further help teachers find out mental health problems experienced by students to make it easier to carry out further assessments.

School, as one of the places where adolescents spend a significant amount of time, becomes a strategic location for carrying out promotive and preventive mental healthinterventions to a large population. The study by Barry et al. (2013) found that school-based mental health programs implemented in various LMICs had positive effects on students' emotional and behavioral well-being, including reducing anxiety and depression. Several other studies have shown that multisectoral interventions and universal approaches in schools will reduce the cost burden, use resources more efficiently, and increase accountability and a sense of collective ownership (Barry et al., 2013; Fazel et al., 2014; Efevbera et al., 2020).

Conclusion

Early detection using the PSC-17 questionnaire revealed that nearly half of the adolescent students in this study are at risk of emotional behavior problems. With more students at risk of experiencing emotional and mental problems which are often poorly understood and realized even by BK teachers. This shows how important an early detection strategy is. With the help of guidelines issued by the Ministry of Health, schools are expected to immediately start carrying out prevention efforts through early detection for all students regularly.

References

Barry, M. M., Clarke, A. M., Jenkins, R., & Patel, V. (2013). A systematic review of the effectiveness of mental health promotion interventions for young people in low and middle-income countries. *BMC Public Health*, *13*(1),1-5. https://doi.org/10.1186/1471-2458-13-835.

Basta, M., Micheli, K., Koutra, K., Fountoulaki, M., et al. (2022). Depression and anxiety symptoms in adolescents and young adults in Greece: Prevalence and associated factors. *Journal of Affective Disorders Reports*, *8,* 100334. https://doi.org/10.1016/j.jadr.2022.100334.

Center for Reproductive Health, University of Queensland & Johns Bloomberg Hopkins School of Public Health (2022). *Indonesia – National Adolescent Mental Survey* (I-NAMHS): *Laporan Penelitian. Pusat Kesehatan Reproduksi Indonesia*

Colizzi, M., Lasalvia, A., & Ruggeri, M. (2020). Prevention and early intervention in youth mental health: Is it time for a multidisciplinary and trans-diagnostic model for care? *International Journal of Mental Health Systems*, *14*(1), 1–14. https://doi.org/10.1186/s13033-020-00356-9.

Efevbera, Y., Haj-Ahmed, J., Lai, J., Hainsworth, G., et al. (2020). Multisectoral programming for adolescent health and well-being in Sub-Saharan Africa—insights from a symposium Hosted by UNICEF and the Bill & Melinda Gates Foundation. *Journal of Adolescent Health*, *67*(1), 24–25. https://doi.org/10.1016/j.jadohealth.2020.04.007.

Fazel, M., Hoagwood, K., Stephan, S., & Ford, T. (2014). Mental health interventions in schools in high-income countries. *The Lancet Psychiatry*, 1(5), 377–387. https://doi.org/10.1186/1471-2458-13-83510.1016/s2215-0366(14)70312-8.

IDAI. (2013). *Masalah kesehatan mental emosional remaja*. [online] Available at: https://www.idai.or.id/artikel/seputar-kesehatan-anak/masalah-kesehatan- mental-emosional-remaja

Institute of Medicine (US) and National Research Council (US) Committee on the Science of Adolescence (2011). *Adolescents and the Risks That Affect Them*. [online] Nih.gov. Available at: https://www.ncbi.nlm.nih.gov/books/NBK53412/.

Jellinek, M., & Murphy, M. (n.d). Pediatric symptom checklist. [Online] Available from: https://www.massgeneral.org/psychiatry/treatments-and-services/pediatric-symptom-checklist

Kaligis, F., Ismail, R. I., Wiguna, T., Prasetyo, S., et al. (2021). Mental health problems and needs among transitional-age youth in Indonesia. *International Journal of Environmental Research and Public Health*, *18*(8), 4046. https://doi.org/10.3390/ijerph18084046.

Kementerian Kesehatan Republik Indonesia (2015). *Infodatin, Pusat Data dan Informasi Kementerian Kesehatan RI, Situasi kesehatan Reproduksi Remaja*. p.1

Kementerian Kesehatan Republik Indonesia (2018). *Petunjuk pelaksanaan kesehatan jiwa di sekolah terintegrasi program kesehatan sekolah (UKS).* p. 2-34

Mubasyiroh, R., Suryaputri, I. Y., & Tjandrarini, D. H. (2017). Determinan gejala mental emosional pelajar SMP-SMA di Indonesia Tahun 2015. *Buletin Penelitian Kesehatan, 45*(2),103-112.

Murphy, J. M., Bergmann, P., Chiang, C., Sturner, R., Howard, B., Abel, M. R., & Jellinek, M. (2016). The PSC-17: Subscale scores, reliability, and factor structure in a new national sample. *PEDIATRICS*, 138(3), e20160038–e20160038.

Pickering, L., Hadwin, J. A., & Kovshoff, H. (2019). The role of peers in the development of social anxiety in adolescent girls: A systematic review. *Adolescent Research Review*, *5*, 341–362. https://doi.org/10.1007/s40894-019-00117-x.

Purborini, N., Lee, M.-B., Devi, H. M., & Chang, H.-J. (2021). Associated factors of depression among young adults in Indonesia: A population-based longitudinal study. *Journal of the Formosan Medical Association, 120*(7), 1434-1443. https://doi.org/10.1016/j.jfma.2021.01.016

Silva, S. A., Silva, S. U., Ronca, D. B., Gonçalves, V. S. S., Dutra, E. S., & Carvalho, K. M. B. (2020). Common mental disorders prevalence in adolescents: A systematic review and meta-analyses. *PLOS ONE*, *15*(4), e0232007. https://doi.org/10.1371/journal.pone.0232007.

The American College of Obstetricians and Gynecologists (2017). *Mental Health Disorders in Adolescents*. [online] www.acog.org.

Unicef (2019). *Adolescent mental health statistics*. [online] UNICEF DATA. Available at: https://data.unicef.org/topic/child-health/mental-health/#:~:text=Mental%20health%20conditions%20constitute%20a

World Health Organization (2021). *Adolescent mental health*. [online] World Health Organization. Available at: https://www.who.int/news-room/fact- sheets/detail/adolescent-mental-health.