

INTERVENTIONS TO IMPROVE MENTAL HEALTH LITERACY AMONG SECONDARY SCHOOL STUDENTS IN HOMA BAY COUNTY

Oyoo Monica Anne Achieng

Thematic Area: Adolescent Mental Health and Education | Manuscript Type: Original Research

ABSTRACT

The World Health Organization (WHO) estimates that one in four Kenyans experiences a mental health problem, with depression and anxiety symptoms being the most prevalent. Among secondary school students, prevalence of depression and anxiety symptoms are 28.1% and 38% nationally. Prevalence of depression symptoms among students is 44.8% in Kakamega County while Kisii and Migori Counties record 23% and 23.6% respectively. In Homa Bay County, these rates are notably higher, at 57.5% for depression and 49.4% for anxiety. Such figures highlight the urgent need for interventions given the academic, social, and health implications of untreated mental health conditions. Previous studies show that Mental Health Literacy (MHL) is positively correlated to mental well-being. This necessitated a study on interventions that can be put in place to improve MHL. The study was anchored on Health Belief Model, Social Cognitive Theory. Descriptive research design was employed. The study population was 131,749 students from form 1 (F1) to form 4 (F4). Stratified random and purposive sampling were used to select 400 respondents using Yamane's formula. Data were collected using a questionnaire and focus group discussions (FGDs). A pilot study was conducted among 30 students. Reliability of the instruments was established using test-retest method and Pearson's correlation and Cronbach's alpha were used to determine the reliability coefficients. Face and content validity of the instruments were ascertained by experts in the area of Educational Psychology. Quantitative data was analyzed using means and percentages. Qualitative data was transcribed, categorized and reported thematically. Results showed that MHL programme was the most effective ($M = 3.52$, $SD = .65$) and use of school computers the least effective ($M = 2.71$, $SD = .89$). It was concluded that MHL programme was the best strategy to improve MHL. It was recommended that schools teach MHL. Findings of this study are expected to inform development of policies to improve levels of MHL and mental well-being among students in secondary schools.

Keywords: Mental health, Literacy, Interventions, Depression, Anxiety

I. INTRODUCTION

MHL interventions have been shown to influence attitudes and beliefs about mental illness and can ultimately contribute to reducing the burden of mental disorders (Mwambwa, 2021). Amado-Rodríguez, Casañas and Mas-Expósito (2022) conducted a systematic review on the effectiveness of MHL interventions in schools and found that MHL significantly improved following interventions. This review was useful in synthesizing evidence across different contexts. However, as with most systematic reviews, the reliance on secondary data limited context-specific insights. The current study sought to generate primary data within the Kenyan secondary school setting to provide direct, localized evidence.

Asyanti and Karyani (2017) examined the effect of MHL courses among 130 Indonesian junior secondary school students and found that the intervention improved MHL levels. The use of a standardized questionnaire was a strength in generating measurable outcomes. However, the study relied solely on self-report data, which is prone to bias and lacks depth. This limitation was mitigated in the current study through the combined use of

questionnaires and FGDs to allow triangulation and richer insights. Similarly, Kostenius, Gabrielsson and Lindgren (2020) used FGDs with 14 Scottish and Swedish youth to explore how schools can promote mental health. Findings emphasized valuing students' experiences, inclusive participation, and building supportive relationships. While the qualitative approach offered depth, it was also vulnerable to interviewer and interpreter bias. The current study addressed this by integrating FGDs with questionnaires to strengthen both depth and objectivity of findings.

In India, Prabhu, Ashok and Kamath et al. (2021) collected data from 460 teachers using questionnaires and concluded that training programmes and referral networks were vital for early intervention in adolescents. A strength of this study was its focus on teacher perspectives, which highlighted institutional roles in MHL promotion. However, its reliance on questionnaires limited the depth of responses. In the current study, FGDs complemented questionnaires, providing more nuanced perspectives from students themselves.

In Iran, Marinucci, Grové and Rozendorn (2022) investigated ways of improving MHL among youth recruited via social media. Findings suggested that mental health education, helpline numbers, awareness of support sources, and normalizing mental health discussions were effective strategies. Despite providing practical recommendations, reliance on online questionnaires limited the study's representativeness and depth. This gap was addressed in the current study by using both FGDs and questionnaires with stratified sampling to improve representativeness. Similarly, Mohammadi, Panahi and Sayarifard (2022) used purposive snowball sampling and interviews to explore adolescent MHL interventions, recommending policy reforms and internet-based educational content. While their qualitative design highlighted systemic factors, the sampling approach risked bias and lack of generalizability. The current study mitigated this by using stratified sampling and quantitative measures alongside FGDs.

In Nigeria, Gimba, Harris, and Saito et al. (2020) conducted a systematic review of 11 articles and 26 key informant interviews, concluding that integrating school-based MHL programmes into the curriculum was effective. While this study drew attention to structural interventions, its reliance on secondary data and interviews presented risks of outdated information and interviewer bias. The current study addressed this by collecting primary data using mixed methods. In another Nigerian study, Atilola, Ayinde, and Obialo et al. (2022) found that school-based training significantly improved students' depression literacy. A strength of this study was its experimental design which allowed pre-post comparison. However, as it used only questionnaires, it faced the common limitation of self-report bias. The current study therefore combined questionnaires with FGDs. Oduguwa, Adedokun, and Omigbodun (2017) similarly found that mental health training improved pupils' MHL in Southwest Nigeria, but their reliance on questionnaires limited depth and reliability. The present study overcame this through data triangulation.

In Malawi and Tanzania, Angle, Lo and Ashta et al. (2017) reported that radio programmes, youth clubs, school-based initiatives, and training healthcare professionals could improve MHL. Jumbe, Nyali and Simbeye et al. (2022) in Malawi also emphasized the use of community structures, conducting FGDs with youth recruited via social media. While FGDs provided rich insights, the study's qualitative nature and recruitment method limited representativeness. Likewise, Carlson, Namy, Nakuti et al. (2021) in Uganda used FGDs with caregivers and teachers, and interviews with pupils from two schools, concluding that school-based education improved MHL.

However, these qualitative designs were susceptible to interviewer bias and lacked representativeness. The current study addressed these issues by sampling across 10 schools in Homa Bay County and using mixed methods to strengthen objectivity and generalizability.

In Kenya, Kahigi (2019) reviewed existing evidence and recommended school-based MHL programmes. While informative, the reliance on secondary data limited context specificity. The current study provided updated primary data tailored to the Kenyan context. Further, Ndeti, Mutiso, and Musyimi (2022) assessed the impact of life skills on MHL among learners in Makueni and Machakos Counties and found improvements in MHL. However, the exclusive reliance on questionnaires limited depth. The current study mitigated this gap by supplementing questionnaires with FGDs, which provided in-depth insights for triangulation.

II. MATERIALS AND METHODS

Theoretical Framework

The study was anchored on The Health Belief Model (HBM). The HBM which was developed in the 1950s by Rosenstock, Hochbaum, Kegeles, and Leventhal, explains health behaviour through individual perceptions of risk and the expected benefits of preventive action. Its six constructs—perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy—are central to this study. Beliefs about the benefits of MHL (e.g., stigma reduction, coping improvement) versus perceived barriers (e.g., stigma, cost, or cultural beliefs) determine help-seeking intentions, while cues such as awareness programmes may trigger action. Self-efficacy reflects students' confidence in recognizing symptoms and seeking appropriate help. Thus, the HBM explains how cognitive perceptions shape mental health behaviours and attitude towards MHL.

Research Design

The study adopted descriptive research design which enables the researcher to collect quantitative data that portray the current status of a phenomenon without manipulating variables. It focuses on what exists rather than why it exists, thereby providing an empirical basis for understanding the nature and extent of identified issues (Creswell and Creswell, 2018).

In the current study descriptive research design was appropriate in describing the interventions that can be put in place to improve MHL. The results were presented using means and percentages.

Sample Size and Sampling Techniques

The study employed stratified random sampling to select participants from six boarding secondary schools—three girls' and three boys'—representing three categories: national, extra-county, and county schools, as well as four sub-county secondary schools in Homa Bay County. Stratified random sampling involves dividing a heterogeneous population into homogeneous, mutually exclusive subgroups (strata) based on key characteristics, and then drawing simple random samples from each stratum (Iliyasu & Etikan, 2021). This method ensures that all key subgroups are proportionately represented, thereby enhancing generalizability, validity, and reducing sampling bias (Thomas, 2022).

The approach was appropriate for this study as it ensured proportional representation of both school categories and gender (girls and boys) within the sample, reflecting their actual distribution in the county's secondary schools. A total sample of 399 students was determined using Yamane's formula (Yamane, 1967) at a 95%

confidence level. This formula is suitable where the population size is known but other parameters are not. The computation table for Yamane's formula is provided in Appendix E.

The current study focused exclusively on secondary school students because they represent a critical developmental stage characterized by heightened vulnerability to mental health challenges such as depression and anxiety (WHO, 2022). Adolescence is a transitional period marked by rapid cognitive, emotional, and social changes that influence both mental well-being and help-seeking behaviour. Consequently, secondary school students provide a relevant population for examining Mental Health Literacy (MHL). Furthermore, secondary schools offer a structured environment where mental health interventions can be systematically implemented through curricula, guidance departments, and peer support programmes. Including other groups such as teachers, parents, or primary-level learners would have introduced heterogeneity in developmental, social, and educational contexts, which could obscure the relationships under investigation. Focusing on students therefore ensured conceptual clarity, population homogeneity, and data validity, while providing findings that are directly applicable to school-based mental health promotion initiatives in Homa Bay County.

Demographics of the respondents

The sample for the study was 400 students in secondary schools in Homa Bay County drawn from different categories of schools as follows: national schools 42 (10.5%), extra county schools 81 (20.25%), county schools 102 (25.5%) and sub-county schools 175 (43.75%). Data for this study was collected between 15th May 2024 and 20th June 2024. Out of these, 391 (97.75%) responded to the questionnaires. The remaining nine were away from the school on the day data was collected. Nine of the students who participated in the study failed to respond to more than half of the items in the questionnaire. They were therefore excluded during data analysis. For that reason, only 382 (95.5%) students were deemed to have participated in the study. Girls were 176 (46.1%) and boys 206 (53.9%).

III. RESULTS

This study sought to investigate interventions to improve MHL among students in secondary schools in Homa Bay County. Data were collected using a questionnaire with 15 statements which required the respondents to indicate their level of agreement on the effectiveness of the given interventions. The interventions were: radio programmes, teaching mental health literacy in schools, including mental health information during life skills lessons, psychologists to be part of the school staff, having magazines on mental health in the school library, having guidance and counselling teacher sensitizing them on mental health, inviting mental health professionals to school to talk to students, going to the nearest health facility to be sensitized on mental health, using school computers equipped with mental health programmes, listening to television stations

holding programmes on mental health, creating a supportive school environment, training teachers on early intervention programs for identification to enable them help students learn about mental health, building enabling relationships between teachers and students thereby making it easier for students to learn about mental health from them, making use of culturally relevant approaches to reduce stigma and teaching students on the sources of help available and how to obtain this help.

The scores were in a 4 – points Likert scale ranging from strongly agree – 4 to strongly disagree – 1. Scores were tallied and means and percentages determined. Further, scores for disagree and strongly disagree were merged to indicate not effective and those for agree were merged with the ones for strongly agree to indicate that the

strategies were considered effective. Percentages of the students who agreed that the various strategies were effective were worked out. The results are presented in Table 1.

Table

1

Strategy	N	Mean (M)	SD
Radio programmes	382	2.73	.82
Teaching mental health literacy in schools	382	3.52	.65
Including mental health information during life skills lessons	382	3.25	.80
Psychologists to be part of the school staff	382	2.86	.99
Having magazines on mental health in the school library	382	2.96	.85
Having guidance and counselling teacher sensitizing them on mental health	382	3.45	.71
Inviting mental health professionals to school to talk to students	382	3.26	.81
Going to the nearest health facility to be sensitized on mental health	382	2.75	.86
Using school computers equipped with mental health programmes	382	2.71	.89
Listening to television stations holding programmes on mental health	382	3.00	.84
Creating a supportive school environment for students to share their problems among themselves	382	3.16	.78
Training teachers on early intervention programs for identification to enable them help students learn about mental health	382	3.05	.82
Building enabling relationships between teachers and students thereby making it easier for students to learn about mental health from them	382	3.01	.98
Making use of culturally relevant approaches to reduce stigma	382	2.85	.90
Teaching students on the sources of help available and how to obtain this help	382	3.25	.80

Interventions to improve MHL

From the results, the average score for strategies that can be used to improve MHL among students was $M = 46.86$, $SD = 8.72$. Results further revealed that teaching MHL in schools was considered the most effective ($M = 3.52$, $SD = .65$). On the other hand, use of school computers equipped with mental health programmes had the lowest mean ($M = 2.71$, $SD = .89$).

During the focus group discussions respondents were asked to indicate interventions they thought could help improve mental health literacy among students. The responses were organized into themes and presented in Table 2.

Table 2 Interventions to improve MHL

Themes	Scores
MHL programmes	45/64(70.31%)
Radio talk-shows	30/64(46.88%)
Books	27/64(42.19%)
Personnel	26/64(37.5%)
Drama/skits	13/64(20.31%)

Respondent 1 indicated that workshops on MHL would help. “Teachers should organize for students’ workshops on mental health issues.”

Respondent 2 also had the same idea as “Merab”. “It would really help if teachers arranged for sessions on mental health issues with students.”

Likewise, respondent 3 felt that MHL programmes would be effective. “Teaching the students issues to do with mental health is the best way of making them learn about mental health.”

Respondent 4 proposed the use of books. “I feel books with information on MHL would be great.”

On his part, respondent 5 felt inviting mental health experts to school would create awareness on mental health. “If students could interact with people specialized in mental health, they would know more about mental health issues.”

The present study identified the Mental Health Literacy (MHL) programme as the most preferred intervention among participants, a finding that was consistent across both the discussion and questionnaire responses. This convergence of data sources reinforces the validity of the results and provides strong evidence for the effectiveness of integrating MHL programmes within school settings. By equipping students with accurate knowledge and fostering positive attitudes towards mental health, these programmes appear to play a critical role in enhancing overall levels of MHL among secondary school learners.

The results are consistent with the broader literature, thereby strengthening the argument for school-based MHL interventions. Studies such as those by Prabhul et al. (2021), Marinucci et al. (2022), Kostenius et al. (2020), and Carlson (2021) have all highlighted MHL programmes as effective strategies for improving students’ understanding of mental health issues, promoting early help-seeking behaviours, and reducing stigma. Similarly, Angle et al. (2017) demonstrated that innovative approaches such as the use of radio programmes could complement MHL initiatives, while Ndeti et al. (2022) found life skills education to be another promising pathway for fostering resilience and mental well-being among adolescents.

These findings suggest that while multiple approaches exist, structured MHL programmes stand out as the most effective and scalable strategy within the context of secondary schools in Homa Bay County. Beyond simply imparting knowledge, these programmes have the potential to create supportive school environments that normalize conversations about mental health and encourage proactive help-seeking.

The preference for teacher-led interventions aligns with the HBM which posits that individuals’ actions are guided by their perceptions of susceptibility, severity, benefits, and barriers. Classroom-based teaching makes mental health threats and their consequences more salient and understandable, thereby increasing students’ perceived susceptibility to mental health problems and the perceived benefits of seeking help. Furthermore, interactive teaching reduces barriers such as stigma and misinformation, which may not be adequately addressed by self-directed digital learning. The findings also connect to SCT which emphasizes observational learning, self-efficacy, and reciprocal determinism. Teacher-guided sessions provide opportunities for role modeling, where students can observe trusted adults normalizing conversations around mental health. This process builds self-efficacy by demonstrating practical steps for identifying symptoms and seeking help. Conversely, computer-based interventions may lack the social reinforcement and modeling required to strengthen self-efficacy and change behavior.

Thus, these findings highlight that effective MHL interventions must not only provide knowledge but also address perceptions, build confidence, and model positive behaviors. Teacher-led approaches best achieve this, while technology-based tools, though currently rated less effective, could be improved to complement classroom instruction if infrastructural and support challenges are addressed.

IV. SUMMARY AND DISCUSSION

The findings revealed that teaching MHL within the school setting was perceived as the most effective intervention ($M = 3.52$, $SD = 0.65$), highlighting the value of integrating mental health education into the formal curriculum. Conversely, the use of school computers equipped with mental health programmes was rated as the least effective strategy ($M = 2.71$, $SD = 0.89$). This suggests that while technology-based interventions may hold potential, their effectiveness in this context may be limited by factors such as inadequate access to digital infrastructure, low levels of technological literacy among students, or limited engagement with self-directed online resources.

Overall, the findings underscore the importance of structured, teacher-led approaches in delivering mental health education, where students can benefit from guided learning, interactive discussions, and contextualized examples. At the same time, they point to the need for further investment in digital infrastructure and student engagement strategies if technology-assisted interventions are to become a viable complement to traditional classroom-based methods.

V. CONCLUSION

The study further found that MHL interventions were the most effective strategy for enhancing students' knowledge, attitudes, and willingness to engage in help-seeking behaviors.

VI. RECOMMENDATIONS

Based on the findings, it was concluded that schools include MHL programmes. The interventions should target not only improving mental well-being but also fostering positive attitudes toward help-seeking for mental health challenges.

VII. DECLARATION

I hereby declare that this article is my original work and has been written based on my own research and understanding. All sources of information used in the preparation of this article have been appropriately acknowledged. I confirm that the content has not been copied or submitted elsewhere for publication.

VIII. REFERENCES

- Amado-Rodríguez, I. D., Casañas, R., Mas-Expósito, L., Castellví, P., Roldan-Merino, J. F., Casas, I., Lalucat-Jo, L., & Fernández-San M. I. (2022). Effectiveness of Mental Health Literacy Programs in Primary and Secondary Schools: A Systematic Review with Meta-Analysis. *Children*. 9(4), 480.
- Angle, C., Lo, S., Ashta, J., Gu, A., Bodman, T., Macfarlane, J. and Malek, N. (2017). Youth Mental Health Literacy: Assessing the Effectiveness of Mental Health Training and Awareness Initiatives for Youth in Malawi and Tanzania. *The Prognosis McGill's Student Global Health Journal/Social and Behavioral Health*, 6(1), 1-56.
- Asyanti, S. and Karyani, U. (2017). Mental Health Literacy among Youth in Surakarta. *Advances in Social Science, Education and Humanities Research* 133, 12-16.
- Atilola, O., Obialo, I. F., Olabisi, O. O., Adegaju, A. A. Adeyemo, S. O. & Anthony, Y. R. (2022). Towards School-based Mental Health Programs in Nigeria: The Immediate

- Impact of a Depression Literacy Program among School-going Adolescents and their Teachers. *Child and Adolescent Psychiatry and Mental Health*, 16(1) 1-17.
- Carlson, C., Namy, S., Nakuti, J., Mufson, L., Ikenberg, C., Musoni, O., Hopson, L., Anton-Erxleben, K., Naker, D. and Wainberg, M. L. (2021). Student, Teacher, and Caregiver Perceptions on Implementing Mental Health Interventions in Ugandan Schools. *Implementation Research and Practice* 2, 1-10.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th ed.). SAGE Publications.
- Gimba, S. M., Harris, P., Saito, A., Udah, H., Martin, A. & Wheeler, A. J. (2020). The Modules of Mental Health Programs Implemented in Schools in Low and Middle-income Countries: Findings from a Systematic Literature Review. *BMC public health*, 20(1), 1-10.
- Iliyasu, R., & Etikan, I. (2021). Comparison of quota sampling and stratified random sampling. *Biometrics & Biostatistics International Journal*, 10(2), 43–48.
- Jumbe, S., Nyali, J., Simbeye, M., Zakeyu, N., Motsheba, G., & Pulapa, S.R. (2022). We Do Not Talk about it: Engaging Youth in Malawi to inform Adaptation of a Mental Health Literacy Intervention. *PLoS ONE* 17(3).
- Kahiri, C. M., (2019). Mental Health and Education in Kenya: Addressing Mental Health Problems through Schools. *Journal of Humanities and Social Science* 24(3), 40-43.
- Kostenius, C., Gabriellsson, S. & Lindgren, E. (2020). Promoting Mental Health in School. Young People from Scotland and Sweden Sharing their Perspectives. *International Journal of Mental Health and Addiction*, 18(1), 1522-1535.
- Marinucci, A., Grové, C. and Rozendorn, G. (2022). It's Something That We All Need to Know. *Australian Youth Perspectives of Mental Health Literacy and Action in Schools*. *Front. Educ.* 7, 1-11.
- Mohammadi, A. S., Panahi S., Sayarifard, A. & Ashouri, A. (2022). Identifying the Prerequisites, Facilitators, and Barriers in Improving Adolescents' Mental Health Literacy Interventions: A Systematic Review. *J Edu Health Promot.* 9, 322.
- Mwambwa-Johnson, Etta Y. (2021). *Mental Health Literacy among Rural and Urban Young Adults in Zambia*. Walden Dissertations and Doctoral Studies.
- Ndeti, D.M., Mutiso, V. N., Musyimi, C.W. (2022). The Feasibility of Using Life Skills Training in Primary Schools to Improve Mental Health and Academic Performance: A Pilot Study in Kenya. *BMC Psychiatry*, 131.
- Oduguwa, A. O., Adedokun, B. & Omigbodunet, O. O. (2017). Effect of a Mental Health Training Programme on Nigerian School Pupils' Perceptions of Mental Illness. *Child Adolesc Psychiatry Ment Health* 11:19.
- Prabhu, V., Ashok, L., Kamath, V. G., Sekaran, C. V., Kamath, A., Padickaparambil, S.,

- Hegde, P. A. and Devaramane, V. (2021). What Predicts Mental Health Literacy among School Teachers? Ghana Med Journal, 55(2), 41-146.
- Thomas, L. (2022). Stratified Sampling | Definition, Guide & Examples. Scribbr.
- WHO (2022). Mental health: Strengthening our response.
- Yamane, Y. (1967). Mathematical Formulae for Sample Size Determination.