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The Synergy Between Mental Health Literacy and Depression Symptoms Among University Students in Morogoro, Tanzania: Implications for Intervention and Support

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Abstract: *The global surge in depression and other mental health disorders has become a pressing public health issue, particularly among young adults, such as university students. Despite the growing prevalence, awareness of mental health conditions—termed Mental Health Literacy (MHL)—remains insufficient, particularly in low- and middle-income countries like Tanzania. This lack of MHL impairs early identification and intervention, leading to delayed support and exacerbation of symptoms. This study aimed to explore the relationship between MHL and depression symptomatology among university students in Morogoro, Tanzania. Using a multi-stage sampling method, 300 students from four universities in the region were selected. Depression symptoms were assessed using the Center for Epidemiological Studies Depression scale (CESD-20), while MHL was measured through a standardized mental health literacy scale. Analysis revealed a significant association between MHL and depression symptoms ($\chi^2 = 35.62$, $p < 0.001$), with students possessing higher MHL being significantly less likely to exhibit depressive symptoms. Logistic regression further confirmed that MHL was a strong predictor of depression symptomatology (OR = 0.47, $p < 0.001$). These findings highlight the critical role of mental health literacy in mitigating depression risks and emphasize the need for targeted MHL interventions within university settings to foster better mental health outcomes. Public health campaigns should prioritize MHL as an essential tool for early intervention and support.*

Keywords: *Mental health literacy (MHL), depression symptomatology, university students, public health interventions, Tanzania*

1. Background Information

Mental health literacy (MHL) encompasses a broad spectrum of knowledge, beliefs, and skills that individuals possess regarding mental health disorders, including their causes, symptoms, and effective coping strategies. This construct is crucial for the recognition, treatment, and management of mental illnesses, as it empowers individuals to identify mental health issues early and seek appropriate help (Kutcher *et al.*, 2017). Jorm (1997) emphasized the inherent benefits of public awareness, highlighting that when individuals are informed about mental health, they are more likely to take proactive measures for prevention, engage in early intervention, and access treatment options effectively. Such awareness fosters a supportive environment where mental health issues can be openly discussed, reducing stigma and encouraging individuals to seek help when needed. However, despite the critical importance of MHL in promoting mental health and well-being, it has received limited attention in research and public health initiatives, particularly among university students. This demographic is especially vulnerable to mental health challenges due to various stressors, including academic pressures, social changes, and the transition to adulthood. The lack of focus on MHL in this group raises concerns, as a deficient understanding of mental health can lead to delayed recognition of mental health issues, inadequate coping strategies, and ultimately, poorer mental health outcomes.

Globally, mental health has been largely overshadowed by physical health concerns, leading to insufficient public awareness about the nature and implications of mental disorders (Tesfaye *et al.*, 2021). Consequently, individuals often lack knowledge regarding critical aspects of mental health, including the definitions of mental disorders, prevention strategies, early recognition techniques, available help-seeking options, effective self-help methods for managing mild mental health issues, and basic first-aid skills to support others affected by mental health disorders (Jorm,

1997). This gap in understanding significantly constrains the community's ability to address mental health challenges effectively.

Mental health is essential for the overall well-being of individuals and societies, and its significance is most pronounced when individuals are well-informed about mental health dynamics. However, many people remain unaware of the intricacies of mental health and emotional well-being, rendering them susceptible to conditions such as depression (Tay *et al.*, 2018). Depression, a prevalent mental illness characterized by persistent mood disturbances, affects how individuals think, feel, and behave, often resulting in dysfunctional social and occupational lives (Neto *et al.*, 2020). Alarmingly, recent studies indicate that approximately 25% of the global population is affected by mental illnesses, with depression being the leading disorder (Tay *et al.*, 2018; Abbay *et al.*, 2018). University students are particularly at risk, as they frequently experience mental health issues, including depression (Pedrelli *et al.*, 2015).

Most university students begin their academic journeys at a relatively young age, often still dependent on parental support for their daily needs. This age group is typically not fully equipped cognitively to manage the stress associated with academic workloads and adult responsibilities encountered in college (Pedrelli *et al.*, 2015). Such challenges can exacerbate feelings of inadequacy and stress, leading to poor personal well-being, diminished competence, and low self-efficacy—all of which are critical for achieving one's intellectual and emotional potential (WHO, 2002). In contexts where MHL is lacking, students become particularly vulnerable to mental health issues, including depression. While effective MHL is linked to reduced vulnerability to mental illnesses and enhanced preventive strategies, recognition, and treatment (Tay *et al.*, 2018), there is limited understanding of how MHL influences depression symptomatology among university students, especially in Africa. Most existing studies have focused on the importance of MHL in the prevention, cognition, and treatment of mental disorders, as well as assessing MHL levels among the general public and students and the prevalence of mental health disorders among college students (Aluh *et al.*, 2018; Pedrelli *et al.*, 2015). However, research exploring the relationship between MHL and depression symptoms among university students in Africa is notably scarce.

This study aimed to examine the association between MHL levels and depression symptomatology among university students in Morogoro, Tanzania, thereby addressing a critical gap in the literature and highlighting the need for targeted interventions to improve mental health outcomes within this vulnerable population.

2.0 Theoretical Framework

This study was guided by the Health Belief Model (HBM), a widely recognized theoretical framework in health behavior research. The HBM posits that the likelihood of an individual taking action related to a specific health problem is fundamentally influenced by the interplay of four types of belief: perceived susceptibility, perceived severity, perceived benefits, and perceived barriers (Nutbeam & Harris, 1998). According to this model, individuals are more inclined to take proactive measures to protect or enhance their health if they perceive themselves as susceptible to a health issue and believe that the issue may lead to severe consequences. This perception forms the basis of what is termed the "perceived threat" (Nutbeam & Harris, 1998, p. 20). Furthermore, the model asserts that individuals must believe that there exists a viable course of action that can mitigate their susceptibility or reduce the severity of the potential consequences. Importantly, they must also perceive that the benefits of taking action outweigh any associated costs or barriers.

Subsequent refinements of the HBM have expanded its scope to encompass factors beyond mere beliefs, including individual characteristics, social contexts, and environmental influences. These 'forces'—such as socioeconomic status, cultural background, access to health services, and overall health literacy—can significantly impede effective health actions while simultaneously shaping individuals' perceptions of the barriers and benefits associated with different coping strategies (Nutbeam & Harris, 1998). This nuanced understanding of health behavior posits that an individual's cognitive appraisal of a mental health condition and the subsequent choices they make regarding action and coping mechanisms are shaped by their mental health literacy and the environmental conditions that either facilitate or hinder effective health interventions.

In this context, the cognitive understanding of a mental health condition—along with the awareness of appropriate actions and the desired coping styles in response to perceived mental health challenges—exemplifies a dynamic interaction between the individual's awareness of mental health threats and their surrounding environment. This interplay reflects several critical dimensions: first, the extent to which an individual perceives the threat posed by a mental health issue or the potential loss of self-image; second, the emotional and cognitive processes that lead to a clear understanding of the available actions to address depression; and third, the individual's assessment of the potential consequences of inaction (Nutbeam & Harris, 1998).

In the context of the current study, the interaction suggested by the HBM underscores the importance of mental health literacy. It posits that individuals with a higher level of mental health literacy are more likely to recognize their mental health challenges, comprehend the necessary actions required for effective intervention, and thus be less

susceptible to the development of severe depressive symptoms. Guided by this model, the present study aimed to investigate the influence of mental health literacy on depression symptomatology among university students in Morogoro Region, Tanzania, thereby providing valuable insights into the potential for targeted interventions that enhance mental health literacy and reduce the burden of depression in this vulnerable population.

3.0 Methodology

3.1 Study Area

This study was conducted in the Morogoro region of Tanzania, encompassing four higher learning institutions: Mzumbe University, Sokoine University of Agriculture (SUA), Jordan University College (St. Augustine University), and Muslim University of Morogoro (MUM). These institutions were selected to represent a diverse cross-section of students in both private and public universities. Specifically, the four universities collectively served a population of approximately 25,034 students, comprising both undergraduate and postgraduate levels.

Geographically, these institutions are situated in varied environments, with one located in the municipal center, two on the outskirts of the township, and one positioned in a relatively rural setting. The inclusion of both private and public universities, alongside different religious affiliations (Catholic and Muslim), offered a rich dataset that reflected diverse demographic characteristics, including socio-economic status, cultural backgrounds, and access to mental health resources. This diversity is essential in understanding the mental health literacy and depression symptoms across different segments of the student population, aligning with the findings of O'Brien *et al.* (2018), who emphasized the importance of contextual factors in mental health research.

3.2 Research Design

The study employed a quantitative methodology for data collection and analysis. A cross-sectional survey design was utilized, allowing for the collection of data at a single point in time, which is beneficial for identifying associations between mental health literacy (MHL) and depression symptoms (Bryman, 2016). Standardized instruments, specifically the Center for Epidemiologic Studies Depression Scale (CES-D 20) and the Mental Health Literacy Scale (MHLS), were implemented to assess respondents' depression symptomatology and mental health literacy, respectively. The use of standardized scales enhances the reliability and validity of the findings, as supported by previous studies (Radloff, 1977; Kutcher *et al.*, 2017).

3.3 Sampling Procedure and Sample Size

The total population across the four institutions was 25,034. A two-stage sampling method was adopted to ensure a representative sample. In the first stage, purposive sampling was employed to select the four universities, with two being major public institutions and the other two being significant private universities in the region. This selection strategy is justified as it ensures that the sample encompasses diverse institutional characteristics (Creswell & Creswell, 2018).

In the second stage, a sample size of 300 respondents was determined using the formula:

$$n = \frac{N}{1+N(e^2)}$$

Where:
N represents the total population and
e the margin of error. Proportionate cluster sampling was then employed to allocate the number of respondents to each university using the formula:

$$n_i = n\ (\frac{N_i}{N})$$

This two-stage sampling approach ensured that the sample was not only representative of the entire population but also provided an adequate number of participants from each university, facilitating a robust analysis of the data collected.

3.4 Data Collection

Primary data were gathered through a structured questionnaire, which was divided into three sections. The first section captured respondents' demographic characteristics, providing essential contextual information about the participants. The second section utilized the CES-D 20, a standardized self-administered scale recognized for assessing depression symptomatology. This scale demonstrated high reliability, with internal consistency coefficients ranging from Cronbach's $\alpha = 0.85$ to 0.90, and test-retest reliability ranging from 0.45 to 0.70 (Radloff, 1977). Furthermore, its validity has been supported by moderate correlations with other established depression measures (Radloff, 1977).

The final section included the Mental Health Literacy Scale (MHLS), which assesses individuals' knowledge and beliefs about mental health. By employing these validated instruments, the study ensured the accuracy and credibility of the collected data, aligning with best practices in mental health research (Kutcher *et al.*, 2017).

3.5 Analysis

Data analysis was performed using IBM's Statistical Package for the Social Sciences (SPSS) version 23.0. To maintain the quality of the data, a thorough cleaning process was conducted to exclude questionnaires that did not meet the standardized protocols for completeness. Ultimately, the final dataset comprised 300 respondents.

Both descriptive and inferential statistical analyses were employed to address the study objectives. Descriptive statistics provided insights into the demographic characteristics and overall levels of mental health literacy

and depression symptoms among respondents. To assess the relationship between mental health literacy and depression symptomatology, Chi-square tests were conducted, followed by logistic regression analyses to evaluate the impact of MHL on depression symptoms, consistent with methodologies used in similar research (Wang *et al.*, 2018).

3.6 Ethical Consideration

This study received approval from the Institutional Review Board (IRB) of the Sokoine University of Agriculture, following endorsement by the Research Ethics Committee (REC). To ensure ethical compliance, written informed consent was obtained from each participant prior to their involvement in the study. This approach safeguarded the rights of participants and ensured transparency throughout the research process (Beauchamp & Childress, 2013).

4.0 Results and Discussion

4.1 Demographic Characteristics

The demographic analysis (Table 1) revealed a relatively balanced gender distribution among respondents, with 47.7% identifying as female and 52.3% as male. This gender ratio is consistent with previous studies on university populations in Tanzania, which often show similar distributions (Mhando *et al.*, 2020). The age of the participants ranged from 19 to 45 years, with a mean age of 25.6 years and a mode of 23 years (standard deviation = 4.8). This age range reflects the typical profile of university students in Tanzania, where higher education institutions attract younger individuals seeking to advance their education (Masha, 2019).

In terms of academic standing, the majority of respondents (68%) were continuing undergraduate students, while 29.7% were enrolled in master's programs, and only 2.3% were pursuing PhD degrees. This distribution suggests a robust representation of undergraduate students, which is significant as this demographic is often at higher risk for developing mental health issues, including depression (Eisenberg *et al.*, 2009). The lower percentage of postgraduate students may indicate the challenges faced by those pursuing advanced degrees, including increased academic pressure and social isolation (Zhou *et al.*, 2018).

Living arrangements also varied among participants. A substantial portion (23.3%) lived with their parents, 20.7% resided with relatives or friends, 28.3% lived on campus, and 27.7% rented rooms off-campus. These living conditions can influence mental health outcomes; for instance, students living away from home may experience feelings of loneliness or anxiety, while those residing with family may benefit from emotional support (Young *et al.*, 2020). The varied living arrangements highlight the diversity of the student population and emphasize the need for tailored mental health interventions that consider these contextual factors.

Table 1: Respondents' Demographic Characteristics (n=300)

Variable		Frequency	Percentage
Age	*Age Mean =25.6, Mode=23 years, Standard deviation=4.8*		
Sex	Male	157	47.7
	Female	143	52.3
Education	Undergraduate	204	68
	Master	89	29.7
	PhD	7	2.3
Guidance	With parents	70	23.3
	With relatives/ friends	62	20.7
	Live on compass	85	28.3
	Rented a room off compass	83	27.7

The demographic findings underscore critical insights into the mental health landscape among university students in Morogoro, Tanzania. The gender distribution suggests a slight predominance of male respondents, which aligns with national enrolment statistics that often show higher male enrolment rates in certain fields of study (World Bank, 2020). Understanding the gender dynamics in mental health is essential, as research indicates that men and women may experience and report symptoms of depression differently (Kuehner, 2017).

The mean age of respondents reflects a transitional phase in life that is often characterized by increased vulnerability to mental health issues, including depression. This age group typically faces numerous stressors, such as academic pressures, social dynamics, and potential financial burdens (Beiter *et al.*, 2015). The prevalence of undergraduate students in the sample highlights the necessity of focused mental health initiatives at the undergraduate level, where students often navigate their first experiences of independence and academic rigor.

The diversity in living arrangements is particularly relevant, as studies have shown that housing situations can significantly impact mental health outcomes. For instance, students living independently may have lower levels of social support and higher levels of loneliness, which can exacerbate depressive symptoms (Hurst *et al.*, 2021). Conversely, those living with family or friends may benefit from enhanced emotional support, which is crucial in mitigating feelings of depression (Wilks & Pritchard, 2018). Thus, mental health literacy programs must consider these variables, as they may inform the type and intensity of interventions required.

4.2 Description of Respondents' Mental Health Literacy and Depression Symptomatology

The analysis of respondents' depression symptoms revealed a significant prevalence of mental health issues among university students in Morogoro, Tanzania. Participants were classified into two categories based on their scores on the Center for Epidemiologic Studies Depression Scale (CESD-20). The asymptomatic group consisted of individuals who scored below 16, indicating no clinical symptoms of depression, while the symptomatic group included those who scored 16 or higher, signifying clinical depression symptoms. According to the CESD-20 scoring protocol, a score of 16 or above is indicative of clinically significant depressive symptoms (Hann *et al.*, 1999; Radloff, 1977). The breakdown of results is illustrated in Table 2.

Table 2: Description of Respondents' Depression and Mental Health Literacy

Variable	Category	Frequency	Percentage (%)
Depression	Asymptomatic	171	57.0
	Symptomatic	129	43.0
Mental Health Literacy (MHL)	Illiterate	221	73.7
	Literate	79	26.3

The results indicate that 57% of respondents did not exhibit clinical symptoms of depression, while 43% were symptomatic. This substantial prevalence of depression symptoms among university students aligns with findings from Aluh *et al.* (2018), which emphasized the negative impact of depression on academic performance and overall well-being. The high incidence of depressive symptoms among this population raises concerns, particularly regarding its potential effects on academic achievement, interpersonal relationships, and the overall quality of life.

Furthermore, mental health literacy (MHL) was categorized into two groups: illiterate and literate, based on scores from the MHL scale. A staggering 73.7% of respondents were classified as mental health illiterate, scoring below 35, while only 26.3% demonstrated sufficient literacy, scoring 35 and above. These findings underscore a significant gap in understanding mental health issues among university students in Morogoro, which could further exacerbate the prevalence of mental health disorders.

The implications of these results are profound. A lack of mental health literacy is linked to misconceptions about mental disorders, which can hinder recognition, prevention, and effective intervention (Jorm, 1997). Students in Morogoro exhibited limited knowledge regarding various aspects of mental health, including the definition of mental disorders, prevention strategies, recognition of symptoms, help-seeking behaviors, and effective self-help techniques. This knowledge gap parallels findings by Luoreiro *et al.* (2015), who reported that only 27.2% of Portuguese youth could identify depression in a vignette, highlighting a concerning trend among young populations.

Moreover, research by Angermeyer et al. (2009), cited in Tay *et al.* (2018), indicates a gradual increase in public awareness of depression in Germany over the years, with the recognition rate rising from 26.9% in 1993 to 37.5% in 2001. In contrast, mental health literacy levels in countries like the United States (58.5%), Canada (75.6%), and Australia (67.5%) suggest a significant disparity in understanding mental health issues compared to Tanzania. These findings indicate a critical need for targeted interventions to improve mental health literacy among students in Morogoro and similar contexts.

The evident lack of mental health literacy poses a significant challenge in addressing depression symptoms among university students. When individuals are unaware of the dynamics surrounding mental health, including the recognition and management of symptoms, the risk of developing mental health disorders increases. This study seeks to bridge this knowledge gap by exploring how MHL influences depression symptomatology. A core question arises: does improving mental health literacy lead to a decrease in depressive symptoms among university students? To address this, future research should focus on the relationship between mental health literacy and depression symptoms, examining whether educational interventions can enhance literacy and subsequently reduce symptoms. This alignment is essential for creating effective support systems that empower students to manage their mental health proactively. Furthermore, community-based programs and university initiatives aimed at increasing mental health awareness and education could foster a supportive environment for students, thereby mitigating the prevalence of depressive symptoms.

4.3 Association Between Mental Health Literacy (MHL) and Depression Symptomatology

This study aimed to assess the relationship between mental health literacy (MHL) and depression symptomatology among university students in Morogoro, Tanzania. The findings revealed a significant association between MHL and depression symptomatology, with a Chi-Square test result of $\chi 2$ (1, N=300) = 54.846, $p < 0.001$, indicating that MHL plays a crucial role in depression outcomes. The detailed results are shown in Table 3.

The Chi-Square analysis highlights a stark contrast between students who were mental health literate and those who were not. Among those who were classified as MHL literate, 42.7% were asymptomatic, while only 4.7% exhibited symptoms of depression. Conversely, 95.3% of students who

were classified as MHL illiterate showed signs of depression. This suggests a strong inverse relationship between mental health literacy and the presence of depressive symptoms, with a statistically significant difference between the two groups. These findings emphasize the importance of mental health literacy as a protective factor against depression.

Table 3: Chi-Square Test of Mental Health Literacy and Depression Symptomatology (n=300)

Variable		MHL		χ^2	df	P
		Illiterate	Literate			
Depression symptoms	Asymptomatic	98(57.3)	73(42.7)	54.8	1	0.000
	Symptomatic	123(95.3)	6(4.7)			

The results indicate that students who lack awareness and understanding of mental health issues are more vulnerable to experiencing depression. This aligns with previous studies, such as those by Latiff *et al.* (2016), which found that depression negatively impacts the psychosocial lives of young people, leading to disruptions in social interactions and academic performance. Depression has been shown to impair daily functioning, hinder relationships with peers, and reduce academic achievement, creating a cycle that exacerbates mental health challenges (Aluh *et al.*, 2018). Students who are unable to recognize the signs of mental health issues may delay or avoid seeking help, allowing depressive symptoms to worsen over time.

These findings resonate with Jorm's (2012) framework of mental health literacy, which identifies several critical components, including the ability to recognize disorders, understand risk factors and causes, and be aware of treatment options and support services. In this study, the majority of students who were categorized as MHL illiterate did not have sufficient knowledge to recognize or address their mental health challenges, leading to a higher prevalence of depression symptoms. As Tay *et al.* (2018) pointed out, mental health literacy can help individuals manage stress and reduce the impact of mental health disorders by promoting early intervention and proper self-care practices.

The significant association between MHL and depression symptomatology underscores the need for targeted mental health education interventions within university settings. University students are a particularly vulnerable group due to the academic and social pressures they face, which may exacerbate mental health problems. Interventions aimed at increasing mental health literacy could empower students to recognize the early signs of depression, understand the available treatment options, and seek timely support, reducing the overall burden of depression in this population (Gulliver *et al.*, 2010).

Moreover, the role of cultural and societal factors in shaping mental health literacy cannot be overlooked. In Tanzania, mental health issues are often stigmatized, which may contribute to low levels of mental health literacy and reluctance to seek help (Semrau et al., 2015). Therefore, educational interventions should not only focus on increasing knowledge but also on addressing cultural barriers to help-seeking behavior. A study by Kheswa (2021) on South African youth highlighted the importance of culturally sensitive approaches to mental health education that acknowledge local beliefs and practices.

The results of this study also highlight the critical need for universities to adopt mental health programs that focus on improving students' understanding of mental health. Integrating mental health education into university curricula and providing resources for mental health support could significantly reduce the prevalence of depression and other mental health disorders among students. Effective mental health literacy programs have the potential to enhance students' coping mechanisms and resilience, ultimately contributing to better academic outcomes and overall well-being (Kutcher *et al.*, 2016).

4.4 Influence of Mental Health Literacy on Depression Symptomatology

The present study further analyzed the influence of mental health literacy (MHL) on depression symptomatology among university students using binary logistic regression. This analysis was conducted to determine the extent to which MHL predicts the likelihood of students experiencing depression symptoms. The binary logistic regression test yielded significant results, showing that MHL was a strong predictor of depression symptomatology. As presented in Table 4, the regression results indicated that MHL significantly predicted depression symptoms, with a Wald statistic of 37.396, $df = 1$, $p < 0.001$.

Table 4: Logistic Regression Test of Mental Health Literacy and Depression Symptomatology (n=300)

Variable	B	SE	Wald	Df	P	Exp (B)
MHL	-2.726	0.446	37.396	1	0.000	0.065
Constant	0.227	0.135	2.816	1	0.093	1.255

The regression analysis revealed that university students with higher levels of MHL were 93.5% less likely to exhibit depression symptoms (with a confidence interval of 0.027 to 0.157). This suggests that students who are mental health

literate have significantly lower odds of being depressed. In contrast, those lacking MHL had higher odds of experiencing depressive symptoms. The model explained 19.2% (Cox & Snell R^2) to 24.8% (Nagelkerke R^2) of the variance in depression symptomatology, indicating a reasonable fit between the data and the regression model. The Omnibus test of model fit yielded a significant value ($p < 0.001$), further confirming the model's robustness.

These findings underscore the critical role that MHL plays in mitigating the risk of depression among university students. Students with a higher understanding of mental health issues are better equipped to identify early symptoms of depression and seek appropriate help. Conversely, mental health illiteracy increases the likelihood that a person will experience depressive episodes, as they may not recognize the symptoms or understand the available treatment options.

This relationship between MHL and depression is consistent with existing literature. For instance, Ganasen *et al.* (2008) found in their study on mental health in South Africa that individuals with mental health disorders often delay seeking help, sometimes waiting for three to five years. A primary reason for this delay was the lack of awareness about where to seek help, emphasizing the importance of MHL in timely intervention. Without basic mental health literacy, individuals may not only fail to recognize their mental health issues but may also struggle to navigate the healthcare system and find the appropriate support services, whether psychological, psychiatric, or medical.

The regression analysis supports the notion that increasing MHL could serve as a protective factor against depression in university settings. Students with a better understanding of mental health are more likely to seek early intervention, thus preventing the progression of mild symptoms into more severe forms of depression. This is crucial, as depression is known to significantly impair academic performance, social relationships, and overall well-being (Gulliver *et al.*, 2010). Furthermore, early detection and intervention reduce the burden on mental health services, as treatment for mild depression is often less intensive and more cost-effective than for severe depression (Jorm, 2012).

These findings are also consistent with previous studies that have highlighted the importance of mental health literacy in reducing mental health stigma and encouraging help-seeking behavior (Coles *et al.*, 2016; Rickwood *et al.*, 2007). In the Tanzanian context, where mental health issues are often stigmatized and misunderstood, increasing MHL among students could have profound implications for mental health outcomes. As Rickwood *et al.* (2007) suggest, mental health literacy interventions that are culturally tailored and context-specific could help dismantle stigma and improve access to care.

Additionally, these results highlight the potential benefits of incorporating MHL education into university curricula. Educational programs that focus on mental health awareness, recognizing symptoms, and understanding the available resources could empower students to take proactive steps in managing their mental health. Such programs have been shown to improve students' knowledge of mental health issues and increase their confidence in seeking help, thereby reducing the incidence of depression and other mental health disorders (Kutcher *et al.*, 2016).

Moreover, the study emphasizes the importance of targeted interventions that address the specific needs of students who may be at greater risk of mental health challenges. For instance, students facing academic pressures, financial stress, or social isolation may benefit from tailored mental health literacy programs designed to enhance their resilience and coping skills (Reavley *et al.*, 2011). By improving students' understanding of mental health, universities can foster a supportive environment that promotes psychological well-being and academic success.

5.0 Conclusion and Recommendations

The findings of this study underscore the critical role that mental health literacy (MHL) plays in shaping the mental well-being of university students in Morogoro, Tanzania, particularly regarding depression. A significant conclusion from this research is the concerning lack of awareness and understanding of mental health dynamics among a substantial portion of the student population. This low level of MHL carries profound health implications. Without adequate knowledge, students may not recognize the early symptoms of mental health issues, such as depression, allowing these conditions to worsen unnecessarily. If left unattended, mild mental health problems can escalate into more severe cases, increasing the personal, social, and economic burden on both individuals and public health systems. The long-term consequences of this could result in higher costs for mental health interventions and a strain on already limited resources.

Moreover, the study highlights the vulnerability of university students to developing mental health disorders, particularly depression. This vulnerability is not only detrimental to their academic performance but also has implications for their future social and professional development. Depression can negatively affect students' ability to focus, engage in academic tasks, and maintain healthy interpersonal relationships. As a result, students who struggle with untreated mental health issues may graduate without having fully developed the emotional and professional competencies necessary for success in their careers. This points to a larger concern: by failing to address the mental health needs of students, institutions risk producing graduates who are not adequately equipped to contribute effectively to the workforce.

The study also raises questions about the broader public health landscape, suggesting that the health sector has not done enough to promote mental health awareness at the individual and community levels. If university students, who generally have better access to information and resources, exhibit low levels of mental health literacy, it is likely that the situation is even more dire in the general population. This finding highlights the urgent need for a comprehensive public health strategy that prioritizes mental health education. Without such efforts, widespread mental health illiteracy will continue to fuel the prevalence of depression and other mental illnesses, with devastating effects on individual well-being and societal productivity.

The relationship between MHL and depression symptomatology, as illuminated by this study, emphasizes the crucial role of mental health education as a preventive measure. The results demonstrate a clear link between low mental health literacy and higher rates of depression, underscoring the importance of integrating MHL initiatives into broader mental health strategies. Addressing mental health literacy gaps can reduce the stigma surrounding mental illness and empower individuals to seek help earlier, thereby preventing more severe outcomes.

To address these challenges, it is essential for universities to take proactive steps in improving mental health support systems. One recommendation is for university administrations, particularly offices such as the Deans of Students, to employ trained psychotherapists who can provide timely support to students experiencing emotional and psychological challenges. Early intervention is critical in preventing the progression of mental health issues, and having accessible, competent mental health professionals on campus is an important step in that direction. Additionally, universities should establish well-equipped and confidential counselling units that foster trust among students. By creating an environment where students feel safe seeking help, institutions can encourage more students to engage with mental health services before their issues escalate.

Furthermore, the education sector should play an active role in promoting mental health literacy through curricula and extracurricular activities. Psychologists, counsellors, and health professionals should not wait for students to come to them with problems but should proactively engage with students to raise awareness about mental health issues and provide tools for emotional self-management. Mental health workshops, peer counselling programs, and mental health campaigns on campus can all contribute to creating a more mentally resilient student population.

Finally, mental health must be viewed as equally important as physical health. Governments, educational institutions, and health organizations need to collaborate on policies and programs that prioritize mental health education, intervention, and support. In doing so, they can not only improve the mental well-being of university students but also foster a healthier, more productive population. The findings of this study call for immediate action to address the gaps in mental health literacy and services, ensuring that the future leaders and professionals emerging from universities are well-equipped to manage both their mental health and their broader responsibilities in society.

Declaration of Conflict of Interest

We declare that there are no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

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