Mental Health Literacy: A Systematic Review and Meta-analysis of Knowledge about Mental Illnesses among Non-health Professionals in Ethiopia

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Received: 28 December 2024
Accepted: 30 April 2025
Doi:10.22038/jhl.2025.86561.1730

ABSTRACT

Background and Objectives: Mental illnesses are alarmingly on the rise in both developed and developing countries. Knowledge is a core concept in mental health literacythat aids in recognizing, managing, and preventing mental illnesses. We aimed to systematically review and conduct a meta-analysis on mental illnessesknowledgeamong non-health professionals in Ethiopia.

Materials and Methods: To identify eligible studies, PubMed/MEDLINE, Hinari, AJOL (African Journal Online), Scopus/Science Direct, ProQuest, and Google Scholar were systematically searched from October 2024 to December 2024.This systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. All primary studies focusing on mental illnesses knowledge in Ethiopia were considered. The metaprop program on STATA v. 18 was used to calculate the pooled level of mental illnesses knowledge using the random-effects meta-analysis model. A pooled magnitude of mental illnesses knowledge was presented on a forest plot with a 95% CI.

Results: The pooled level of knowledge about mental illnesses among non-health professionals in Ethiopia was 56.93%. Based on subgroup analysis, the knowledge of study participants about mental illnesses varies depending on the study's region and period.

Conclusion: The finding from this review indicates that a significant number of the population has inadequate knowledge about mental illnesses. Concerned bodies' should emphasize activities like designing regionally tailored educational messages, increasing media engagement on mental health topics, and implementing community-based mental health interventionsto improve knowledge about mental illnesses.

Paper Type: Research Article
Keywords: Mental Illnesses,Knowledge, Systematic Review, Meta Analysis andEthiopia.

Citation: Abebe L, Debela BG., Hareru HE. Mental Health Literacy: A Systematic Review and Meta-analysis of Knowledge about Mental Illnesses among Non-health Professionals in Ethiopia. *Journal of Health Literacy*. Autumn 2025; 10(4): 22-33.

Introduction

Human beings' well-being is fundamentally linked to the state of mental health. People across the globe can experience mental disorders, regardless of their socio-demographic and socioeconomic backgrounds (1).The magnitude of mental disorders is a growing public health concern, which ranksas the fifth most common cause of sickness worldwide (2). Throughout a lifetime, the prevalence of mental disorders ranges from 12.2 percent to 48.6 percent globally (1, 3). Disability-adjusted life years and the global burden of diseases are primarily brought on due to mental illnesses (4-6). According to the 2012 Ethiopian national mental health strategy, mental illnesses are the leading non-communicable diseases in terms of burden (7). Mental health has received less attention than physical health, mostly due to a lack of understanding and misapprehension about mental health issues (1, 8, 9).

Knowledge is a fundamental concept in mental health literacy (MHL) that supports theprevention, recognition, and management of mental illnesses (10). MHL helps in understanding causes and appropriate help-seeking for mental health problems, which can reduce its burden. It also encompasses the ability to identify specific disorders and to find appropriate mental health information (11, 12). Mental illnesses help-seeking behavior can be determined by factors like level of understanding about mental illnesses, media exposure, and societal perceptions (11). Earlier research findings indicate a significant portion of the global population has a low know-how about mental illnesses (8, 13-15). Thiscan be improvedby creating awareness and aligning their beliefs with scientific perspectives (16).

Although primary research on mental illnesses awareness in our country has been conducted, those studies were inconsistent and did not provide summaries. This review intended to summarize andpresent contemporary evidence onthe statusof mental illnesses knowledge. This helps academicians, professionals, and the general public to appropriately plan, implement, and evaluate mental health programs. Hence, the main focus of this review is to provide the pooled level of Knowledge about mental illnesses among non-health professional segments of the population in Ethiopia.

Materials and Methods

This section outlines the procedures that were utilized to carry out the systematic review and meta-analysis. The systematic review procedure was governed by the seven steps of systematic review in healthcare outlined by Egger et al. in their article (17). The steps of a review were begun by settling inclusion and exclusion criteria, followed by arranging the queryof the review.Then, astrategy forthe search wasdevised, and studies were filtered for further processes. Finally, afterquality appraisal, thedata was extracted for finalanalysis.

Protocol design

A systematic review study design to summarize primary study findings published until December 2024 was used. This review‘s design is appropriate for summarizing research findingsfrom independent primary studies to inform policymakers and implementers. The development of the study protocol, the conduct and design, and the reporting of results were in accordance with

the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocol (PRISMA-P) guideline (Supplementary File 1).

Eligibility criteria

Inclusion criteria

This review included studies that focused on mental illness knowledge in Ethiopia. Published observational studies done in the English language were incorporated. The search was donefrom October 2024 to December 2024.To guide the search, we used the PIO scheme (18), PIO in research means population, phenomenon of interest, and outcomes. Our objective was to find studies that addressed respondents knowledge about mental illnesses as follows: Population (P) = non-health professional segment of populations; phenomenon of interest (I) = mental illnesses including depression, anxiety, schizophrenia, post-traumatic stress disorder, suicidal ideation, etc.; and outcomes (O) = knowledge of respondents.

Exclusion criteria

The reviewexcluded studies that didn't report a quantitative level of mental illness knowledge. It also excluded studies that were unrelated to the topic and abstract-only papers.

Search strategy and searching sources

Two reviewers (BGD and LA) independently conducted searches ofarticles on PubMed, Scopus/Science Direct, ProQuest, Hinari, African Journal Online (AJOL), and Google Scholar electronic databases. It was done using the following keywords: 'mental,' 'illness,' 'knowledge,' and 'Ethiopia.'Thefree-text words and Medical Subject Headings (MeSH) for each keyword were created. Boolean logic operators like AND, OR, and NOT were used to join the free-text words and MeSH terms.

Study selection

After searching, duplicates were discarded using EndNote (the bibliographic management program). Two reviewers (LA and BGD) checked the contents of the selected papers, and any ineligible papers were separated. Before data extraction, the chosen documents were accessed and carefully examined to determine their eligibility. Additionally, a search was performed again on the reference lists of the chosen publications to incorporate research that the search method would miss. Furthermore, we used websites like OpenGrey to get grey literature from reports, dissertations, and theses. The search process was presented in a PRISMA flow chart.

Process of data extraction and contents

An independent reviewer (BGD) rigorously extracted data into an Excel spreadsheet data extraction form. Data extraction focused on the following characteristics: author's first name, publication date, region, place, study design,and level of knowledge. Another reviewer (HEH) was checked for the correctness of the extracted data. The degree of agreement between the two independent data extractors was checked according to Kappa statistics. We attempted to contact and seek missing outcome data from the original authors by e-mail, and sensitivity analysis was done to find out the robustness of the meta-analysis findings and to show the influence of missing data on review results.

Quality appraisal

The Newcastle–Ottawa Scale for cross-sectional studies was employed to assess the quality of all the included papers for risk of

bias (19). Each paper was critically evaluated by LA and HEH independently. The problem of subjectivity was solved through discussion with the involvement of another reviewer (BGD). The studies with a quality evaluation score of 6 out of 10 were considered low-risk and included in the systematic review and meta-analysis based on the previous relevant literature cut-off point (Supplementary File 2).

Definitions of outcome

The primary outcome of this review is the pooled level of knowledge about mental illnesses of nonprofessionals' in Ethiopia. It was computed by dividingthe number of study participants who have good mental illness knowledgeby the total number of study participants in the study. Pooling the level of the mental illness knowledge from included studiesbuilds understanding for future implementation.This helps to provide recommendations for a policy intervention program to promote treatment seeking and reduce stigmatization of people with mental illness.

Data analysis

The extracted data was entered into a computer via an Excel sheet before being exported to STATA v. 18. The findings were presented in a table and tested using descriptive statistics. The Metaprop program was used to calculate the pooled magnitude of mental illness knowledge using the random-effects meta-analysis model. On a forest plot, the information likepooled magnitude of mental illness knowledge, 95% CI, the author's name, and the publication year were plotted. We performed a subgroup analysis based on the study's publication year and region because substantialvariability was seen on random-effects model analysis.

Publication bias and heterogeneity

Heterogeneity between the results of the primary studies was assessed using Cochran's Q test.It was quantified with the inverse variance(I2) statistic of 25, 50, and 75% as low, moderate, and severe heterogeneity, respectively, with a p-value less than 0.05. The random-effects model was used to incorporate heterogeneity in meta-analyses. Further, meta-regression was performed to identify the source of heterogeneity by considering both continuous and categorical data. Publication bias was assessed using Begg's and Egger's tests with a p-value of less than 0.05 as a cut-off point to declare the presence of publication bias (20).

Results

Search results

About 16,647 articles were systematically retrieved from electronic databases and other sources like Google Scholar, Google, gray pieces of literature, and previous studies reference lists. Of the 16,647 articles, 5,167 were excluded due to duplication. Additionally, 11,443 articles were excluded after their titles, abstracts, and full texts were reviewed. Among the 41 full-text articles accessed, we excluded 32 articles as they did not report the level of mental illness knowledge. Finally, 9 articles were included in the analysis (Figure 1).

Figure 1. The PRISMA flow diagram of the studies selection.

Characteristics of included studies

- Four studies from Amhara, two from Oromia,and three from different regions of the country were included.

- A total sample of 5850 respondents was included to estimate the level of knowledge about mental illnesses at the national level.
- The lowest (40.8%) level of knowledge about mental illnesses was reported from Mekelle, Tigray region,and the highest (72%) was from Mattu, Oromia region (Table 1).
- The quality score of the articles ranged from 7 to 10 out of 10 points (Suppl. File 2).

Meta-Analysis

The pooled level of mental illnesses knowledge in Ethiopia

The pooled level of knowledge about mental illnesses in Ethiopia was 56.9% with (95%CI: 51.12–6.70) using visual forest plots in the random-effect model (Figure 2).

Heterogeneity was seen across the studies, which is detected by the I^2 statistic (I^2 = 95.3%, p-value < 0.0001). Therefore, we employed a random-effects meta-analysis model to estimate the pooled level of knowledge about mental illnesses in Ethiopia (Figure 2).

Publication bias

A visual inspection of the funnel plot indicates a symmetrical distribution of studies showing no publication bias (Figure 3). The presence of publication bias was also checked using Begg's and Egger's tests, which show insignificant publication bias at p-values of 0.17 and 0.078, respectively.

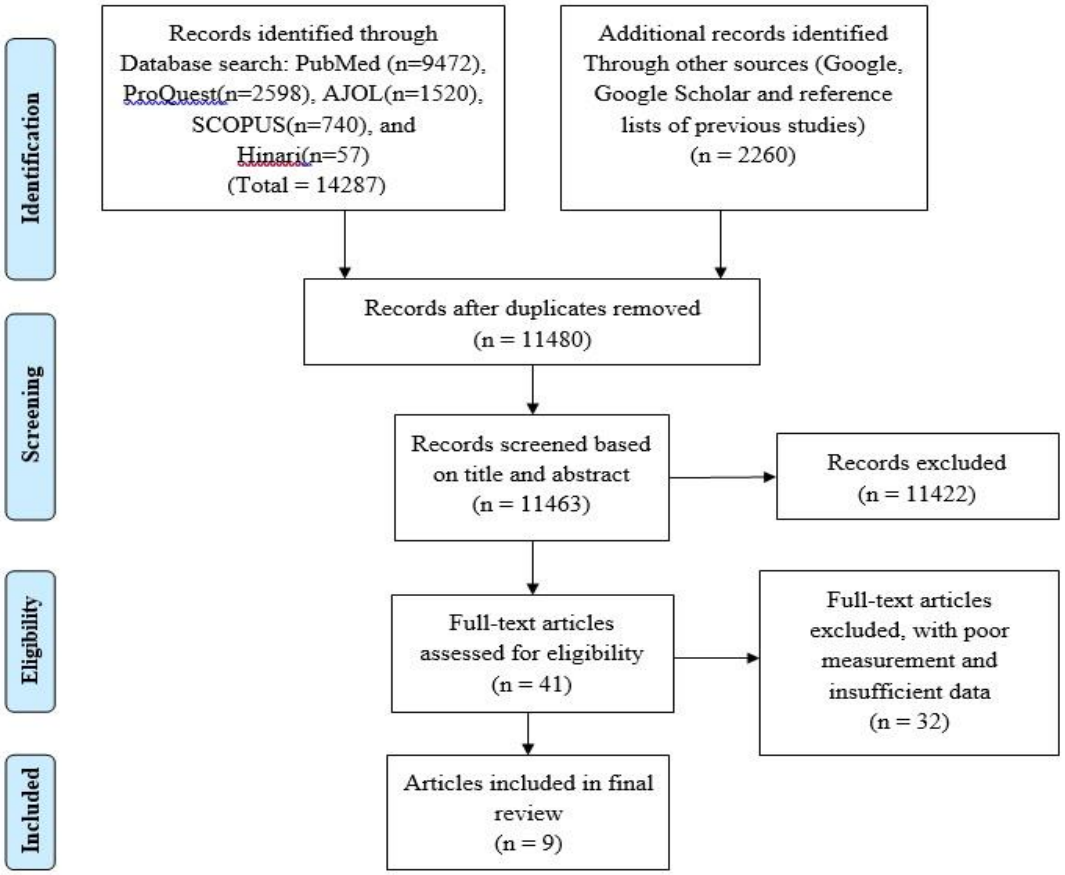

Figure 1. The PRISMA flow diagram of the studies selection.

Table 1. Characteristics of included studies of knowledge about mental illnesses in Ethiopia

Publication year	First Author	Region	Place	Study design	Sample size	Included	Response rate	Proportion of knowledgeable	Quality score
2011	Haregewoin sebhat et al.(21)	Amhara	Gonder town	Cross-sectional	883	864	97.8%	65.0%	9/10
2018	Aradom G. Abbay et al.(22)	Tigray	Mekelle city	Cross-sectional	260	260	100.0%	40.8%	10/10
2020	Berhanu Yeshanew et al.(23)	Amhara	Mertule Mariam town	Cross-sectional	964	947	98.2%	53.0%	7/10
2021	Mengesha Birkie et al.(24)	Amhara	Dessie town	Cross-sectional	584	477	81.67%	55.3%	10/10
2021	Yonas Tesfaye et al.(25)	Oromia	Jimma zone	Cross-sectional	423	420	99.3%	55.2%	9/10
2022	Jarso MH et al.(26)	Oromia	Mattu town	Cross-sectional	656	649	98.9%	72.0%	10/10
2024	Dawit Getachew et al.(27)	Southwest	Six zones	Cross-sectional	1028	981	94.5%	63.2%	7/10
2024	Hassen HM et al.(28)	Dire Dawa	Dire Dawa	Cross-sectional	924	751	81.0%	56.4%	8/10
2024	Habtam Gelayeet al.(29)	Amhara	Dessie Town	Cross-sectional	510	501	98.6%	60.1%	8/10

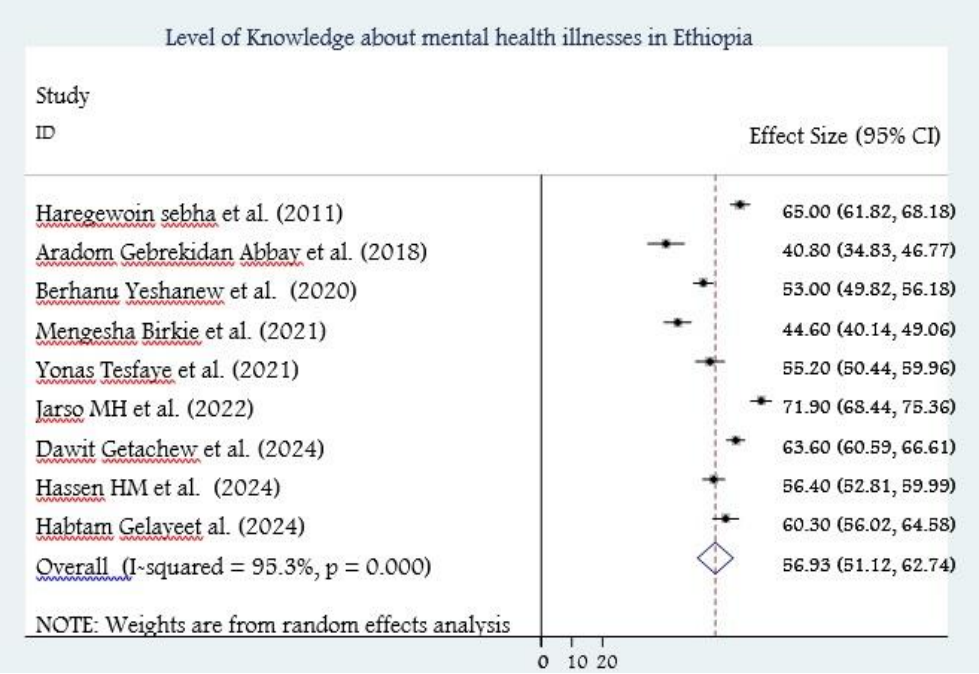

Figure 2. A forest plot of pooled level of knowledge about mental illnesses in Ethiopia

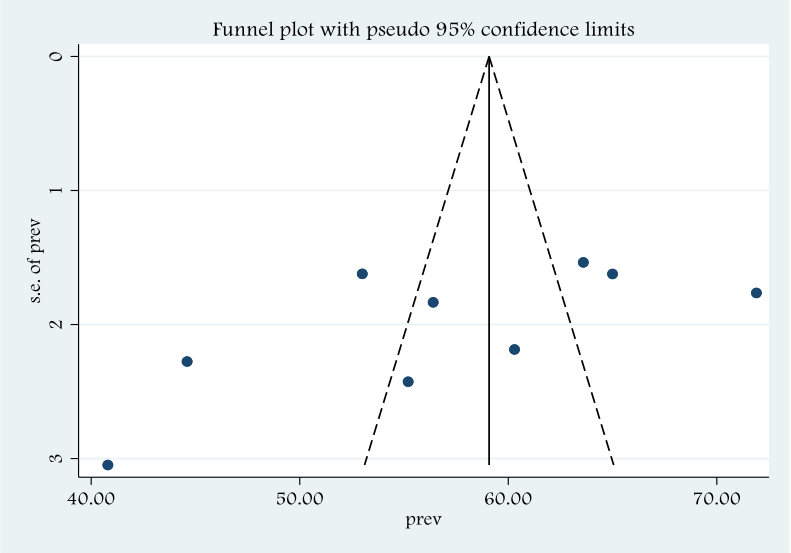

Figure 3. Funnel plot presented the visual inspection of publication bias

Meta-regression

A meta-regression was conducted to identify the source of heterogeneity using region, sample size, and publication year as covariates. Meta-regression shows that there is no significant association between the level of knowledge of mental illnesses and the region of the study, publication year, and sample size in Ethiopia.

Investigation of heterogeneity

The I2 statistic corresponding to the forest plot indicated marked heterogeneity among the included studies (I2 =95.3%, P=0.00) (Figure 2).Hence, sensitivity and subgroup

analyses were carried out to minimize heterogeneity.

Sub group analysis

A subgroup analysis was computed to compare the level of knowledge of mental illnesses by classifying them into region and publication year. The subgroup analysis by region helps us to identify the variation among the regions, while that done by publication year indicates the improvement of knowledge about mental illnesses. Based on this analysis, the lowest level of knowledge about mental illness was observed in the Tigray region, which is 40.80% with a95%CI: 34.80–46.70.The highest prevalence was in the Oromia region, which is 63.63% with a 95%CI: 47.26–79.90. The pooled level of knowledge about mental illnesses among the studies conducted after the year 2020 was higher than the pooled prevalence from the studies conducted during and before the year 2020 (Table 2).

Table 2. Sub-group analysis of the level of knowledge about mental illnesses in Ethiopia

Sub group by	Number of studies	Prevalence (95% CI)	P value	I2	Tau-squared
Region					
Amhara	4	55.8(47.35–64.22)	0.00	95.20%	70.30
Oromia	2	63.63(47.26–79.90)	0.00	96.80%	134.90
Southwest	1	63.6(60.60–66.60)	–	89.30%	36.96
DireDawaa	1	56.4(52.80–59.90)	–	–	0.00
Tigray	1	40.8(34.80–46.70)	–	–	0.00
Publication year					
After year 2020	6	58.7(51.60–65.90)	0.00	95.20%	70.10
Within and before 2020	3	53.2(41.10–65.20)	0.00	96.60%	115.40

Sensitivity analysis

A sensitivity analysis was done to evaluate the effect of a single study on the overall effect estimate. The results indicated that removing a single study did not have a significant influence on the pooled level of knowledge about mental illnesses. This confirms the pooled proportion of knowledge about mental illness is the cumulative effect of all included studies (Figure4).

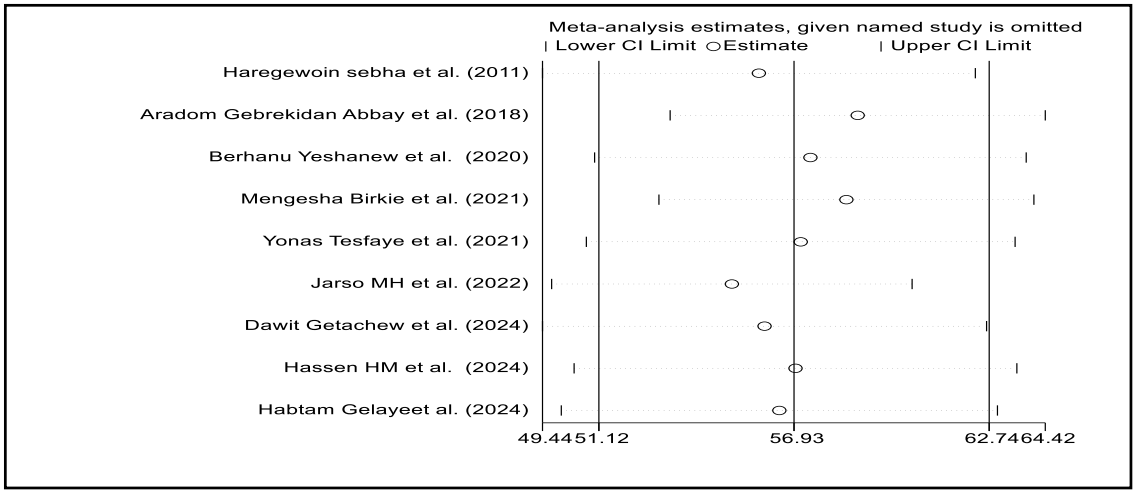

Figure 4. Sensitivity analysis of the pooled prevalence of included studies (n = 9)

Knowledge about mental illness in Ethiopia

The findingsofrespondents' knowledge about mental illnesses were compiled into fourcategories. Those comprise the following concepts:knowledge of mental illnesses etiology, identifying symptoms, curability, and treatment options.The findingsfrom these studies indicatethe presence of various understandingof the causes of mental illnesses, like supernatural, socioeconomic, and biochemical factors.Study participants from threestudies'(21, 25, 29) mentioned the etiology of mental illnesses is due to medical disorders and spiritual causes, while study participants from four studies (21, 23, 25, 29) mentioned it is due to socioeconomic factors.

Regarding knowledge on the ability to identify symptoms of mental illnesses, the majority of participants from three studies (21, 25, 27) have good knowledge on recognizing people with mental illnesses. Findings from three studies (22, 25, 27) show the majority of respondents have knowledge about the curability of mental illnesses. Concerning knowledge about treatment options formental illnesses,modern medicine, supernatural and/or traditional treatment, and psychosocial support were mentioned by study participants. The study participants from five studies (21-24, 27) mentioned modern medicine for treatment of mental illnesses, while study participants from one study mentioned supernatural agents and/or traditional treatment and psychosocial support as a treatment for mental illnesses (24).

Discussion

Mental illnesses are recognized as a significant public health problem in both developed and developing countries (30). Previous studies have shown that the public's limited knowledge of mental illness is one of the perceived causes of its high incidence and poor treatment-seeking behavior (31, 32). This systematic review and meta-analysis are aimed at estimating the pooled level of knowledge about mental illnesses in Ethiopia. The findings of this meta-analysis showed that the pooled level of knowledge about mental illnesses among non-health professionals' in Ethiopia is 56.93% (95% CI 51.11–62.70). The finding is lower than the study done in China, which indicates mental health knowledge among Chinese adolescents is 66% (33). The variation could be due to the difference in study participants' socio-demographic backgrounds, as the study from China respondents are adolescents while those from Ethiopia are the general public. The other causes of variation could be the difference in economic development of the two countries, which indirectly affects health information access as well as mental health knowledge.

The subgroup analysis shows a variation in mental illness knowledge between regions, with the lowest (40.8%) from the Tigray region and the highest (63.6%) from Oromia region. The discrepancy could be due to the difference in health services accessibility, delivery, and utilization, which can influence health information access as well as mental health awareness. The difference could also be the gap between study periods, as the study from Tigray was done earlier than other studies. In addition, the variation may be due to sociocultural differences, infrastructural inequalities, and economic and political factors that might influence the awareness

and access to mental health education across regions. The study from China also shows the presence of differences in mental illness knowledge among developed and developing regions (33). The pooled level of knowledge about mental illnesses among the studies conducted after the year 2020 was higher than the pooled magnitude from the studies conducted during and before the year 2020, which was 53.2% and 58.7%, respectively. The possible explanation for the difference could be an improvement in health services in relation to the increment of the country's GDP per capita, which can increase community awareness. An additional reason could be the improvement of the educational levels of respondents, as the accessibility of education also shows improvement from time to time.

The findings of this review show the majority of respondents were able to mention various causes of mental illnesses like supernatural, socioeconomic, and biochemical factors. This is consistent with the earlier systematic review, which shows the presence of various perceptions on the cause of mental health problems in Ethiopia(34). The review finding also shows respondents reflect their knowledge regarding treatment options such as modern medicine, spiritual, traditional, and psychosocial support. This is supported by a previous review in Ethiopia, which shows respondents have beliefs about above mentioned treatment options (35).

Study Limitations and Strengths: The limitation of this review include the heterogeneity of primary studies due to measurement and the socio-cultural background of primary study participants, which can influence the findings of this review. In addition, the studies included in this review did not address all regions of the country and also had a limited number of studies that may influence the generalizability of the review. Finally, the protocol of this review was not pre-registered at the International Prospective Register of Systematic Reviews (PROSPERO), which may cause duplication of reviews and reduces transparency in the review process.

Conclusions

In conclusion, the pooled level of good knowledge about mental illnesses among non-healthprofessionals in Ethiopia is 56.9%. The finding of this review indicates that, a significant number of the population has inadequate knowledge about mental illnesses that directly influences their prevention and health-seeking behavior. Based on subgroup analysis, there is a variation of mental illness knowledge among study participants depending on study regions and periods.

Practical implications

The findings of this review emphasize the importance of giving high priority to raising knowledge about mental illnesses. Concerned bodies' should conduct activities, likedesigning regionally tailored educational campaigns on the causes, identification symptoms, treatability, and the availability of appropriate treatment,are important.In addition, increasing media engagement on mental health topics, implementing community-based interventions to reduce stigma, and improving literacyare advantageous.Moreover, celebrating Mental Health Day to increase community awareness is beneficial. The review results can serve as a

foundation for future studies, strategy establishment, and the implementation of mental illness prevention and treatment activities.

Acknowledgement: We would like to show our heartfelt gratitude to Dilla University for funding this review. Finally, our sincere thanks also go to the authors of the included studies.

Availability of data and materials: The data analyzed during the current systematic review and Meta-analysis is available as supporting information files.

Conflicts of interest: The authors declare no competing of interest.

Consent for publication: Not applicable.

Ethics approval and consent to participate: Because the objective of this study is conducting a systematic review and meta-analysis from the existing literature, formal approval by an ethics committee or obtaining informed consent from participants is unnecessary. It should be noted that this approach aligns with the principles outlined in the Declaration of Helsinki, ensuring ethical standards are upheld even in literature-based reviews.

Funding: This review was funded by Dilla University.

Author Contributions, Conceptualization: LA, BGD; Data curation: BGD, HEH; Formal analysis: BGD, LA, HEH; Investigation: LA, BGD; Methodology: LA, BGD, HEH; Software: BGD; Supervision: LA, BGD, HEH; Validation: LA, BGD, HEH; Visualization: LA, BGD, HEH; Writing – original draft: BGD; Writing – review & editing: LA, BGD, HEH

References

1- World Health Organization. mhGAP: Mental Health Gap Action Programme: scaling up care for mental, neurological and substance use disorders: World Health Organization; 2008.
2- Whiteford HA, Degenhardt L, Rehm J, Baxter AJ, Ferrari AJ, Erskine HE, et al. Global burden of disease attributable to mental and substance use disorders: findings from the Global Burden of Disease Study 2010. The lancet 2013;382:1575-86https://doi.org/10.1016/S0140-6736(13)61611-6PMid:23993280.
3- Van der Ham L, Wright P, Van TV, Doan VD, Broerse JE. Perceptions of mental health and help-seeking behavior in an urban community in Vietnam: an explorative study. Community mental health journal 2011; 47:574-82https://doi.org/10.1007/s10597-011-9393-xPMid: 21409418 PMCid: PMC3185226.
4- Henderson C, Robinson E, Evans-Lacko S, Thornicroft G. Relationships between anti-stigma programme awareness, disclosure comfort and intended help-seeking regarding a mental health problem. The British Journal of Psychiatry 2017;211:316-22.https://doi.org/10.1192/bjp.bp.116.195867PMid:28935661 PMCid:PMC5663972.
5- Whiteford HA, Ferrari AJ, Degenhardt L, Feigin V, Vos T. The global burden of mental, neurological and substance use disorders: an analysis from the Global Burden of Disease Study 2010. PloS one 2015; 10:e0116820 https://doi.org/10.1371/journal.pone.0116820PMid:25658103 PMCid: PMC4320057.
6- Funk M. Global burden of mental disorders and the need for a comprehensive, coordinated response from health and social sectors at the country level. Retrieved on 2016; 30.
7- FDRE MOH. National Mental Health Strategy 2012/13-2015/16; Federal Democratic Republic of Ethiopia Ministry of Health: Addis Ababa, Ethiopia. . 2012.
8- Abera M, Tesfaye M, Belachew T, Hanlon C. Perceived challenges and opportunities arising from integration of mental health into primary care: a cross-sectional survey of primary health care workers in south-west Ethiopia. BMC health services research 2014; 14:1-10https://doi.org/10.1186/1472-6963-14-113PMid: 24602215 PMCid: PMC3946769.
9- Monteiro NM. Addressing mental illness in Africa: Global health challenges and local opportunities. Community Psychology in Global Perspective 2015; 1: 78-95.
10- Jorm AF, Korten AE, Jacomb PA, Christensen H, Rodgers B, Pollitt P. "Mental health literacy": a survey of the public's ability to recognise mental disorders and their beliefs about the effectiveness of treatment. Medical journal of Australia 1997;166:182-6.https://doi.org/10.5694/j.1326-5377.1997.tb140071.xPMid:9066546.
11- Jorm AF. Mental health literacy: Public knowledge and beliefs about mental disorders. The British Journal of Psychiatry 2000;177:396-401https://doi.org/10.1192/bjp.177.5.396PMid:11059991.

12- Waddell C, Hua JM, Garland OM, Peters RD, McEwan K. Preventing mental disorders in children. Canadian Journal of Public Health 2007; 98:166-73.https: //doi.org/10. 1007/BF03403706https://doi.org /10. 1007/BF03403707.
13- Link BG, Phelan JC, Bresnahan M, Stueve A, Pescosolido BA. Public conceptions of mental illness: labels, causes, dangerousness, and social distance. American journal of public health 1999;89:1328-33https://doi.org/10.2105 /AJPH.89.9.1328PMid:10474548 PMCid: PMC1508784.
14- Saxena S, Funk M, Chisholm D. Comprehensive mental health action plan 2013-2020. EMHJ-Eastern Mediterranean Health Journal 2015;21:461-3.https:// doi.org/10.26719/2015.21.7.461.
15- Arthur CM, Whitley R. "Head take you": Causal attributions of mental illness in Jamaica. Transcultural Psychiatry 2015;52:115-32.https:// doi.org/10.1177/ 1363461514557065PMid:25406259.
16- Pescosolido B, Martin J, Link B, Kikuzawa S, Burgos G, Swindle R, et al. Americans' Views of Mental Health and Illness at Century's End: Continuity and Change. Public Report on the Macarthur Mental Health Module, 1996 General Social Survey. Bloomington, IN: Indiana Consortium of Mental Health Services Research, Indiana University 2000.
17- Egger M, Smith GD, Altman D. Systematic reviews in health care: meta-analysis in context: John Wiley & Sons; 2008.
18- Stern C JZ, McArthur A. Developing the review question and inclusion criteria. Am J Nurs 2014;114:53-6.https://doi.org/10.1097/01.NAJ.0000445689.67800.86Mid:24681476.
19- Stang, A. Critical evaluation of the Newcastle-Ottawa scale for the assessment of the quality of nonrandomized studies in metaanalyses. Eur. J. Epidemiol. 25, 603-605 (2010).https://doi.org/10.1007/s 10654-010-9491-zPMid: 20652370.
20- Sterne, J. A. E. M. Funnel plots for detecting bias in meta-analysis: guidelines on choice of axis. J. Clin. Epidemiol. 54(2), 1046-1055https://doi.org/10.1016/S0895-4356 (01) 00377-8PMid:11576817.
21- Haregewoin Sebhat et al. Public knowledge and attitude towards mental illness and mentally challenging people in Gondar town, North West Ethiopia, 2011. Ethiop.J. Healh biomed.Sci. Sept.2019; vol 9(1).
22- Aradom Gebrekidan Abbay, Alemayehu Tibebe Mulatu and Hossein Azadi. Community Knowledge, Perceived Beliefs and Associated Factors of Mental Distress: A Case Study from Northern Ethiopia. Int. J. Environ. Res. Public Health 2018, 15, 2423; https://doi.org/10.3390/ijerph 15112423PMid:30384494 PMCid: PMC6265946.
23- Yeshanew et al. Help-seeking intention and associated factors towards mental illness among residents of Mertule Mariam town, East Gojam Zone, Amhara Region, Ethiopia: a mixed-method study. Ann Gen Psychiatry (2020) 19:12. https://doi.org/10.1186/s 12991-020-00261-yPMid: 32127907 PMCid:PMC 7045738.
24- Mengesha Birkie and Tamrat Anbesaw. Knowledge, attitude, and associated factors towards mental illness among residents of Dessie town, northeast, Ethiopia, a crosssectional study. BMC Psychiatry (2021) 21:614. https://doi.org/10.1186/s12888-021-03609-0PMid: 348 86839 PMCid: PMC8656097.
25- Tesfaye Y, Agenagnew L, Anand S, Tucho GT, Birhanu Z, Ahmed G, et al. Knowledge of the community regarding mental health problems: a cross-sectional study. BMC psychology 2021;9:106https://doi.org/10.1186/s40359-021-00607-5PMid:34261532 PMCid: PMC8278586.
26- Jarso MH et al (2022). Knowledge, attitude, and its correlates of the community toward mental illness in Mattu, South West Ethiopia. Front. Psychiatry 13:1018440. https://doi.org/10.3389/fpsyt.2022. 1018440PMid:36424987 PMCid:PMC9679014
27- Getachew D. et al (2024). Community perception towards mental illness and help-seeking intention in Southwest Ethiopian Peoples Regional State. PLoS ONE 19(10): e0310512. https://doi.org/10.1371/journal. pone.0310512PMid:39392805 PMCid: PMC11469537.
28- Hassen HM et al (2024). Mental health issues and the association of mental health literacy among adolescents in urban Ethiopia. PLoS ONE 19(10): e0295545. https://doi.org/10.1371/journal.pone.0295545PMid:39 446875 PMCid: PMC11500858.
29- Habtam Gelaye et al. Help-seeking intention for mental illness and associated factors among Dessie town residents in Northeast Ethiopia. Scientifc Reports (2024), 14:30715. https://doi.org/10.1038/s41598-024-79656-wPMid:39730422 PMCid: PMC11680945.
30- Patel V, Kleinman A (2003) Poverty and common mental disorders in developing countries. Bull World Health Organ 8: 8.https://doi.org/10.1037/e538812013-019
31- Khan T, Sulaiman S, Hassali M, Tahir H (2009) Attitude toward depression, its complications, prevention and barriers to seeking help among ethnic groups in Penang, Malaysia. Ment Health Fam Med 6: 219-227.
32- Jorm AF (2000). Mental health literacy: public knowledge and beliefs about mental disorders. British Journal of Psychiatry (2000) 177: 396-401.https://doi.org/10.1192 /bjp.177.5.396PMid:11059991.
33- Guo S, Yang Y, Liu F, Li F. The awareness rate of mental health knowledge among Chinese adolescent: a systematic review and meta-analysis. Medicine 2020; 99:7(e19148).https://doi.org/10.1097/MD.0000000000 019148PMid:32049839 PMCid: PMC7035058.
34- Berhanu G. Debela et al. Community perception towards mentalhealth problems in Ethiopia: a mixed-method narrative synthesis. BMC Psychiatry (2024) 24:588 https://doi.org/10.1186/s12888-024-06047-wPMid: 392 15248 PMCid: PMC11363598
35- Tibebe A, Tesfay K (2015) Public Knowledge and Beliefs about Mental Disorders in Developing Countries: A Review. J Depress Anxiety.2015, S3: 004. Dhttps://doi.org/10.4172/2167-1044.S3-004.