



Optimism and its correlates among outpatients with major depressive disorder in a mental health facility in West Africa

Olugbenga A. Owoeye, Dapo A. Adeggbaju, Tomilola O. Shofu-Akanji, Obatomi A. Alalade, Oluwasikemi T. Alalade, Ismail O. Adesina, Temilola O. Toriola

Department of Clinical Services, Federal Neuro-Psychiatric Hospital, Yaba, Lagos, Nigeria

Abstract

Background: Optimism is a positive psychological trait that influences mental health outcomes particularly in individuals with major depressive disorder (MDD). While widely studied in high-income settings, less is known about the level of optimism and its correlates among patients with MDD in the developing nations of Africa. The objective of this study is to assess the level of optimism and its association with sociodemographic, clinical, and psychological variables among outpatients with MDD in a mental health facility in West Africa.

Materials and Methods: This cross-sectional study involved 61 randomly selected adults diagnosed with MDD attending psychiatric outpatient clinic at Federal Neuropsychiatric Hospital, Lagos, Nigeria. Data were collected using Sociodemographic and clinical questionnaires, Oslo Social Support Scale (OSSS), Rosenberg Self-Esteem Scale (RSES), General Self-Efficacy Scale (GSES), and the Revised Life Orientation Test (LOT-R). Descriptive statistics, t-tests, ANOVA, and correlation analyses were conducted at a 5% significance level.

Results: The mean optimism score was 14.26 ± 2.55 , with a range of 5 to 19. Male participants reported significantly higher optimism than females ($p = 0.011$). Participants without a history of psychiatric hospitalization had higher optimism scores ($p = 0.022$). Self-efficacy was positively correlated with optimism ($r = 0.257$, $p = 0.045$), while self-esteem showed no significant association. Other sociodemographic and clinical factors, including age, education, and comorbidity, were not significantly associated with optimism.

Conclusion: The identification of gender, hospitalization history, and self-efficacy as key correlates of optimism in individuals with MDD provides insights into how individual characteristics and mental health history influence positive outlooks in a clinical population and suggests potential targets for interventions for the patients.

Keywords: Optimism, Major depressive disorder, Self-efficacy, Outpatients, Mental health, LOT-R

Introduction

Major depressive disorder (MDD) is a highly prevalent mental disorder affecting 280 million people in the world with more people being afflicted in Sub Saharan Africa.^{1,2} Over 7 million of persons with depressive illness lives in Nigeria.³ MDD is recognized as the leading cause of disability globally accounting for 7.5% of years lived with disability,⁴ and anticipated to rank second in terms of the global

Corresponding Author:

Shofu-Akanji Tomilola O

Department of Clinical Services, Federal Neuro-Psychiatric Hospital, Yaba, Lagos, Nigeria.

fissykodesh@gmail.com

DOI: 10.61386/imj.v18i4.804

disease burden by 2030,⁵ hence a major public health problem whose impact exceed that of chronic medical illnesses.⁶ Besides causing distress for the patients and family members, the economic burden of MDD is also considerable.⁶ It is estimated that MDD – alongside anxiety – costs the global

economy 1 trillion dollars annually.⁴ It is also a major contributor to suicidal attempts and deaths by suicide.⁷

According to World Health Organization International Classification of Diseases, 11th edition, depressive disorders are characterized by affective symptoms i.e. depressed mood and/or anhedonia alongside cognitive and behavioral symptoms (diminished concentration, low self-worth, hopelessness, and suicidal thoughts), and neuro-vegetative symptoms (poor sleep, change in appetite, psychomotor disturbances and reduced energy).⁸ The symptoms should be present for at least 2 weeks and must be significant enough to affect the individual's ability to function.⁸

The enormous impact of depressive disorders on the public has led to vast research to understand and to formulate conceptual models of the illness. The cognitive theory of depression proposed by Becks and colleagues have gained widespread acceptance in the field of psychology and it posits that depression develops and persists because of the possession and processing of a number of negative thoughts, attitudes, assumptions, and interpretations as well as how information is attended to and recalled.⁹ This model has since been expanded to account for the role of genetics, neurobiology, as well as social and other psychological factors.¹⁰ In this regard, the concept of optimism has recently gained research interest as a psychological construct that play a key role in the development of depressive disorders.^{10,11}

Optimism implies possessing a positive attitude towards life and a tendency to expect favorable outcomes even in the face of difficulties.^{12,13} In general terms, optimism confers protection on mental health and well-being.^{14,15} Those who exhibit high levels of optimism are often highly motivated, experience fewer adverse conduct, are more resilient, and demonstrate greater performance and perseverance when faced with challenges or difficult tasks.^{12,16} More so, optimism plays a significant role in the development of, and the outcome of interventions for mental health conditions including depression.^{10,11,17}

Extant studies have described an inverse relationship between optimism and some risk factors for depression such as rumination and hopelessness.^{10,18} Persons with depressive disorders

who exhibit optimism are found to possess adaptive coping skills, the capacity to reinterpret unpleasant experiences in positive light and an expectation of favorable outcome.^{12,14,16} Optimism therefore plays a positive role in therapeutic alliance, treatment adherence and treatment outcome.¹⁴ Further, highly optimistic persons tend to have a lower risk of relapse given their dexterity in coping with adverse events.¹⁰ Studies also reported decreased symptoms of depression after optimism intervention.^{19,20}

Literature points to an inverse relationship between optimism and depression.¹⁰ A systematic review and meta-analysis that examined the association between depression and optimism in the general population of young people reported a significant negative relationship.¹⁰ However, studies that examined the nature of relationship between the two phenomena are sparse. Yavari and colleagues in their recent study reported the mean optimism score of patients with MDD as 9.9 ± 1.68 .¹⁴ In the same vein, a community based study conducted in Asian Turkey reported the mean optimism score for individuals with mood disorder was just below the midpoint of the scale, and lower than that of those without mood disorders.¹⁷ It is also noteworthy that the mean optimism score among patients with MDD is lower than that of the general population globally as this was shown to be above the midpoint of the LOT-R scale.²¹ Interestingly, Nigeria in West Africa is ranked among the countries with the highest level of optimism, only after Estonia and Mexico.²¹ Given the huge burden of depression in the same country, this appear to be a paradox. While having a diagnosis of severe mental illness does not preclude being optimistic,²² the question of what is the level of optimism among patients with depression remains unanswered especially in a nation such as Nigeria.

The sociodemographic and clinical factors that influences the level of optimism among patients with depressive disorders are also not fully unpacked. Yavari and colleagues found that being female is positively correlated with optimism in patients with depression.¹⁴ They however found no association between optimism score and age, marital status, and level of education.¹⁴ Another recent study reported that after adjusting for sociodemographic factors, optimistic view reduced the risk of mood disorder by 0.86.¹⁷ Among those

with depression and other severe mental illnesses, a study reported a positive correlation between optimism and social support while another study found no association between optimism and duration since diagnosis of depression as well as the number of hospital admissions.¹⁴ These studies were however done in western countries. Given the established cultural and contextual sensitivity associated with optimism,^{23,24} it may be hypothesized that its sociodemographic and clinical correlates may have a different outlook in West Africa.

Conceptually, optimism has been distinguished from other psychological constructs such as self-esteem, self-efficacy²⁵ and the literature proposed that these three are components of resilience.^{25,26}

Self-esteem and self-efficacy are respectively positively correlated with both optimism and depression.^{12-14,25} Among individuals with severe mental illness, Lecomte and colleagues in 2009 similarly reported a positive correlation between optimism and self-esteem, as well as self-efficacy.²² Although the sample examined in the study included patients with depression, examining a pure sample of patients with depressive disorder may further reveal clinically relevant information about the nature of association between these variables.

Taking into account the high rate of depression and the severe impact it has on sufferers, the society and the health system, there is a need for continuous research into its prevention and management.¹⁴ Given the highlighted research gaps, the present investigation was therefore undertaken to determine the level of optimism and to study the sociodemographic, clinical and psychological correlates of optimism among outpatients with depressive disorders.

Materials and methods

This descriptive cross-sectional study was carried out at the general adult psychiatry outpatient clinic of the Federal Neuropsychiatric Hospital, Lagos, Nigeria, West Africa. The clinic runs once a week, attending to about 150 patients with various general psychiatric disorders among whom patients with MDD account for about 5% - 10%.

Participants were outpatients aged between 18 years and 65 years, with diagnosis of MDD confirmed using the depression module of the Mini

International Neuropsychiatric Inventory (MINI 7.0), and who gave written informed consent to participate in the study. Patients were excluded if they had comorbid mental disorder or a severe and/or acute behavioural disturbances that prevented assessment.

Using the Cochran's formulae for calculating sample size,²⁷ and a standard deviation of 1.68 obtained for the mean of optimism score of depressed patients from a previous study,¹⁴ the sample size was calculated as 61 participants.

Ethical approval was obtained from the Health Research and Ethics Committee of the Federal Neuropsychiatric Hospital, Yaba, Lagos.

Study Instruments

Socio-demographic and clinical questionnaire developed by the researchers, was used to collect relevant socio-demographic information including age, gender, marital status, level of education, occupation, and level of social support. Clinical information such as age at diagnosis, duration of illness, presence of comorbid medical conditions and previous of hospital admissions were also collected.

Depression module of the Mini International Neuropsychiatric Inventory (MINI 7.0) was used to diagnose MDD in this study. It is a short, structured, interviewer administered questionnaire used to diagnose a current and lifetime major depression. It has excellent psychometric properties which are comparable with those of Composite International Diagnostic Interview (CIDI) and Structured Clinical Interview for DSM-IV-TR Axis I Disorders, Patient Edition (SCID-P). It has been validated for use in Nigeria.^{28,29}

Oslo Social Support Scale (OSSS) is a 3-item self-report questionnaire used to assess level of social support in this study. It employs a likert scoring system in which one item is scored 1 – 4, while the other 2 items are scored 1 – 5. The total score ranges from 3 -14 with 3 – 8, 9 -11, and 12 - 14 indicating poor support, moderate support, and strong support respectively.³⁰ It has an acceptable psychometric properties. It has been validated in Nigeria.³⁰

Rosenberg Self-Esteem Scale (RSES) is a self-report instrument used to measure the level of self-esteem.³¹ It has 10-items which are scored on a 4-point likert scale.¹⁴ Each item is scored 0 – 3 with

items 1, 3, 4, 7, 10 being scored positively and items 2, 5, 6, 8, 9 being scored reversely. The total score ranges between 0 – 30.¹⁴ The higher the scores, the higher the level of self-esteem.¹⁴ It has excellent psychometrics properties³² and has been validated in Nigeria.³³

General Self-Efficacy Scale (GSES) is a 10-item self-report measure of self-efficacy.³⁴ All questions are scored 1-4 with responses being 1- Not at all true, 2 - Hardly true, 3 - Moderately true, and 4 - Exactly true.³⁴ The total score ranges from 10 - 40. The higher the score, the more the self-efficacy.³⁴ It has an acceptable internal consistency (Cronbach alpha = 0.76 – 0.90) and convergent validity³⁴ and has been previously used in Nigeria.³⁵

Revised Life Orientation Test (LOT-R) is a 10-item self-report instrument for assessing one's level of optimism.³⁶ It is scored on a 5-point Likert scale, each item being scored 0 – 4 with items 1, 4 and 10 being scored positively while items 3, 7, and 9 are scored reversely.³⁶ Questions 2, 5, 6 and 8 are filter questions and are not scored as part of the revised edition.³⁶ The total score is between 0 and 24 so a higher score implies a higher level of optimism.³⁶ It has an acceptable internal consistency (Cronbach alpha = 0.71)³⁷ and has been used in Nigerian studies.^{14,38,39}

Study Procedure

On each clinic day, the patients with case file diagnosis of MDD were separated and their diagnosis was confirmed using depression module of MINI 7.0. A simple random sampling technique (ballot method) was used to recruit 5 patients with MDD who met the eligibility criteria for the study.

The details of the study were explained to the selected study participants and they were given the questionnaires (sociodemographic questionnaires, RSES, GSES, OSSS, and LOT-R) to complete while the researchers stood by to offer necessary clarification. Clinical information about the participants were obtained from their case files. The participants were thanked for their participation. Data collection took place for 13 weeks between June and September 2024.

Data analysis

Data analysis was done using Statistical Product and Service Solutions (SPSS) version 26. The

sociodemographic, clinical and psychological variables of the participants were described using frequency and percentages for categorical data and mean and standard deviation (median and interquartile range where data was not normally distributed) for continuous variables. Shapiro-wilk test was used to determine normality of the continuous variables.

Mean and standard deviation were used to describe the level of optimism of patients with depression.

Analysis of Variance (ANOVA) and t-test were used to determine the association between sociodemographic characteristics, clinical factors and level of optimism while Pearson and Spearman correlation tests were used to determine the correlation between the continuous clinical variables (age at illness onset and duration of illness) and psychological factors (self-esteem and self-efficacy) and level of optimism of patients with depression. Level of significance was set at $p < 0.05$.

Results

As shown in Table 1, the mean age of the respondents was 40.13 ± 11.15 years. Significantly more (80.3%) of the respondents were females, almost half (47.5%) were single while another 44.3% were married. Proportionately more of the respondents were Christians (86.9%) and attained tertiary education level (52.5%). Three of every four (75.4%) of the respondents were employed, more of whom (41.4%) were Craft and related trades workers. About a third (29.5%) of the respondents reported poor social support.

According to Table 2, the mean age at which the respondents got a diagnosis of MDD was 35.41 ± 10.49 while the median duration of the illness was 3 years with the number of years of illness ranging between 1 year and 23 years. A third of the patients (34.4%) has add a previous hospital admission among whom two-thirds had only been admitted once. Hypertension was present in more than half (56.5%) of the 18 (29.5) participants that reported having a comorbid physical illness. Other comorbid physical illnesses were diabetes mellitus (17.4%), arthritis (17.4%), and asthma (8.7%).

The median self-esteem score was 17 with a range between 4 and 28, while the median self-efficacy score was 32 with a range of 13 – 40.

Table 1: Sociodemographic characteristics of respondents

Sociodemographic Variables (N=61)	Frequency	%	Mean±SD
Age			40.13 ±11.15
Young age (18-39yrs)	30	49.2	
Middle age (40-59yrs)	29	47.5	
Old age (≥ 60yrs)	2	3.3	
Gender			
Male	12	19.7	
Female	49	80.3	
Religion			
Christianity	53	86.9	
Islam	8	13.1	
Marital status			
Single	29	47.5	
Married	27	44.3	
Separated/Divorced	2	3.3	
Widowed	3	4.9	
Educational attainment			
Primary	7	11.5	
Secondary	22	36.0	
Tertiary	32	52.5	
Employment			
Unemployed	14	23.0	
Employed	46	75.4	
Retired	1	1.6	
Occupation (n=46)			
Managers	4	8.7	
Professionals	6	13.0	
Clerical support workers	4	8.7	
Service and sales workers	6	13.0	
Craft and related trades workers	19	41.4	
Plant and machine operators, and assemblers	2	4.3	
Elementary occupations	5	10.9	
Social support (OSSS)			
Poor support (3-8)	18	29.5	
Moderate support (9-11)	29	47.5	
Strong support (12-14)	14	23.0	

SD: Standard Deviation

Table 2: Clinical and Psychological Characteristics of Respondents

Clinical Variables (N=61)	Frequency	%	Mean±SD
Age at Diagnosis (years)			35.41±10.49
Duration of Illness (years)			3.0 (1-23)*
Hospital admission			
No	40	65.6	
Yes	21	34.4	
No of Hospital Admission (n=21)			
Once	14	66.7	
Twice	3	14.3	
Thrice or more	4	19.0	
Presence of Comorbidity			
Yes	18	29.5	
No	43	70.5	
Type of Comorbidity (n=23)**			
Hypertension	13	56.5	
Diabetes Mellitus	4	17.4	
Asthma	2	8.7	
Arthritis	4	17.4	
Self-esteem (RSES)			17 (4 – 28)
Self-efficacy (GSES)			32 (13 – 40)

SD: Standard Deviation; *median (range); **some respondents reported more than one comorbidity

Level of optimism of outpatients with major depressive disorder

As measured with the Revised Life Orientation Test

(LOT-R), the mean optimism score for outpatients with major depressive disorder is 14.26±2.55 with the scores ranging between 5 – 19.

Sociodemographic correlates of optimism among outpatients with mdd

Analysis of variance (ANOVA) and t-test were used to determine sociodemographic correlates of optimism among outpatients with MDD. There was a statistically significant association between level of optimism and the gender of respondents ($t = 2.629$, $p = 0.011$) as the mean optimism score for the male gender was significantly higher than that for the female gender as shown in Table 3.

Table 3: Sociodemographic Correlates of Optimism among Outpatients with MDD

Sociodemographic Variables (N=61)	Mean	Std Dev	Statistics	p-value
Age				
Young age (18-39yrs)	14.43	2.86	0.261 ^F	0.772
Middle age (40-59yrs)	14.03	2.29		
Elderly (≥60yrs)	15.00	1.41		
Gender				
Male	15.92	1.93	2.629 ^T	0.011
Female	13.86	2.53		
Religion				
Christianity	14.45	2.57	1.519 ^T	0.134
Islam	13.00	2.14		
Marital status				
Single	14.10	2.83	1.072 ^F	0.368
Married	14.63	2.32		
Separated/Divorced	15.00	1.41		
Widowed	12.00	1.00		
Educational attainment				
Primary	14.86	1.68	1.587 ^F	0.213
Secondary	13.50	2.06		
Tertiary	14.66	2.91		
Employment				
Unemployed	14.64	1.87	0.199 ^F	0.820
Employed	14.15	2.76		
Retired	14.00			
Occupation (n=46)				
Managers	16.5	3.32	2.414 ^F	0.440
Professionals	14.67	2.50		
Clerical support workers	11.75	4.50		
Service and sales workers	16.17	2.317		
Craft and related trades workers	13.42	1.87		
Plant and machine operators, and assemblers	16.00	0.00		
Elementary occupations	13.20	2.97		
Social support (OSSS)				
Poor support (3-8)	13.50	2.28	2.877 ^F	0.064
Moderate support (9-11)	14.10	2.62		
Strong support (12-14)	15.57	2.38		

Std Dev: Standard Deviation; T- statistics from t-test; F- statistics from Analysis of Variance test; bold p-value significant at <0.05

Table 4: Clinical correlates of Optimism among outpatients with MDD

Clinical Variables (N=61)	Mean	Std Dev	Statistics	p-value
Hospital Admission				
No	15.29	2.31	2.357 ^T	0.022
Yes	13.73	2.53		
No of hospital admission				
Once	15.21	2.23	2.522 ^F	0.108
Twice	13.33	1.53		
Three or more	17.00	2.16		
Presence of Comorbidity				
No	15.00	1.85	1.477 ^T	0.145
Yes	13.95	2.75		
Type of Comorbidity				
Hypertension	15.11	2.32	0.661 ^F	0.592
Diabetes Mellitus	13.67	0.57		
Asthma	16.00	0.00		
Arthritis	15.50	2.12		
	Pearson Correlation (r)			p-value
Age at illness onset	0.084			0.518
Duration of illness	-0.139*			0.294
Self-esteem (RSES)	0.300*			0.190
Self-efficacy (GSES)	0.257*			0.045

Bold p-value significant at <0.05; Std Dev: Standard Deviation; T- statistics from t-test; F- statistics from Analysis of Variance test;

*Spearman correlation

Clinical and psychological correlates of optimism among outpatients with mdd

Analysis of variance (ANOVA), t-test, Pearson test of correlation and Spearman test of correlation were used to determine clinical correlates of optimism among outpatients with MDD. As shown in Table 4, hospital admission was significantly associated with level of optimism ($t = 2.357$, $p = 0.022$) as the mean optimism score of those who were not admitted was significantly higher than that of those who were admitted. Table 4 also shows that using Spearman test of correlation, self-efficacy is significantly associated with the level of optimism of the respondents as LOT-R score increased with increasing GSES score ($r = 0.257$, $p = 0.045$).

Discussion

This study explored the level of optimism as well as its sociodemographic, clinical, and psychological correlates among outpatients diagnosed with major depressive disorder (MDD).

The mean optimism score (14.26 ± 2.55) observed among participants falls within a moderate range and is higher than the 9.9 ± 1.68 reported by Yavari and colleagues among the same patient population.¹⁴ It is also higher than the 12.58 ± 4.63 mean optimism score reported among patients with severe mental illness which included patients with mood disorders as found by Lecomte and colleagues.²² The score is also higher than the midpoint on the LOT-R scale which is inconsistent with

report from an extant studies that the mean optimism score for patients with mood disorder was below the midpoint of the scale. The differences in study population and sample size could account for this disparity in mean optimism scores. Nevertheless, the mean score found in this study aligns with previous research indicating that individuals with MDD generally exhibit lower optimism compared to the general public.^{22,40} Despite this, the range of optimism scores (5 to 19) indicates variability in the presentations of individuals with major depressive disorder and how much differences can exist in their expectations of their illnesses.

Gender was found to be a significant correlate of optimism. Male participants had significantly higher optimism scores than their female counterparts ($p = 0.011$). This was in contrast to previous finding that females have higher level of optimism both among patients with MDD and in the general population.¹⁴ Studies done in the general population also found no difference in the optimism level for both gender.⁴¹ The inconsistency in gender influence on optimism may be a reflection of societal expectations and gender roles in coping expression, in that regard, the finding in this study may suggest that men with depression utilize different and probably positive coping strategies than women, particularly in the West African cultural contexts.

Hospital admission history was another important clinical factor. Those who had not been hospitalized for their illness reported significantly higher optimism levels ($p = 0.022$). This may reflect the psychological impact of hospitalization experiences, which can reinforce illness severity and hopelessness.⁴² It may also suggest that those with less severe or better-managed illness are more likely to retain positive expectations about the future. This finding however contradicts report from a study that no association exists between level of optimism and hospital admission.¹⁴ Variations in healthcare infrastructure and services between developing and developed nations can significantly influence how hospitalization shapes an individual's outlook on life hereafter. This is further underscored by this study's finding that the frequency of hospital admissions did not have a significant impact on the patients' optimism scores.

Interestingly, the presence of comorbid physical

illness did not significantly impact optimism scores. This contrasts with some literature where comorbidity is linked to worse psychological outcomes and higher likelihood of re-hospitalization amongst patients.⁴⁰ However, the relatively small proportion of respondents with comorbidities may have limited the statistical power to detect such associations in this study.

Among psychological factors, self-efficacy was positively correlated with optimism ($r = 0.257$, $p = 0.045$). This is similar to report among patients with severe mental disorders including mood disorders and also agrees with established finding that self-efficacy is positively correlated with both optimism and depression in the general population.^{12,22,25} The finding is consistent with Bandura's social cognitive theory, which posits that individuals who believe in their ability to exert control over their lives are more likely to hold optimistic expectations.⁴³ This association underscores the importance of enhancing self-efficacy in psychotherapeutic interventions for MDD.

Contrary to consistent findings from literature,^{12,40} self-esteem did not show a significant correlation with optimism in this sample. The non-significant result here might be due to cultural factors, or the impact of other psychological constructs that were not assessed in this study.

Although age, education, and marital status were not significantly associated with optimism, the trend toward higher optimism among participants with tertiary education and strong social support warrants further investigation as strong social ties have been consistently linked to better mental health outcomes, including optimism.⁴⁴

This study is limited by its cross-sectional design, which hinders causal inference. The relatively small sample size may have constrained statistical power, especially in subgroup analyses. Furthermore, all measures were based on self-report, which may be influenced by social desirability or recall bias. Finally, the findings may not be generalizable beyond outpatient populations in similar clinical settings. Nevertheless, the use of standard instruments to assess MDD and the variables in the study favours reliability of the study findings as well as replicability of the study.

In conclusion, this study highlights gender, hospitalization history, and self-efficacy as key

correlates of optimism in individuals with MDD. These findings provide insights into how individual characteristics and mental health history influence positive outlooks in a clinical population and suggests potential targets for psychosocial interventions and further research among patients with depression in West African mental health settings.

Acknowledgements: None

Declaration of Conflicts: The authors declare that there was no conflict of interest.

Authors Contributions: O.O.A. was the project leader. O.O.A., S.T.O., A.D.A., A.O.A., and A.O.T. were responsible for idea generation and study conceptualisation. A.I.O. and T.T.O. performed the data collection. A.I.O. and T.T.O. made conceptual contributions. S.T.O. and A.I.O. did the analysis. S.T.O. wrote the discussion. O.O.A., A.D.A., A.O.A., A.O.T., and A.I.O. reviewed the discussion.

References

1. World Health Organization. Facts Sheet - Depression [Internet]. 2021 [cited 2024 Apr 13]. Available from: <https://www.who.int/news-room/fact-sheets/detail/depression> (2021).
2. Fan Y, Fan A, Yang Z, Fan D. Global burden of mental disorders in 204 countries and territories, 1990–2021: results from the global burden of disease study 2021. *BMC Psychiatry*. 2025;25:486.
3. Temitayo I, Tabiri I, Modupe O, Olusola E, Romain A, Koomson A, et al. Depression in Sub-Saharan Africa. *IBRO Neurosci Reports*. 2022;12:309–22.
4. Chodavadia P, Teo I, Poremski D, Fung D. S. S, Finkelstein E. A. Prevalence and economic burden of depression and anxiety symptoms among Singaporean adults: results from a 2022 web panel. *BMC Psychiatry*. 2023;23(1):104.
5. Cui L, Li S, Wang S, Wu X, Liu Y, Yu W, et al. Major depressive disorder: hypothesis, mechanism, prevention and treatment. *Signal Transduct Target Ther*. 2024;9:30.
6. Gutiérrez-Rojas L, Porras-Segovia A, Dunne H, Andrade-González N, Cervilla J. A. Prevalence

- and correlates of major depressive disorder: A systematic review. *Brazilian J Psychiatry*. 2020;42(6):657–72.
7. Su Y. A, Ye C, Xin Q, Si T. Major depressive disorder with suicidal ideation or behavior in Chinese population: A scoping review of current evidence on disease assessment, burden, treatment and risk factors. *J Affect Disord*. 2023;340(51):732–42.
 8. World Health Organization. Clinical descriptions and diagnostic requirements for ICD-11 mental, behavioural and neurodevelopmental disorders. In: *International Classification of Diseases*. 11th ed. Geneva; 2024. p. 224.
 9. Beck A. T. *Cognitive Therapy and the Emotional Disorders*. 2nd ed. New York: International Universities Press; 1976.
 10. Uribe F. A, de Oliveira S. B, Junior A. G, da Silva Pedroso J. Association between the dispositional optimism and depression in young people: a systematic review and meta-analysis. *Psicol Reflex e Crit*. 2021;34(1);37.
 11. Vickers K. S, Vogeltanz N. D. Dispositional optimism as a predictor of depressive symptoms over time. *Pers Individ Dif*. 2000;28(2):259–72.
 12. Chang Y, Wang P, Li H, Liu Y. Relations among depression, self-efficacy and optimism in a sample of nurses in Taiwan. *Journal of Nursing Management*. 2011;19(6):769–76.
 13. Scheier M. F, Carver C. S. Optimism, coping, and health: assessment and implications of generalized outcome expectancies. *Heal Psychol*. 1985;4:219–247.
 14. Yavari S, Radfar M, Faraji N, Goli R, Bagherzadi A, Atharifar R, et al. Self-esteem and optimism in patients with major depression disorder: a cross-sectional study. *Ann Med Surg*. 2023;85(11):5379–83.
 15. Conversano C, Rotondo A, Lensi E, Della Vista O, Arpone F, Reda M. A. Optimism and its Impact on Mental and Physical Well-Being. *Clin Pract Epidemiol Ment Heal*. 2010;6(1):25–9.
 16. Kolawole S, Obosi A. Psychological Predictors of the Mental Health among Married Women in the University of Ibadan, Nigeria. *The Social and Management Scientist*. 2021;13(4):136–51.
 17. Öcal E. E, Demirtaş Z, Atalay B. I, Önsüz M. F, Işıklı B, Metintaş S, et al. Relationship between Mental Disorders and Optimism in a Community-Based Sample of Adults. *Behav Sci*. 2022;12(2):52.
 18. Fischer I. C, Cripe L. D, Rand K. L. Predicting symptoms of anxiety and depression in patients living with advanced cancer: the differential roles of hope and optimism. *Support care cancer*. 2018;26(10):3471–3477.
 19. Sergeant S, Mongrain M. An Online Optimism Intervention Reduces Depression in Pessimistic Individuals. *Journal of Counseling and Clinical Psychology*. 2014;82(2):263–74.
 20. Sin, N. L, Lyubomirsky S. Enhancing psychological well-being and alleviating depressive symptoms with positive psychology interventions: A practice-friendly meta-analysis. *J Clin Psychol*. 2009;65:467–487.
 21. Baranski E, Sweeny K, Gardiner G, Funder D. C. International optimism: Correlates and consequences of dispositional optimism across 61 countries. *J Pers*. 2021;89(2):288–304.
 22. Lecomte T, Corbière M, Théroneux L. Correlates and predictors of optimism in individuals with early psychosis or severe mental illness. *Psychosis*. 2010;2(2):122–33.
 23. Ji L. J, Vaughan-Johnston T. I, Zhang Z, Jacobson J. A, Zhang N, Huang X. Contextual and Cultural Differences in Positive Thinking. *J Cross Cult Psychol*. 2021;52(5):449–67.
 24. Alexandra P. *Cultural Differences in Optimism, Pessimism and Eudaimonic Well-Being from a Neurobiological Perspective*. University of Skövde; 2015.
 25. Hajek A. & König H. The role of optimism, self-esteem, and self-efficacy in moderating the relation between health comparisons and subjective well-being: Results of a nationally representative longitudinal study among older adults. *British Journal of Health Psychology*. 2019;24(3):547–570.
 26. Wanberg, C. R., & Banas JT. Predictors and outcomes of openness to changes in a reorganizing workplace. *J Appl Psychol*. 2000;85(1):132–142.
 27. R.L. S. How to Calculate an Adequate Sample Size? In: *How to Practice Academic Medicine and Publish from Developing Countries?* Singapore: Springer; 2022.
 28. Popoola A. O, Adewuya A. O. Prevalence and

- correlates of depressive disorders in outpatients with breast cancer in Lagos, Nigeria. *Psychooncology*. 2012;21(9):675–67.
29. Adewuya A. O, Afolabi M. O, Ola B. A, Ogundele O. A, Ajibare A. O, Oladipo B. F, et al. Relationship between depression and quality of life in persons with HIV infection in Nigeria. *Int J Psychiatry Med*. 2008;38(1):43–51.
 30. Abiola T, Udofia O, Muhammed Z. Psychometric Properties of the 3-Item Oslo Social Support Scale among Clinical Students of Bayero University Kano, Nigeria Psychometric Properties of the 3-Item Oslo Social Support Scale among Clinical Students of Bayero University Kano, Nigeria. *Malaysian Journal of Psychiatry*. 2013;22(2):32–41.
 31. Sinclair S. J, Blais M. A, Gansler D. A, Sandberg E, Bistis K, LoCicero A. Psychometric properties of the Rosenberg Self-Esteem Scale: Overall and across demographic groups living within the United States. *Eval Heal Prof*. 2010;33(1):56–80.
 32. Rosenberg M. Society and the adolescent self-image. Princeton University Press; 2015.
 33. Oladipo S. E, Kalule-Sabiti I. Exploring the suitability of Rosenberg self-esteem scale for adult use in south-western Nigeria. *Gend Behav*. 2014;12(1):6027–34.
 34. Schwarzer, R, Jerusalem M, Weinmann J, Wright S, Johnston M. Generalized Self-Efficacy Scale. *Meas Heal Psychol*. 1995;35–7.
 35. Nnadozie E. E, Nwonyi S. K, Agbo M, C. Perceived Occupational Hazard and Turnover Intention: Moderating role of Self-efficacy. *Niger J Psychol Res*. 2015;11:38–46.
 36. Scheier M. F, Carver. C. S, Bridges M. W. Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): A re-evaluation of the Life Orientation. *Journal of Personality and Social Psychology*. 1994;67:1063–1078.
 37. Herzberg P. Y, Glaesmer H, Hoyer J. Separating optimism and pessimism: a robust psychometric analysis of the Revised Life Orientation Test (LOT-R). *Psychol Assess*. 2006;18:433.
 38. Uye E. E, Roberts E. R, Temola A. A, Olapegba P. O. Self-esteem, life orientation and life satisfaction as predictors of acceptance of intimate partner violence among women. *Niger J Behav Stud*. 2022;1(1):106–14.
 39. Igbokwe D. O, Agbu J. O, Adekeye O. A, Adeusi S. O, Obidiran O. D, Yabilsu S. J, et. al. Revalidation of Some Measures of Psychological Wellbeing using a Cross-Section of Nigerian Adults. *Niger Psychol Res*. 2016;4:572–93.
 40. Carver C S, Scheier M F, Segerstrom S C. Optimism. *Clin Psychol Rev*. 2010;30(7):879–89.
 41. Furnham A Robinson C. Correlates of self-assessed optimism. *Curr Res Behav Sci*. 2023;4:100089.
 42. Zimmerman M, McGlinchey J B, Posternak M A, Friedman M, Attiullah N, Boerescu D. How Should Remission From Depression Be Defined? The Depressed Patient's Perspective. *Am J Psychiatry*. 2006;(163):148–50.
 43. Nabavi R T, Bijandi M. S. A literature review on Bandura's Social Learning Theory & Social Cognitive Learning Theory. *Minist Sci Res Technol*. 2012;1–24.
 44. Wang D. F, Zhou Y. N, Liu Y. H, Hao Y. Z, Zhang J. H, Liu T. Q, et al. Social support and depressive symptoms: exploring stigma and self-efficacy in a moderated mediation model. *BMC Psychiatry*. 2022;22(1):1–10.