



Influence of Personality Traits, Type of Amputation and Duration of Amputation on Depression Among Amputees in Makurdi Metropolis, Nigeria

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ABSTRACT

Original Research Article

This study investigated the influence of personality traits, type of amputation, and duration of amputation on depression among amputees in Makurdi Metropolis, Benue State, Nigeria. A cross-sectional survey design was adopted. Participants were 107 adult amputees receiving treatment at Federal Medical Centre Makurdi and Benue State University Teaching Hospital. Participants were selected using purposive and convenience sampling techniques. Data were collected using the Big Five Personality Inventory (BFI) and the Self-Rating Depression Scale (SDS). Multiple linear regression and one-way Analysis of Variance (ANOVA) were used to test the hypotheses. Findings showed that personality traits significantly influenced depression among amputees, accounting for 8.9% of the variance in depression. Conscientiousness and neuroticism made significant contributions to depression, whereas openness, extraversion, and agreeableness did not make significant independent contributions. A significant difference was also found in depression based on type of amputation, $F(2, 98) = 8.234, p < .01$. Upper-limb amputees recorded the highest depression scores ($M = 81.36, SD = 13.75$), followed by multiple amputees ($M = 75.00, SD = 4.24$) and lower-limb amputees ($M = 68.90, SD = 15.95$). Furthermore, depression differed significantly according to duration of amputation, $F(3, 96) = 18.884, p < .01$. Participants with amputations lasting more than one year recorded the highest mean depression score ($M = 84.80, SD = 11.19$), while those with 1–5 months recorded the lowest ($M = 60.23, SD = 11.72$). The study concludes that personality characteristics, type of amputation, and duration of amputation are important factors associated with depression among amputees. Routine psychological screening and integrated psychosocial rehabilitation are recommended.

Keywords: Personality Traits, Type of Amputation, Duration of Amputation, Depression.

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Introduction

Background to the Study

Depression is a significant mental health concern among individuals living with limb amputation, as the loss of a limb may be accompanied by profound psychological, social, and functional challenges that can adversely affect emotional well-being and adjustment. Depression according to American Psychiatric Association (2022) is defined as a state of low mood and aversion to activity that can affect a

person's thoughts, behaviour, feelings and sense of well-being. Depression has also been viewed as an illness, a medical condition, which significantly affects the way someone feels, causing a persistent lowering of mood (Ojobo & Ucho, 2016).

Depression could affect any population but its impact among amputees is a public health concern worldwide because amputation results not only in physical disability but also in profound emotional, social, and psychological challenges

(WHO, 2024). The loss of a limb alters an individual's physical appearance, functional capacity, self-concept, and social interactions, thereby contributing to depression and other emotional challenges (Calabrese et al., 2023; Murray et al., 2024).

Personality traits could influence the course of depression in amputees. Möttus et al., (2020) defines personality as a pattern of enduring, distinctive thoughts, emotions, and behaviours that characterize the way an individual adapts to the world. According to this perspective to the study of personality and behaviour, traits are relatively stable over time, differ across individuals, and influence behaviour (Soto, 2019). Personality traits reflect people's characteristic patterns of thoughts, feelings, and behaviours. Personality traits imply consistency and stability (Rammstedt et al., 2020). The Big Five Model of personality traits includes agreeableness, conscientiousness, extraversion, neuroticism, and openness to experience (Widiger & Crego, 2019).

Other important factors that may influence depression among amputees are type and duration of amputation. The duration since amputation also plays a role in psychological adjustment. Newly amputated individuals often experience acute grief reactions, shock, and elevated depressive symptoms, while long-term amputees may either adapt or continue to experience chronic psychological distress depending on rehabilitation and social support (Calabrese et al., 2023). Furthermore, the type of amputation influences psychological outcomes. For example, lower limb amputees often report more depressive symptoms due to mobility limitations, while upper limb amputees may experience greater challenges related to body image and social interaction (Singh et al., 2024). Although several studies have examined depression among individuals with chronic illnesses and disabilities, limited empirical attention has been given to the combined influence of personality traits, type of amputation and duration of amputation on depression among amputees, particularly within the Benue context.

Statement of the Problem

Depression among amputees has been associated with several psychosocial factors, including maladaptive personality traits. Similarly, personality traits such as neuroticism, low emotional stability, and poor coping tendencies may influence how individuals respond to the trauma and long-term adjustment associated with amputation. Other important factors that may influence depression among amputees are type and duration of amputation. The duration since amputation also plays a role in psychological adjustment. Newly amputated individuals often experience acute grief reactions, shock, and elevated depressive symptoms, while long-term amputees may either adapt or continue to experience chronic psychological distress depending on rehabilitation and social support. Furthermore, the type of amputation influences psychological outcomes. These challenges may increase the vulnerability of amputees to depression.

In Makurdi metropolis, there is a scarcity of empirical studies focusing on their psychological wellbeing and the factors contributing to depression. Most available studies in Nigeria have concentrated primarily on the medical and rehabilitative aspects of amputation, with little emphasis on psychosocial variables (Yongu et al., 2020). Consequently, there is insufficient local evidence to guide mental health interventions and psychosocial support services for amputees in Makurdi metropolis. It is on this basis that this study seeks to investigate influence of personality traits, type of amputation and duration of amputation on depression among amputees in Makurdi metropolis.

Aim and Objectives of the Study

The aim of this study basically, was to investigate the Influence of Personality Traits, Type of Amputation and Duration of Amputation on Depression among Amputees in Makurdi Metropolis, Nigeria.

The specific objectives of the study were to:

1. Investigate the influence of personality traits on depression among amputees in Makurdi metropolis.
2. Examine differences in depression based on type of amputation among amputees in Makurdi Metropolis.
3. Examine differences in depression based on duration of amputation among amputees in Makurdi Metropolis.

Research Questions

The study provide answers to the following questions:

1. How does personality traits influence depression among amputees in Makurdi metropolis?
2. Are there significant differences in depression based on the type of amputation among amputees in Makurdi Metropolis?
3. What are the significant differences in depression based on the duration of amputation among amputees in Makurdi Metropolis?

Hypotheses

The following hypothesis are donated:

1. Personality traits will significantly influence depression among amputees in Makurdi metropolis.
2. There will be significant differences in depression based on type of amputation among amputees in Makurdi, Benue State, Nigeria.
3. There will be significant differences in depression based on duration of amputation among amputees in Makurdi Metropolis.

Literature Review: Conceptual Review

Personality Traits

Personality traits are enduring patterns of thoughts, emotions, and behaviours that distinguish individuals and influence how they respond across different situations (Kassin, 2003; Möttus et al., 2020). The model conceptualises personality through

neuroticism, extraversion, openness, agreeableness, and conscientiousness. These traits shape coping, emotional regulation, social interaction, and adjustment (Soto, 2019). Neuroticism is particularly relevant to distress because individuals high in this trait tend to experience worry, negative emotions, and greater sensitivity to stress. Research has linked high neuroticism and low conscientiousness with increased vulnerability to common mental disorders (Kotov et al., 2010). Personality traits may therefore strongly influence how amputees interpret limb loss, cope with disability and change, and experience psychological depression symptoms.

Type of Amputation

Type of amputation refers to the classification of limb loss according to the anatomical location, cause, and extent of tissue removed (Horgan & MacLachlan, 2004). Major categories commonly include upper-limb, lower-limb, traumatic, surgical, congenital, partial, and complete amputation. Upper-limb loss may affect hand function, independence, and occupational activities, whereas lower-limb loss commonly affects mobility and balance (Murray, 2009). Traumatic amputation occurs suddenly and may produce shock, grief, anxiety, and depression, while surgical amputation may allow some psychological preparation before limb removal (McKechnie & John, 2014). The level and nature of amputation can therefore influence rehabilitation demands, body-image perception, functional independence, social participation, psychological adjustment, and depression among people with amputation (Esquenazi, 2004).

Duration of Amputation

Duration of amputation refers to the length of time an individual has lived with limb loss following amputation or traumatic injury. It is important because psychological adjustment may change across the course of rehabilitation and adaptation. Individuals with recent amputations may experience shock, denial, sadness, anxiety, altered body image, pain, and depression as they adjust to physical changes (Kubler-Ross, 1969; Rybarczyk et al., 1995). Over time, rehabilitation, prosthetic use, social support, and coping strategies may promote acceptance, independence, and resilience (Livneh et al., 2000). However, prolonged disability does not automatically ensure positive adjustment; some individuals continue to experience depression, body-image dissatisfaction, social withdrawal, and reduced quality of life (Murray, 2009).

Depression

Depression is a psychological state marked by persistent low mood, reduced interest, negative thoughts, and impaired wellbeing (APA, 2013). Among individuals living with chronic illness or disability, depression may develop through pain, functional limitations, social stress, altered self-image, and reduced support. Its symptoms can interfere with treatment adherence, rehabilitation participation, motivation, and quality of life (Calabrese et al., 2023; Thompson et al., 2018). Among amputees, depression may be associated with

difficulties accepting limb loss, body-image dissatisfaction, dependence, social isolation, and concerns about future functioning. Personality characteristics may also influence vulnerability, with neuroticism associated with greater depressive symptoms (Verkerk et al., 2008). Depression therefore represents a psychological outcome in amputation adjustment.

Theoretical Review

The study is anchored on Cognitive Theory of Depression and Social-Cognitive Theory of Personality.

Social-Cognitive Theory of Personality was developed by Albert Bandura in 1986, building on his earlier work on social learning and observational learning. The theory emphasizes that personality and behaviour are influenced by the interaction of cognition, behaviour, and environmental factors. Its assumptions are that individuals learn through observation and modelling, cognitive processes such as expectations, self-regulatory beliefs and goals influence behaviour, and individuals actively interpret and respond to their environments. Bandura's approach also recognizes reciprocal interactions between personal factors, behaviour, and the environment. The theory is relevant to the present study because amputees' personality traits may influence how they interpret and respond to limb loss, disability, social experiences, and environmental challenges. Their expectations, beliefs, coping patterns, and self-regulatory processes may shape their emotional responses and vulnerability to depression. Thus, Social-Cognitive Theory provides a framework for understanding how personality traits interact with experiences following amputation to influence depression among amputees.

Cognitive Theory of Depression was developed by Aaron Beck in 1979 (Beck, Rush, Shaw, & Emery, 1979; Beck & Alford, 2009). The theory relates the origin and maintenance of depression to the ways people see themselves and the world. Its assumption is the cognitive triad of depression, involving negative beliefs about oneself, the environment or world, and the future. The theory assumes that cognitive distortions, including all-or-nothing thinking, overgeneralization, mental filter, jumping to conclusions, magnification and minimization, emotional reasoning, labelling and personalization, can set the stage for depression (Nevid et al., 2011). Distorted thinking tends to be experienced as automatic thoughts and may influence mood. The theory is relevant because amputation may alter self-concept, body image and perceptions of the future, while negative, distorted or pessimistic thoughts may contribute to depression among amputees in Makurdi.

Method

Design

The study adopted a cross-sectional survey design. There was no manipulation of any variables, but the respondents were

asked to provide information to the items on the instruments as the items apply to them.

Setting, Population and Participants

The study was conducted in Makurdi, the capital of Benue State, Nigeria, located in the Middle Belt along the Benue River. The study was carried out among amputees receiving treatment at two tertiary health institutions: Federal Medical Centre (FMC) Makurdi and Benue State University Teaching Hospital (BSUTH) Makurdi.

FMC Makurdi is a tertiary health institution with operational sites providing medical, surgical, orthopaedic, psychiatric, psychological, physiotherapy, and emergency services. BSUTH Makurdi is a tertiary health institution established in 2008, with over 350 bed spaces and 19 functional departments. Both institutions have facilities and services relevant to the treatment and rehabilitation of amputees, hence their selection for the study.

The population of amputees attending FMC and BSUTH could not be accurately determined because there is no centralized amputee register or database. Amputee cases are managed across different departments, while irregular follow-up and discontinuation of hospital visits may result in incomplete records. Therefore, the total population was not readily accessible.

The participants comprised 107 amputees, including 67 (62.6%) males and 40 (37.4%) females, aged 18–44 years. They included patients receiving either inpatient or outpatient treatment at the selected hospitals. Regarding amputation type, 60 (56.1%) had lower-limb amputation, 45 (42.2%) had upper-limb amputation, and 2 (1.9%) had multiple amputations. Most amputations resulted from accidents or trauma. Participants were selected based on their ability to participate and provide informed consent.

Inclusion criteria included adults aged 18 years and above who had undergone limb amputation and were attending either FMC or BSUTH. Exclusion criteria included critically ill participants, those with severe cognitive impairment or psychosis, inability to understand the questionnaire, and those who declined consent.

Sampling

Purposive and convenience sampling techniques were used to select 107 participants for the study. Purposive sampling was used to select the two tertiary hospitals (FMC and BSUTH) and to ensure that only amputees who met the inclusion criteria (such as being 18 years and above, medically stable, and willing to participate etc) were selected for the study. Convenience sampling was then employed to recruit participants who were readily accessible in the wards, prosthetic units, Physiotherapy units and Orthopedic clinics of the two hospitals at the time of data collection.

The sample size of 107 amputees was selected for this study. The choice of one hundred and seven sample size was guided by both accessibility of participants and statistical requirements for multiple regression analysis. Since the exact population of amputees in Makurdi was not readily available, the researcher relied on accessible participants who meet the inclusion criteria. However, to ensure adequate statistical power for multiple regression involving three predictors (expressed emotion, body image, and personality traits), a minimum sample size of 107 respondents were targeted. This number is considered appropriate for behavioural research, as Green (1991) recommended a minimum sample size of $104 + 3m$ for testing multiple correlation and regression, where m represents the number of predictors.

The formula:

$$N \geq 104 + m$$

Where:

N = minimum required sample size

m = number of predictor (independent) variables

$\geq$ = “greater than or equal to”

M = 3

Substitute into the formula:

$$N \geq 104 + 3$$

$$N \geq 107$$

So, the minimum recommended sample size is 107 participants.

Instruments

The data was collected using the Big Five Personality Inventory (BFI) and The Self-Rating Depression Scale (SDS). The Big Five Personality Inventory (BFI)

The Big Five Personality Inventory (BFI)

The Big Five Personality Inventory (BFI) was developed by John, Donahue, and Kentle (1991) to measure personality from five dimensions: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness. The 44-item inventory assesses broad personality characteristics. Extraversion reflects sociability and positive emotions; Agreeableness reflects altruism, trust, and modesty; Conscientiousness reflects impulse control and goal-directedness; Neuroticism reflects anxiety, sadness, irritability, and nervous tension; while Openness reflects the breadth and complexity of mental and experiential life.

The BFI was administered individually, with semi-literate participants assisted by the researcher. There was no time limit. Subscales were scored separately using direct scoring. John et al. (1991) provided the original psychometric properties, while Umeh (2004) provided Nigerian properties. Reliability coefficients were .80 for Cronbach Alpha and .85 for three-month test-retest (John et al., 1991). A pilot study produced Cronbach's alpha coefficients of .608, .928, .756,

.941, and .900 respectively. Nigerian norms guided interpretation.

The Self-Rating Depression Scale (SDS)

The Self-Rating Depression Scale (SDS) was developed by Zung (1965) to measure depression as a clinical disorder. The 20-item inventory assesses cognitive, affective, psychomotor, somatic, and social-interpersonal dimensions of depression. The instrument was restandardized for Nigerian professionals to enhance its suitability and relevance. SDS was administered individually after establishing adequate rapport, with no time limit for completion. Scores were obtained by adding the values selected across the 20 items. Zung (1965) provided the original psychometric properties, while Obiorah (1995) provided Nigerian properties. Zung's (1965) cut-off points classify scores of 50–59 as mild depression, 60–69 as moderate depression, and 70–80 as severe depression.

Obiorah (1995) reported Nigerian mean scores of 48.77 for males and 47.87 for females, with a three-day test-retest reliability of .93. Validity coefficients were .79 with the Hamilton Rating Scale and .70 with MMPI. A pilot study produced Cronbach's alpha of .899.

Data Analysis

Inferential statistics were used to test hypotheses 1–3. Hypotheses 1 was tested using multiple linear regression, Hypotheses 2 and 3 were tested using one-way Analysis of Variance (ANOVA).

Results and Discussion

Hypothesis one stated that personality traits will significantly influence depression among amputees in Makurdi metropolis. This hypothesis was tested using multiple linear regression and the result is presented in table 1.

Table 1: Multiple Linear Regression analysis showing the influence of personality traits on depression among amputees

Variables	R	R ²	df	F	β	t	Sig.
Constant	.299	.089	5,94	1.742		2.531	.033
Openness					-.127	-1.155	.251
Conscientiousness					.231	3.410	.000
Extraversion					.075	.723	.472
Agreeableness					.094	.379	.211
Neuroticism					.351	4.210	.000

Dependents Variable: Depression

The result in Table 1 revealed that personality traits significantly influenced depression among amputees $R = .299$, $R^2 = .089$, $[F(5, 94) = 1.742, P < .05]$. The result further indicated that personality traits jointly accounted for 8.9% of the variance in depression among amputees. Independently, only conscientious ($\beta = .554$, $t = 3.974$, $P < .01$), and neuroticism made significant and positive contribution to the model. While openness ($\beta = -.127$; $t = -1.155$; $P > .05$),

extraversion ($\beta = .075$, $t = .723$, $P > .05$) and agreeableness ($\beta = .094$, $t = .379$, $P > .05$) did not have significant influence on depression.

Hypothesis two stated that there will be a significant difference in depression based on type of amputation among amputees in Makurdi metropolis. This hypothesis was tested using one way analysis of variance and the result is presented in Table 2.

Table 2. One-way analysis of variance showing result for the difference in depression based on type of amputation among amputees in Makurdi metropolis

Source	Sums of Square	df	Man Square	F	Sig.
Between group	3691.105	2	1845.552	8.234	.001
Within group	21516.188	96	224.127		
Total	25207.293	98			

The result in Table 2 indicated that there is a significant difference in depression based on type of amputation among amputees $[F(2, 98) = 8.234, P < .01]$. Based on this finding, hypothesis five was confirmed.

Post Hoc Test

Table 3: LSD Multiple Comparisons

Type of amputation	1	2	3	X	SD
1. Upper limb amputation	-	12.45*	6.36	81.36	13.75
2. Lower limb amputation		-	-6.09	68.90	15.95
3. Multiple amputation			-	75.0	4.24

As shown in Table 3, amputees who had upper limb amputation have significantly higher mean ($X = 81.36$; $SD = 13.75$), compared to lower limb amputation ($X=68.90$; $SD=15.95$) and multiple amputation ($X = 75.0$; $SD= 4.24$). This result means amputees who have upper limb amputation experienced depression compare to those with lower limb amputation and multiple amputation. Also, an observation of the mean difference indicated that amputees with multiple amputation have significantly higher mean ($X=75$; $SD=4.24$)

compared to those with lower limb amputation ($X=68.90$; $SD=15.95$). This result shows that amputees who have multiple amputation experienced more depression than those who have lower limb amputation.

Hypothesis three stated that there will be a significant difference in depression based on duration of amputation among amputees in Makurdi metropolis. This hypothesis was tested using one way analysis of variance and the result is presented in Table 4

Table 4. One-way analysis of variance showing result for the difference in depression based on type of amputation among amputees in Makurdi metropolis

Source	Sums of Square	df	Man Square	F	Sig.
Between group	9416.693	3	3138.898	18.884	.000
Within group	15790.600	96	166.217		
Total	25207.293	98			

The result in Table 4 revealed that there is a significant difference in depression based on duration of amputation among amputees [$F(3, 98) = 18.884$, $P<.01$]. Based on this finding, hypothesis six was confirmed.

Post Hoc Test

Table 5: LSD Multiple Comparisons

Type of amputation	1	2	3	4	X	SD
1. Less than 1 month	-	21.13*	4.79	-3.44	81.36	13.75
2. 1-5 months		-	-16.34	-24.57	60.23	11.72
3. 6-12 months			-	-8.24	76.56	13.63
4 Above 1 year				-	84.80	11.19

As revealed in Table 5, amputees whose amputation is less than 1 month have significant higher mean ($X = 81.36$; $SD = 13.75$), compared to 1-5 months ($X = 60.23$; $SD = 11.72$), and 6-12 months ($X = 76.56$; $SD = 13.63$), but less mean compared to those with above 1 year amputation ($X = 84.80$; $SD = 11.19$). This result means that amputees whose duration of amputation is less than 1 month duration experience more depression than those of 1-5 months, and 6-12 months, but those above 1 year. Also, the observation of the mean and 6-12 months, but those above 1 year. Also, the observation of the mean difference shows that amputees who have 1-5 months duration have no significant higher mean ($X=60.23$; $SD= 11.72$), compared to those with 6-12 months ($X=76.56$; $SD= 13.63$) and above 1 year ($X=84.80$; $SD=11.19$). Furthermore, the result indicated that amputees who have 1-5 months duration have no significant higher mean ($X =76.56$; $SD= 13.63$), compared to those of above 1 year ($X = 84.80$; $SD=11.19$).

Discussion of Findings

Hypothesis one found that personality traits significantly influenced depression among amputees, with neuroticism emerging as a significant predictor. This finding is consistent with Hakulinen et al.,(2015)'s studied on personality and depressive symptoms in individual participant meta-analysis of 10 cohort studies. They found that high neuroticism is associated with depressive symptoms. Similarly, Vaheb et al. (2024) found that neuroticism was significantly associated

with depression and anxiety among individuals living with chronic neurological conditions. Neuroticism is one of the strongest personality correlates of depression and emotional distress, as individuals high in neuroticism are more likely to experience negative emotions, perceive stressful situations more negatively, and develop depressive symptoms when confronted with chronic health conditions like amputation. The present finding suggests that amputees with higher levels of neuroticism may have greater difficulty adapting to limb loss because they are more prone to emotional instability, worry, and negative self-evaluation.

Hypothesis two which stated that there will be a significant difference in depression based on type of amputation among amputees was tested using one-Way ANOVA. The result found significant differences in depression according to type of amputation, with upper-limb amputees reporting the highest levels of depression. This result is contrary to the outcomes of many studies who found that lower-limb amputation is associated with depression (Pune et al., 2024; MacLachlan, 2009; Thanni & Tade 2007). This finding may be explained by the critical role of the upper limbs in daily activities, occupational functioning, communication, and self-care. The loss of an upper limb may therefore result in greater perceived disability and dependence on others. Such functional limitations and reduced participation in daily activities are strongly associated with depressive symptoms among amputees (Ahmed et al., 2024). Consequently,

amputees who experience greater disruptions in daily functioning following limb loss may be at increased risk of psychological distress, especially depression.

Hypothesis three which stated that there will be a significant difference in depression based on duration of amputation among amputees was tested using one-Way ANOVA. The result revealed significant differences in depression according to duration of amputation, with participants living with amputation for more than one year reporting the highest levels of depression. This finding suggests that psychological adjustment does not necessarily improve with time without interventions. This result is supported by the findings of Singh et al.,(2024) who found that approximately one-third of amputees experienced clinically significant depression following limb loss, and noted that the depressive symptoms may persist for years after amputation, particularly when coping resources, rehabilitation opportunities, and social support are inadequate. Similarly, this finding also agreed with the conclusion of the study Adegoke et al.,(2012) that unresolved adjustment problems in amputees may progress into chronic depression if psychological intervention is not provided early. Many amputees continue to experience depression, body image concerns, prosthetic challenges, employment difficulties, and social isolation several years after amputation. These make emotional adjustment to often fluctuate in long-term amputees and may worsen when individuals encounter persistent rehabilitation, financial, or social challenges.

Conclusion

The study examined the influence of personality traits, type of amputation, and duration of amputation on depression among amputees in Makurdi Metropolis. The findings demonstrate that depression among amputees is associated with individual personality characteristics and amputation-related factors. Personality traits significantly influenced depression, although they explained a relatively small proportion of its variance. Specifically, conscientiousness and neuroticism significantly contributed to depression, while openness, extraversion, and agreeableness did not make significant contributions. This suggests that individual differences in emotional responses and behavioural characteristics may shape psychological adjustment following limb loss. The study also established significant differences in depression according to type of amputation. Upper-limb amputees recorded the highest depression scores, followed by those with multiple and lower-limb amputations. This indicates that the psychological consequences of amputation may vary according to the nature and functional implications of limb loss. Furthermore, significant differences were found according to duration of amputation. Participants who had lived with amputation for more than one year recorded the highest depression scores, while those within one to five months recorded the lowest. This finding indicates that psychological distress may persist or increase over time when

adequate rehabilitation, social support, and psychological intervention are unavailable. Overall, the findings emphasize the importance of integrating psychological care into comprehensive amputation rehabilitation services.

Recommendations

Based on the findings of the study, the following recommendations are made:

1. Tertiary hospitals should routinely screen amputees for depression and other psychological difficulties, particularly those with high neuroticism or other identified vulnerability factors.
2. Clinical psychologists and mental-health professionals should provide individualized counselling and cognitive-behavioural interventions to help amputees develop effective coping strategies, emotional regulation, and positive adjustment to limb loss.
3. Rehabilitation programmes should give particular attention to upper-limb and multiple amputees, who recorded comparatively higher depression scores, while addressing functional limitations, independence, prosthetic needs, and social participation.
4. Hospitals should establish continuous psychosocial follow-up for amputees, especially those who have lived with amputation for more than one year, to identify persistent depressive symptoms and provide appropriate psychological, social, and rehabilitation support.

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