

Influence of Expressed Emotion and Body Image on Depression among Amputees in Makurdi Metropolis, Nigeria

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Article History	Abstract
Original Research Article	<i>This study investigated the influence of expressed emotion and body image on depression among amputees in Makurdi Metropolis, Nigeria. The study was guided by Cognitive Theory of Depression, Body Image Theory, and Expressed Emotion Theory. A cross-sectional survey design was adopted. Participants comprised 107 amputees aged 18–44 years receiving treatment at Federal Medical Centre, Makurdi, and Benue State University Teaching Hospital, Makurdi. Purposive and convenience sampling techniques were used to select participants who met the inclusion criteria. Data were collected using the Level of Expressed Emotion Scale (LEE), Amputee Body Image Scale (ABIS), and Self-Rating Depression Scale (SDS). Multiple and sample linear regression analyses were used to test the hypotheses. Findings showed that expressed emotion significantly influenced depression among amputees, with the overall model accounting for 69.4% of the variance in depression, $R = .833$, $R^2 = .694$, $F(4,98) = 53.189$, $p < .01$. Hostility emerged as a significant positive predictor of depression, while intrusiveness approached significance. Body image also significantly influenced depression, $R = .321$, $R^2 = .103$, $F(1,93) = 10.600$, $p < .01$, indicating that body image disturbance accounted for 10.3% of the variance in depression. The findings demonstrate that family emotional climate and body-image experiences are important psychosocial factors associated with depression among amputees. The study therefore highlights the need for integrated psychological, family, and rehabilitation interventions to support emotional adjustment and improve the wellbeing of individuals living with amputation.</i> Keywords: Expressed Emotion, Body Image, Depression, Amputees.
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Copyright © 2026 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited. Citation: Loreen Orishedere; Prof. Elvis O. Ihaji & Dr. Samuel T. Anhange. (2026). Influence of Expressed Emotion and Body Image on Depression among Amputees in Makurdi Metropolis, Nigeria. UKR Journal of Arts, Humanities and Social Sciences (UKRJAHSS), 2(10), 46-53.	

Background to the Study

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. World Health Organization (2025) defines depression as a low, sad state in which life seems dark and its challenges overwhelming. 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 because amputation results in physical disability but also in emotional, social, and psychological challenges (WHO,

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

One factor that could affect depression among amputees is expressed emotions. O'Brien et al., (2021) define expressed emotion as a measure of the family environment that is based on how the relatives of a patient talk about a patient. In other words, expressed emotion is considered to be an adverse family environment, which includes the quality of interaction patterns and nature of family relationships among the family caregivers and patients (Musser et al., 2021). Expressed emotion refers to the quality of family interactions, explicitly the existence of hostility, criticism,

and emotional over-involvement (O'Driscoll et al., 2019; Rienecke et al., 2021). Expressed emotion is classified into attitude towards illness, intrusiveness, tolerance, emotional over-involvement and hostility.

When people become physical deformed with loss of limbs either due to accident or illness, they perceive themselves negatively and feel sad about their appearance. The way people perceive themselves especially their body regarding their appearance has implications on their mental and psychological health. This self-perceived view of one's body is referred to as body image. Body image is understood as a multidimensional construct involving cognitive, perceptual, affective and behavioural aspects of how individuals perceive and evaluate their bodies (Kling et al., 2019). Nugent et al., (2025) defines body image as a person's perception of the aesthetics or sexual attractiveness of their own body; it is the perception and evaluation of one's physical functioning and appearance.

Statement of the Problem

Depression among amputees has been associated with several psychosocial factors, including negative body image and the emotional climate within family and social relationships. Body image disturbance is common among amputees because the loss of a limb may alter an individual's perception of physical attractiveness, competence, and self-worth. Many amputees struggle with feelings of embarrassment, shame, or social withdrawal due to dissatisfaction with their appearance, which may contribute to depressive symptoms.

In Makurdi metropolis, there is a scarcity of empirical studies focusing on their psychological wellbeing and the factors contributing to depression. Consequently, there is insufficient 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 expressed emotion and body image on depression among amputees in Makurdi metropolis.

Aim and Objectives of the Study

The aim of this study basically, was to ascertain the Influence of Expressed Emotion and Body Image on Depression among Amputees in Makurdi Metropolis, Nigeria.

The specific objectives of the study were to:

1. Ascertain the influence of expressed emotion on depression among amputees in Makurdi metropolis.
2. Examine the influence of body image on depression among amputees in Makurdi metropolis.

Research Questions

The study provide answers to the following questions:

1. What influence does expressed emotion have on depression among amputees in Makurdi metropolis?
2. What influence does body image have on depression among amputees in Makurdi metropolis?

Hypotheses

The following hypothesis are donated:

1. There will be a significant influence of expressed emotion on depression among amputees in Makurdi metropolis.
2. There will be a significant influence of body image on depression among amputees in Makurdi metropolis.

Literature Review: Conceptual Review

Expressed Emotion

Expressed Emotion (EE) refers to the emotional climate within a family, particularly relatives' criticism, hostility, and emotional over-involvement toward a person experiencing psychological difficulties (Izon et al., 2018). High EE is considered an important psychosocial stressor because negative family attitudes may increase emotional distress and contribute to poorer psychological outcomes. Research indicates that criticism and emotional over-involvement can influence illness recurrence and adjustment among affected individuals (Amaresha & Venkatasubramanian, 2012; Ma et al., 2021). EE may also reflect caregivers' personality characteristics, beliefs, and perceptions about controllability of the individual's condition (Hooley, 2007). In amputees, supportive family interactions may facilitate adjustment, whereas criticism, overprotection, or excessive involvement may increase vulnerability to depression.

Body Image

Body image generally refers to an individual's perceptions, thoughts, feelings, and evaluations concerning physical appearance and bodily functioning (Kling et al., 2019). It is subjective and may differ from how other people perceive the individual's body (Nugent et al., 2025). Limb loss can substantially alter body image because amputation changes physical appearance, mobility, independence, and attractiveness. Individuals with negative body image may experience shame, reduced self-confidence, social withdrawal, helplessness, and depressive symptoms (Calabrese et al., 2023; Wang et al., 2024). Conversely, positive body image can support confidence and psychological adjustment. Body image may therefore influence rehabilitation, social participation, self-esteem, and wellbeing among people living with amputation (Singh et al., 2024).

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).

Theoretical Review

The study is anchored on Cognitive Theory of Depression, Body Image Theory and Expressed Emotion Theory

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.

Body Image Theory was developed by Paul Schilder in 1935 (Schilder, 1935). The theory states that body image refers to the mental picture individuals have of their bodies and how they perceive physical appearance and bodily functions. Its assumptions are that every individual develops a picture of the body, that body image develops through interactions with other people and societal reactions, and that it is not fixed but changes through experiences, adaptation, rehabilitation and social interactions (Thompson, 2004; Grogan, 2021). Sudden alterations in bodily appearance or functioning can disturb stability and self-concept, reducing self-esteem and contributing to depression (Cash, & Pruzinsky, 2002). The theory is relevant because amputation represents a bodily alteration that may affect appearance, identity, self-esteem

and social interaction. It provides a basis for understanding how body image perception may influence depression among amputees.

Expressed Emotion Theory was developed by George Brown and his colleagues in the 1950s and 1960s, with the concept emerging from Brown, Monck, Carstairs, and Wing (1962). The theory states that high levels of criticism, hostility, and emotional over involvement from family members or caregivers can worsen psychological distress and mental health outcomes. Its assumptions are that the emotional atmosphere within the family affects mental health and adjustment, that a supportive family environment promotes emotional stability, and that a hostile or critical environment increases psychological distress (Leff, & Vaughn, 1985; Butzlaff, & Hooley, 1998). High expressed emotion is characterized by criticism, hostility, and emotional over involvement (Koutra, et al., 2016). The theory is relevant because amputees may experience criticism, pity, blame, intrusive caregiving, or rejection, which may reduce self-esteem, increase emotional tension, and contribute to depression.

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. This research design was chosen because the researcher intended to ascertain the influence of the independent variables (Expressed emotion, Body image,) on the dependent variable (Depression).

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 technique/ sample size

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.

According to Green (1991), when a researcher wants to use multiple correlation or multiple regression analysis, the sample size should not be too small because the analysis involves several predictor variables working together to explain an outcome variable. In addition, Tabachnick and Fidell (2019) suggested that a sample size of at least 100–200 participants is adequate for reliable multiple regression analysis depending on effect size and number of predictors.

Instruments

The data was collected using the Level of Expressed Emotion Scale (LEE), Amputee Body Image Scale (ABIS) and The Self-Rating Depression Scale (SDS)

Level of Expressed Emotion (LEE) Scale

The Level of Expressed Emotion (LEE) Scale was developed by Cole and Kazarian (1988) to measure the emotional climate of the home environment as perceived by patients. The 45-item scale measures four components of expressed emotion: negative attitudes towards illness, intrusiveness, hostility towards the patient, and tolerance or coping with illness. The subscales contain 14, 8, 14, and 9 items respectively, with Cronbach alpha coefficients of .79, .75, .78, and .73 (Cole & Kazarian, 1988). Because there was no published work on Nigerian samples using the LEE scale, the researcher conducted a pilot study involving 91 psychiatric out-patients. The pilot study produced Cronbach alpha coefficients of .787, .645, .740, and .801 for the four subscales, with a total Cronbach alpha of .760. Items were scored using direct and reverse methods, with total scores ranging from 0–45. Higher scores indicate high expressed emotion, while lower scores indicate low expressed emotion based on the median score.

Amputee Body Image Scale (ABIS)

The Amputee Body Image Scale (ABIS) was developed by Breakey (1997) and consists of 20 items designed to assess how amputees perceive and feel about their body experience. Responses range from 1 = None of the time to 5 = All of the time. Total scores range from 20–100, with higher scores indicating greater body image disturbance and lower scores indicating better or positive body image. Items 3, 12, and 16 are reverse-scored. Bumin et al. (2009) established the psychometric properties of the ABIS among

Turkish amputees, reporting a Cronbach's alpha of 0.834 and test-retest reliability of 0.842. The instrument can be administered individually or in groups, and the researcher administered it individually to participants. Semi-literate respondents were assisted with the instructions, and there was no time limit. For scoring, direct items are summed normally, while reverse-scored items are converted from 1,2,3,4,5 to 5,4,3,2,1 before calculating the total score.

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 and 2. Hypotheses 1 and 2 were tested using multiple linear regression

Results And Discussion

Test of Hypotheses

Hypothesis one stated that there will be a significant influence of expressed emotion on depression among amputees in Makurdi metropolis. This hypothesis was tested using multiple linear regressions and the result is presented in table 1.

Table 1: Multiple Linear Regression analysis showing the influence of expressed emotions on depression among amputees

Variables	R	R ²	df	F	β	t	Sig.
Constant	.833	.694	4,98	53.189		2.509	.000
Attitude					-.091	-1.521	.132
Intrusiveness					.131	1.896	.051
Hostility					.739	8.106	.000
Tolerance					.039	.451	.653

Dependents Variable: Depression

The result in Table 1 indicated that there is a significant positive influence of expressed emotions on depression among amputees $R = .833$, $R^2 = .694$, $[F (4,98) = 53.189, P < .01]$. Further observations revealed that expressed emotions jointly accounts for 69.4% of the variance in depression among amputees. Individually, intrusiveness ($\beta = .131$; $t = 1.896$; $p < .05$); and hostility ($\beta = .739$; $t = 8.106$; $p < .01$) have shown statistically significant positive

influence on depression, implying that increased intrusiveness and hostility can result to depression among amputees. Based on this finding, hypothesis one is accepted.

Hypotheses two stated that there will be a significant influence of body image on depression among amputees in Makurdi metropolis. This hypothesis was tested using sample linear regression and the result is presented in table 2.

Table 2: sample Linear Regression Analysis showing the influence of body image on depression among amputees

Variables	R	R ²	df	F	β	t	Sig.
Constant	.321	.103	1,93	10.600		3.291	.000
Negative body image					.321	3.256	.000

Dependents Variable: Depression

The result in Table 2 revealed that there is a significant positive influence of body image on depression among amputees $R = .321$, $R^2 = .103$, $[F (1,93) = 10.600, P < .01]$, implying that increased body image disturbance can result to depression among amputees. The result further shows

that body image accounts for 10.3 % of the variance in depression among amputees.

Discussion of Findings

Hypothesis one which stated that there will be a significant influence of expressed emotion on depression among amputees in Makurdi metropolis was tested using multiple

regression analysis. The study found that expressed emotion significantly influenced depression among amputees, with hostility emerging as the strongest predictor. This finding suggests that amputees who experience criticism, hostility, and excessive interference from significant others are more vulnerable to depression. The result is consistent with finding of a meta-analysis by Fahrer et al. (2022) which indicated that high expressed emotion is associated with poorer mental health outcomes and greater psychological vulnerability among individuals facing chronic health challenges. Fahrer et al. (2022) reported that high expressed emotion, particularly criticism and hostility, constitutes a significant psychosocial risk factor for emotional difficulties and the worsening of mental health conditions. Similarly, Heru (2020) emphasized that family emotional environments remain important determinants of adjustment and recovery among persons living with chronic illnesses which support the finding from the present study.

Hypothesis two which stated that there will be a significant influence of body image on depression among amputees was tested using sample linear regression. Outcome of the analysis revealed that body image dissatisfaction significantly influenced depression among amputees. This finding indicates that amputees who are dissatisfied with their altered physical appearance are more likely to experience depressive symptoms. This result is supported by recent empirical evidence. For example, a systematic review and meta-analysis conducted by Ahmed et al (2024) reported that approximately 33.9% of amputees experience clinically significant depression and identified body image disturbance as one of the strongest risk factors for depression following limb loss. The review further noted that activity restriction and body dissatisfaction significantly increase emotional distress, particularly depression among amputees. Similarly, the current results is also supported by outcome of Bekrater-Bodmann (2025)'s study which reported that body image disturbances are common among persons with limb amputation and are strongly associated with poorer psychosocial functioning and psychological adjustment.

Conclusion

This study examined the influence of expressed emotion and body image on depression among amputees in Makurdi Metropolis, Nigeria. Based on the findings, expressed emotion significantly influenced depression among the participants. The result showed that the dimensions of expressed emotion jointly explained a substantial proportion of the variance in depression, with hostility making a particularly important contribution. This suggests that negative family emotional climates, especially hostile interactions and intrusive behaviours, may increase

psychological distress among individuals adjusting to limb loss. The study also established that body image significantly influenced depression among amputees. Participants experiencing greater body-image disturbance were more likely to report depressive symptoms, indicating that altered physical appearance, dissatisfaction, and difficulties adjusting to bodily changes may constitute important psychological challenges following amputation. Overall, the findings demonstrate that depression among amputees should not be considered solely in terms of physical disability or medical recovery. Psychological experiences, family relationships, and perceptions of the altered body are also relevant to emotional wellbeing. Consequently, effective amputation rehabilitation should incorporate psychological assessment, family support, counselling, body-image adjustment, and appropriate mental-health interventions. Addressing these psychosocial factors may support better emotional adjustment, rehabilitation participation, social functioning, and overall wellbeing among amputees in Makurdi.

Recommendations

The following recommendations are made based on the outcomes of the study:

1. Federal Medical Centre, Makurdi, and Benue State University Teaching Hospital should incorporate routine psychological screening and counselling into amputation and rehabilitation services to identify and manage depressive symptoms early.
2. Healthcare professionals should provide family counselling and psychoeducation to help relatives understand the psychological challenges associated with amputation and reduce criticism, hostility, excessive intrusiveness, and other forms of negative expressed emotion.
3. Rehabilitation programmes should include interventions that promote body acceptance, self-esteem, coping skills, and positive adjustment to limb loss. Counsellors, clinical psychologists, physiotherapists, and other rehabilitation professionals should work collaboratively to support amputees' psychological and functional recovery.

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