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THE PREVALENCE OF MENTAL DISORDERS AMONG AMPUTEES IN SAUDI ARABIA

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Abstract

Background: The majority of patients experience psychological issues following amputation, such as sadness, anxiety, post-traumatic stress disorder, and social phobia. The aim of this study is to examine and evaluate the prevalence of mental disorders among amputees in Saudi Arabia.

Methods: Descriptive cross-sectional research was utilized to determine the prevalence of mental disorders among amputees in Saudi Arabia. The Patient Health Questionnaire (PHQ-9) was used to assess the patient's level of depression. Anxiety levels were evaluated with the Generalized Anxiety Disorder (GAD-7), and the severity of post-traumatic stress disorder (PTSD) was assessed using the PTSD Scale from the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV). The Raulin and Wee (1984) Scale was also utilized to assess the level of social anxiety exhibited by the patient.

Results: The results indicated that 31% of individuals who had undergone amputation did not exhibit any signs of depression. Meanwhile, 12% experienced mild symptoms, 37% experienced moderate symptoms, and 20% experienced severe symptoms. Regarding anxiety, 39% indicated the absence of symptoms, 23% had mild symptoms, 27% experienced moderate symptoms, and 11% experienced severe symptoms. Among those with PTSD, 60% reported no symptoms, 30% had moderate symptoms, and 10% had severe symptoms. Concerning social phobia, 50% of patients indicated the absence of symptoms, 24% reported moderate symptoms, and 26% reported severe symptoms.

Conclusion: The study determined that amputees require psychological and social assistance. An ideal prosthesis enhances the psychological well-being of amputees by enabling them to perform specific physical tasks and fulfill social responsibilities.

Keywords: Anxiety, Amputation, Depression, Post-Traumatic Stress Disorder(PTSD), Social Phobia.

1. INTRODUCTION:

The loss of feeling and function follows an amputation, the surgical removal of a limb at any level due to injury or operation. The procedure is carried out when all other means of life-sustaining treatment have been exhausted. Circulatory disorders, injuries, tumors, and birth defects are among the many potential causes of amputations.

Most patients who undergo amputation experience a series of complex psychological responses.[1] Following the amputation, a significant number of patients commonly exhibit psychiatric illnesses such as depression.[2,3] anxiety,[2,4] post-traumatic stress disorder (PTSD),[4,5] and social phobia.[6] Amputation can have a dramatic influence on patients and their families, frequently resulting in the development of mental problems.[7] A study conducted in Jordan revealed that several characteristics are strongly correlated with a high frequency of psychiatric problems. These factors include being female, lacking social support, being a younger amputee, being unemployed, experiencing traumatic amputation, and the level of amputation.[2] Upper limb amputation is a major factor in the prevalence of mental problems and social discomfort, as stated by Desteli et al.[8] Several studies have been carried out in the last ten years to ascertain the frequency of mental problems in amputees in nations like Romania, Kenya, and India.[5,9,10]

Many amputees experience the phantom limb phenomenon, a sensation that the missing limb is still attached, whether it is painful or not. Phantom limb pain is experienced by around 50% to 80% of those who have had amputation.[11] Depression is quite prevalent among amputees, as evidenced by a prior study which found that over 89.4% of patients received a diagnosis of this mental ailment. Another measure of how well someone is adapting to amputation is their level of anxiety. According to a study, 38.7% of patients reported experiencing intense anxiety.[10] The prevalence of PTSD among amputees has been reported to be around 20%.[4] However, no studies have been conducted in Saudi

Arabia regarding the screening of mental disorders among amputees and the associated factors. This study aims to examine and evaluate the prevalence of mental disorders among amputees in Saudi Arabia, along with the associated sociodemographic and clinical factors.

2. METHODOLOGY:

The research utilized a descriptive cross-sectional design to determine the prevalence of mental health issues among amputees in Saudi Arabia. One hundred patients were recruited for participation after obtaining informed consent. Data collection was conducted through an online questionnaire, which included questions on socio-demographic characteristics, amputation details (level and cause), experiences of phantom pain, satisfaction with the prosthetic's appearance, quality of social life, feelings of embarrassment related to prosthetic use, and comfort in wearing the prosthetic without concern for its appearance. Depression was assessed using the Patient Health Questionnaire (PHQ-9), anxiety levels were measured with the Generalized Anxiety Disorder (GAD-7) scale, and the severity of post-traumatic stress disorder (PTSD) was evaluated using the DSM-IV-based PTSD Scale. Social phobia was measured using the scale developed by Raulin and Wee (1984). Statistical analyses were conducted using IBM's SPSS software, version 27, in New York, USA.

A rigorous independent t-test was performed to investigate potential differences between two unique groups, utilizing inferential statistics to determine the significance of these differences. In addition, a one-way analysis of variance (ANOVA) was used to explore potential variations among several groups, enabling a thorough study of group differences and their consequences.

Demographic information presented in Table 1 revealed that the sample consisted of 71% males and 29% females. The age distribution showed that 11% were aged 15-24, 32% were 25-39, 33% were 40-59, and 24% were 60 and above. Regarding marital status, 68% were married, while 32% were single. Educational background was evenly split, with 33% having a middle school education, 34% having completed high school, and 33% holding a bachelor's degree. Employment status indicated that 12% were students, 23% were employed, 35% were unemployed, and 30% were retired. The majority, 88%, lived with family, while 12% lived alone. Smoking habits showed that 74% were non-smokers and 26% were smokers.

Unilateral amputations were prevalent at 90%, while 10% had bilateral amputations. Amputation levels varied, with 14% having partial hand amputations, 6% partial foot amputations, 49% below knee, 27% above knee, and 4% above shoulder amputations. The primary causes of amputations were gangrene (45%), accidents (34%), medical mistakes (4%), congenital reasons (9%), and other causes (8%).

Satisfaction with the cosmetic appearance of the prosthesis was reported by 67%, while 33% were not satisfied. Social life satisfaction was noted by 66%, with 34% expressing dissatisfaction. Feelings of shame regarding the prosthesis were reported by 27%, whereas 73% did not feel ashamed. Finally, 52% were able to wear their prosthesis without concern for its cosmetic appearance, while 48% were not.

Table 1. *Demographic information*

Variables	Category	Frequency	Percentage
Gander	*Male*	71	71
	Female	29	29
Age	*15- 24*	11	11
	25- 39	32	32
	40- 59	33	33
	60 – above	24	24
Marital status	*Married*	68	68
	Single	32	32
Education	*Middle school*	33	33
	High school	34	34
	Bachelor	33	33
Occupation	*Student*	12	12
	Employee	23	23
	Unemployed	35	35
	Retired	30	30
Living	*with family*	88	88

	Alone	12	12
Smoking	*No*	74	74
	Yes	26	26
Amputation type	*Unilateral*	90	90
	Bilateral	10	10
Level of amputation	*Partial hand*	14	14
	Partial foot	6	6
	Below knee	49	49
	Above knee	27	27
	Above shoulder	4	4
Cause of amputation	*Gangrene*	45	45
	Accident	34	34
	Medical mistake	4	4
	Congenital	9	9
	Other	8	8
The satisfaction of prosthesis aesthetics	*No*	33	33
	Yes	67	67
Social life satisfaction	*No*	34	34
	Yes	66	66
Shame of the prosthesis	*No*	73	73
	Yes	27	27
Ability of wearing the prosthesis without cosmetic	*No*	48	48
	Yes	52	52

3. RESULT:

The research assessed how often individuals who had undergone amputation experienced common psychological issues, including depression, anxiety, post-traumatic stress disorder (PTSD), and social phobia. The data in Table 2 show that 31% of amputees did not exhibit any signs of depression, whereas 12% experienced mild symptoms, 37% experienced moderate symptoms, and 20% experienced severe symptoms. The average score was 2.46, with a standard deviation of 1.132.

Regarding anxiety, 39% of amputees indicated the absence of symptoms, while 23% experienced mild symptoms, 27% experienced moderate symptoms, and 11% experienced severe symptoms. The average score for anxiety was 2.10, with a standard deviation of 1.049.

In relation to PTSD, a majority of amputees, specifically 60%, indicated the absence of any symptoms. Meanwhile, 30% reported experiencing moderate symptoms, and the remaining 10% reported severe symptoms. The average score for the severity of PTSD symptoms was 1.90, with a standard deviation of 1.114.

In the case of social phobia, 50% of individuals reported no symptoms, 24% reported moderate symptoms, and 26% reported severe symptoms. The average score was 2.26, with a standard deviation of 1.315.

These data indicate that a considerable percentage of individuals who have undergone amputation encounter moderate to severe levels of these psychiatric disorders.

Table 2. *The prevalence of the most common psychological diseases among amputees*

Variables	Category	Frequency	Percentage	Mean	SD.
Depression	*No symptoms*	31	31	2.46	1.132
	Mild	12	12		
	Moderate	37	37		
	Severe	20	20		
Anxiety	*No symptoms*	39	39	2.10	1.049
	Mild	23	23		
	Moderate	27	27		

	Severe	11	11		
Post-traumatic stress	*No symptoms*	60	60	1.90	1.114
	Moderate	30	30		
	Severe	10	10		
Social phobia	*No symptoms*	50	50	2.26	1.315
	Moderate	24	24		
	Severe	26	26		

Regarding phantom pain, the results presented in table 3 revealed that a significant majority experienced this phenomenon. Out of the total sample, 77 participants (77%) reported experiencing phantom pain, while 23 participants (23%) did not. This finding highlights that phantom pain is a common issue, affecting over three-quarters of the study's population.

Table 3. *Phantom pain*

Variables	Category	Frequency	Percentage
Phantom pain	*No*	23	23
	Yes	77	77

The factors influencing psychiatric conditions in individuals with amputations reveal significant differences in the average scores for various mental health disorders, such as depression, anxiety, PTSD, social phobia, and phantom limb pain, as shown in Table 4.

The mean score for depression among males was 2.39 (SD = 1.16), while for females it was 2.62 (SD = 1.04), indicating a small but notable difference ($p = 0.347$). For anxiety, females had a mean score of 2.45 (SD = 1.18) compared to males, who had a mean score of 1.69 (SD = 0.96), with a statistically significant difference ($p = 0.033$). Regarding social phobia, females reported a mean score of 2.72 (SD = 1.33), compared to 2.07 (SD = 1.26) for males, also showing a statistically significant difference ($p = 0.023$).

In terms of satisfaction with the cosmetic appearance of prosthetics, participants who expressed dissatisfaction showed higher mean scores in depression (2.76), anxiety (2.55), and social phobia (2.82) compared to those who were satisfied (depression mean score 2.31, anxiety 1.88, social phobia 1.99), indicating a strong correlation between satisfaction with appearance and mental health ($p < 0.05$ in all cases).

These results suggest that gender, age group, marital status, satisfaction with the cosmetic appearance of prosthetics, and satisfaction with social life significantly impact the mental health of amputees, highlighting the need for intensive psychological and social support for this group.

Table 4. *The factors affecting the psychological diseases among amputees*

Variables	Category	n	Depression Mean (SD)	Anxiety Mean (SD)	Post-traumatic stress Mean (SD)	Social phobia Mean (SD)	Phantom pain Mean (SD)
Gander	*Male*	71	2.39 (1.16)	1.69 (0.96)	1.86 (1.13)	2.07 (1.26)	0.77 (0.42)
	Female	29	2.62 (1.04)	2.45 (1.18)	2 (1.16)	2.72 (1.33)	0.76 (0.43)
P value			0.347	0.033	0.578	0.023	0.864
Age	*15- 24*	11	2.91 (1.13)	1.91 (1.04)	2.45 (1.21)	2.36 (1.36)	0.82 (0.40)
	25- 39	32	2.13 (1.15)	2.06 (0.98)	1.75 (1.07)	2.34 (1.26)	0.81 (0.39)
	40- 59	33	2.48 (1.14)	2.30 (1.21)	2.06 (1.22)	2.55 (1.39)	0.73 (0.45)

	60 - above	24	2.67 (1.00)	1.96 (0.90)	1.63 (1.01)	1.71 (1.16)	0.75 (0.44)
P value			0.147	0.563	0.158	0.111	0.840
Marital status	*Married*	68	2.50 (1.12)	2.12 (1.07)	1.84 (1.14)	2.10 (1.32)	0.78 (0.41)
	Single	32	2.38 (1.15)	2.06 (1.01)	2.03 (1.15)	2.59 (1.24)	0.75 (0.44)
P value			0.609	0.808	0.433	0.082	0.747
Occupation	*Student*	12	2.75 (1.21)	2.33 (1.15)	2.25 (1.13)	2.25 (1.35)	0.83 (0.38)
	Employee	23	1.78 (0.90)	1.78 (0.90)	1.70 (1.10)	1.96 (1.26)	0.65 (0.48)
	Unemployed	35	2.74 (1.09)	2.46 (1.06)	2.09 (1.17)	2.57 (1.29)	0.86 (0.35)
	Retired	30	2.53 (1.13)	1.83 (0.98)	1.70 (1.11)	2.13 (1.35)	0.73 (0.45)
P value			0.008	0.031	0.297	0.329	0.291
Living	*With family*	88	2.38 (1.10)	2.02 (1.00)	1.83 (1.10)	2.16 (1.29)	0.76 (0.42)
	Alone	12	3.08 (1.16)	2.67 (1.23)	2.42 (1.31)	3.00 (1.27)	0.83 (0.38)
P value			0.041	0.046	0.095	0.037	0.583
Amputation type	*Unilateral*	90	2.41 (1.12)	2.08 (1.03)	1.91 (1.12)	2.26 (1.31)	0.74 (0.43)
	Bilateral	10	2.90 (1.19)	2.30 (1.25)	1.80 (1.31)	2.30 (1.41)	1.00 (0.01)
P value			0.197	0.528	0.772	0.920	0.001
Level of amputation	*Partial hand*	14	1.79 (0.89)	1.79 (0.80)	1.57 (1.15)	3.07 (0.99)	0.71 (0.46)
	Partial foot	6	2.50 (1.22)	2.50 (1.37)	2.17 (1.32)	2.50 (1.64)	0.33 (0.51)
	Below knee	49	2.61 (1.03)	2.16 (1.08)	1.88 (1.09)	1.80 (1.19)	0.82 (0.39)
	Above knee	27	2.41 (1.24)	2.00 (1.03)	2.00 (1.17)	2.48 (1.39)	0.78 (0.42)
	Above shoulder	4	3.25 (1.50)	2.50 (1.00)	2.25 (1.50)	3.25 (0.50)	1.00 (0.00)
P value			0.093	0.543	0.727	0.004	0.074
Cause of amputation	*Gangrene*	45	2.67 (1.06)	2.20 (1.12)	1.98 (1.13)	2.20 (1.34)	0.76 (0.43)
	trauma (Accident)	34	2.47 (1.10)	2.09 (0.99)	2.09 (1.21)	2.26 (1.33)	0.85 (0.35)
	Medical mistake	4	1.75 (1.50)	2.50 (1.29)	1.75 (1.50)	2.75 (1.25)	1.00 (0.00)
	Congenital	9	1.67 (1.00)	1.33 (0.70)	1.22 (0.66)	2.33 (1.32)	0.44 (0.52)
	Other trauma	8	2.50 (1.30)	2.25 (0.88)	1.50 (0.92)	2.25 (1.38)	0.75 (0.46)
P value			0.109	0.202	0.254	0.956	0.092
The satisfaction of prosthesis aesthetics	*Yes*	67	2.31 (1.10)	1.88 (0.962)	1.64 (1.01)	1.99 (1.24)	0.75 (0.43)

	No	33	2.76 (1.14)	2.55 (1.09)	2.42 (1.22)	2.82 (1.28)	0.82 (0.39)
P value			0.065	0.002	0.001	0.002	0.427
Social life satisfaction	*Yes*	66	2.05 (1.04)	1.74 (0.88)	1.48 (0.86)	1.89 (1.19)	0.70 (0.46)
	No	34	3.26 (0.82)	2.79 (1.00)	2.71 (1.19)	2.97 (1.26)	0.91 (0.28)
P value			0.001	0.001	0.001	0.001	0.015

4. DISCUSSION:

The purpose of this study was to look into the prevalence of common mental disorders (depression, anxiety, PTSD, social phobia, and phantom pain) among amputees in Saudi Arabia, as well as to identify the factors that influence their prevalence, such as gender, age, type, level, and cause of amputation, marital status, occupation, social life, and satisfaction with prosthesis. Most of the study participants were men, which reflects societal conditions where men are more exposed to accidents and risks. The most common mental disorder found was depression, with 37% of amputees reporting moderate symptoms and 20% experiencing severe symptoms. Previous studies have indicated that depression affects 20% to 63% of amputees.[2-4,13] This may be because amputation is a stressful condition that requires adaptation, and amputees can experience chronic stress when they are unable to perform daily activities. Additionally, low self-esteem among many amputees contributes to an increase in depressive disorders.

Anxiety levels were moderate in 27% and severe in 11% of subjects. Muzaffar et al. published similar findings, revealing that 10% of patients had generalized anxiety disorder.[4] PTSD was present in 30% of amputees at a moderate level and in 10% at a severe level. Previous reports have concluded that 20% to 65% of amputees suffer from PTSD.[3,5] In this study, social phobia affected 24% moderately and 26% severely. Tutak et al have shown that patients with limb amputations have a higher severity of social phobia,[6] often due to concerns about physical appearance, leading to feelings of shame, embarrassment, body image anxiety, and public self-consciousness, causing them to avoid many social situations.

Regarding the factors affecting psychological disorders among amputees, the results revealed that females experienced higher levels of psychological disorders than males, consistent with findings from studies conducted in Jordan, Kenya, and Quetta.[2,5,14] Younger adults also had higher levels of psychological disorders compared to older amputees. Several studies have reported older amputees had lower psychological disorders compared to their younger counterparts.[15,16,17] Possibly due to higher life expectations and a greater likelihood of experiencing emotional distress. Contrary to a study conducted by Nunes et al, which found reduced rates of psychological health problems among married amputees, our study found that married patients exhibited higher levels of despair and anxiety compared to single patients.[18] Students and unemployed individuals had significantly higher levels of psychological disorders compared to those who were employed. Hawamdeh et al in their study reported that unemployed amputees exhibited greater depression and anxiety.[2] Several studies have conducted that employed amputees had higher psychological disorders than unemployed.[5,6] This may explain by that amputees probably lose their jobs, so the low income and emptiness increase their vulnerability to psychological disorders. It is expected that isolation and lack of social support significantly impacted psychological outcomes, with lack of social support correlating with higher incidences of anxiety, post-traumatic stress, social phobia, and depression. It has been reported that patients with no social support had more psychological disorders.[19] Patients with bilateral amputation showed higher rates of depression, anxiety and social phobia. This finding matches with other studies that showed that psychological disorders are associate with the number of amputations.[1,17] This may be due to the fact that people with bilateral amputation have greater physical disability compared to people with unilateral. The current study found that there were no significant differences in psychological disorders based on level of amputation among lower limb amputees. The mental well-being of individuals who have undergone upper limb amputation is contingent upon the extent of the amputation. Singh et al. found a correlation between lower levels of amputation for lower limb amputees and higher incidence of psychological problems.[19] Amputees with an upper limb amputation had higher rates of psychological disorders than those with lower limb amputation. In contrast to the preceding evidence, a prior study discovered that those who underwent lower limb amputations exhibited higher levels of anxiety compared to those who had upper limb amputations.[20] The higher

prevalence of physical disability in upper limb amputees compared to individuals with lower limb amputation may account for this phenomenon. Individuals who experienced amputations as a result of trauma had a notably greater occurrence of psychiatric disorders compared to those whose amputations were caused by vascular disease. Previous study reported that traumatic amputees are at increased risk for depression, anxiety, PTSD, and other psychological disorders.[14,21-23] Muzaffar et al propose that the occurrence of psychiatric illnesses, particularly post-traumatic stress disorder (PTSD), in individuals with traumatic amputation varies between 20% and 80%.[4] It may be explained by the fact that people with traumatic amputation had memories of the traumatic event. Also, this is because amputees who have vascular disease amputation are more psychologically prepared than those who had trauma. According to this study, amputees with cosmetic dissatisfaction are more likely to have psychological disorders than those who were satisfied. Saleh et al conducted a previous study which found that individuals who had lower scores in prosthesis satisfaction were more likely to experience psychiatric illnesses.[24] Burger and Marinček propose that amputees have a strong connection to the aesthetic aspect of their prosthetic limb.[25] The social stigma towards amputees is primarily associated with the aesthetic aspect of their prosthetic limbs. Murray and Fox found that women who experienced heightened body image anxiety were less satisfied with their prosthesis.[26] This study documented a substantial prevalence of phantom limb phenomena, with 77% of subjects experiencing it. Previous research has demonstrated that the prevalence of phantom limb phenomena falls between the range of 72% to 80%.[12,27] Amputees who experience phantom limb experiences have markedly elevated incidence of psychological illnesses in comparison to amputees who do not have such phenomena. Multiple researchs have recorded that amputees who suffer from phantom pain commonly have depression disorder, anxiety disorder, and post-traumatic stress disorder. [17,23,28,29] This is because of the discomfort and suffering that amputees are exposed to. A strong association was observed between depression, anxiety, PTSD, and social phobia, indicating that higher rates of one condition were frequently associated with higher rates of the other disorders. This discovery is consistent with a study conducted in Kenya, which revealed that those who scored higher in anxiety and post-traumatic stress disorder (PTSD) also had considerably greater levels of sadness.[5]

5. CONCLUSION

The results indicate that a considerable proportion of amputees suffer from moderate to severe psychological disorders. Various lifestyle and demographic factors, such as gender, living arrangements, employment status, satisfaction with prosthetics, social engagement, cause and type of amputation, amputation level, and phantom limb experiences, significantly influence the mental health of amputees. These results underscore the critical need for comprehensive psychological support and interventions to address prevalent anxiety, depression, post-traumatic stress disorder, and social anxiety among this population. The study highlights the vital role of social support in improving the mental well-being of amputees.

These insights emphasize the importance of integrating mental health services into the care plans for amputees, advocating for a holistic approach that considers both physical rehabilitation and psychological well-being. An ideal prosthesis enhances the psychological well-being of amputees by empowering them to engage in specific physical activities and fulfill social responsibilities. Furthermore, it is imperative to offer appropriate employment prospects for those with amputations in order to enhance their psychological well-being and overall quality of life.

The study reinforces the importance of satisfaction with prosthetic fitting and the cosmetic appearance of the prosthesis on mental health. These findings enrich the theoretical framework concerning body image and identity reconstruction following amputation, suggesting that interventions should address not only functional rehabilitation but also the cosmetic and personal satisfaction aspects to foster better psychological outcomes.

Considering this research, there is a need to educate prosthetists and other healthcare providers about the symptoms of psychological disorders. The empirical evidence supporting the link between social life satisfaction and psychological well-being underscores the importance of community integration and social support in rehabilitation programs. It advocates for community-based interventions that foster social engagement and inclusion for amputees. Future research should focus on developing and evaluating targeted interventions to reduce these psychological challenges and enhance the quality of life for individuals living with amputation.

6. RECOMMENDATIONS

- The significant rates of depression, anxiety, PTSD, and social phobia among amputees highlight the need for comprehensive psychological evaluations and therapies to be integrated into standard post-amputation care procedures.

- Training programs for prosthetists and rehabilitation specialists should focus on the psychological health of amputees. This holistic approach will ensure that both physical and mental health needs are adequately addressed.
- Create employment initiatives that encourage employers to make necessary adjustments for amputee employees. This will enhance their participation in the workforce and reduce the likelihood of premature retirement.
- Prosthetists should emphasize both functional and cosmetic aspects during the design and fitting of prosthetics. Meeting these needs is essential for the overall well-being of amputees.
- Conduct early psychological assessments and provide interventions immediately following amputations to prevent the onset of mental health disorders.
- Establish and enhance social support networks to mitigate risk factors associated with psychological disorders among amputees, fostering a supportive community environment.

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Conflicts of Interest: The author declares that he has no competing interests.
Author statement: the manuscript has been read and approved by the author and believes that the manuscript represents honest work.
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Cover letter:
Amputation is a life-altering event with profound physical and psychological consequences. Our research highlights the high prevalence of depression, anxiety, post-traumatic stress disorder (PTSD), and social phobia among amputees, emphasizing the significant impact of factors such as gender, age, employment status, and prosthetic satisfaction on mental health outcomes. Notably, our findings align with international research while offering unique insights into the sociocultural dynamics influencing psychological distress in Saudi amputees.
This study employs a robust methodology, utilizing validated screening tools such as the PHQ-9, GAD-7, and DSM-IV-based PTSD Scale, alongside comprehensive statistical analyses to investigate associations between demographic, clinical, and psychosocial factors and mental health outcomes. The results underscore the pressing need for integrated mental health services within rehabilitation programs and advocate for targeted interventions that address both functional and cosmetic aspects of prosthetic care.
We believe this research is highly relevant to your journal's readership and contributes valuable knowledge to the ongoing discourse on holistic amputation care. By shedding light on the psychosocial challenges faced by amputees in Saudi Arabia, our study provides a foundation for policy development, clinical practice improvements, and future research aimed at enhancing the well-being of this underserved population.

list of abbreviations

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ANOVA	Analysis of Variance
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, 4th Edition
GAD	Generalized Anxiety Disorder scale
PHQ	Patient Health Questionnaire
PTSD	Post-Traumatic Stress Disorder
IBM	International Business Machines Corporation
SPSS	Statistical Package for the Social Sciences

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