Quality of Life of Patients with Undiagnosed Anxiety Disorder in PSMMC Primary Health Care Centers in Riyadh

Raghad Alomaim[1]*, Nouf Almansour[1], Ghazlan Alhenaki[2] and Mostafa Kofi[3]

[1]*Family Medicine Resident, FCM Department, PSMMC, Riyadh, Saudi Arabia*
[2]*Medical Intern, FCM Department, PSMMC, Riyadh, Saudi Arabia*
[3]*Professor, Consultant , FCM Department, PSMMC, Riyadh, Saudi Arabia*

*Corresponding Author: Raghad Alomaim, Family Medicine Resident, FCM Department, PSMMC, Riyadh, Saudi Arabia.

Abstract

Background: The impact of undiagnosed anxiety and depression on health-related quality of life has been well-documented in the literature. However, the health-related quality of life of individuals with undiagnosed anxiety disorder remains underexplored. This cross-sectional study aimed to investigate the health-related quality of life of individuals with undiagnosed anxiety disorder and its association with socio-demographic factors.

Methods: Descriptive, cross-sectional survey-based study. Participants were recruited through an online survey, targeting male and female participants in various age groups, we required a sample size of 300 subjects to fulfill the objectives of our study. This sample size was calculated assuming a 30% prevalence of anxiety disorder.

Result: The results revealed a significant association between anxiety levels and socio-demographic factors, specifically gender, age group, and job status. Females, younger individuals (18-24 years), and students were found to have higher anxiety levels compared to their counterparts.

In terms of HRQoL, both anxiety and depression levels showed a statistically significant impact on various HRQoL parameters, with the effect size varying depending on the constant term (β_0) and the coefficient of anxiety or depression (β_1).

Conclusion: The results showed a significant relationship between anxiety, depression, and HRQoL, with gender, age group, and job status being the significant socio-demographic factors. The findings highlight the need for early detection and intervention to improve the HRQoL of individuals with undiagnosed HAD.

Keywords: Undiagnosed Anxiety; Health; Quality of Life; Primary Health Care

Introduction

The definition of anxiety still has some ambiguity. Fear of a certain future event, worried thoughts, sweating, palpitation, and irritability are all symptoms of anxiety. It is an umbrella term for various diseases that could be categorized according to the time frame of the symptoms and specification of the fearful events into phobias, panic episodes, panic disorders, and social or generalized anxiety disorders. Anxiety has been the most prevalent psychiatric disease with high morbidity, reportedly prevailed among more than 301 million worldwide in 2019. Lately, the COVID-19 pandemic has

correlated with increasing anxiety to prevail over 35 % of the US population.

The health-related quality of life (HRQOL) is dramatically impaired in anxiety patients. Studies showed that anxiety was associated with loss of function, disability, and increased consumption of healthcare resources. A previous study showed that health expenditure of anxiety exceeded 2 % of all healthcare-related expenditures.

Depressive disorders are the second most common psychiatric disorder worldwide. Its prevalence globally was estimated to exceed 279 million in 2019. Major depressive disorder (MDD) was considered one of the main causes of disability, especially among the age group of 15-44 years. The total expenditure of MDD was estimated to be around 210 billion in 2010.

As most patients with psychiatric diseases first encounter a primary care physician who is usually less oriented by the diseases than psychiatrists, recognition of anxiety and other psychiatric disorders is frequently missed. Spitzer and Coyne reported that primary care physician commonly misdiagnose around 50% of the cases [21,22].

Additionally, Mohammed and colleagues found that out of patients who had been admitted to the general hospital, over 30 % were diagnosed with one of the psychiatric disorders. Most of them (85/87) were undiagnosed before the hospital admission [23].

Our study used a predesigned socio-demographic questionnaire, hospital anxiety and depression scale (HADS), and centers for disease control and prevention health-related quality of life 14 measures (CDC HRQOL-14) as primary outcome measures. We aimed to investigate the prevalence of undiagnosed anxiety or depression and its effect on quality of life among adult patients in Prince Sultan Military Medical City (PSMMC) primary health care centers in Riyadh.

Objectives

- To determine prevalence of undiagnosed anxiety disorder among adult patients in PSMMC primary health care centers in Riyadh.
- To assess quality of life in adult patients with undiagnosed anxiety disorder in PSMMC primary health care centers in Riyadh.

Literature Review

A previous study reported that

There is strong evidence that social anxiety disorder is common, begins at an early age, has a chronic course, and is associated with a much higher risk of subsequent serious psychiatric comorbidity. An individual with social anxiety disorder has poorer quality of life, poorer social, educational, and occupational functioning, and higher levels of financial dependence. Despite the severity of social anxiety disorder, at present it is rarely diagnosed and treated. Since effective psychotherapeutic and pharmacologic treatments are now available, this is even more concerning. Effectiveness studies are needed to determine if treatment decreases the risk of suicide and other psychiatric disorders, as well as if it improves the trajectory of individuals suffering from social anxiety disorder.

Study results showed that 23.1% of people with social anxiety disorder were severely impaired and 24.6% were markedly impaired, compared with only 4.5% of the controls. Social anxiety disorder results in impairments and reduced quality of life directly related to the number of trigger situations. Using the LSRDS21, it was found that individuals with social anxiety disorder felt the most severely restricted In partner relationships, educational advancement, household management, and family relations [1].

Another study

The prevalence of anxiety disorders among patients in primary care is associated with the frequent use of medical services. Therefore, it is crucial for primary care physicians to recognize anxiety disorders and to identify and diagnose them in their patients. The majority of patients with anxiety disorders in primary care can be successfully treated with easily accessible pharmacologic, psychosocial, and collaborative techniques. Many patients with anxiety disorders improve dramatically with treatment. The primary care physician can be professionally rewarded by treating anxious patients. Referrals to mental health professionals should be initiated for patients who prove difficult to treat, with the primary care physician maintaining an active awareness of how treatment is progressing and how concurrent treatment of ongoing medical illness may impact overall patient functioning [2].

In addition, A study was conducted to assess factors associated with anxiety and depression among diabetes, hypertension, and heart failure patients at Dessie Referral Hospital, northeast Ethiopia. An institutional-based cross- sectional study was conducted in Dessie Referral Hospital from February 22, 2019 to April 6, 2019. A total of 404 diabetic, hypertension, and heart failure patients were included through systematic sampling technique. The data were collected by face-to-face interview. Among these, 32% and 5.73% of them had anxiety and depression, respectively. Patients who did not read and write develop anxiety 7.89 times more likely compared with those whose educational status is diploma and above (AOR: 7.89; 95% CI: 3.08-20.26; P = 0:001). Patients who took substances like chat, cigarette, shisha, hashish, and alcohol develop anxiety 2.56 times more likely compared with their counterparts (AOR: 2.56; 95% CI: 1.05–6.23; P = 0:038). Patients whose level of physical activity is inactive develop depression 24 times more likely than patients who did a health- enhancing physical activity. Patients who are widowed develop depression 5 times more likely compared with married patients. Conclusion and Recommendations: Anxiety rates were higher for those with low education, widowed status, substance use, poor perception of prognosis of illness, and low monthly income. On the other hand, being single and unable to do physical activity were statistically associated with depression. Patients with low educational level and monthly income should be screened and supported for anxiety. Physical activity is important for preventing depression and should be promoted by health care providers [3].

Another previous study examined whether a self-administered medical questionnaire could identify anxiety and depressive symptoms. A total of 453 patients on their first visit to the Department of General Medicine, Chiba University Hospital, Chiba, Japan, participated in this study. They were asked to complete a medical questionnaire and the Hospital Anxiety and Depression Scale questionnaire before examination. Data on age, sex, number of complaints, symptom duration, and number of previous physicians were extracted from the medical questionnaire. For developing a predictive model for anxiety or depression based on these data, logistic regression analysis was used as an independent variable. Data from 358 (79.0%) patients were included in the analyses. Logistic regression analysis identified the following predictors: "three or more complaints" (odds ratio [OR] 2.39; 95% confidence interval [CI] 1.48–3.88) and "four or more previous physicians" (OR

1.72; 95% CI 1.10– 2.69). In the predictive model for the presence of symptoms of anxiety and depression, the likelihood ratio was 2.40 (95% CI 1.33–4.34) in patients reporting both conditions and 1.35 (95% CI 1.04–1.77) in those reporting either condition. In conclusion the presence of anxiety and depressive symptoms can be predicted from the items of a medical questionnaire in outpatients visiting a general medicine department of a university hospital. When patients report three or more complaints or four or more previous physicians on a medical questionnaire, physicians should consider the presence of anxiety or depression or both in differential diagnosis [4].

Unrecognized psychiatric disorders among adult patients admitted into a general hospital in Maiduguri, Northeastern Nigeria

This study aimed to determine (i) prevalence and pattern of psychiatric disorders, and (ii) prevalence of unrecognized psychiatric disorders a mong adult inpatients of a general hospital. In this two-stage, cross-sectional study, they used (i) General Health Questionnaire (GHQ) and Composite International Diagnostic Interview (CIDI) to assess the prevalence of psychiatric disorders, and (ii) Patient Encounter Form to determine unrecognized psychiatric disorders, among patients admitted into a general hospital. Of the 283 respondents, 174 (61.5%) had GHQ scores of ≥ 4. Eighty seven respondents (31%) had psychiatric disorders of which 85 (98%) were not recognized. The frequency of Depressio n and Anxiety disorders were 61.5% and 26.2% respectively. Unmarried (2.3, 1.2-4.3; p < 0.00), females (2.1, 1.1-4.05; p = 0.01) and patients with "unexplained symptoms" (≤ = 8.4, p< 0.00, df = 1) were more likely to have diagnosis of depression and anxiety disorder. The authors conclude that one-third of the patients at the general hospital had co-morbid psychiatric diagnoses, most of which were not recognized by their physicians. Unmarried, females and respondents with unexplained symptoms were associated with depression and anxiety disorders. It is recommended that psychiatric trainees be posted to general hospitals, and that general practitioners be trained in using depression and anxiety screening instruments [5].

In a previous study examines the degree to which untreated anxiety disorders and major depressive disorder, occurring either singly or in combination, reduce functioning and well-being among

primary care patients. Adult patients were screened using the SCL-52 to identify those with clinically significant anxiety symptoms. They also completed the Rand Short-Form (SF-36) to measure self- reported patient functioning and well-being. Patients with untreated disorders were identified using the Q-DIS-III-R to diagnose six DIS-anxiety disorders (generalized anxiety disorder, post-traumatic stress disorder (PTSD), simple phobia, social phobia, panic/agoraphobia, obsessive/compulsive disorder) and major depression. Of 319 patients identified, 137 (43%) had a single disorder and 182 (57%) had multiple disorders. Regression models estimated the relative effects of these disorders on health status (SF-36) by comparing patients with the disorders to patients screened as being not-anxious. Based on available national norms, these effects were estimated. Each disorder had a negative effect on the subscales measuring physical, social, and emotional functioning, often by as much as 20-30 points on a scale of 100 points. Major depression had the greatest negative impact, followed by PTSD and panic/agoraphobia.

Major depression was associated with the greatest decline in functioning among patients with multiple disorders. The impact of untreated anxiety disorders and major depressive disorder on functioning was comparable to, or greater than, the effects of medical conditions such as low back pain, arthritis, diabetes and heart disease [6].

Another study was done

A prospective assessment of untreated anxiety symptoms and disorders among primary care patients.

Approximately 10% of eligible patients screened in clinic waiting rooms of a mixed-model health maintenance organization reported elevated symptoms and/or disorders of anxiety that were unrecognized and untreated. In untreated anxiety patients, both physical and emotional measures reported significantly worse functioning than those who weren't anxious; in fact these patients reported reduced functioning levels within ranges that would be expected for patients with chronic physical diseases, such as diabetes and congestive heart failure. Patients with anxiety combined with depression symptoms or disorders reported the most severe reductions in function. In conclusion mental health specialists may provide screening tools and consultations to help primary care physicians recognize and diagnose anxiety disorders alone and mixed with depression [7].

A Cross-sectional study examined the: (1) completion rate of the PRIME-MD by patients approached to enroll in a treatment study for PD and GAD; (2) distribution of anxiety diagnoses generated; (3) severity of PD and GAD episodes thus identified; and (4) level of PCPs' agreement with these diagnoses. MEASUREMENTS: The PRIME-MD, Structured Interview Guide for the Hamilton Anxiety Rating Scale (SIGH-A), and the Panic Disorder Severity Scale (PDSS). Of the 6,700 patients who completed the PRIME-MD Patient Questionnaire (PQ), 2,926 (44%) screened positive for an anxiety disorder, and 1,216 (42%) met preliminary study eligibility and consented to the PRIME-MD Anxiety Module. Of these, 619 (51%) had either GAD (308), PD (94), or both (217) disorders. Later, 329 completed a telephone interview. Of these, 59% with GAD and 68% with PD reported moderate or greater levels of anxiety symptoms on the SIGH-A and PDSS, respectively, and PCPs agreed with the PRIME-MD diagnosis for 98% of these patients. The study conclude that the PRIME-MD is an efficient tool for screening for PD and GAD. While patients identify a wide range of anxiety symptoms, PCPs often agree with the diagnosis [8].

Health-related quality of life in primary care patients with recognized and unrecognized mood and anxiety disorders

It has been criticized that primary care providers have underrecognized and undertreated mental health disorders. In this criticism, patients with recognized disorders and those with unrecognized disorders are assumed to suffer the same burden of illness. This study describes differences in health-related quality of life (HRQOL) in patients with recognized and unrecognized mood and anxiety disorders in a primary care setting. A probability sample of 500 adult ambulatory patients from a university-based, family practice clinic, completed the PRIME-MD mood and anxiety disorder modules and the SF-36 Health Survey. Computerized patient records were reviewed retrospectively to determine recognition of mood and anxiety disorders. The Mental Health (MCS) and Physical Health (PCS) Component Summary scales of the SF-36 served as the primary outcome measures. The result shows sub-threshold mood and anxiety disorders were less likely to be recognized by physicians than disorders meeting DSM-III-R criteria. Recognized mood disorders were associated with a significant decrement in MCS scores (poorer HRQOL) compared with unrecognized disorders. In contrast, recognized mood disorders demonstrated slightly higher PCS scores. Recognized

and unrecognized mood disorders differ significantly in terms of physical functioning, vitality, social functioning, role functioning, and mental health. Recognition of anxiety disorders was not related to HRQOL. In conclusion patients who have been recognized by their health providers as suffering from mental health disorders seem to have a worse HRQOL than those whose disorders have not been recognized. This relationship, though, is only apparent for mood disorders. Poorer physical functioning may mask less severe emotional symptoms in mood disorders; profound emotional symptoms make recognition easier [9].

In Anxiety disorders: under-diagnosed and insufficiently treated study shows that anxiety disorders have a high prevalence, particularly specific phobia, social anxiety disorder (SAD), post-traumatic stress disorder (PTSD) and generalized anxiety disorder (GAD). The lifetime prevalence for any anxiety disorder is almost 30%. Also, many anxiety disorders have a high rate of comorbid depression, which is generally secondary to the anxiety. Despite high prevalence, anxiety disorders are under-diagnosed, misdiagnosed and inappropriately treated. There is a hierarchy in the lifetime probability of treatment contact, with panic and GAD being diagnosed and treated earlier – possibly as a result of these disorders being the most "visible", unlike SAD, which is characteristically discreet. Under-diagnosis is linked with under-treatment: less than one in five patients with an anxiety disorder receive appropriate medication, which improves to almost one in three for subjects with comorbid depression. For the majority of people with undiagnosed or untreated anxiety disorder, there are many negative consequences, for both the individual and society. These include disability, reduced ability to work leading to loss of productivity, and a high risk of suicide. All of these factors contribute to a reduced quality of life [10].

The prevalence and risk factors of undiagnosed depression and anxiety disorders among patients with inflammatory bowel disease

Inflammatory bowel disease (IBD) is associated with a high prevalence of comorbid depressive and anxiety disorders. A significant proportion of IBD patients with comorbid psychiatric disorders remain undiagnosed and untreated, but factors associated with diagnosis are unknown. We evaluated the prevalence of undiagnosed depression and anxiety in an IBD cohort, along with the associated demographic and clinical characteristics.

Of 242 eligible participants, 97 (40.1%) met SCID criteria for depression, and 74 (30.6%) met criteria for anxiety. One-third of participants with depression and two-thirds with anxiety were undiagnosed. Males were more likely to have an undiagnosed depressive disorder (odds ratio [OR], 3.36; 95% confidence interval [CI], 1.28–8.85). Nonwhite participants were less likely to have an undiagnosed anxiety disorder (OR, 0.17; 95% CI, 0.042–0.72).

These findings highlight the importance of screening for depression and anxiety in patients with IBD, with particular attention to those of male sex and with a lower education level [11].

Anxiety in older adults often goes undiagnosed Anxiety disorder in the elderly is twice as common as dementia and four to six times more common than major depression. Anxiety is associated with poorer quality of life, significant distress and contributes to the onset of disability. Mortality risks are also increased, through physical causes, especially cardiovascular disease, and suicide. Diagnosing anxiety disorders in older adults remains a challenge because of the significant overlap in symptoms between physical disorders (shortness of breath; abdominal and chest pain; palpitations) and depression (disturbed sleep; poor attention, concentration and memory; restlessness). Good history taking is crucial in elucidating whether the complaint is of new onset or a recurrence of a previous disorder. The presence of comorbid depression should be clarified. If present, its temporal relationship with the anxiety symptoms will indicate whether there is an independent anxiety disorder. A medication review is warranted, as a number of drugs may be causative (calcium channel blockers, alpha- and beta-blockers, digoxin, L-thyroxine, bronchodilators, steroids, theophylline, antihistamines) or may cause anxiety in withdrawal (e.g. benzodiazepines). Substance and alcohol abuse should be excluded, as withdrawal from either may cause anxiety. A new or exacerbated physical illness may be related to anxiety. Medical investigations will help clarify the extent to which a particular somatic symptom is the result of anxiety [12].

Attending to anxiety disorders in primary care GAD affects many patients with this disorder throughout their lives. In community sample, life time prevalence of GAD has been reported as 5.1% and 4.5%, while in primary care patients, lifetime prevalence is reported as 8%. Recent studies of primary care patients estimate

the point prevalence of GAD to be in the range of 3.7% to 8.5%. GAD tends to be a chronic condition; symptoms wax and wane over time, with short-term exacerbations of acute anxiety in response to stress. Symptoms show substantial overlap with those of other medical and psychological disorders, particularly major depressive disorder and other anxiety disorders, complicating diagnosis. Comorbid disorders are extremely common among patients with GAD in primary care; at least one third of primary care patients with GAD experience major depressive disorder. Other psychiatric disorders often comorbid with GAD are substance abuse disorders and other anxiety disorder.

Conclusion

Anxiety disorders are prevalent among patients in primary care and are associated with the frequent use of medical care services. It is important, therefore, for primary care physicians to recognize anxiety disorders and to identify and diagnose these disorders in their patients. Most patients with anxiety disorders in the primary care setting can be effectively treated using readily available pharmacologic, psychosocial, and collaborative techniques. Treatment of anxious patients can be professional ly rewarding for the primary care physician, many patients with anxiety disorders show remarkable improvement with treatment. For those patients who prove to be more difficult to treat, referral to a mental health professional should be initiated, with the primary care physician maintaining an active awareness of how treatment is progressing and how concurrent treatment of ongoing medical illness may impact overall patient functioning [13].

Detection of depression and anxiety disorders by home care nurses

Several studies have reported that psychiatric disorders, mainly depression and anxiety disorders, were masked and undiagnosed among older adults, particularly frail elderly. This phenomenon could have a significant impact on elderly quality of life. In this study, we assessed the utility of three measures for detecting mental health disorders among frail elderly receiving home care services: (1) the PRIME-MD; (2) a standard psychological distress measure (PDI-29), and (3) the health care case manager's *a priori* judgment on the subject's mental health status. Results obtained by home care nurses were compared to those obtained by clinical psychologists using a structured diagnostic interview (SCID for DSM-IV). The study was conducted in two community health service centres. During the study's period, all patients in the health care workers' caseload without cognitive impairment and not reporting significant stressful life events during the six-week period preceding the interview (n = 315) were asked to participate in the study. Results showed that 42.9% of the volunteers that agreed to meet a psychologist at home (n = 177) had a current SCID-IV diagnosis. The specificity of the PRIME-MD test performed by nurses was 83.8% and its sensitivity was 41.7%. The correct classification rate was 66.7%. Results indicated that the PDI-29 items showed better performance characteristics than the PRIME-MD in identifying current cases. The specificity of the PDI-29 was 59.0% and its sensitivity was 73.6%. These results lead us to the conclusion that the PRIME-MD, previously proposed by Spitzer, R.L., Williams, J.B., Kroenke, K., Linzer, M., DeGruy, F.V. 3rd, Hahn, S.R., et al. (1994, Utility of a new procedure for diagnosing mental disorders in primary care. The PRIME-MD 1000 study. Journal of the American Medical Association, 272 (22), 1749–1756.) to help physicians in primary care clinics, could be less appropriate than the PDI-29 when used by home care nurses in identifying undiagnosed mental health disorders in frail older adults living at home. Moreover, this study showed that the health care case manager's a priori judgment on the care receiver's mental health status is not sufficient in identifying frail elderly mental health services needs. A two-stage screening procedure is proposed to help home care nurses [14].

An Arabic Version of the Geriatric Depression Scale (30 Items): Psychometric Properties and Some Findings in a Lebanese Elderly Sample Although the rates of depression and anxiety disorders have been shown to be higher in older people, especially those living in institutional settings, most of this population remains undiagnosed and untreated. The objective is to translate the full-scale Geriatric Depression Scale (30 items, GDS) into Arabic for use in elderly patients in Lebanon, to check its validity and reproducibility in comparison to the original version of the questionnaire, and assess the risk factors associated with depression in the Lebanese geriatric population.

This case-control study was conducted between June and August 2016 and included 500 patients aged more than 60 years (250 living inside and 250 outside a nursing home).

Strongly positive correlations (p < 0.001 for all items of the scale) were found between each item of the scale and the total

scale. The mean inter-item correlation for our scale was 0.51, higher than that of the original scale (0.36), with an excellent internal consistency (Cronbach α = 0.901). Living in a nursing home, stress, anxiety, being married, age, and the primary level of education would significantly increase depression (β = 2.211, β = 0.223, β = 0.041, β = 0.902, β = 0.118, and β = 3.533, respectively). A normal nutritional status and a university level of education would significantly decrease depression (β = -0.732; β = -1.961).

The Arabic version of the GDS can be used to estimate the severity of depression in the Lebanese elderly population. Periodic screening for anxiety, nutritional status, and stress is also recommended among geriatric people living in Lebanon [15].

The majority of patients with anxiety disorders present in primary care settings, and many are undiagnosed or undertreated each disorder has defining characteristics. Anxiety disorders are debilitating, and proper treatment can improve quality of life. Preferred treatments are cognitive-behavior therapy and pharmacotherapy with selective serotonin reuptake inhibitors [16].

Quality of Life in Individuals With Anxiety Disorders Quality-of-life indices have been used in medical practice to estimate the impact of different diseases on functioning and well-being and to compare outcomes between different treatment modalities. An integrated view of the issue of quality of life in patients with anxiety disorders can provide important information regarding the nature and extent of the burden associated with these disorders and may be useful in the development of strategies to deal with it. METHOD: A review of epidemiological and clinical studies that have investigated quality of life (broadly conceptualized) in patients with panic disorder, social phobia, posttraumatic stress disorder, generalized anxiety disorder, and obsessive-compulsive disorder was conducted by searching MEDLINE and PsycLIT citations from 1984 to 1999. A summary of the key articles published in this area is presented. RESULTS: The studies reviewed portray an almost uniform picture of anxiety disorders as illnesses that markedly compromise quality of life and psychosocial functioning. Significant impairment can also be found in individuals with subthreshold forms of anxiety disorders. Effective pharmacological or psychotherapeutic treatment has been shown to improve the quality of life for patients with panic disorder, social phobia, and posttraumatic stress disorder. Limitations in current knowledge

in this area are identified, and suggestions for needed future research are provided. CONCLUSIONS: It is expected that a more thorough understanding of the impact on quality of life will lead to increased public awareness of anxiety disorders as serious mental disorders worthy of further investment in research, prevention, and treatment.

Quality of life in individuals with generalized anxiety disorder

The ECA study used the DSM-III criteria for generalized anxiety disorder, which emphasize its status as a residual category, and found a reported lifetime prevalence of 4.1% to 6.6%. A total of 58% to 65% of the subjects who had generalized anxiety disorder also had at least one other DSM-III disorder. Persons with generalized anxiety disorder were more often unmarried or divorced. A significantly higher proportion of persons with generalized anxiety disorder than without had received disability benefits during their lifetimes. Even when employed, individuals with generalized anxiety disorder showed indirect evidence of impairment: a significantly higher proportion of them had annual incomes of less than $10,000 (1980 dollars).

Generalized anxiety disorder was found to be a relatively rare current disorder (current prevalence of 1.6%) but a more frequent lifetime disorder, affecting 5.1% of the U.S. population aged 15–54 years. The vast majority of persons with generalized anxiety disorder also had at least one other disorder (current morbidity, 66.3%; lifetime morbidity, 90.4%). The most frequent comorbid disorders were affective disorder and panic disorder. "Pure" lifetime generalized anxiety disorder was found to be rare, with a lifetime prevalence of 0.5%. Wittchen and colleagues found that comorbidity was associated with a significantly greater likelihood of interference with daily activities (51.2% in comorbid generalized anxiety disorder; 28.1% in "pure" generalized anxiety disorder) and made it more difficult to assess the role played by noncomorbid generalized anxiety disorder.

Massion and colleagues examined the effects of generalized anxiety disorder and panic disorder on the quality of life of a group of patients from the Harvard/Brown Anxiety Disorders Research Program using questions derived from the National Comorbidity Survey. Both groups showed impairment in role functioning and social life as well as low overall life satisfaction. Generalized anxiety disorder was associated with a reduction in overall

emotional health. However, the finding that the vast majority of the patients with generalized anxiety disorder had at least one other anxiety disorder led the authors to affirm that "generalized anxiety disorder virtually never occurs in isolation" and made it difficult to assess the role played by noncomorbid generalized anxiety disorder. In summary, these limited data suggest that, although relatively rare, noncomorbid generalized anxiety disorder can be found in a substantial minority of individuals and is associated with important impairment in its own right [17].

The Burden of Late-Life Generalized Anxiety Disorder: Effects on Disability, Health-Related Quality of Life, and Healthcare Utilization To describe the burden of Generalized Anxiety Disorder (GAD), a common anxiety disorder in older adults.

Older adults with GAD were more disabled, had worse HRQOL, and had greater healthcare utilization, than nonanxious comparison participants, even in the absence of psychiatric comorbidity. After controlling for medical burden and depressive symptoms, higher severity of anxiety symptoms was associated with greater disability and poorer HRQOL in several domains. The greatest decrements in HRQOL and function were observed in measures assessing role functioning, including social function.

This study, the largest ever of GAD in older adults, provides evidence of the significant burden of this disorder in late life. Given the high prevalence and chronicity of GAD in the elderly, these data provide a public health imperative for finding and implementing effective management strategies for this typically undiagnosed and untreated disorder [18].

Quality of Life Impairment in Generalized Anxiety Disorder, Social Phobia, and Panic Disorder Interest in the assessment of quality of life in the anxiety disorders is growing. The present study examined quality of life impairments in individuals with Generalized Anxiety Disorder (GAD), Social Phobia, and Panic Disorder. Results showed that individuals with these disorders reported less satisfaction with their quality of life than non-anxious adults in the community. However, the degree of quality of life impairment is similar across these three disorders. Additionally, comorbid depression, but not anxiety, was found to negatively impact quality of life in these individuals. Finally, diagnostic symptom severity was not found to influence quality of life, indicating that subjective measures of quality of life offer unique information on the effects of anxiety disorders.

In summary, this study showed that while individuals with GAD, Social Phobia, and Panic Disorder report less satisfaction with their quality of life than non-anxious adults in the community, the degree of quality of life impairment is similar across these three disorders. Additionally, the negative impact of depression on quality of life accentuates the importance of incorporating strategies for managing comorbid depression into the treatment of anxiety disorders. Finally, as diagnostic symptom severity was not found to influence quality of life, these results reflect the importance of assessing subjective quality of life in patients with anxiety disorders. Subjective quality of life assessments can be used not only as indicators of a patient's satisfaction with their lives at the initial point of assessment, but may also be valuable outcome measures demonstrating the broad impacts of treatment beyond symptom severity [19].

Quality-of-Life Impairment in Depressive and Anxiety Disorders Previous reports demonstrating quality-of-life impairment in anxiety and affective disorders have relied upon epidemiological samples or relatively small clinical studies. Administration of the same quality-of-life scale, the Quality of Life Enjoyment and Satisfaction Questionnaire, to subjects entering multiple large-scale trials for depression and anxiety disorders allowed us to compare the impact of these disorders on quality of life. METHOD: Baseline Quality of Life Enjoyment and Satisfaction Questionnaire, demographic, and clinical data from 11 treatment trials, including studies of major depressive disorder, chronic/double depression, dysthymic disorder, panic disorder, obsessive-compulsive disorder (OCD), social phobia, premenstrual dysphoric disorder, and posttraumatic stress disorder (PTSD) were analyzed. RESULTS: The proportion of patients with clinically severe impairment (two or more standard deviations below the community norm) in quality of life varied with different diagnoses: major depressive disorder (63%), chronic/double depression (85%), dysthymic disorder (56%), panic disorder (20%), OCD (26%), social phobia (21%), premenstrual dysphoric disorder (31%), and PTSD (59%). Regression analyses conducted for each disorder suggested that illness-specific symptom scales were significantly associated with baseline quality of life but explained only a small to modest proportion of the variance in Quality of Life Enjoyment and Satisfaction Questionnaire scores. CONCLUSIONS: Subjects with affective or anxiety disorders who enter clinical trials have significant quality-of-life impairment, although the degree of

dysfunction varies. Diagnostic-specific symptom measures explained only a small proportion of the variance in quality of life, suggesting that an individual's perception of quality of life is an additional factor that should be part of a complete assessment [20].

Methodology

Study design

Descriptive, cross-sectional survey-based study.

Target population

Primary health care patients above 18 year old.

Sampling methods

Simple random.

Sample size calculation

- We required a sample size of 300 subjects to fulfill the objectives of our study.
- This sample size was calculated assuming a 30% prevalence of anxiety disorder.

Data collection form

Predesigned socio-demographic questionnaire, hospital anxiety and depression scale (HADS), and centers for diseases control and prevention health related quality of life 14 measures (CDC HRQOL-14). The socio-demographic questionnaire recorded participants's age, gender, marital status, occupation, HADS is a 14-item self-rating questionnaire measuring anxiety, and CDC HRQOL-14 scale to assess patients quality of life.

Validation of data collection form

Predesigned validated socio-demographic questionnaire.

Hospital anxiety and depression scale (HADS) had been validated in many languages, countries, and setting. It is one of the National Institute for Health and Care Excellence (NICE) recommended tools for diagnosis of depression and anxiety.

Centers for diseases control and prevention health related quality of life 14 measures (CDC HRQOL-14) good predictive and constructive validity has been demonstrated in clinical population.

Data management plan

Patients will be provided with a description of the study and its objectives and will be asked to participate.

Patients who agree to participate will be provided by predesigned socio-demographic questionnaire, hospital anxiety and depression scale (HADS), and centers for diseases control and prevention health related quality of life 14 measures (CDC HRQOL-14).

The socio-demographic questionnaire recorded participants's age, gender, marital status, occupation, HADS is a 14-item self-rating questionnaire measuring anxiety, and CDC HRQOL-14 scale to assess patients quality of life.

The data will interpreted using Microsoft excel and analyzed using SPSS software programme.

Results

Socio-demographic	N = 502	%
Gender		
Male	146	29.1
Female	356	70.9
Age		
18 – 24	296	59
25 – 34	110	21.9
35 – 60	87	17.3
> 60	9	1.8
Education level		
Illiterate	3	0.6
Intermediate	20	4
High school	126	25.1
Diploma or above	353	70.3
Marital status		
Single	350	69.7
Married	131	26.1
Widowed	3	0.6
Separated	18	3.6
Job		
Student	268	53.4
Employee	126	25.1
Unemployed	91	18.1
Retired	17	3.4

Table 1: Distribution of the participants according to socio-demographic factors.

Socio-demographic	Total Score of Anxiety						P-value
	Normal		Borderline		Abnormal		
	No.	%	No.	%	No.	%	
Gender							
Male	52	37.7	37	27.6	57	24.8	0.03
Female	86	62.3	97	72.4	173	75.2	Sig.
Age							
18 – 24	63	45.7	71	53	162	70.4	
25 – 34	32	23.2	36	26.9	42	18.3	0.00
35 – 60	38	27.5	26	19.4	23	10	Sig.
> 60	5	3.6	1	0.7	3	1.3	
Education level							
Illiterate	-	-	1	0.7	2	0.9	
Intermediate	7	5.1	3	2.2	10	4.3	0.14
High school	25	18.1	32	23.9	69	30	Not Sig.
Diploma or above	106	76.8	98	73.1	149	64.8	
Marital status							
Single	84	60.9	92	68.7	174	75.7	
Married	45	32.6	38	28.4	48	20.9	0.07
Widowed	2	1.4	-	-	1	0.4	Not Sig.
Separated	7	5.1	4	3	7	3	
Job							
Student	54	39.1	64	47.8	150	65.2	
Employee	49	35.5	41	30.6	36	15.7	0.00
Unemployed	29	21	24	17.9	38	16.5	Sig.
Retired	6	4.3	5	3.7	6	2.6	

Table 2: Chi square, The association between socio-demographic data and parameter of anxiety.

Socio-demographic	Total Score of Depression						P-value
	Normal		Borderline		Abnormal		
	No.	%	No.	%	No.	%	
Gender							
Male	64	26.8	57	35.4	25	24.5	0.09
Female	175	73.2	104	64.6	77	75.5	Not Sig.
Age							
18 – 24	129	54	97	60.2	70	68.6	
25 – 34	54	22.6	34	21.1	22	21.6	0.06
35 – 60	49	20.5	29	18	9	8.8	Not Sig.
> 60	7	2.9	1	0.6	1	1	
Education level							

Illiterate	1	0.4	1	0.6	1	1	
Intermediate	11	4.6	6	3.7	3	2.9	0.57
High school	58	24.3	35	21.7	33	32.4	Not Sig.
Diploma or above	169	70.7	119	73.9	65	63.7	
Marital status							
Single	161	67.4	115	71.4	74	72.5	
Married	68	28.5	41	25.5	22	21.6	0.71
Widowed	2	0.8	-	-	1	1	Not Sig.
Separated	8	3.3	5	3.1	5	4.9	
Job							
Student	120	50.2	82	50.9	66	64.7	
Employee	66	27.6	42	26.1	18	17.6	0.21
Unemployed	43	18	31	19.3	17	16.7	Not Sig.
Retired	10	4.2	6	3.7	1	1	

Table 3: Chi square, The association between socio-demographic data and parameter of depression.

Quality of Life parameters	Total Score of Anxiety		P-value
Beta value	**()**	**(**	**Sig.**
General Health	4.07	-0.36	0.00
Physical Health	3.93	2.29	0.00
Mental Health	2.48	4.84	0.00
Activity	0.95	3.69	0.00
Feeling	29.79	3.39	0.038
	Total Score of Depression		
General Health	3.87	-0.35	0.00
Physical Health	5.27	2.13	0.00
Mental Health	5.17	4.56	0.00
Activity	3.35	3.27	0.00
Feeling	33.38	2.20	0.21

Table 4: Regression, the impact of anxiety and depression on quality of life.
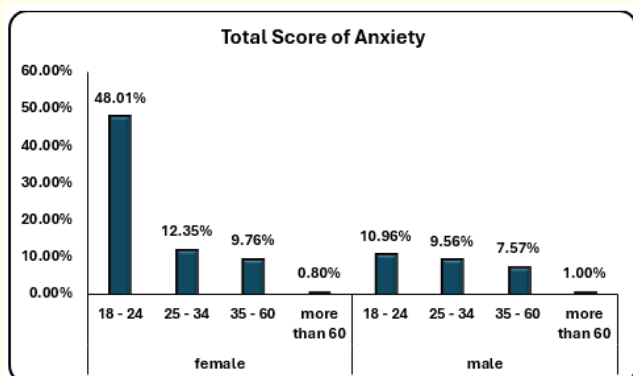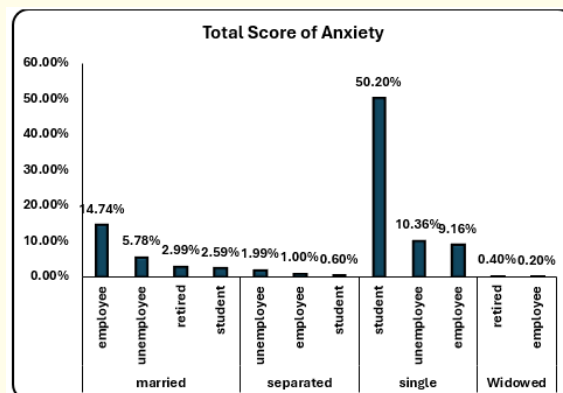

Figure 1

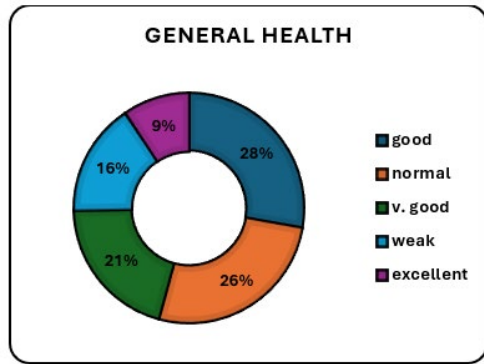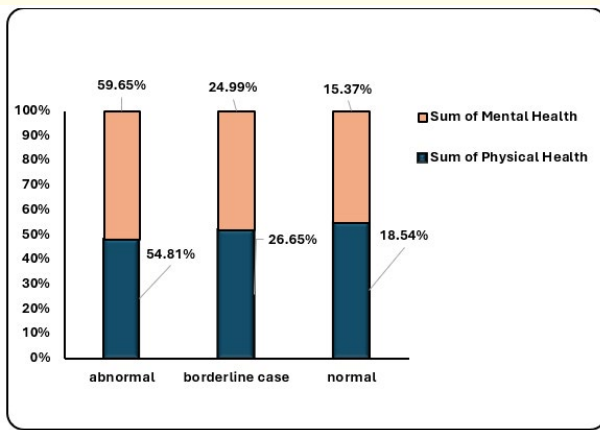**Figure 2**

Figure 3

Figure 4

Figure 5

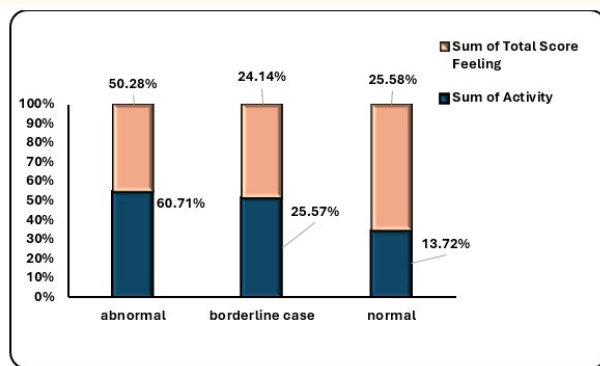## Discussion

Our online survey ultimately yielded a total of 502. The age range of 18- 25 accounted for 59% of the enrolled population. Males represented around 29% while females represented 71 % of the population. Less than 5% of study participants were either illiterate or intermediate educational level. Around 30% of the study population were either currently or previously married. Undiagnosed patients with either borderline or abnormal anxiety scores resembled around 72% (364/502) of the total study participants. Additionally, undiagnosed patients with borderline or abnormal depression scores resembled 52.4% (263/502) of the total study participants.

We found that age, gender, and occupation were significantly associated with anxiety levels among the participants, in contrast to marital status and level of education. Over 70% of females were significantly associated with either borderline or abnormal scores of anxiety. Of note, females represented 70.9% of the total study participants, which might contribute to the majority of borderline or abnormal anxiety scores. Around 80% of the participants who got a borderline anxiety score and over 88% who got an abnormal anxiety score aged between 18-34 years, which could be affected by the fact that 81% of study participants aged between 18-34 years. According to occupational status, around 80% of either borderline or abnormal anxiety scores were significantly linked to students or employees. However, no significant association was found between depression and any of gender, age, educational level, marital status, or occupation.

The relation between anxiety/depression and quality of life parameters (general health, physical health, mental health, activity, and feelings) were synthesized using linear regression equations. The associations between anxiety with all other parameters of quality of life were significant. The association between depression and all the parameters of quality of life, but feelings, were also significant.

We found that depression and anxiety were significantly inversely related to general health. On the contrary, anxiety and depression were directly correlated to physical health, mental health, activity, and feelings. These findings might be attributed to the following. The socio-demographics of the study applicants may differ from the general population. Over 70% of study applicants

are females and around 80% of the applicants aged from 18-34 years. However, this differed tremendously from the general population; around 35% of the general population in Riyadh aged between 18-34 and females represent only about 40% of the total population [24].

The data collection method was an online survey, which was susceptible to self-selection, response, non-response, or other biases. Moreover, linear regression has internal assumptions of independence and linearity of the variables' relation, when unmet might result in unreliable correlations.

A study by Mohammed et al. investigated undiagnosed psychiatric disorders among 283 patients who were admitted to the hospital. Out of 87 patients who were diagnosed using the general health questionnaire (GHQ) and Composite international diagnostic interview (CIDI), 85 patients had unrecognized psychiatric disorders. Depression was the most commonly identified disorder (61.5 %), followed by anxiety (26.2%). Unmarried patients, females, and patients with unexplained symptoms had a higher likelihood of getting diagnosed with either depression or anxiety [23].

Contrary, our study found undiagnosed anxiety was more common in our sample than depression (72% and 52.4%, respectively). We found no significant association between marital status and undiagnosed anxiety. Currently or previously married resembled only around 30% of our sample, which might justify the insignificant association.

Cass, Volk, and Nease used the Primary Care Evaluation of Mental Disorders (PRIME-MD) and the short form (SF-36) health surveys to measure the presence of unrecognized mood disorders and associated quality of life among a total of 500 adults. They found that mild depression and anxiety were less likely to be recognized by PCP and recognized anxiety and depression were associated with lower HRQOL than unrecognized diseases [25].

Our study did not compare recognized versus unrecognized anxiety and depression regarding their effect on HRQOL.

Kavelaars and colleagues evaluated the effect of anxiety on HRQOL. They initially stratified the patients to either having unrecognized or self-reported anxiety through a yes/no question asking about anxiety symptoms. They did a further evaluation of the anxiety symptoms using the Generalized Anxiety Disorder 7 (GAD7) questionnaire. Out of 49,088 patients who reported no anxiety, 17% experienced mild to severe unrecognized anxiety symptoms. They reported that unrecognized anxiety was significantly more commonly associated with males than females, the mean age of patients with unrecognized anxiety was around 36 years, significantly younger than the mean age of self-reported anxiety (around 53 years). Additionally, they found that comorbid depression was more common among patients with unrecognized anxiety, using the Patient Health Questionnaire-9 (PHQ-9) [26].

Moreover, they found that patients with previously unrecognized anxiety who had mild to severe anxiety symptoms had a significantly lower HRQOL when compared to patients with no anxiety symptoms, quantified by EuroQol-5 Dimension (EQ-5D) and Short-Form Six-Dimension (SF-6D). Contrary to Kavelaars et al., our study found that females resembled over 70% of the participants with unrecognized anxiety in our sample. Additionally, we did not evaluate the percentage of comorbid unrecognized anxiety and depression.

We conducted the first cross-sectional study to snap the relation between undiagnosed anxiety or depression and HRQOL among the Saudi population. We used previously validated questionnaires in our study; a predesigned socio-demographic questionnaire, hospital anxiety and depression scale (HADS), and centers for diseases control and prevention health-related quality of life 14 measures (CDC HRQOL-14). Our sample size was around 60% more than the required sample after assuming that anxiety prevailed in 30% of the population. The relation between anxiety or depression and HRQOL was synthesized using a linear regression model, that quantifies both the direction and the strength of the relationship, is easy to interpret, and provides visual exhibition through either lines or scattered plots. However, conducting a cross-sectional study provides correlation without causation context. Further studies that provide causation relation are required. data collection through self-reported methods like online Google forms are susceptible to many biases that could flaw the data. Personnel with more awareness regarding psychiatric disorders will have a higher likelihood to join the questionnaire, a self-selection bias. Additionally, our population was not adequately specified. We included any patient older than 18 years without accounting for

the presence of different diseases that tremendously affect mood and quality of life. Moreover, the socio-demographic characteristics of the study participants differed from the general population in Riyadh, where the study was conducted. This negatively impacts the generalizability of the study. Further, more diverse studies are needed to draw a robust, generalizable conclusion. Linear regression has internal assumptions including independence and linearity between the variables, which could derive unreliable correlation if the assumptions failed to meet. Additionally, linear regression might oversimplify or leave residual confounding variables, yielding unreliable correlations between variables.

Conclusion

We found that anxiety was significantly correlated with age, gender, and Occupation. Females, students, or employees who aged between 18-34 years were the most vulnerable groups to anxiety. Additionally, we found that both anxiety and depression had a significant inverse correlation with general health. Future wide-scale longitudinal studies are recommended to investigate the causation relationship between anxiety or depression and quality of life among patients with unrecognized anxiety.

Bibliography

1. David J Katzelnick and John H Greist. "Social Anxiety Disorder: An Unrecognized Problem in Primary Care". *The Journal of Clinical Psychiatry* (2001).

2. Murray B Stein, M.D., F.R.C.P.C. "Attending to Anxiety Disorders in Primary Care". *The Journal of Clinical Psychiatry* (2003).

3. Afework Edmealem and Caridad Sanchez Olis. "Factors Associated with Anxiety and Depression among Diabetes, Hypertension, and Heart Failure Patients at Dessie Referral Hospital, Northeast Ethiopia". Hindawi, (2020).

4. Hideki Kajiwara., *et al*. "Utilizing a medical questionnaire to predict anxiety and depression in outpatients". *International Journal of General Medicine* (2016).

5. Abdulaziz Mohammed., *et al*. "Unrecognized psychiatric disorders among adult patients admitted into a general hospital in Maiduguri, Northeastern Nigeria". *Pan African Medical Journal* (2014).

6. Warren H Schonfeld., *et al*. "The functioning and well-being of patients with unrecognized anxiety disorders and major depressive disorder". Elsevier (1998).

7. Sheila K Fifer., *et al*. "Untreated Anxiety Among Adult Primary Care Patients in a Health Maintenance Organization". *Archives of Genetic Psychiatry* (1994).

8. Bruce L Rollman., *et al*. "Symptomatic Severity of Prime-MD Diagnosed Episodes of Panic and Generalized Anxiety Disorder in Primary Care". *JGIM* (2005).

9. Alvah R Cass., *et al*. "Health- Related Quality of Life in Primary Care Patients with Recognized and Unrecognized Mood and Anxiety Disorders". *The International Journal of Psychiatry in Medicine* (1999).

10. Siegfried Kasper. "Anxiety disorders: under-diagnosed and insufficiently treated". *International Journal of Psychiatry in Clinical Practice* (2009).

11. Kylee Lewis., *et al*. "The Prevalence and Risk Factors of Undiagnosed Depression and Anxiety Disorders Among Patients With Inflammatory Bowel Disease". *Inflammatory Bowel Diseases* (2019).

12. Ivan Koychev and Klaus P Ebmeier. "Anxiety in older adults often goes undiagnosed". *Practitioner* (2016).

13. Murray B Stein. "Attending to anxiety disorders in primary care". *The Journal of Clinical Psychiatry* (2003).

14. M Préville., *et al*. "Detection of depression and anxiety disorders by home care nurses". *Aging Mental Health* (2010).

15. Souheil Hallit., *et al*. "An Arabic Version of the Geriatric Depression Scale (30 Items): Psychometric Properties and Some Findings in a Lebanese Elderly Sample". *Psychopathology* (2018).

16. Patricia G O'brien and Loraine Fleming. "Recognizing anxiety disorders". *The Nurse Practitioner* (2012).

17. Mauro V Mendlowicz., *et al*. "Quality of Life in Individuals with Anxiety Disorders". *American Journal of Psychiatry* (2000).

18. Emily K Porensky MA., *et al*. "The Burden of Late-Life Generalized Anxiety Disorder: Effects on Disability, Health-Related Quality of Life, and Healthcare Utilization". *The American Journal of Geriatric Psychiatry* (2013).

19. Terri L Barrera and Peter J Norton. "Quality of life impairment in generalized anxiety disorder, social phobia, and panic disorder". *Journal of Anxiety Disorders* (2009).

20. Mark Hyman Rapaport MD., *et al*. "Quality-of-Life Impairment in Depressive and Anxiety Disorders". *The American Journal of Psychiatry* (2005).

21. Spitzer RL., *et al*. "Utility of a new procedure for diagnosing mental disorders in primary care. The PRIME-MD 1000 study". *JAMA* 272.22 (1994): 1749-1756.

22. Coyne JC., *et al*. "Nondetection of depression by primary care physicians reconsidered". *General Hospital Psychiatry* 17.1 (1995): 3-12.

23. Mohammed A., *et al*. "Unrecognized psychiatric disorders among adult patients admitted into a general hospital in Maiduguri, Northeastern Nigeria". *The Pan African Medical Journal* 19.197 (2014).

24. General Authority for Statistics, SA. General Authority for Statistics. Population in Riyadh region by gender, age group, and nationality (Saudi/Non-Saudi) (2018).

25. Cass AR., *et al*. "Health-Related Quality of Life in Primary Care Patients with Recognized and Unrecognized Mood and Anxiety Disorders". *The International Journal of Psychiatry in Medicine* 29.3 (1999): 293-309.

26. Kavelaars R., *et al*. "The burden of anxiety among a nationally representative US adult population". *Journal of Affective Disorders* 336 (2023): 81-91.