# CO-EXISTING MENTAL AND MEDICAL CONDITIONS AMONG FAMILY MEDICINE OUTPATIENTS IN A TERTIARY HOSPITAL IN SOUTHERN NIGERIA

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## ABSTRACT

**Background:** A considerable number of patients seen in the Primary Care Clinics have co-morbid mental disorders with medical conditions that are largely not recognized by the primary care physician. This inability to recognize these mental disorders lead to non diagnosis and non treatment with eventual amplification of physical symptoms, low productivity at work and functional disability at home.

**Aims:** To screen the patients attending the general outpatient clinic for anxiety and depression co-occurring with medical conditions.

**Methods:** Two hundred and forty five patients aged 20 years and above attending the General Outpatient Clinic of the University of Uyo Teaching Hospital were randomly assessed for anxiety and depression using the Hospital Anxiety and Depression Scale (HADS). The level of caseness for anxiety and depression were determined using a HADS score of 8 and above. Their medical conditions were diagnosed and associations were determined with mental disorders (anxiety and depression).

**Results:** A total of 36.7% of patients scored above cut off point of 8 on the anxiety subscale while 24.5% of the subjects scored above cut off point of 8 on the depression subscale. 24.1%, (n=59) scored 8-10 on the anxiety subscale of HADS which is interpreted to be mild anxiety, 11.0%, (n=27) scored 11-14 on the anxiety subscale of HADS which is interpreted to be moderate anxiety and 1.6%, (n=4) scored 15-21 on the anxiety subscale of HADS which is interpreted to be severe anxiety. Similarly, 15.9%, (n=39) scored 8-10 on the depression subscale of HADS which is interpreted to be mild depression, 7.8%, (n=19) scored 11-14 on the depression subscale of HADS which is interpreted to be moderate depression and 0.8%, (n=2) scored 15-21 on the depression subscale of HADS which is interpreted to be severe depression. Hypertension was present in 22.04%, (n=54) respondents with anxiety p = 0.016 and depression p=0.025. HIV/AIDS was present in 4.08%, (n=10) respondents with depression p = 0.006.

**Conclusion:** The result of the study shows that patients attending general outpatients' clinic suffer from mental disorders like anxiety and depression which may co- exist with hypertension and HIV/AIDS. Therefore, a careful assessment of patients attending these clinics will detect these disorders and treatment will improve the physical condition of the patients.

**Keywords:** detection, mental disorders (anxiety and depression), medical conditions.

## INTRODUCTION

Health has physical, mental, social and spiritual dimension.[1] In primary care, mental disorders (anxiety and depression) are common with at least 20% of the attendees having these disorders (anxiety 24.3% and depression 29.1%).[2] These disorders are common to the extent that it is third to cardiovascular diseases and infectious diseases in the world [3] and has become a public health problem.[4]

Many studies have found association between medical conditions and anxiety and depression. A study in Australia on medical conditions co-existing with anxiety and depression found that

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depression was associated with gastro-esophageal reflux disease, recurrent headache, epilepsy and liver disorders, while anxiety disorders were associated with thyroid disease, psoriasis and gastro-esophageal disorders.[5] Coronary heart disease, diabetes mellitus, osteoarthritis have been reported to co-exist with depression. [6-8] while cardiovascular disorders have co-occurred with anxiety.[9] Mbakwem et al also found that depression, generalized anxiety, paranoid schizophrenia and somatization disorders co-occurred with heart failure.[10]

Co-morbid medical conditions occurring with mental disorders may delay recovery and increase morbidity of the patient. Therefore, there is need to look for mental disorders co-existing with medical disorders in patients seen in the general out-patients department. Published reports on the co-occurrence of mental and medical conditions are few in the scientific literature. The aim of this study was to determine the extent of co-existence of mental disorders and medical conditions among family medicine outpatient in a Nigerian tertiary hospital. Findings from this study will add to the pool of knowledge in this regard.

## MATERIALS AND METHODS

The study was carried out at the General Outpatient Clinic of the University of Uyo Teaching Hospital, a tertiary health institution in Uyo, Akwa Ibom State, Nigeria. The Hospital is a 400-bed tertiary Hospital serving the entire Akwa Ibom State citizens and neighbouring States of Cross River, Abia and Rivers. It was a cross sectional descriptive study.

## DATA COLLECTION AND PROCEDURE

Data was collected from 245 participants within a period of three months, January to March 2011.The method of subject selection was systematic random sampling. The first patient was selected by simple random sampling and subsequently every

41st subject was selected into the study because the sampling interval was 41. The sample size was determined using the formula $N = \dfrac{Z^2 PQ}{D^2}$

Participants were adults 20 years and above attending the General Outpatient Clinic. They were screened using a semi-structured questionnaire which comprised socio-demographic variables age, sex, marital status, educational level, occupation, tribe, religion and Hospital Anxiety and Depression scale for scores on anxiety and depression. Their medical diagnoses were extracted after consultation. The Hospital Anxiety and Depression scale was developed by Zigmond and Snaith in 1983 to assess levels of anxiety and depression in patients in non psychiatric settings and primary care clinics.[11] It is a self reporting questionnaire comprising 14 four point scale items made of seven (7) items for anxiety subset and seven (7) items for depression subset. Each item has a score of 0-3 with the lowest total score of zero and the highest total score of 21. Score of 0-7 is regarded as negative, 8-10 is mildly positive, 11-14 is moderately positive and 15-21 is severely positive. Using a cut off of 8, four groups of respondents were identified, these groups were case level anxiety group, case level depression group, case level co-morbid anxiety and depression group and a no case group. Hospital anxiety and depression scale shows good case finding properties for anxiety and depression in in-patient population, primary care clinics and general population.[12] It takes 2-5 minutes for the interviewer or respondent to complete the questionnaire; it is acceptable by the population for which it is designed. The internal consistency for HADS anxiety subset was 0.78-0.93 and for depression subset 0.82-0.90.[13] Validity studies have been done in Nigeria, Spain and Iran.[14-16] Prior to the study, a pretest was done to test applicability of the instrument. All respondents diagnosed with anxiety and

depressions who were receiving treatment and those too ill to participate were excluded from the study. Informed consent was received from the respondents and ethical approval was received from the Ethics and Research Committee of the University of Uyo Teaching Hospital.

## DATA ANALYSIS

The result of the study was analysed using the statistical package for social sciences (SPSS 17.0). Proportions of respondents who had anxiety and depression were found from the study. Percentages were calculated with simple frequency tables, Chi square was done and level of significance was set at p=0.05.

## TABLE 1 SOCIO DEMOGRAPHIC CHARACTERISTIC OF RESPONDENTS

| Socio-demographics variables | Male (n=84) | Female (n=161) | Total (n=245) | $X^2$ | p value |
|---|---|---|---|---|---|
| Age in years | | | | | |
| 20-29 | 24  (28.6) | 36  (22.4) | 60  (24.5) | 6.6819 | 0.245 |
| 30-39 | 20  (23.8) | 45  (28.0) | 65  (26.5) | | |
| 40-49 | 15  (17.9) | 34  (21.1) | 49  (20.0) | | |
| 50-59 | 11  (13.1) | 32  (19.9) | 43  (17.6) | | |
| 60-69 | 9   (10.7) | 7  (4.4) | 16  (6.5) | | |
| 70 and above | 5   (6.0) | 7  (4.4) | 12  (4.9) | | |
| Educational level | | | | | |
| None | 2  (3.7) | 6  (3.7) | 8  (3.3) | 0.9931 | 0.932 |
| Primary | 12  (14.3) | 25  (15.5) | 37  (15.1) | | |
| Secondary | 18  (21.4) | 40  (24.8) | 58  (23.7) | | |
| Post-secondary | 46  (54.8) | 79  (49.1) | 125  (51.0) | | |
| Others | 6   (7.1) | 11  (6.8) | 17  (6.9) | | |
| Marital status | | | | | |
| Single | 29  (34.5) | 45  (28.0) | 74  (30.2) | 7.7052 | 0.052 |
| Married | 51  (60.7) | 89  (55.3) | 140  (57.1) | | |
| Separated | 0   (0.0) | 4  (2.5) | 4  (1.6) | | |
| widow | 4  (4.80 | 23  (14.3) | 27  (11.0) | | |
| Tribe | | | | | |
| Ibibio | 67  (79.8) | 145  (90.1) | 212  (86.5) | 7.2632 | 0.083 |
| Igbo | 10  (11.9) | 11  (6.8) | 21  (8.6) | | |
| Hausa | 2  (2.9) | 0  (0.0) | 2  (0.8) | | |
| Yoruba | 1  (1.2) | 1  (0.6) | 2  (0.8) | | |
| Others | 4  (4.8) | 4  (2.5) | 8  (3.3) | | |
| Religion | | | | | |
| Christianity | 77  (91.7) | 157  (97.5) | 234  (95.5) | 5.8382 | 0.046 |
| Islam | 2  (2.9) | 0  (0.0) | 2  (0.8) | | |
| Others | 5  (6.0) | 4  (2.5) | 9  (3.7) | | |
| Occupation | | | | | |
| Civil servant | 38  (45.2) | 62  (38.5) | 100  (40.8) | 9.7496 | 0.045 |
| Farmer | 7  (8.3) | 18  (11.2) | 25  (10.2) | | |
| Self employed | 18  (21.4) | 33  (20.5) | 51  (20.8) | | |
| Trader | 5  (6.0) | 30  (18.6) | 35  (14.3) | | |
| Student | 16  (19.1) | 18  (11.2) | 34  (13.9) | | |
| Income (naira) | | | | | |
| 1-10,000 | 32  (38.1) | 83  (51.6) | 115  (46.9) | 14.5288 | 0.003 |
| 10,000-50,000 | 28  (33.3) | 59  (36.7) | 87  (35.5) | | |
| 50,000-100,000 | 16  (19.1) | 17  (10.6) | 33  (13.5) | | |
| Above 100.000 | 8  (9.5) | 2  (1.2) | 10  (4.1) | | |

The table shows that religion, occupation and income have significant difference between the two sexes

**TABLE 2 SHOWING THE DISTRIBUTION OF SCORES ON THE HOSPITAL ANXIETY AND DEPRESSION SCALE OF RESPONDENTS.**

| Severity of disorder | Anxiety | | | Depression | | |
|---|---|---|---|---|---|---|
| | F (n) | M(n) | % | F (n) | M (n) | % |
| Mild (HADS score 8 –10) | **40** | **19** | 24.1% | 23 | 16 | 15.9 |
| Moderate(HADS score 11 – 14) | **19** | **8** | 11.0% | 15 | 4 | 7.8 |
| Severe (HADS score 15 – 21) | **3** | **1** | 1.6% | 1 | 1 | 0.8 |

**TABLE 3 SHOWING THE DISTRIBUTION OF MEDICAL DISORDERS AMONG RESPONDENTS ATTENDING THE GENERAL OUTPATIENT CLINIC.**

| DISEASE | FREQUENCY (n) | % | ANXIETY | | DEPRESSION | |
|---|---|---|---|---|---|---|
| | | | $X^2$ | P VALUE | $X^2$ | P VALUE |
| Pelvic Inflammatory Disease | 35 | 14.280 | 0.024 | 0.877 | 0.007 | 0.934 |
| Peptic Ulcer Disease | 19 | 7.75 | 0.001 | 1.000 | 0.132 | 0.716 |
| Psycological Disorders | 14 | 5.71 | 11.431 | 0.001 | 9.977 | 0.002 |
| Diabetes Mellitus | 18 | 7.73 | 0.001 | 1.000 | 2.393 | 0.121 |
| HYPERTENSION | 54 | 22.04 | 5.83 | 0.016 | 5.036 | 0.0025 |
| Cyesis | 8 | 3.26 | 0.001 | 1.000 | 0.001 | 1.000 |
| OSTEOARTHRITIS | 17 | 6.93 | 0.001 | 1.000 | 0.001 | 1.000 |
| Skin Disease | 6 | 2.24 | 0.004 | 0.953 | • | • |
| Urology(BPH) | 10 | 4.08 | 0006 | 0.941 | • | • |
| HIV/AIDS | 10 | 4.08 | 0.170 | 0.680 | 7.629 | 0.006 |
| Neurology(peripheral neuropathy) | 3 | 1.22 | 0.001 | 1.000 | • | • |
| URTI | 10 | 4.08 | 0.170 | 0.680 | • | • |
| Malaria | 39 | 15.91 | 0.001 | 1.000 | • | • |
| Ear(OTITIS MEDIA) | 2 | 0.81 | | | | |

**RESULTS**

A total of 245 respondents were recruited from the population attending the General Outpatient Clinic. Table one show the socio-demographic characteristics of respondents. Majority of them 65 (26.53%) were aged 30-39 years while 12 (4.90%) were aged above 70 years. Of the 245 respondents evaluated 161 (65.71%) were females, 140 (57.14%) were married while 105 were either single, divorced, separated or widowed. A total of one hundred and forty two respondents (57.96%) had post secondary education, 58 (23.67%) had secondary education, 37

(15.10%) had primary education while 8 (3.2%) had no formal education.

One hundred respondents (40.8%) were civil servants, 51 (20.82%) were self employed, 35 (14.28%) were traders, 34 (13.88%) were students and 25 (10.20%) were farmers. Majority of the respondents were Ibibio 212 (86.53%), 33 (13.47%) were from other tribes in Nigeria. 234 (95.51%) were Christians while 11(4.49%) were practitioners of other religion.

Table two shows the distribution of anxiety and depression among respondents. 40 females and 19 males scored 8-10 on HADS (anxiety subset), 19 females and 8 males scored 11-14 on HADS (anxiety subset), 3 females and 1 male scored 15-21 on HADS (anxiety subset). Similarly, 23 females and 16 males scored 8-10 on HADS (depression subset), 15 females and 4 males scored 11-14 on HADS (depression subset) and 1 female and 1 male scored 15-21 on HADS (depression subset). All the respondents that scored 8-10 were regarded as mild anxiety or depression, 11-14 were regarded as moderate anxiety or depression and 15-21 were regarded as severe anxiety or depression.

Table three shows the distribution of medical disorders among respondents that were recruited for the study. Among those evaluated, 22.04% had cardiovascular disease(hypertension), 15.91% malaria, 14.28% gynaecological disease (pelvic inflammatory disease), 7.75% digestive system disorder(peptic ulcer disease), 7.34% endocrine disorder (diabetes mellitus), 6.93% musculoskeletal disorder (osteoarthritis), 5.71% psychological disorders, 4.08% Urology (benign prostatic hyperplasia), blood and immune disorder(human immunodeficiency virus/acquired immunodeficiency syndrome) and respiratory disorder (upper respiratory tract infection), 2.4% skin disorders, 1.22% neurological disorders, and 0.81% ear, nose and throat disorders. Respondents that were diagnosed with hypertension had p value of 0.016 for

anxiety and 0.025 for depression. Similarly, respondents with HIV/AIDS had p value of 0.006.

## DISCUSSION

This study shows that anxiety and depression are common among patients that attend the General Outpatient Clinic in our environment as evidenced by the high score on the HAD scale. The study found a prevalence rate of 36.7% for anxiety and 24.6% for depression. Ogunsemi et al equally reported a prevalence of 24.3% for anxiety and 29.1% for depression in detection of mental disorders in primary care setting.[2]

This study showed that medical disorders like hypertension can co-occur with anxiety and depression with p- values of 0.016 and 0.025 respectively. This finding agrees with the work of Coker et al at Lagos University Teaching Hospital who found anxiety and depression co-occurring with hypertension in patients receiving treatment for hypertension [17] and Khuwaja et al who found that having hypertension was independently associated with anxiety and depression among patients that were treated for type 2 diabetes mellitus in outpatients clinic [18].

Respondents with HIV/AIDS were disposed to suffer from depression with a p-value of 0.006. This finding is similar to that of Chikezie et al that found that depression was five times more common in persons living with human immunodeficiency virus and acquired immunodeficiency syndrome than in apparently healthy population [19] and Ndu et al who found high depression rate among HIV/AIDS patients in Enugu, Nigeria [20].

There is a high prevalence of mental disorders (anxiety and depression) in the general outpatient clinic. Patients diagnosed with hypertension may have co-morbid anxiety and depression while those diagnosed with HIV/AIDS may have co-morbid depression. Therefore, Clinicians in Primary Care should be alert to the

existence co-morbid anxiety and depression among patients seen by them for other physical conditions. Early detection and treatment of these mental disorders or referral will improve the quality of life of the patients.

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