

Psychological distress and emotional pain among adult attendees of a dental clinic: a case-control study

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Abstract

We set out to carry out a case-control evaluation of psychological distress and emotional pain among adult attendees of a Nigerian dental clinic. A total of 201 subjects, made up of 101 dental patients (test group) matched with age and sex with 100 normal subjects (controls), was recruited into the study. All participants completed a designed socio-demographic questionnaire. General Health Questionnaire and Psyche ache Assessment Schedule were also administered to assess psychological distress based on cut-off scores ≥ 3 and emotional pain based on cut-off scores ≥ 28 respectively. The mean ages of study and control group were 33 (± 12) and 36 (± 13) years respectively, and both study and control groups were not significantly different in all the assessed socio-demographic parameters. Overall, 21.8% ($n=22$) of the subjects had psychological distress, while only 7% of the control group had psychological distress. This difference was statistically significant ($P=0.003$). Similarly, there was significant difference in the experience of psyche ache (unbearable psychological pain) as over a third of the dental patients (37.6%, $n=38$) had emotional pain, while only 13% of the controls experienced psych ache ($P<0.001$). In this study, the burden of psychological distress and emotional pain was many-fold in dental patients when compared with the controls.

Introduction

Compared to many other clinical settings, pain and distress are common complaints in dental clinical practice. Closely linked is that, such complaint of pain or distress among dental patients can be indicative of either a physical or psychological pathology.¹⁻⁶ Although, psychological distress is a non-specific term for negative mood states that encompasses sadness, frustra-

tion and anxiety among others; however, it is a valuable indicator of emotional ill-health.⁶⁻⁸ This is because psychological distress often refers to both the symptoms of psychiatric disorders and emotional responses to adversity⁴⁻⁶ and it is sometimes used as a screening for measure of probable psychiatric morbidity.⁹ Despite being contiguous with psychological distress, emotional pain (psychological pain or psychache) is more indicative of a sustained state of inner turmoil, a perception of negative changes in the self and its functions that are accompanied by negative feelings.^{7,8} This pain is deeper and more vicious than depression, although depression may be present as well.¹⁰ For instance, it is known that patients who experience emotional pain or bodily ache without identifiable and adequate physical causes may be symbolically experiencing an intra-psyche conflict or psychological disorder.⁸ Dental patients may suffer from both physical diseases and mental disorders presenting with psychological symptoms like mild anxiety and depression.⁵⁻⁷ The diagnosis and treatment of mental disorders, therefore, should be especially relevant to dental practitioners. As it is, dental specialists often come across patients, who present with complaints of pain, abnormal sensation and movement around the orofacial region, and hypersalivation, which are manifestations of underlying emotional disturbance and not due to a clearly identifiable physical cause.⁵ For instance, existing literature suggest that recognizable psychopathology is seen in about 30% of patients attending dental clinics with complaints of distress or pain,^{11,12} and this often goes undetected and untreated. Early and appropriate recognition of such psychological distress would benefit both the individual patient and health care providers.¹² Moreover, unattended emotional ill-health often delays presentations, compromises treatment adherence and impairs quality of life among dental patients.¹ Importantly, the knowledge of psychological distress and emotional pain among dental patients would directly provide a framework for collaboration between dental practitioners and psychiatrists, and indirectly lead to a better understanding of psychiatric disorders by dental specialists. This would in turn lead to early identification, prompt referral and effective intervention. Unfortunately, there are no controlled study on the prevalence of psychological distress and emotional pain in adult Nigerian dental patients to the best of our knowledge following an extensive literature search. Therefore, the aim of this study was to compare, with a matched control, the prevalence of psychological distress and emotional pain among patients attending an outpatient dental clinic in Nigeria. We hypothesized that compared to the controls, dental patients would experience significant burden of emotional pain with psychological distress; and some demographic factors would constitute identifiable correlates.

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Materials and Methods

A total of 201 participants were recruited over a period of six months into the study. Of these, 101 were dental participants who were attendees of oral and maxillofacial unit of the study hospital. They presented with jaw pain and were to have oral surgery (test group) and were matched with 100 controls (non-patients; normal relatives of dental patients). Specifically, the test subjects consisted of consecutive patients attending the maxillofacial surgical outpatient/exodontia clinic of Lagos University Teaching Hospital. The control participants were selected from non-patients of relatives of dental patients and matched for age and sex with the test group. Selection criteria included: being a patient registered at the dental outpatient clinic, informed consent, aged between 18 and 60 years and no current or past history of psychiatric illness.

The study protocol was sent to the Health and Research Ethics committee of Lagos University Teaching Hospital and approval was obtained before commencement of the research. Written informed consent was obtained from each of the participants to take part in the study and assurance was given to participants that they could decline participation at any point without any negative consequences. All data were treated with confidentiality and those with significant distress were counseled and referred for the indicated care.

The study commenced following ethical approval and informed consent of the participants. All participants completed a pre-

designed socio-demographic questionnaire to elicit variables like age, sex, employment status, and educational status among others. Psychological distress was measured with the General Health Questionnaire version 12 (GHQ-12),¹³ which has been widely used in Nigeria.¹⁴⁻¹⁷ Scores of 3 and above in this study were indicative of psychological distress.¹⁸ Lastly, the Psyche ache Assessment Schedule (PAS)¹⁹ was used to measure emotional pain. Examples of question items include: *I feel psychological pain, my psychological pain seems worse than any physical pain, I hurt because I feel empty, I can't take my pain any more, my pain is making me fall apart, and my pain is making me fall apart among others.* The PAS has been used locally in the study of emotional pain and a score of 28 and above is indicative of emotional pain.¹⁹

All Questionnaires were filled in private with the help of the researchers before the dental procedures were carried out.

Data analyses were done with the Statistical Package of Social Sciences for windows Version 16 (SPSS-16).²⁰ Normally distributed data were summarized using mean (\pm SD), while categorical data were represented as proportions. Descriptive statistics like means, frequencies and percentages was used to analyze the data. Chi square analysis were used to ascertain the association between the studied

variables. A P-value<0.05 in two-tail was considered statistically significant.

Results

The socio-demographic characteristics of participants are depicted in Table 1.

A total of 201 participants were enrolled into the study. One hundred and one were dental patients and 100 were controls. The two groups were matched for gender and age. The mean age of study group and control group was 33 (\pm 12) years and 36 (\pm 13) years respectively (P=0.180). Most of them were above 20 years of age for both the test and control groups. Most of them were males with 60.4% and 66.0% in the study and control groups respectively (P=0.41). They were mostly employed 70.3% and 61.6%, with about one third being unemployed (students) in both groups (P=0.17). Majority had at least primary school education (study group=100%) and (control=95.9%).

Table 2 shows the comparison of psychological distress and emotional pain between dental patients and the controls.

On the GHQ-12, the mean score for the test and control group was 0.72 ± 1.2 and 0.37 ± 0.6 respectively (P=0.011). In the test group,

21.8% (n=22) of the subject had GHQ-12 scores of 3 and above (suggestive of psychological distress) while only 7% of the control group had GHQ suggestive of psychological distress. This finding was statistically significant (P=0.003).

On the PAS, the mean score among the test groups was 19.3 ± 7.1 and 17.8 ± 7.8 among the control (P=0.0146). Figure 1 shows the proportion of subjects with positive scores for GHQ and PAS in both groups. A positive score suggestive of emotional pain (psych ache) was found in over a third of the dental patients (37.6%, n=38), while on the other hand, only 13% of the controls experienced psych ache (P<0.001). (Table 2). Of the dental patients with positive PAS scores, 50% had scores suggestive of psychological distress on the GHQ-12. However, more than half (86.4%) of those with GHQ positive scores did experience psych ache (P<0.001). The experience of psychological distress was almost the same in both gender groups, with 16.5% in males and 14% in females (P<0.05). While for psych ache a similar 25.2% for males and 25.6% of females (P<0.05) (Table 2). There was no difference in the number of subjects who currently live with a partner in both groups. However, more than one-sixth of those that experienced psyche ache (60.4%) were not currently living with a partner.

Table 1. Characteristics of study and control subjects.

Variables	Study group (%)	Control group (%)	Total (%)	Test of significance
Age group (years)				$X^2=7.18; 0.28^*$
<20	8 (7.9)	9 (9.0)	17 (8.5)	
20-39	63 (62.4)	44 (44.0)	107 (53.2)	
40-60	30 (29.7)	47 (47.0)	77 (38.3)	
Sex				$X^2=0.67; 0.41^*$
Male	61 (60.4)	66 (66.0)	127 (63.2)	
Female	40 (39.6)	34 (34.0)	74 (36.8)	
Marital status				$X^2=0.04; 0.42^*$
Unmarried	65 (64.4)	63 (63.0)	128 (63.7)	
Married	36 (35.6)	37 (37.0)	73 (36.3)	
Occupation				$X^2=1.08; 0.17^*$
Self-employed	21 (20.8)	16 (16.0)	37 (18.4)	
Civil servants	36 (35.6)	40 (40.0)	76 (37.8)	
Company workers	14 (13.9)	16 (16.0)	30 (15.0)	
Student	30 (29.7)	28 (28.0)	58 (28.8)	
Total	101	100	201	

*P-value level of significance for chi-square test.

Table 2. Psychological distress and emotional pain in study and control groups.

Variables	Study group (%)	Control group (%)	Total (%)	Test of significance
General Health Questionnaire 12				$X^2 = 8.89; 0.003^*$
Positive	22 (21.8)	7 (7.0)	29 (14.4)	
Negative	79 (78.2)	93 (93.0)	172 (85.6)	
Psyche ache Assessment Schedule				$X^2=16.09; <0.001^*$
Positive	38 (37.6)	13 (13.0)	51 (25.4)	
Negative	63 (62.4)	87 (87.0)	150 (74.6)	
Total	101	100	201	

*P-value level of significance for chi-square test.

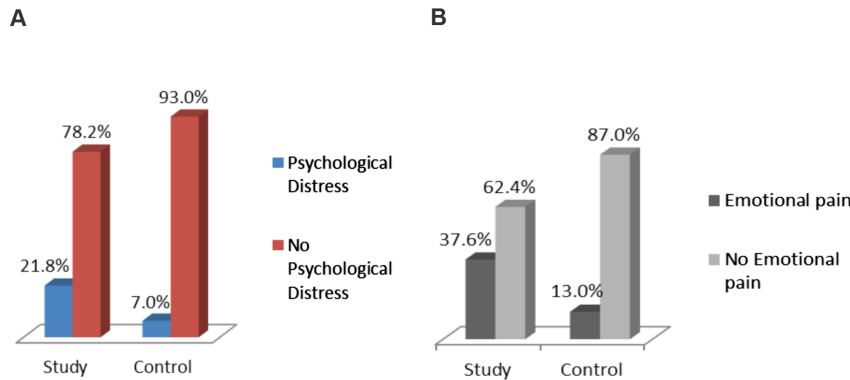


Figure 1. Prevalence of psychological distress (A) and emotional pain (B) in both study and control group.

Discussion and Conclusions

The complaint of pain is common in dental practice setting, and may often largely assume to be solely due to physical causes. However, recent evidence has implicated other causes including psychological problems.^{1,4-6} In this respect, while dental anxiety as a psychological experience faced by dental patients has been extensively examined, particularly by western researchers,⁵⁻⁷ other common psychological experiences among dental patients like emotional pain, dental fear or depression have been scantily researched, especially in resource-restricted countries like Nigeria. Therefore, findings in this study constitute an important contribution to knowledge on the emotional concerns of dental patients in order to improve the quality of care in dental setting.

In this study, the burden of psychological distress among dental patients (21.8%) was about three folds higher than what is found in the control group (7%). This high prevalence of distress among dental patients, as observed in this study, is not only in keep with what has been fielded in earlier works,¹⁻⁸ but can be attributed to the experience of varieties of psychopathologies by dental patients. For example, the presence of dental anxiety has been implicated, especially because anxiety is a form of psychological distress and may be detectable by the GHQ-12.¹ However, studies have shown a world-wide variation in the prevalence of dental anxiety with estimates as high as 11% prevalence among people with dental fear.^{1,7} The disparity in the burden of emotional distress in the cited studies and our study can be adjudged to several factors like methodological issues, study population and setting, clinical factors, personality traits and the extent of comorbidity of mental health disorders among others. To further buttress the

importance of the roles of psychosocial factors on emotional well-being among dental patients, improved understanding of dental procedures and expectations have been associated with reduction in dental fear,^{4,11} while a female gender, low engagement in treatment and depressed mood tend to increase the occurrence of dental fear.¹¹

As expected, the experience of emotional pain as reflected by the burden of psyche ache is high among these study participants. That said, it is interesting to note that psych ache, which is often a feature of depressive illness, was found to exist among more than one-third of the test subjects, out of which only a half had scores suggestive of psychological distress on GHQ-12. Conversely, majority of those with GHQ positive scores did experience psyche ache. This is postulated to suggest that while GHQ may be useful in screening for all forms of psychological distress, the PAS is more specific to chronic pain. A further explanation is that most patients in this environment tend to show up at the dental clinics late, and more often these patients have not experienced chronic dental pain, but they only show up when the pain has become unbearable.²¹⁻²³

As it is, the diagnosis and treatment of mental health illnesses including depression should be relevant to dental practitioners because they are the primary care providers who treat a large cross-section of the community. Although mental problems are common in the community, they are particularly evident in treatment settings. For instance, more than 20% of patients seen in primary care clinics report had clinically significant depressive symptoms.²³ By identifying the symptoms of depressed people, that can include complaint of distress, and referring them for treatment, dentists can provide another important contribution to the health care of their patients. Some researchers have proposed the collaboration between dentists and psychotherapeutic specialists in provision of modern dental treat-

ment.⁸ A four stepped approach for addressing dental anxiety has been proposed by Pawlicki,²⁴ which includes assessment, categorization, relaxation training and referral when necessary.

In spite of the potential benefits of this study in the expansion of scanty data on the emotional experience of dental patients in resource-limiting setting like Nigeria, it is limited in certain respect. For instance, this study did not explore in details the past dental experiences, which may have proven useful in understanding the finding of psychological distress. Also a randomization was done as a result of the small population in the clinic, as well as physical pain was not measured using specific instruments. Additional, it is a clinic-based study, thus extrapolation of its findings to the general population should be cautiously done. Future research should address the highlighted shortcomings.

The findings in this study confirm the experience of many-fold of psychological distress and emotional pain by dental patients in comparison to normal population. Thus, dentists should be empowered to go the extra-mile to carry out broad evaluation of pain symptoms, while deploring useful holistic distress-relieving techniques as well. Such broad evaluation of pain symptoms that include psychological evaluation along with psychosocial support should be integrated into standard dental care protocol. Again, the exigency to develop collaboration framework between dental and mental health services is buttressed in this study.

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