

Frequency of Psychiatric, Comorbidity among Dental OPD Patients and the Function of Consultation Liaison Psychiatry Assessment in Dental Treatment in a Kanpur Rural Tertiary Care Facility

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ABSTRACT

The co-morbidity of psychiatric disorders and somatic illnesses has been the focus of increasing concern in recent decades. This cross-sectional descriptive research was carried out in a tertiary care facility located in a rural area with 181 patients who attended the dental OPD and each patient was referred to the psychiatry department for evaluation. Psychiatric co-morbidity was evaluated by a psychiatrist with the aid of the General Health Questionnaire (GHQ)-28 and the Mental State Examination (MSE). The mean age of patients was 42 years and GHQ-28 score was high for anxiety/insomnia with mean 3.01. The commonest dental illness was periodontitis (14.9%). Majority (79%) of the patients had psychiatric co-morbidity according to GHQ-28 total score. Psychiatric consultation-liaison in dentistry is still at its grassroots level in India, a psychiatric consultation-liaison service within the dental facility catering to patients with psychiatric disorders in dental practice could be developed and effectively managed.

Keywords: C-L psychiatry, co-morbidity, dental practice mental disorders.

INTRODUCTION

In recent decades, the co-morbidity of mental disorders and somatic diseases has been the topic of growing attention.^[1,2] In 2017, in primary health care divisions in Asian economies such as India, psychiatric co-morbidity was reported to be very high (42.8 to 48.9 percent).^[3] In patients with psychological disorders, however, considerably less effort has been given to oral health, although oral health is a significant part of a healthy lifestyle and is closely correlated with mental health.^[4]

Dental surgeons spend a significant amount of time treating patients who may have either psychological conditions such as depression and anxiety or underlying emotional disturbances with physical signs.^[5] In patients encountered in dental practice, common symptoms of latent emotional distress include oral dysesthesia, atypical facial pain, and other atypical syndromes.^[6,7] Somatoform disorders, apart from posing management problems, also cause significant functional impairment and overall disability for the patient.^[8,9] Both the patient and the health care provider would benefit from better and adequate identification of such emotional distress.^[10]

The psychosocial factors correlated with the condition of the patients and the expenses of the necessary healthcare facilities are either not recognized by the dental surgeon or described and evaluated late, which may otherwise have been avoided.^[11,12,13] C-L psychiatry has been defined as an area of clinical psychiatry that encompasses clinical, teaching, and research activities of psychiatrists and allied mental health professionals in the non-psychiatric divisions of a general hospital.^[14] Liaison interaction, whereby the psychiatrist being an integral part of a medical-surgical team, helps in the recognition of psychological co-morbidity at an early stage and in the comprehensive management of the patients.^[15]

Even though oral mucosa is extremely susceptible to psychiatric disorders, the mouth is directly connected to major human functions. As far as our literature search is mentioned, only one research was performed in the northeastern part of India. To determine the socio-demographic characteristics and to identify psychiatric co-morbidities at an early level, the present study was carried out with aim to determine the application of C-L psychiatry for systematic patient management in a rural tertiary care facility.

MATERIAL & METHOD

The cross-sectional descriptive research was carried out in a dental college multi-specialty tertiary care facility located in a rural area of Kanpur, Uttar Pradesh, India. In the period from November 2022 to July 2023, 181 patients aged 18-60 years who attended the dental OPD were randomly selected and each consecutive patient was referred to the psychiatry department for evaluation. Every reported case was clinically examined and the dental surgeon made the dental diagnosis based on clinical examination. Psychiatric co-morbidity was evaluated by a psychiatrist with the aid of the General Health Questionnaire (GHQ)-28 and the Mental State Examination (MSE).

Research instruments GHQ-28^[16,17,18]

The GHQ-28 is a self-report analytical procedure intended for people with an increased probability of existing psychiatric disorders to be identified and assessed. Four subscales, including somatic symptoms, anxiety and insomnia, social instability, and extreme depression, were part of the questionnaire. Analyses within themselves are required by the presence of four subscales. The patient is asked to correlate his recent psychological state with his normal situation in the GHQ-28. The binary scoring system was applied (with the two least symptomatic responses scoring 0 and the two most symptomatic responses scoring 1). The higher score suggests the patient's worse psychological well-being. Any score greater than the threshold value of 4 is categorized as a "psychiatric case". "The international classification of diseases-10", The International Classification of Diseases (ICD), 10th version, Classification of Mental and Behavioural Disorders, was used to diagnose the referred cases. The data were subjected to statistical package for social sciences (SPSS), version 17.0 and statistically analyzed using Cross tab and Chi test. $P < 0.05$ were considered to be statistically significant.

RESULTS

A total of 181 patients were examined in the present study for socio-demographic characteristics, dental illnesses, GHQ-28 scores in different domains, co-morbid mental disorders according to ICD-10, as well as association among the types of dental diagnoses and types of mental disorders. Majority of the patients were female ($n=107$, 59.1%) and the rural population was 85%. Most of the patients were married (76.2%), unemployed (45.3%), and had 10th standard of school education (37%). [Table-1]

Table-1: Socio-demographic characteristics of patients

Gender	Male	74	40.88
	Female	107	59.11
Habitat	Rural	154	85.08
	Urban	27	14.91
Education	Illiterate	47	25.96
	Primary level	34	18.78
	10 th standard	67	37.01
	12 th standard	21	11.60
Marital status	Graduate	12	6.62
	Never married	32	17.67
	Married	138	76.24
Occupation	Widow/Separated	11	6.07
	Unemployed	82	45.30
	Student	32	17.67
	Unskilled worker	26	14.36
	Semiskilled	11	6.07
	Skilled worker	5	2.76
	Semi professional	9	4.97
Professional	4	2.20	
	Business	12	6.62

The mean age of patients was 42years and GHQ-28 score was high for anxiety/insomnia with mean 3.01. Mean GHQ-28 total score was 10.7 (SD 3.126), which was above the threshold value of 4. [Table-2]

Table 2: Mean of socio-demographic profile and clinical profile (GHQ-28 score)

Socio-demographic profile	Mean	Standard deviation (SD)
Age (in years)	42.87	14.965
Family income per month (RS.)	10,867.68	8,547.39
Clinical profile: GHQ-28 score*		
GHQ-28: Somatic symptoms	2.98	2.587
GHQ-28: Anxiety and insomnia	3.01	2.698
GHQ-28: Social dysfunction	2.89	1.036
GHQ-28: Severe depression	1.84	0.984
GHQ-28: Total score	10.72	3.126

*GHQ: General Health Questionnaire

The commonest dental illness was periodontitis (14.9%) followed by dental caries (13.2%). Majority (79%) of the patients had psychiatric co-morbidity according to GHQ-28 total score. 115 patients were diagnosed to have mental disorder on MSE. [Table-3]

Table -3: Clinical profile of the patients

Dental illness	Periodontitis	27	14.9
	Gingivitis	15	8.28
	Dental caries	24	13.27
	Edentulous/partially edentulous	7	3.86
	Abscess/Space infection	9	4.97
	Impacted teeth/Pericoronitis	19	10.49
	Fracture of teeth	3	1.65
	Wasting disorder	14	7.79
	Oral ulcer/Growth	17	9.39
	Retained root	19	10.49
	Pulpitis/Pulp polyp	19	10.49
	Mobile teeth/Non vital	5	2.76
	Others	3	1.65
Co-morbid-mental disorders on MSE according to ICD-10	Mix anxiety and depression	33	18.23
	Depressive disorder	8	4.41
	Obsessive compulsive disorder	3	1.65
	Generalised anxiety disorder	17	9.39
	Somatoform disorders	34	18.78
	Substance abuse/dependence	9	4.97
	Others	11	6.07
	No mental illness detected	66	36.46
Morbidity according to GHQ-28 total scores	Co-morbidity(cases)	143	79
	No co-morbidity(non-cases)	38	20.99

Somatoform disorder ($n = 34$) was the commonest type of mental disorder, followed by mixed anxiety and depression ($n = 33$). Very strong associations were found among the types of dental illnesses and the types of mental disorders (Chi-square = 37.89 and 98.64, respectively; $P < 0.05$). [Table-4]

Table 4: Association among types of dental illnesses and types of mental disorders

Dental Diagnosis									
	Mixed depression/anxiety	Depression	OC D**	GA D*	Somatoform disorder	Substance abuse	Others	No mental illness	Total
Periodontitis	5	3	1	3	6	3	1	5	27
Gingivitis	1	2	0	0	5	0	3	4	15
Dental caries	7	0	0	1	0	1	2	13	24
Edentulous	0	0	0	0	3	0	0	4	7
Dental infection	0	1	1	0	2	0	0	5	9
Pericoronitis	2	0	0	5	3	0	0	9	19
Fracture teeth	2	0	0	0	0	0	0	1	3
Wasting disorder	3	1	0	2	3	0	0	5	14
Oral ulcer	2	1	0	2	2	1	1	8	17
Retained root	2	0	1	1	6	2	3	4	19
Pulpitis/Pulp polyp	7	0	0	1	4	2	1	4	19
Non vital	1	0	0	2	0	0	0	2	5
Others	1	0	0	0	0	0	0	2	3
Total	33	8	3	17	34	9	11	66	181

*GAD: Generalized Anxiety Disorder, **OCD: Obsessive Compulsive Disorder.
Chi-square = 37.89 and 98.64, respectively; $P < 0.05$

DISCUSSION

There is a deficit of psychiatric-liaison facilities in India for dental professionals referring to patients with psychiatric co-morbidity. In the study done by Ray PK et al, majority of the patients were from rural area (95%) with average family income was Rs. 13,164.00 (SD 12196.889), and 27% were illiterate and 47% are educated up to secondary standard and these results were found similar to the present study.^[10]

In our study sample, we observed that most participants had psychiatric co-morbidity as per the total score of GHQ-28, of which somatoform disorders have been the most prevalent psychiatric manifestation, accompanied by mixed anxiety and depressive disorders that were compatible with the study findings of the Ray PK et al.^[10] The findings of the present study are broadly consistent with those of previous studies that evaluated the cause for non-compliance and functional somatic symptoms among dental patients, both of which found the major diagnostic categories to be somatoform disorders as well as mixed anxiety and depression.^[21]

Our study shows that a high percentage of dental patients also suffer from psychopathologies, especially anxiety and depression similar to the study done by Ray PK et al in the year 2015.^[10] The present research is consistent with another previous study that pointed out the need to induce the underlying problem of co-morbid somatic

occurrences among patients visiting dental specialists due to various emotional distress. We have been able to demonstrate that such patients, provided there is a psychiatry consultation service, can be found and involved in therapy.^[4]The CL psychiatry services currently in India mostly follow the consultation model in which psychiatrists assess the patients and advise the referring clinicians for the appropriate management. For further developments and service advancements in dental practice and also in other branches of medicine, this should provide a valuable C-L psychiatry model. One of the important components of a tertiary care hospital is liaison psychiatry, and further academic and collaborative exercises between clinicians and psychiatrists can contribute to improved understanding and acceptability of psychiatry with an emphasis on patients' quality of life.^[4,10]

CONCLUSION

Liaison psychiatry is a rapidly developing and well-known subspecialty of psychiatry. Even as psychiatric consultation-liaison in dentistry is still at its grassroots level in India, a psychiatric consultation-liaison service within the dental facility catering to patients with psychiatric disorders in dental practice could be developed and effectively managed. By longitudinal incorporation, the constructive redesign of the undergraduate curriculum with early exposure to psychiatry helps to enrich the awareness and orientation of psychiatry. Constructing postgraduate education and training, with an emphasis on consultation-liaison models, would strengthen the hospital clinical environment and open the way for CL psychiatry to become a future subspecialty.

REFERENCES

- [1]. Simunovic Filipcic I, Filipcic I. Schizophrenia and physical comorbidity. *Psychiatr Danub* 2018; 30:152-57.
- [2]. Jakovljevic M, Borovecki F. Epigenetics, resilience, comorbidity and treatment outcome. *PsychiatrDanub*2018;30:242-53. <https://doi.org/10.24869/psyd.2018.242>
- [3]. Dandona L. The burden of mental disorders across the states of India: The Global Burden of Disease Study 1990–2017. *Lancet Psychiatry* 2020;7: 148–61
- [4]. Šarac Z, Zovko R, Ćurlin M, Filakovic P. Dental medicine and psychiatry: The need for collaboration and bridging the professional gap. *PsychiatrDanub* 2020; 1-8.
- [5]. Miyachi H, Wake H, Tamaki K, Mitsuhashi A, Ikeda T, Inoue K, Tanaka S, et al. Detecting mental disorders in dental patients with occlusion-related problems. *Psychiatry Clin Neurosci*2007;61:313-9.
- [6]. Feinmann C, Harris M. Psychogenic facial pain management and prognosis. Part 1. The Clinical Presentation. *Br Dent J* 1984;156:205-8.
- [7]. Hiller W, Rief W, Fichter M. How disabled are patients with Somatoform disorders? *Gen. Hosp. Psychiatry*1997;19:432-8.
- [8]. Geaorge S. Service innovations: Role of liaison psychiatrist in dental practice. Available at: <https://www.priory.com/psych/dentpsych.htm> [Accessed on 25th July 2023]
- [9]. Arigbede AO, Babatope BO & Bemidele MK: Periodontitis and systemic diseases. A literature review. *J. Indian Soc. Periodontol*2012; 16:487-91. DOI:10.4103/0972-124X106878
- [10]. Ray PK, Ray S, Makhil M, Majumder U, De S, Ghosh S. Prevalence of psychiatric co-morbidity among patients attending dental OPD and the role of consultation-liaison psychiatry in dental practice in a tertiary care general hospital. *Indian J Dent* 2015;6:32-6.
- [11]. Boone CR, Coulton CJ, Keller SM. The impact of early and comprehensive social work services on length of stay. *Soc Work Health Care* 1981;7:1-9.
- [12]. Saltz CC, Magruder-Habib K. Recognizing depression in patients receiving medical care. *Health Soc Work* 1985;10:15-22
- [13]. Steiner H, Fritz GK, Mrazek D, Gonzales J, Jensen P. Paediatric and psychiatric comorbidity. Part I: The future of consultation-liaison psychiatry. *Psychosomatics* 1993;34:107-11
- [14]. Lipowski ZJ. Current trends in consultation-liaison psychiatry. *Can J Psychiatry* 1983;28:329-38.
- [15]. Avasthi A, Sharan P, Kulhara P, Malhotra S, Varma VK. Psychiatric profiles in medical-surgical populations: Need for a focused approach to consultation-liaison psychiatry in developing countries. *Indian J Psychiatry* 1998;40:224-30.
- [16]. Goldberg D, Williams P. A user's guide to the General Health Questionnaire. Windsor: Nfer Nelson Publishing Company Ltd; 1988 Available at: https://www.statisticssolutions.com/general-health-questionnaire-ghq/?__cf_chl_jschl_tk[Accessed on 25th December 2020]
- [17]. Michele Sterling, General Health Questionnaire 28; *Journal of Physiotherapy* Vol 57, 2011-59. Available at: https://www.physio-pedia.com/28-Item_General_Health_Questionnaire [Accessed on 23rd July 2023]



- [18]. International classification of impairment, disability and handicap (ICIDH).2001.
- [19]. Available at: <https://www.cdc.gov/nchs/data/dvs/icd10fct.pdf>[Accessed on 23rd July 2023]
- [20]. George AC, Hoshing A, Joshi NV. A study of the reasons for irregular dental attendance in a private dental college in a rural setup. Indian J Dent Res 2007;18:78-81
- [21]. Friedson E, Feldman JJ. The public looks at dental care. J Am Dent Assoc 1958;57:325-35.
- [22]. Andersen BL. Biobehavioral outcomes following psychological interventions for cancer patients. J Consult Clin Psychol 2002;70:590-610.