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ORIGINAL RESEARCH

Oral health related quality of life in adult population attending the dental outpatient department of a hospital in Patna, Bihar

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ABSTRACT

Introduction- The notion of oral health-related quality of life (OHRQoL) seeks to define patients' perceptions of oral health. There is an increasing interest in the impact of oral health on quality of life. The aim of present study was to assess oral health-related quality of life among adults visiting the outpatient department of a hospital in Patna, Bihar. **Material and methods-** The present cross-sectional study was conducted among 200 patients attending the Department of Dentistry, Patna Medical College & Hospital, Patna, Bihar during the study period of 2 months. An investigation was done by using a combination of questionnaire and clinical examination. Questionnaire was on oral health impact profile- 14 (OHIP14) and the subjects were clinically examined for dental caries using DMFT index. All statistical analyses were conducted utilising the Statistical Package for the Social Sciences, version 25.0 software. **Results-** The mean age of patient was 43.25 years, out of 200 patients 60% were female and 40% were male. The mean value of decayed teeth was 2.9±1.7, mean value of missing teeth was 0.99±1.1, mean value of filled teeth was 1.5±2.1 and mean value of overall DMFT was 5.3±2.5. Significant association ($p<0.05$) was found between decayed , missing and DMFT components with OHIP – 14 domains and overall score while non significant association was found between filled teeth and OHIP-14 domains ($p=0.051$). **Conclusion–** OHIP-14 scores exhibited a significant correlation with clinical indicators of oral health status and substantially influence oral health-related quality of life.

Keywords- adult, dental, DMFT, Oral health impact profile - 14, oral health related quality of life

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INTRODUCTION

Oral health is a fundamental component of overall health and vital for an individual's well-being. Quality of life is an expansive notion related to the general well-being within a society. The World Health Organisation characterises Quality of Life as an individual's assessment of their status within the cultural and value frameworks of their environment, in connection to their objectives, expectations, standards, and worries.[1]

Health is no longer defined in terms of illness and disease but the concept has been broadened to take into account physical, physiological and social aspect of well-being.[2] Oral health-related quality of life metrics are progressively employed in descriptive population-based research to capture non-clinical aspects of oral health deemed most pertinent to patients' overall health and well-being. [3]

Oral diseases are often non-fatal, however they can impair the ability to eat, speak, and socialise without discomfort or humiliation, so impacting overall well-being. Oral problems can impact interpersonal interactions and daily activities, hence influencing the quality of life.

The influence of oral disorders on quality of life is evident. Any illness that disrupts everyday activities may negatively impact overall quality of life. [4] The concept of oral health-related quality of life (OHRQOL) arises from extensive observations and research regarding the effects of dental disorders on several life dimensions.

The utilisation of questionnaires in research to evaluate OHRQoL offers significant benefits, including reduced costs, maintenance of participant anonymity, and minimisation of biases that may arise during interviewer interactions. Conversely, the possibility of diminished response rates arises when

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this method of administration is employed. The method of administration typically does not seem to affect the overall scores of the instrument when utilised in an aged demographic [5].

Research on the social consequences associated with dental problems is scarce.

Therefore the present study was planned examine the influence of oral health status variables on oral health-related quality of life, and investigate the association between oral health status variables and oral health-related quality of life among adults visiting the dental outpatient department of a hospital in Patna, Bihar.

MATERIAL AND METHODS

The present cross-sectional study was conducted at the outpatient department of a hospital in Patna, Bihar during the study period of 2 months from January to February 2024. Ethical clearance was taken from the institution and informed consent as obtained from the patients after explaining them the complete study procedure.

Through consecutive sampling a total of 200 patients attending the OPD of hospital were selected on the basis of inclusion and exclusion criteria.

Inclusion criteria

1. Patients with age above 18 years.
2. Non edentulous patients.
3. Patients willing to participate in the study.

Exclusion criteria

1. Patients with age less than 18 years.
2. Edentulous patients.
3. Patients not willing to participate in the study.

Oral health impact profile- 14 (OHIP-14) was used to collect data from patients which had 7 subscales. The responses were categorised as never (0), hardly (1), occasionally (2), fairly often (3), and very often (4). Demographic data on the patient's age and gender was also documented. The subjects were clinically examined for DMFT index given by Klein and Palmer (1938).

A five-point Likert scale was employed to assess responses to the OHIP-14 items, with a potential score range of 0 to 56. The Mann-Whitney and analysis of variance (ANOVA) tests were employed to compare the mean scores of OHIP-14 and oral health status variables among the subjects. Spearman's correlation coefficient was employed to correlate OHIP-14 with variables pertaining to oral health status. All statistical analyses were conducted utilising the Statistical Package for the Social Sciences, version 25.0 software.

RESULTS

The mean age of patient was 43.25 years, out of 200 patients 60% were female and 40% were male as shown in table 1.

Table 1 - Demographic data of patients

Demographic data		Values
Mean age (in years)		43.25±3.7
Gender	Male	80 (40%)
	Female	120 (60%)

The mean value of decayed teeth was 2.9±1.7, mean value of missing teeth was 0.99±1.1, mean value of filled teeth was 1.5±2.1 and mean value of overall DMFT was 5.3±2.5 as shown in table 2, graph 1.

Table 2- Mean scores of DMFT index

DMFT components	Mean ± SD
Decayed	2.9±1.7
Missing	0.99±1.1
Filled	1.5±2.1
DMFT	5.3±2.5

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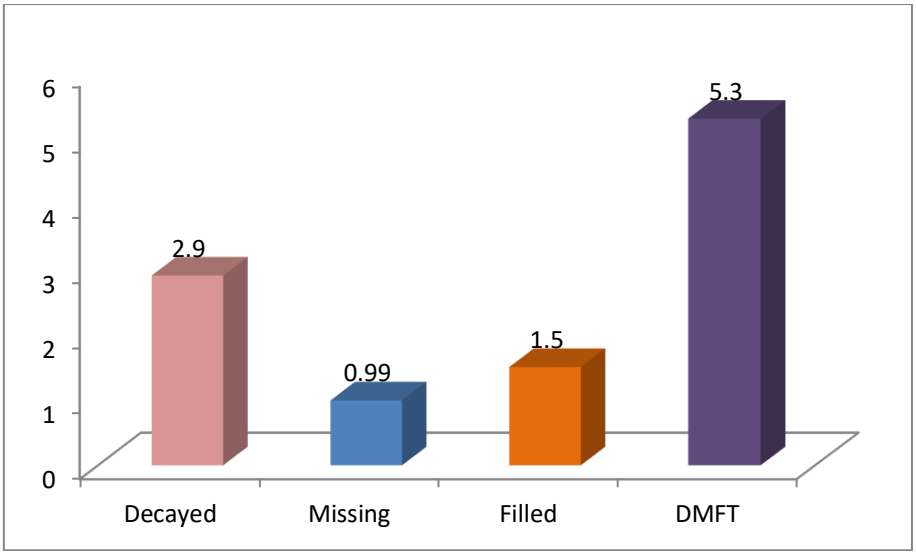
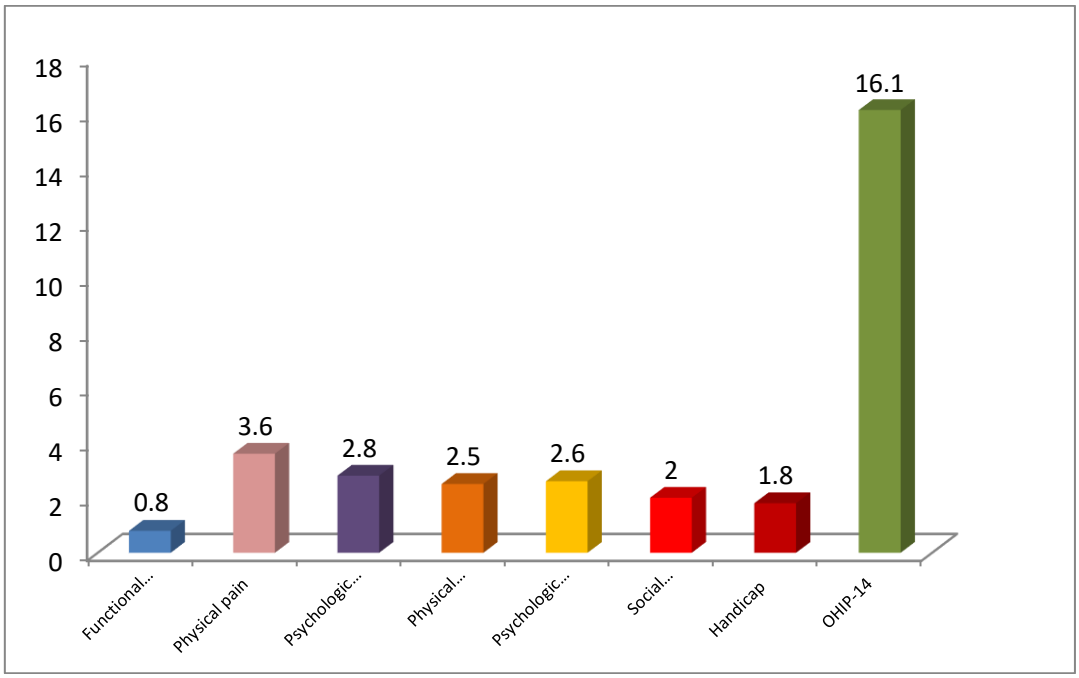


Graph 1- Mean scores of DMFT index

The mean value of functional limitation was 0.8 ± 1.3, mean value of Physical pain was 3.6 ± 1.6, mean value of Psychological discomfort was 2.8 ± 1.7, mean value of Physical disability was 2.5 ± 1.9, mean value of Psychological disability 2.6 ± 1.8, mean value of Social handicap was 2.0 ± 2.2, mean value of Handicap was 1.8 ± 1.5 and mean value of OHIP-14 was 16.1 ± 8.7 as shown in table 3 and graph 2.

Table 3- Mean value of OHIP-14 domains

OHIP-14 domain	Mean ±SD
Functional limitation	0.8 ± 1.3
Physical pain	3.6 ± 1.6
Psychological discomfort	2.8 ± 1.7
Physical disability	2.5 ± 1.9
Psychological disability	2.6 ± 1.8
Social handicap	2.0 ± 2.2
Handicap	1.8 ± 1.5
OHIP-14	16.1 ± 8.7



Graph 2- Mean value of OHIP-14 domains

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Significant association ($p<0.05$) was found between decayed , missing and DMFT components with OHIP domains and overall score while non significant association was found between filled teeth and OHIP-14 domains ($p=0.051$) as shown in table 4.

Table 4- Association of DMFT index with OHIP-14 domains

Domains	Functional limitation	Physical pain	Psychological discomfort	Physical disability	Psychological disability	Social handicap	Handicap	OHIP 14	P value
Decayed	0.5±0.2	3.5±0.4	2.8±0.1	2.1±0.3	2.0±1.3	1.8±1.0	1.5±0.2	2.7±1.3	0.031
Missing	0.8±0.3	3.6±0.2	2.9±0.2	2.7±0.4	2.0±0.8	1.9±1.3	1.5±0.1	0.98±1.0	0.022
Filled	0.3±0.1	3.2±0.1	2.3±0.4	2.5±1.1	1.9±0.3	1.8±0.4	1.2±0.3	1.6±0.4	0.051
DMFT	5.2±2.0	5.1±1.8	5.3±2.3	5.6±1.0	4.9±1.3	4.5±1.2	5.1±1.0	5.4±1.0	0.030

DISCUSSION

Dental services are employed by a restricted demographic in a constrained manner, particularly among individuals accessing community healthcare clinics in poor nations such as India. Moreover, health insurance services in India are virtually absent. When available, these services are predominantly underutilised by the majority of the population due to their residence in rural regions or locations with restricted access and awareness of such services [6]. The current study employed OHRQoL. OHRQoL evaluates the subjects' comfort in social interactions, engagement, sleep, and food. OHRQoL evaluates the individuals' satisfaction with their oral health and associated requirements. Significant progress has been achieved in the documentation of OHRQoL and associated instruments and metrics [7,8].

The Oral Health Impact Profile (OHIP-14) is a commonly utilised questionnaire for assessing Oral Health-Related Quality of Life (OHRQoL) in various cross-sectional and longitudinal research. The utilisation of questionnaires in research to evaluate Oral Health-Related Quality of Life (OHRQoL) offers significant advantages when examining administration methods.[9] In the present study it was used to find out the Oral health related quality of life in 200 adult population attending the outpatient department of a hospital in Patna, Bihar during the study period of 2 months.

The average age of patients ranged from 41 to 50 years, and the number of female patients exceeded that of male patients. This distribution aligns with the observation that a greater number of females typically frequent general dental practices, and sex-based disparities are evident in the utilisation of dental care, services, and treatment outcomes, as extensively documented in the literature by Herenia P and Shashidhar A . [2,3]

In the present study it was found that approximately 25% of dentate adults reported experiencing pain related to their teeth and mouth fairly often or very often in the past year. Ten percent indicated they had an unsatisfactory diet that necessitated meal interruptions due to physical disability, while 9% reported psychological effects stemming from their oral condition, feeling self-conscious or tense about their teeth which was similar to study done in previous literature [2,3]. There was significant association found between decayed, missing and DMFT index with OHIP-14 domains. Research done by Leao and Sheiham and Locker have concluded that the predictive validity of the different available measures currently tested is limited.[10,11] Although these investigations identified statistically significant relationships between clinical indicators and subjective measures, the strength of these associations was, at best, moderate to weak. Atchison and Dolan and Locker and Slade found analogous findings, indicating minimal correlation scores between clinical markers, such as caries.[12,13] Locker and Jokovic believe that these outcomes are not surprising, as health status indicators were not particularly developed as predictive indices.[13] It is recommended that health status metrics be utilised to inform objective needs assessments and may assist in identifying patients who are most likely to benefit from dental treatment. Locker suggests that additional study is necessary to enhance the application of health status measurements for this aim.[13]

The OHIP-14 prioritises psychological and behavioural outcomes, which are more severe and thus less prevalent.[14] A personal interview was favoured over the original self-reported form due to literature indicating that the OHIP-14 in questionnaire format may lead to diminished completion rates and data loss, potentially associated with the participants' educational levels. Literacy difficulties may hinder participants' ability to respond to certain questions in the questionnaire style. Nevertheless, conducting interviews necessitates greater time and resources compared to utilising questionnaires.[15]

This study possesses numerous strengths. The study primarily utilised clinical indicators of oral health status alongside a multi-item OHRQoL scale, revealing substantial associations, particularly regarding the influence of oral health status variables on OHRQoL.

This study represents the inaugural effort to elucidate the perceptions of individuals in Patna, Bihar regarding the impact of dental health on their quality of life. Potential limitations of this study include the convenience sample of patients attending an outpatient department of a hospital, which may affect its interpretation and generalisability. Consequently, the results cannot be generalised to the broader population. The limited sample size may have

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influenced the results on the impact of oral health status factors on OHRQoL. Nonetheless, the observed impact on OHRQoL aligns with prior research. Dental patients may report a more significant impact of their oral health on their quality of life compared to non-dental patients.

Further research addressing these concerns is essential, particularly in diverse socioeconomic and cultural contexts, as these factors significantly influence both oral hygiene status and its effect on quality of life.

CONCLUSION

This study revealed a significant prevalence of oral disorders throughout the community, which therefore affected their quality of life. Decayed teeth, missing teeth and DMFT scores exhibited a significant association with the OHIP-14 categories. From the perspective of dental public health services, there is value in employing OHRQoL instruments alongside traditional measures, particularly when healthcare resources are limited. Findings from these patient-based outcome measures can be utilised to ensure that funding is allocated to conditions most likely to adversely impact the OHRQoL of specific populations.

REFERENCES

1. FH Hirata, S Kurup, P John, J, Joley. Oral health and quality of life assessment within Indian population. Amrita J Med 2011;7:17-23.
2. Lawrence HP, Jonathan M. Broadbent et al.Oral health-related quality of life in a birth cohort of 32-year olds.Community Dent Oral Epidemiol. 2008 August; 36(4): 305–316.
3. Shashidharacharya. Oral health related quality of life and its associated factors in an Indian adult population. Oral health preventive dent 2008;6:175-184
4. M. Al Shamrany. Oral health-related quality of life: a broader perspective. Eastern Mediterranean Health Journal. 2006:12 (6): 894 – 901.
5. Slade GD. Derivation and validation of a short-form oral health impact profile. Comm Dent and Oral Epidemiol 1997;25:284-90.
6. Harikiran AG, Pallavi SK, Hariprakash S, Nagesh KS: Oral health-related KAP among 11- to 12-year-old school children in a government-aided missionary school of Bangalore city. Indian J Dent Res. 2008;19:236- 42.
7. Devaraj CG, Eswar P: Association between socio-demographic factors and dental service utilization among people visiting a dental college hospital in India: a descriptive cross-sectional study. Indian J Stomatol. 2011; 2:212-5.
8. Khan AA, Jain SK, Shrivastav A: Prevalence of dental caries among the population of Gwalior (India) in relation of different associated factors. Eur J Dent. 2008; 2:81-5.
9. Sousa PC, Mendes FM, Imparato JC, Ardenghi TM. Differences in responses to the Oral Health Impact Profile (OHIP14) used as a questionnaire or in an interview. Brazilian oral research. 2009;23:358-64.
10. Leao A, Sheiham A. The development of a socjo-dental measure of dental impacts on daily living. Community Dent Health 1996:13:22-26.
11. Locker D, Jokovic A. Using subjective oral health status indicators to screen for dental care in older adults. Community Dent Oral Epidemiol 1996; 24: 398-402.
12. Atchison KA. Development of the Geriatric Oral Health Assessment Index. J Dent Educ 1990; 54: 680-687.
13. Locker D, Slade G. Association between clinical and subjective indicators of oral health status in an older population. Gerodontology 1994:11:108-114
14. Locker D, Matear D, Stephens M, Lawrence H, Payne B. Comparison of the GOHAI and OHIP-14 as measures of the oral health-related quality of life of the elderly. Community dentistry and oral epidemiology. 2001 Oct;29(5):373-81.
15. Brennan DS, Spencer AJ. Mapping oral health related quality of life to generic health state values. BMC health services research. 2006 Dec;6:1-0.

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