

Oral Health-Related Quality of Life (OHRQoL) Among Diabetic Patients in Nepal An Analytical Cross-Sectional Study

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INTRODUCTION

Oral health-related quality of life (OHRQoL) refers to the impact of oral health on an individual's overall health and well-being, daily functioning, and quality of life.¹ It encompasses physical, psychological, and social dimensions of oral health.

A bidirectional relationship exists between diabetes and oral health: diabetes increases the risk of periodontal disease and other oral conditions, while poor oral health can exacerbate glycemic control and contribute to diabetes-related complications.²

Despite the global burden of diabetes, research on OHRQoL in lower-middle-income countries (LMICs) like Nepal remains unexplored.

AIM

This study assessed OHRQoL among people with Type 2 Diabetes Mellitus (T2DM) in Kavrepalanchow and Nuwakot districts of Nepal.

METHODS AND MATERIALS

- A cross-sectional study was conducted among 481 people with T2DM.
- The study included 20 health facilities as clusters, 20 in Kavrepalanchow, 10 in Nuwakot. Each cluster that was sampled, contained at least 12 people.
- Data were collected using a structured questionnaire, including socio-demographic details, oral health status and OHIP-14 for assessing OHRQoL.
- Kobotoolbox was used as the data uploading platform.
- They obtained written consent from all participants
- Descriptive analysis, test of normality and Bivariate analysis i.e. Chi-square were done using IBM SPSS

Functional limitation	
OHIP1	Trouble pronouncing any words?
OHIP2	Sense of taste worsened?
Physical pain	
OHIP3	Painful aching in the mouth?
OHIP4	Uncomfortable to eat any food?
Psychological discomfort	
OHIP5	Felt self-conscious?
OHIP6	Felt tensed?
Physical disability	
OHIP7	Diet been unsatisfactory?
OHIP8	Had to interrupt meal?
Psychological disability	
OHIP9	Difficult to relax?
OHIP10	Been embarrassed?
Social disability	
OHIP11	Been a bit irritable with others?
OHIP12	Had difficulty doing usual jobs?
Social handicap	
OHIP13	Felt that life is unsatisfying?
OHIP14	Totally unable to function?

Table 1: OHIP-14 questionnaires and its domains

RESULTS

Impact on OHRQoL:

- Higher the score, worse is the OHRQoL.
- 58.4% of participants reported the highest impact on their OHRQoL, defined as an OHIP-14 score above the median.
- Most affected domains:⁴
 - Psychological discomfort (47.4%)
 - Physical pain (31.4%)

OHIP-14 subcategory	Mean \pm SD**	Frequency (%) of impact on OHRQoL***
1 Functional limitation	0.67 \pm 1.37	88 (18.3)
2 Physical pain	1.31 \pm 1.95	151 (31.4)
3 Psychological discomfort	1.96 \pm 2.08	228 (47.4)
4 Physical disability	1.06 \pm 1.86	120 (24.9)
5 Psychological disability	0.55 \pm 1.21	77 (16)
6 Social disability	0.49 \pm 1.20	61 (12.7)
7 Social handicap	0.45 \pm 1.37	51 (10.6)
8 OHIP-14 total	6.49 \pm 8.93	283 (58.4)

Table 2: Frequency impact (%) of oral conditions on OHRQoL and OHIP-14 scores

Impacts by Socio-Demographic Profile:

- Higher impact was observed among:
 - Older adults (50-74 years) ($p < 0.05$).
 - Individuals with lower literacy rates ($p < 0.05$).
 - Did not visit a dentist in the past 12 months ($p < 0.05$).

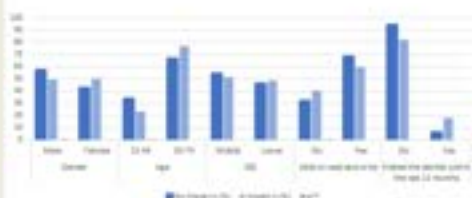


Diagram 1: Frequency distribution of the impacts on OHRQoL.

Association between Diabetes and OHIP-14:

An analysis of HbA1c levels revealed a significant correlation between poor glycemic control and lower OHRQoL scores ($p < 0.01$).

OHIP-14 scores:

Mean score: 6.49 (range: 0-49): Higher the score, worse is the OHRQoL.



Diagram 2: Individual Impact % on OHRQoL.

Highest individual impacts:

- OHIP5: 42.8%.
- OHIP3: 27%.

DISCUSSION

- Over half of participants with T2DM experienced a significant impact on their OHRQoL.
- The findings of this study aligned with the studies from Indonesia, UAE, and Nigeria, which also reported poor OHRQoL among people living with diabetes.⁵⁻⁷
- While access to dental care and out-of-pocket expenses are often cited as barriers for people with diabetes, further investigation is needed to confirm this in Nepal.
- Participants aged 50-74, those unable to read, and those who haven't visited a dentist in the past 12 months had a higher prevalence of OHRQoL impact.

CONCLUSIONS

The findings of this study conclude that OHRQoL among people with T2DM in Nepal was poor. Major factors include low education level and older age. Therefore, there is an urgent need to integrate oral health care into diabetes management in Nepal. Routine dental assessments, oral hygiene education, and community-based oral health services should be incorporated into diabetes care programs.

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