

Original Research Article

Exemplification of dental morbidity and morbidity by Lockers model among lawyers of Bhopal city

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ABSTRACT

Background: The representation of dental morbidity and mortality through the implication of Lockers model was scientifically designed. Main focus of the study to assess the oral health related quality of life among one of the most stressful and preoccupied professionals.

Methods: Descriptive cross-sectional study was conducted among the 250 lawyers of Bhopal city to integrate oral health with quality of life integrated with oral health component. Morbid condition of dentition was assessed by WHO Dentition status and treatment needs 1997 Performa and its application on Leao and Shiham 5 scale questionnaire comparing it with quality of life. Data was collected; the relationship of DIDL scale was compared with each construct of Locker's conceptual model on oral health. The collected data was tabulated using excel and analysis was done using SPSS 17.0 version. Pearson correlation test, ANOVA and post hoc were used to test the significance.

Results: It was observed that 29.6% of lawyers had impaired quality of life due to morbid condition of dentition and mortality related issues. This shows high dissatisfaction on the part of lawyers related to the oral health. All the dimensions of DIDL scale show statically positive correlation with each other eating restriction and DMFT due to missing component and painful incidences were observed.

Conclusions: Dental diseases or problems have definitive effects on individuals' quality of life with different aspects of their oral health concerns. Such morbid condition has high impact on psychological discomfort.

Keywords: Dental morbidity, Dental mortality, Lawyers, Locker's model, Oral health

INTRODUCTION

Occupational setting plays a vital role in the wellbeing of a person. Stressful working condition can affect mental as well as general health of an individual. Lawyers are one of them.

*Lawyers belong to the people by birth and interest, and to the aristocracy by habit and taste; they may be looked upon as the connecting link of the two great classes of society.*¹

Alexis De Tocqueville

According to Black's law dictionary "a lawyer is a person learned in the law as attorney, counsel or solicitor; a person who is practicing law". Working as a lawyer involves the practical application of abstract legal theories and knowledge to solve specific individualized problems or to advance the interest of those who retain to perform legal services.^{2,3}

Occupational life of lawyers is complex. The nature of their job is such that they are subjected to physical, mental and emotional stress. Their work schedule leads to

neglecting or skipping of their regular diet and indulging into adverse habits to combat stress and long working hours. All the above factors might have an effect on general as well as oral health. It is the responsibility of the society to safeguard the health of their defenders.⁴⁻⁷

Oral health means more than good teeth; it is integral to general health and essential for well-being and quality of life.⁸ Oral health-related quality of life (OHRQoL) is a concept which applies to the specific impact of oral disease on day to day functions and overall well-being. Multiple items questionnaires are the most widely used method to assess OHRQoL.

The dental impact on daily living (DIDL) is one of them which assess five dimensions of quality of life. Those are: comfort, appearance, pain; performance, and eating restriction. The measure consists of a questionnaire which assesses the oral impacts on daily living, and a scale, which is a graphical representation of a method developed by Leao to assess the importance respondents attribute to the different dimensions involved.⁹

One of the strengths of the DIDL is that it is purported to be derived from a theoretical framework; namely, Locker's conceptual model of oral health. As such, this multidimensional model provided a scientific framework for understanding oral disease and its clinical, as well as psychosocial consequences. The model states that there are five consequences of oral disease; impairment, functional limitation, pain and discomfort, disability and handicap and that these are sequentially related.^{10,11}

Lawyers play an important role of protecting an individual right and defending his client charged with any of the criminal offences. It is the responsibility of the society to safeguard the general and oral health of their defenders. Data on the oral health status of lawyers is widely unknown and in India no evident data base or literature is documented, thrust to assess the oral health of lawyers, and comparing the various spectrums of dental morbidity to compare it with overall quality of life was an attempt by the present study among the lawyers of Bhopal city.

METHODS

A descriptive study was conducted among lawyers of Bhopal city by recording the spectrum of morbid conditions of dentition and recording the utmost morbidity as mortality of tooth and comparing it with quality of life recorded in 5-dimension scales by Leao and Sheiham as Lockers Model.

Bhopal district consists of 1 session court with a total of 350 lawyers practicing in the court of law. The attempt for census enumeration was made to collect the sample from lawyer population during the course of 2 months from September 2019 till the end of October 2019. Cluster sampling method was employed and 250 lawyers

were examined by the end of the data collection mechanism.

Prior permission was also obtained from the secretary of state bar council of MP to conduct the study in the session court premises to reach maximum lawyers of Bhopal city. The elaborate study proposal was submitted for approval and clearance from the ethical review board of our institution for ethical clearance. Lawyers function categorically and within protocol so written proposal to evaluate the purpose was given to each one of them so that the transparency is maintained to understand the need of the study and written informed consent was collected.

Preceding the study, the questionnaire, Performa, informed consent and pilot study was conducted in order to check the feasibility and validity of the study. All the lawyers registered under bar council was the universe of the sample, those who failed to submit the informed consent and individuals with known chronic medical conditions were excluded from the study. Detailed proforma with demographic details, working hours, years of practice and dentition status and treatment needs WHO 1997 was recorded. DMFT were recorded with mouth mirror and CPI probe under natural light. Auto sterilized instruments were used keeping in mind infection control issues and consumer protection attitudes among lawyers.

The data was collected within various spectrum of morbidity of teeth and the relationship of DIDL scale with each construct of Locker's conceptual model.

Statistical analysis

The data were analysed using the Statistical Package for the Social Sciences (SPSS), version 17 computer software were used using the Pearson correlation, ANOVA and post hoc test. For all statistical analysis significance level was set at $p < 0.05$.

RESULTS

Total two hundred and fifty lawyers were recruited in the study. Ages of the lawyers ranged from 35-55 years (Mean age- 43.51. Standard deviation ± 6.049) and were divided in 4 age groups i.e. group 1 (35-40), group 2 (41-45), group 3 (46-50) and group 4 (51-55). According to years of practice, the lawyers were divided into 3 groups' i.e. group 1, group 2 and group 3 which contain 0-10, 11-20 and 21-30 years of experience respectively.

Aggregated morbid condition of teeth and mortality of teeth satisfaction score of DIDL questionnaire exhibited that 29.6% were dissatisfied with their teeth and over all oral health. Distribution of scores among various DIDL dimension shows that 12.8%, 12.4%, 19.2%, 8.2% and 8.8% were dissatisfied with appearance, pain, comfort, performance and eating restriction dimension respectively as revealed in Table 1.

Table 1: Scores of impaired qualities of life due to varying degree of morbid conditions of tooth among lawyer population of Bhopal city.

Dimensions	Satisfied N (%)	Relatively satisfied N (%)	Unsatisfied N (%)
Appearance	144 (57.6)	74 (29.6)	32 (12.8)
Pain	98 (39.2)	121 (48.4)	31 (12.4)
Comfort	147 (58.8)	55 (22)	48 (19.2)
Performance	138 (55.2)	99 (39.6)	13 (5.2)
Eating restriction	127 (50.8)	101 (40.4)	22 (8.8)
DIDL total score	24 (9.6)	152 (60.8)	74 (29.6)

According to the DIDL scale 51-55 years of age group shows maximum dissatisfaction score of 46.9% followed by 46-50 years of age group while the other two age groups shows minimum dissatisfaction scores.

According to the years of practice 21-30 years of experience group shows maximum dissatisfaction score of 52.6% followed by 11-20 and 0-10 years of practice group.

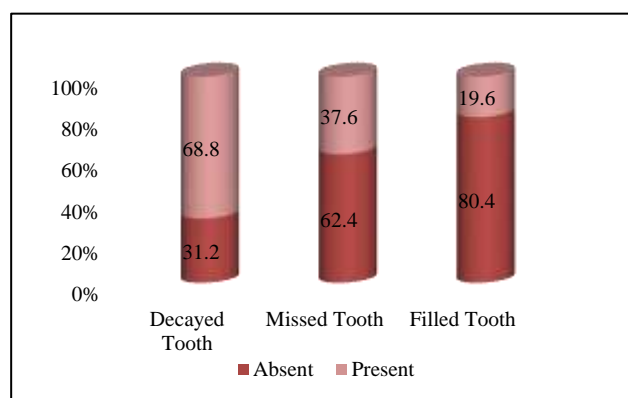


Figure 1: Prevalence of morbid conditions of dentition which impaired quality of life of lawyers.

Prevalence of decayed tooth as morbidity component was 68.8% while the prevalence of missing teeth as highest morbidity or impairment was 37.6%. Oral health care seeking as filled tooth component was 19.6% as shown in Figure 1.

Locker's conceptual model predicts the morbidity and impairment assessed as 69% having dental caries out of which 38% lawyers having impairment of teeth as mortality component depicted as lost or missing teeth. Pain and discomfort due to oral morbidity was assessed as 24% ultimate disability as functional limitation due to loss of teeth was recorded as 68%, masticatory function was impaired so they are not able to eat properly because of teeth so they have disrupted pattern and type of food which ultimately leads to disability i.e. limitations in performing daily activities e.g. unsatisfactory diet causing quality of life related problems and psychosocial issues. Social stigma with poor quality of life was observed

among 45% lawyers leading to handicap stage i.e. it affects the normal societal contacts (social disadvantage) (Figure 2).

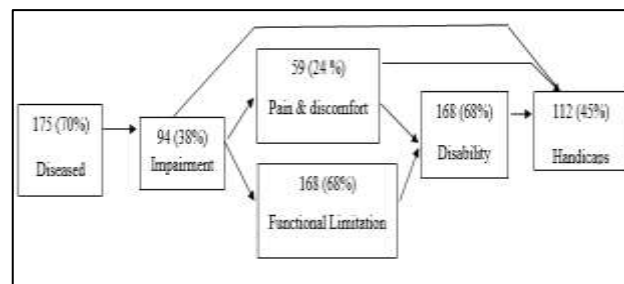


Figure 2: Number of lawyers in each construct of locker's conceptual model of oral health.

DISCUSSION

The impact of health on the quality of life has received attention in both medicine and dentistry. There is an increasing recognition that oral health has a significant impact not only on physical, but also on social and psychological well-being. Quality of life states that 'it is concerned with the degree to which a person enjoys the important possibilities of life'.¹²

Multiple items questionnaires are the most widely used method to assess OHRQOL. The present study utilizes Dental Impact on Daily living (DIDL) questionnaire to assess the oral health related quality of life of lawyers. The present study represents the morbidity and mortality of tooth to compare locker's conceptual model with DIDL scale.

Occupational setting plays a vital role in the wellbeing of a person. Most of the research on OHRQoL has been performed on different occupational groups of population but the present study is the pioneer to described oral health related quality of life of lawyers of Bhopal city. Lawyers being the most educated upper middle class of professionals of our society according to latest version of Kuppaswamy scale of socioeconomic status but still there is a lacuna on their oral health status globally isn't astonishing? Without the communication component attorney would be absolute. The ability to use effective communication in the work place for an attorney is a learned process attorney must be able to speak clearly and concisely which is imperative to success in which Oral health is of imperative importance as aesthetics builds confidence and teeth are of prime importance in conversation.

Present study formulates the base line data on oral health status of lawyers in Bhopal district with appropriate planning of health education program and to association with the oral health related quality of life so that we can provide a vital source of planning oral health program and enlighten our policy makers for further probing in this field.

The reflection of OHRQoL of lawyers using DIDL scale and compares it with locker's conceptual model of oral health which is based on the WHO classification of impairment, disability and handicap, and attempts to capture all possible functional and psycho-social outcomes of oral disorders. Kieffer et al suggested in their study that handicap being judged as having the most severe impact on daily life.¹³ This was expected because handicap is situated highest in the hierarchy then the dimensions lower in the hierarchy of locker's model.

The present study shows that 29.6% of lawyers were dissatisfied with their teeth where in 51-55 age group and 11-20 years of practice group shows maximum dissatisfaction score. Lawyers show more dissatisfaction with comfort followed by appearance and pain.

In the study conducted by Schuster et al in the year 2017 demonstrated that the patients with mean age 65.32 years shows highest dissatisfaction score before IMO rehabilitation treatment in three DIDL domains i.e. appearance, chewing ability, and general performance.¹⁴ Abu Hantash et al in 2011 reported that 14.3% were dissatisfied with their teeth and scored below 0.¹⁵ While the study conducted by Ganesh et al shows that 7.9% were unsatisfied with their teeth.⁹ The present study shows maximum dissatisfaction score as compare to other studies because this study was conducted on lawyers who has busy work schedule and as the age and year of experience increases they are more indulge in their work thus neglect their health or skip their regular diet and indulge into adverse habits which leads to poor general as well as oral health.

The morbidity as dental caries was 68% in the present study. Comparing the study by Subhajit et al in 2019 among coast guard personnel in Mangalore showed that participants had poor oral hygiene with a dental caries prevalence of 62.9%, and periodontal disease prevalence of 81.9%.¹⁶

Naveen et al study result shows that the prevalence of dental caries was 67.2% which was equivocal to the present study as the professional groups were similar in preoccupation and stress due to their irregular work shifts so they were not able to concentrate on their oral health.⁵

Ramandeep et al shows 54.3% of caries prevalence is 23.6% in police personnel in police station of districts while Ahuja et al in 2003 shown that the prevalence of dental caries was 38%.^{17,18} Dissimilar results with the present study because as the time precede the work load increases and the oral health status became worse so the present studies show high prevalence of dental caries.

Lockers' conceptual model shows that disease, functional limitation and social physical and psychological disability are the most affected construct while the pain/ discomfort and impairment are the least affected construct of this model. Locker's model shows that the lawyers of Bhopal

city are more affected by dental diseases that is the oral health status of lawyers were modest. Due to dental disease the quality of life of lawyers were impaired as shown in each construct of locker's model. If the disease is still in pathogenic phase or it is left untreated it will lead to various destructive symptoms of disease which ultimately affects the day to day life of individual as shown in the present study. The present study shows that due to poor oral health status the other domain of locker's model of oral health is also affected. According to construct of locker's model after disease stage the individual can lead to impairment stage that is structural abnormality of dentition for the reason individual restrict their body function that is not able to eat properly or cause pain and discomfort which also cause restriction in performance of their daily activities e.g. unsatisfactory diet this will lead to the next construct of model that is physical, psychological and social disability. Due to these unfavourable effects of disease the social contact of the individual is affected namely handicap stage which is the last stage of the model.

The present study shows that the 70% of lawyers were in diseased stage, 38% were in impairment stage, 68% were in functional limitation stage, 24% were in pain and discomfort stage, 68% were in disability stage and 45% were in handicap stage of locker's conceptual model of oral health. So the diseased, functional limitation and disability stage were the most effective construct of the model of oral health.

The Study done by Baker et al shows 64% of participants were in pain and discomfort stage, 76% having psychological impact, 86% were in functional limitation, 31% in social disability and 82% were in handicap stage while the study conducted by Nuttall et al concluded that pain and psychological discomfort being the most frequently reported problems; social physical and psychological disability being in the middle of the order; and handicap being the least frequently experienced problem.^{10,19} Other studies show dissimilar results with present study because this study was done on highly educated group of people whose perception towards health is more as compare to other groups furthermore any complexity in their oral health such as pain and discomfort will affect their day to day activity and their work schedule so before moving to complication stage of disease the patient get treatment so in the hierarchy of model the other rear constructs are less affected than the preceding construct of lockers' conceptual model of oral health.

The events described by dimensions higher in the hierarchy are judged as having a more severe impact on quality of life than events described by dimensions lower in the hierarchy.

The findings of present study illustrate that the lawyers are mainly inflated in performing their daily activities, eating restriction and social contact with the people due to

dental diseases. So the lockers model clearly demonstrate that the poor oral health status deteriorate the quality of life of individual which will restrict their daily activities and hence affect their professional life too.

The study is limited only on the lawyers of Bhopal city so to generalize the findings of this study and for planning a oral health promotion program for this particular group further research on oral health status and oral health related quality of life of lawyer's is essential.

CONCLUSION

This study reveals that dental diseases have definitive effects on patient's satisfaction with different aspects of their dentition. Thus oral health affects general health, quality of life and well-being of people. The sample of lawyers provides a unique opportunity to study a large population from diverse socio- economic and geographic backgrounds.

Due to lack of information and background research, the study reflects a need to conduct further studies in other lawyers of different districts and states. The adverse outlook of this occupation makes it necessary for the government to provide dental facilities for lawyers with appropriate management. At least 1 dental Clinics equipped with efficient manpower, especially for the lawyers or to regularly organize treatment camps at various district courts to avoid the negative effects of dental morbidity on quality of life.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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