

Knowledge Attitude and Practice of Dental Practitioners towards Palliative Dental Care: A Cross-Sectional Questionnaire Study

Abstract:

Introduction

Palliative care is active total care of patients whose disease is not responsive to curative treatment. In a multidisciplinary approach for rendering palliative care, a dentist's role is vital, but overlooked. Oral cavity is home to numerous microorganisms aggravating disease process. A trained dentist helps treat and manage oral manifestations of systemic diseases from diagnosis to relief from pain and discomfort. Dental expression in palliative care is extended dental services to provide preeminent feasible oral care to terminally ill or advanced diseased patients. Oral conditions impact quality of life of patients and initiation and progression of these lesions may be related to the succession of disease, its treatment or both.

Objectives

To evaluate the knowledge, attitude and practice of dental practitioners towards palliative dental care.

Materials and Methods

A cross-sectional observational questionnaire-based study conducted on 50 dental academicians and practitioners across Mumbai which included specialists in Oral Medicine, Oral Surgery, Prosthodontics and Oral Pathology. A closed-ended, pre-tested, self-administered questionnaire would be prepared for the study.

Results

All participants completed their masters in dental surgery. Eighty five percent participants had come across patients requiring palliative care. All except 4 male and 1 female respondent acknowledged importance of palliative care in dentistry. 56.8% participants were aware of hospitals providing palliative dental care. All participants considered palliative care to be interdisciplinary. 94 participants believed dental problems to be common in palliative care. Majority respondents suggested a sugar-free diet while 19 proposed a spicy diet for cases requiring palliative care. Fluoride based mouthwash was recommended by 40 participants and 30 recommended chlorhexidine based while 10 preferred alcohol-based. While 70 participants had not attended any seminars, workshops, symposiums and/ or conferences on palliative care, 80 were willing to do so.

Introduction

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Palliative care tends to neglect dental care or dental professional despite the fact that patients do exhibiting oral problems including xerostomia, candidiasis, mucositis, and loss of masticatory function, drooling, sore mouth, coated tongue, plaque, periodontitis, taste changes, halitosis. Functional impact included difficulties in swallowing, speaking and eating, food restriction, sense of oral dryness and pain, which resulted in lack of food enjoyment. Patients at the end of life are susceptible to a range of oral complications, including pain, salivary gland dysfunction, dysphagia, and oro-mucosal infections. Swallowing disorders may lead to aspiration pneumonia, which can directly contribute to mortality. (Wiseman, 2000), (Saini, Saini and Sugandha, 2011), (Riley, 2018), (Nathaniel S. Treister, 2020), (Dhaliwal *et al.*, 2020). Palliative care deals with patients in the end phase of their life. (Bhatia, 2012) Palliative care is an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and

other problems, physical, psychosocial and spiritual. (WHO / WHO Definition of Palliative Care, no date) World Health Organization define palliative care as the active total care of the patient whose disease is not responsive to curative treatment. (Saini *et al.*, 2009) Palliative care in dentistry has been defined as the study and management of patients with active, progressive, far-advanced disease in whom the oral cavity has been compromised either by the disease directly or by its treatment; the focus of care is quality of life. (Hegde and Bhimavarapu, 2017) Oral care in palliative care (OCPC) focuses on the principle that the fundamental for oral integrity is good oral hygiene. (Syam, 2019) Palliative care is an interdisciplinary medical specialty that focuses on preventing and relieving suffering and on supporting the best possible quality of life for patients and their families facing serious illness. (Nathaniel S. Treister, 2020) Palliative care for the terminally ill patient is based on multidimensional philosophy to provide whole person comfort and maintaining optimal function. Dentist can have a significant role in the care of these patients by providing total, active comfort care of the oral cavity by alleviation of pain and prevention of infection from oral cavity because the function of the oral cavity is essential to the patient's ability to thrive. (Jamil, 2016) Many terminal patients exhibit oral difficulties that affect their quality of life. Disease and discomfort of the mouth cavity and teeth are integral and obvious in terminally ill patient. (Jamil, 2016), (Mulk *et al.*, 2014), (Wiseman, 2000). Many oral conditions, such as poor oral hygiene, broken teeth, defective restorations and periodontal disease, are likely to precipitate complications during and after a course of radiation therapy. Hence a multidisciplinary approach including general physician, oncologist, radiotherapist and oral physician, may reduce the oral & general debilities that influence the patient's ability to speak, eat or swallow. (Hegde and Bhimavarapu, 2017) Large proportion of palliative patients lose their ability to communicate their sufferings. Therefore, it may lead to under-reporting of oral conditions among these patients. (Dhaliwal *et al.*, 2020) Dentist plays an essential role in palliative care by the maintenance of oral hygiene; dental examination may identify and cure opportunistic infections and dental disease like caries, periodontal disease, oral mucosal problems or prosthetic requirement. Oral care may reduce not only the microbial load of the mouth but the risk for pain and oral infection as well. (Saini *et al.*, 2009) The current questionnaire study was conducted with the aim to evaluate the knowledge, attitude and practice of dental practitioners towards palliative dental care.

Materials and Method

A cross-sectional observational self-administered questionnaire-based study was conducted on 102 dental academicians and practitioners across Mumbai which across all specialists A 12-point closed-ended, pre-tested, self-administered questionnaire was for the study. KAP questionnaire was designed to assess their knowledge on oral care in palliative care patients, their attitude towards such patients and their practice regarding management of palliative patients. The questionnaire was pre-tested. A pilot was conducted to test the questionnaire. the participants of the pilot were included in the final study. The validation of the questionnaire too was carried out. The respondents filled and submitted the questionnaire to the investigator immediately. All those present and willing to fill the questionnaire were included. Those not available on the day of the survey or not willing to filling to fill the questionnaire or incomplete questionnaires were excluded. Of the total of 105 participants approached, 102 were completed as per the requirements and were used in the final analysis. Prior to conducting the study, the ethical approval was taken from the Institutional Review and Ethics Board, School of Dentistry, DY Patil University, Navi Mumbai.

Statistical Analysis

Descriptive and inferential statistical analyses were carried out in the present study. Results on continuous measurements were presented on Mean \pm SD and results on categorical measurement were presented in number (%). Level of significance was fixed at $p=0.05$ and any value less than or equal to 0.05 was considered to be statistically significant.

Chi square analysis was used to find the significance of study parameters on categorical scale.

The Statistical software IBM SPSS statistics 22.0 (IBM Corporation, Armonk, NY, USA) was used for the analyses of the data and Microsoft word and Excel were used to generate graphs, tables etc.

Results:

The study was conducted on 102 subjects (52 males and 50 females). All the participants had completed their masters in dental surgery. The different specializations are described in table 1

Eighty five percent, including 43 female participants had come across patients requiring palliative care.

It was noted that all except 4 male and 1 female respondents acknowledged the importance of palliative care in dentistry

Barely 56.8% participants were aware of any hospitals providing palliative dental care to patients

Interestingly, all participants considered palliative care to be interdisciplinary, though 3% did not consider it to be important in dentistry

The study revealed that 94 participants, equally divided males and females believed dental problems to be common in palliative care, and 42 said preventive care alone is sufficient and 15 believed a combination of preventive, curative and educational approach is the best method. Standalone curative and educational approach was suggested by 12 and 26 participants respectively while 7 propagated preventive and educational approach

53.9% respondents recommended a comprehensive care while the rest advocated for incremental care

Table 2 details the kind of dental problems observed in cases requiring palliative care,

Majority of the respondents (83) suggested a sugar-free diet while the rest (19) proposed a spicy diet for cases requiring palliative care

Fluoride based mouthwash was recommended by 40 participants and 30 recommended chlorhexidine based while 10 preferred alcohol-based. The rest preferred different combinations as presented in table 3

While 70 participants had not attended any seminars, workshops, symposiums and/ or conferences on palliative care, 80 were willing to do so.

The questionnaire was divided into a knowledge, attitude and practice and their responses were clubbed. They are described in the tables 4

There was not much difference in the participants with the years of experience as 53 (29 male) and 49 (26 female) had less than and more than 15 years of experience

Chi square test presented a significant difference in oral conditions with years of experience at $p \leq 0.05$ as most participants (14) with over 15 years' experience said the all the mentioned condition – dental caries, periodontal conditions and opportunistic infections were noted and an equal number pointed out opportunistic infections and periodontal disease to be observed. As against this, 12 participants with less experience reported presence of periodontal disease only or combination of periodontal disease and opportunistic infections each. Likewise, a significant difference was noted with specialization and oral diseases with orthodontist reporting all mentioned oral diseases to be observed while prosthodontists, oral medicine, diagnosis & radiology and oral pathologists mentioned periodontal disease and opportunistic infections. Pedodontists reported combination of dental caries and opportunistic infections. None of the other parameters presented a significant difference.

Discussion

Dental expression in palliative care is with the goal to provide pre-eminent feasible oral care to terminally ill or far advanced disease patients, where oral lesions greatly impact on quality of life of patients, also the initiation and progression of oral lesions may be related to direct or indirect succession of disease, its treatment or both. Many terminal patients exhibit oral difficulties that affect their quality of life. Disease and discomfort of the mouth cavity and teeth are integral and obvious in terminally ill patient. (Jamil, 2016), (Mulk *et al.*, 2014), (Wiseman, 2000)

Hedge S et al in a study on Oral Medicine postgraduates and faculty noted a significant difference in some questions related to knowledge and attitude. (Hegde and Bhimavarapu, 2017) However, in the current study, there was no significant difference in the responses among the participants by their profession. This could be attributed to the fact that in the current study, all the participants had a postgraduation completed and hence the difference in knowledge and attitude.

All the participants in the current study acknowledged that palliative care is interdisciplinary. Likewise, a study in dental colleges in rural India, it was seen that two third of the participants had a similar response.

Palliative care tends to neglect dental care or dental professional despite the fact that patients do exhibiting oral problems including xerostomia, candidiasis, mucositis, and loss of masticatory function, drooling, sore mouth, coated tongue, plaque, periodontitis, taste changes, halitosis. Functional impact included difficulties in swallowing, speaking and eating, food restriction, sense of oral dryness and pain, which resulted in lack of food enjoyment. Interestingly, almost all participants in the current study and the study by Saini R et al observed the role of dentistry in palliative care. Patients at the end of life are susceptible to a range of oral complications, including pain, salivary gland dysfunction, dysphagia, and oro-mucosal infections. Swallowing disorders may lead to aspiration pneumonia, which can directly contribute to mortality. (Wiseman, 2000), (Saini, Saini and Sugandha, 2011), (Riley, 2018), (Nathaniel S. Treister, 2020), (Dhaliwal *et al.*, 2020)

As against the study in rural colleges in India, the participants in the current study stated that periodontal disease was the most common disease observed followed closely by opportunistic infection and dental caries. (Saini, Saini and Sugandha, 2011) The common oral problems encountered in palliative patients include xerostomia, mucositis, candidiasis, dental caries, periodontal diseases, taste disorders, etc. Patients with terminal end stage are usually prone to caries and periodontitis. Candidiasis has an incidence of 75-80% in palliative care patients primarily due to xerostomia. The treatment includes use of anti-fungal therapy systemically or locally. (Bhatia, 2012) (Mulk *et al.*, 2014), (Karina da Costa Lima SOUTO, Diego Belmiro do Nascimento SANTOS, 2019)

A study by Shyam S et al on dental graduates noted dry mouth to be the most common prevalent oral symptom among patients. studies by Gordon SR et al, Aldred MJ et al and Jobbins J and Ant D et al presented similar results.

Preventive therapy includes maintenance of meticulous oral hygiene, frequent visits to dentist, supplemental fluoride, remineralizing solutions and noncariogenic diet.

Healthcare professionals should ensure patients adhere to the following:

Brush twice a day using a fluoride toothpaste

Try to spit out after brushing, do not rinse

In some cases, a baby toothbrush may be easier if brushing becomes difficult

Change toothbrush if oral infections present

Dentures should be removed if they are uncomfortable, ensuring they are removed at night and stored in water

In case of fungal infection, dentures should be cleaned thoroughly and soaked in sodium hypochlorite for 15 minutes twice a day. If denture is chrome, soak in chlorhexidine mouthwash.

Symptomatic therapy including water intake, oral rinses and gels, alcohol free mouthwashes, humidifiers, topical salivary stimulants like sugar-free gums, artificial salivary substitutes, systemic secretagogues are recommended. The oral care in palliative care focuses on good oral hygiene to be fundamental for oral integrity. The common management options for xerostomia are drug and medical treatments, lubricating lips and mucosa, acupuncture, and standard oral care which improved dry mouth of the patients. Early clinical diagnosis of the oral lesions or conditions in the palliative patients should be done and appropriate actions must be instituted to minimize pain and suffering through symptomatic treatment to treat and prevent complications of oral conditions. Radiation caries, sequelae of hyposalivation as there is shift toward the cariogenic microorganisms. It can be prevented by using fluoride agents and maintaining oral hygiene. Similar observations were noted in the current study too. Just about half the participants opted for fluoride-based mouthwashes, while the rest preferred chlorhexidine or alcohol-based rinses. (Bhatia, 2012), (Saini *et al.*, 2009), (Dhaliwal *et al.*, 2020) (Mulk *et al.*, 2014), (Riley, 2018), (Mol, 2010)

Knowledge regarding palliative care was adequate in health care providers. Little over one third of the health providers opted to start palliative care early, whereas the majority of the population did not know about early intervention. (Gopal and Archana, 2016) The knowledge regarding palliative care in terms of the availability of care, the scale of care required, role of dental professionals, the dental problems etc. were known to most of the participants.

Only few in both groups were willing to provide financial support according to Gopal SK *et al.* Even though qualities and services provided were known by both the groups, referral to palliative care centers was not done by general population and health care providers. (Gopal and Archana, 2016) Exactly half the respondents in the current study had a positive attitude towards palliative care.

Conclusion

The current survey was carried out to evaluate the KAP of dental practitioners and academicians in Mumbai regarding palliative care in dentistry. There were some limitations with the survey regarding the sample size and certain questions which could have been more detailed so as to obtain a more comprehensive view. However, it was highlighted convincingly that there is need to focus on integrating palliative care in the practice and this aspect needs to be taught at different levels to sensitize and train the practitioners regarding the importance and approaches of dental application of palliative care. The important aspect is there is willingness among the practitioners to learn and evolve in the field. With an ever-increasing geriatric population, improving life-expectancy it is inevitable that dental practitioners to evolve and provide improved oral quality of life to patients.

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Specialization	Number of participant s Subjects (%)
OMR	9 (8.8)
Oral Surgery	9 (8.8)
Pedodontics	10 (9.8)
Oral Pathology	8 (7.8)
PHD	3 (2.9)
Prosthodontics	13 (12.7)
Periodontics	20 (19.6)
Orthodontics	15 (14.7)
Conservative Dentistry & Endodontics	15 (14.7)
Total	102 (100)

Table 1

Dental Problem	Frequency (%)
Dental caries	5 (4.9)
Opportunistic infections	8 (7.8)
Periodontal disease	18 (17.6)
Dental caries, Opportunistic infections, Periodontal disease	25 (24.5)
Opportunistic infections, Periodontal disease	26 (25.4)
Dental caries, Periodontal disease	16 (15.6)
Dental caries, Opportunistic infections	4 (3.9)
Total	102 (100)

Table 2

Mouthwash	Frequency
Alcohol-based	10 (9.8)
Chlorhexidine based	30 (29.4)
Fluoride based	40 (39.2)
Chlorhexidine based; Fluoride based	20 (19.6)
Alcohol-based, Chlorhexidine based, Fluoride based	2 (1.9)
Total	102 (100%)

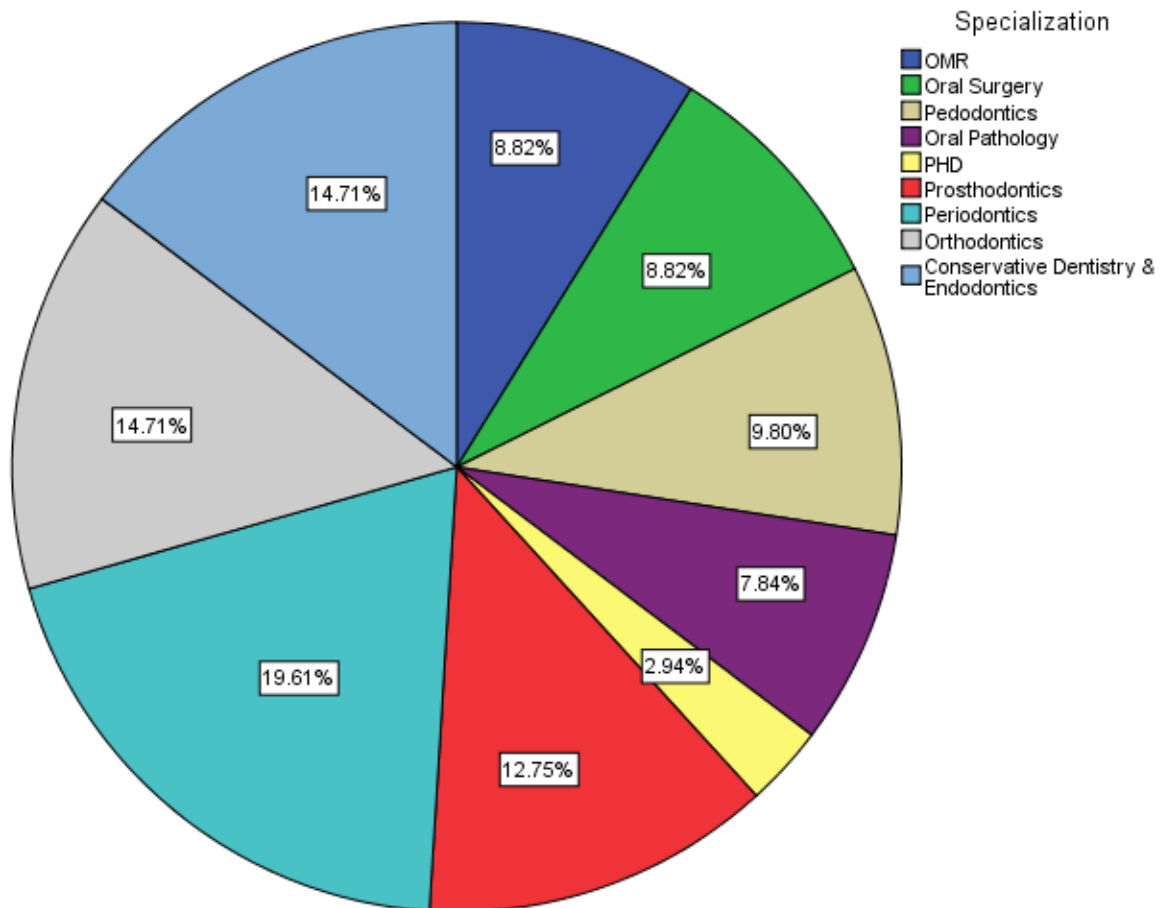
Table 3

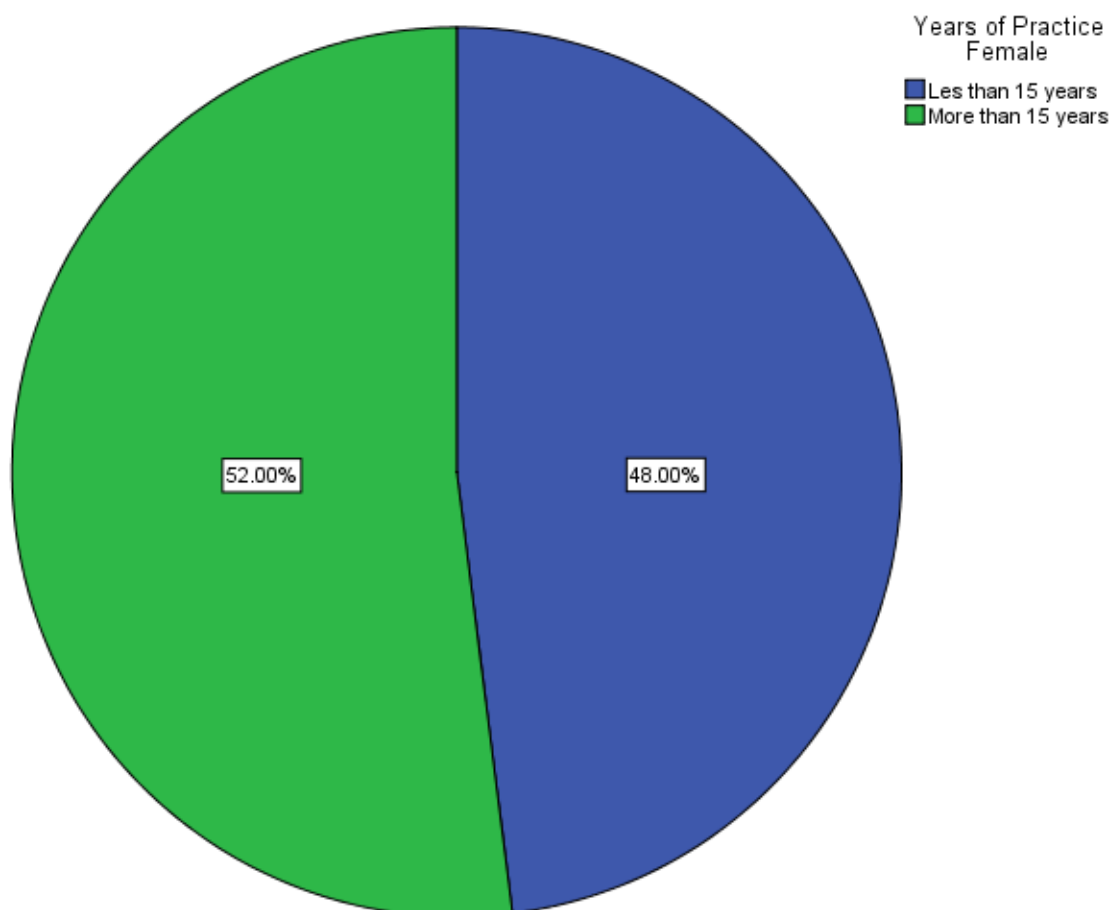
	Yes (%)	No (%)	Total (%)
Knowledge	337 (82.5)	71 (17.4)	408 (100)
Attitude	112	92	204 (100)
Practice	231 (75.4)	75 (24.5)	306 (100)

Table 4

Years of Experience (%)	
Less than 15 years	53 (51.9)
More than 15 years	49 (48)
Total	102

Table 5





Legends:

Table 1: Participants of different specialization

Table 2: Which oral conditions are observed in cases requiring palliative care?

Table 3: Which mouthwash would you recommend?

Table 4: Knowledge Attitude Practice overall

Table 5: Years of experience

Figure 1: Specialization

Figure 2: Years of Practice Females