Chapter

Why Are We Missing the Teeth? Addressing Oral Care Neglect in the Palliative Patient

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Abstract

Palliative care is meant to comfort and console the mind, body, and spirit of the individual nearing the end of life to improve the quality of one's existence. It focuses on those with symptoms and stressors secondary to serious illnesses such as in cancer, pneumonia, Parkinson's disease, Alzheimer's, hypertension, diabetes, and microbial diseases. For several reasons, however, oral care and the consequences thereof in most cases go without notice for these patients. Further, the dentist is rarely, if ever, listed as necessary staff in hospice care programs. Because terminal patients' symptoms can include depression, pain, anxiety, loss of appetite, nausea, fatigue, among other issues, all related to speaking, chewing, and deglutition, this chapter will discuss why care of the mouth and dentition is typically lacking both in at-home and institutional environments, why such care is necessary, and best to meet the oral needs of patients in the later stages of life.

Keywords: oral care, ethics, end of life, palliative, dental/medical collaboration

1. Introduction

Properly implemented dental care is necessary not only for having a healthy, long lasting dentition, but also in maintaining overall systemic health and in promoting a sense of well-being. This is understandably true for the general populous, and is wholly acknowledged as such; yet there is an element of neglect in that sector of care dealing with the institutionalized elderly and infirmed.

Hospice and long-term care philosophy typically enshrouds palliation for the terminally ill and frail elderly, whose quality of life must include all aspects of comfort care management. Too often, however, medical and dental professionals and caregivers under their charge in both nursing homes and institutions simply do not elect to carry out oral care to any viable or reasonable extent. This may be from several reasons, such as difficulties encountered in patient compliance, issues with staff shortages, a sense of futility, and quite frequently an overall lack of education as to why regularly and properly implemented oral care for those unable to maintain adequate oral hygiene procedures without assistance must be given prioritization in the comfort care daily routine.

Having spent 25 years contracted with a nursing home in which I perform semi-annual oral evaluations on resident patients, and in visiting other such locales in the region, I have often witnessed the inadequacies common to most institutions where oral evaluation, preventive techniques, and palliative care of the mouth

are sorely lacking. In an effort to improve the standards of oral management in the dependent and incapable, I would urge all medical institutions to mandate that a dentist be on staff, and that minimum standards programs be instituted as are appropriate, yet this is seldom the case. Even in a local faith-based hospice for which I am the gratis dental consultant, I am not listed as a member of the staff team, but rather as a volunteer.

There are multiple obstacles to be overcome to correct these inadequacies, but with compassion, candor, and competency these challenges are indeed surmountable.

2. Addressing oral care neglect in palliative care patients

In dental school in the eighties, I was offered one course on geriatric-centered care that required the students to spend a couple days observing at a nearby nursing facility, going from room-to-room with an instructor. There was, as is typically the case, no functioning, physical dental clinic. Some patients were seen by us at bedside, but with little overhead lighting. We held flashlights for one another. We gave up rather quickly on those who were combative to any extent. Positioning was difficult in many patients who were less limber than others. Nonetheless, it wasn't these incongruencies with which I take issue, but rather the fact that so little time was afforded to us students to learn to treat these types of patients and that we felt as though the paltry care we were able to administer was likely of little benefit.

2.1 Why oral care is vitally important in the terminal and dependent patient?

Palliative care serves essentially to inhibit an existence of pain and suffering. [1] The World Health Organization (WHO) defines palliative care as: an approach that improve the quality of life of patients and their families facing the problems associated with life-threatening illness, for the prevention of a life of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial, and spiritual. [2]

Dental care is a fundamental part in management of patients with advanced disease, and oral care must become ensconced in the total care palliative philosophy to best maintain life quality. [3] Sischo and Broder describe a quality of life that focuses on oral health as it relates to functional and emotional well-being, expectations and satisfaction with general care, and an overall sense of self. [4]

To be certain, poor oral health can negatively affect nutrition, comfort, and social issues. [5–10] Jobbins found Candidiasis in 85% of patients studied, which can cause burning and dry mouth [11], such that palliative care is often required. [12–14] These burning and discomforting circumstances can also lead to anorexia, difficulty swallowing, problematic respiration, and inhibited verbal communicative ability. [15] Additionally, in patients with poor oral hygiene, the "bonding" that occurs with family and friends and even professional care givers can be impeded in instances of oral neglect due to offensive halitosis, unattractive tooth loss and rampant decay, heavy plaque and bleeding gums. [16] To avoid these circumstances, it is vital that all attempts possible be made to assure that the patient feels fresh, welcomed by others, and retains dignity as much as is possible.

Further, periodontal disease is a very common problem among the elderly, being linked to 46% of American adults between the years of 2007 and 2012. [17] This disease of the tissues that hold the teeth in place can create systemic medical conditions such as aspiration pneumonia [18] as well as heart disease, diabetes, and cancer. [19] Periodontitis results in the release of inflammatory cytokines, growth

factors, prostaglandins, and enzymes [20], and results in many ramifications, ranging from a depressed mental state to renal disease. [21]

Of even greater interest due to its relevance in more recent times, perhaps, is the fact that a 2020 study out of the University of Toronto has stated that there is evidence showing that patients with periodontal disease may be much more likely to have heightened issues with COVID-19. [22] This is likely because in patients with active and untreated periodontal infection, already-circulating neutrophils are more excitable and ready to attack in a rather hyper-vigilant nature after a second infection, such as a viral load, is introduced into the body. The authors explain further that this cascade of events creates a susceptibility towards damage within one's body from these "primed" infection fighting cells to destroy affected tissues and organs more readily, leading to more negative outcomes. [22] This may explain why some have far more hasty and deleterious pulmonary and renal issues from COVID-19 as compared to those individuals who have no symptoms whatsoever.

In my experience, another very real challenge with oral issues in the elderly and infirmed relative to COVID-19 has been that governmental limitations on visits to nursing homes and other such institutions has impeded my getting in to perform my monthly preventative screenings over the course of the past year. This may be more inconsequential for the patient who is alert and communicative and can request an emergency visit from or to a dental professional; however, in those patients who are suffering from pain without giving outward signs of such may have issues that can only be discoverable via an on-site oral examination. This oversight does not bode well in cases such as these, and it puts into play a storm of conflicting ethical principles.

Further, in my recent visits to the home of one particular hospice patient whose diagnosis was terminal, I was there strictly to offer emotional support to the spouse. I would simply bring groceries whenever requested by the husband, who only asked for goods to be delivered that his wife needed for sustenance. It was obvious that he was not only depressed from his wife's condition, but also from the restrictive isolation he was going through socially from COVID restrictions. It was just the two of them-alone-except for the care extended by the hospice facility. I would imagine that this, and the fact that he was wheelchair-bound, made life exceptionally burdensome for this couple and others like them.

2.2 Why care of the mouth and dentition is typically lacking in the institutionalized infirmed

Some see this demand for more meticulous oral care as being futile.

It is not uncommon to find apathy among professionals and their staff members who view treatment at this level as being redundant, burdensome, unpleasant, and unfulfilling. [9] Others may feel that meticulous oral care may be "overdoing it" in these more intolerant and sickly cases. [23, 24] Thus, it is out of concern for the patients that they inadvertently neglect that oral component of care that they do not understand to be a necessary part of therapy. Still others do not like to have to restrain, force, or argue with many patients to clean their mouths or to remove their dentures, so the feat goes underperformed day after day. Plaque accumulations from both teeth and gingiva can get into the lungs and have been noted as the cause for the prior-mentioned aspiration pneumonia. [18]

A lack of supplies afforded to staff may also account for reasons of neglect. Are there toothbrushes, non-toxic toothpastes, denture storage cups and denture cleaning tablets available? Are there natural oils for caregivers to use for coating and soothing dry and burning oral tissues?

Some see this demand for more meticulous oral care as absorbing precious staff time.

And the institution in which I work, it seems that all employees are for the most part already so busy that I cannot see how time could be allotted to attend to patients' mouths with regularity, except to develop a very efficient method that is part of the daily protocol. Such a plan has yet to be established in the vast majority of institutions as far as I am able to tell.

For example, is there adequate lighting, and if not, can an institution afford to have one staff member hold a light while another performs hygiene … and is this to be done daily, twice daily, or more? Should headlamps be purchased for each caregiver? Further, manipulating patients into positions that afford one better oral visibility in attempting bedside care can be physically taxing to those staff delegated to this function.

Certainly, since many auxiliary staff are not trained in dental schools, as are healthcare professionals, to become conditioned to working in another person's oral cavity, it can be daunting to some who must become so closely approximated to the mouth and have to deal with the unpleasantries of the smells and sights of plaque, halitosis, periodontal disease and the like.

Some see this demand for more meticulous oral care as reimbursing too little for the amount of time it takes to accomplish needed tasks.

In most cases, and perhaps even in most countries, the reimbursement fees for oral care whether for maintenance or restorative procedures in these aged and infirmed is little more than paltry. Typically, in the United States, Medicare and Medicaid funding for oral conditions is only available where medical illnesses are secondary to dental injury or disease, such as with an abscess that brings many to an emergency room. One problem with neglecting regular exams in the aged infirmed is that many individuals cannot describe their pain or even indicate that there is any discomfort whatsoever, and these infections may ultimately prove to be an undocumented cause of death.

For those patients who can verbally communicate that they are uncomfortable and have pain, it is imperative that the caregiver check for allergies and other medications being given to the patient that may not be compatible with a particular pain medication being considered for therapy. One also must be cognizant of the fact that pain medications may make these already frail patients more likely to fall or become disoriented and more confused than is normally the case. Further, it is certainly advisable to use the lowest dose and least number of pills possible for managing patient pain, and to avoid opioids, if at all possible, by using alternating doses of nonsteroidal inflammatory drugs with acetaminophen where tolerated. [25]

Distress experienced during injections may also be reduced by use of a controlled flow anesthesia system [26], and in some cases very loose teeth may be extractable with the use of a xylocaine viscous gel or topical anesthetic so as to avoid the stress of dental injections to accomplish the necessary treatment.

2.3 Moving forward to best meet the oral care needs of institutionalized patients requiring palliation

With so many questions, there seem to be very few answers in addressing this severe shortfall in caring for the oral soft tissues and dentition in this vulnerable population. But we must start somewhere, and that begins with shunning apathy and embracing the awareness that there is much ground to be gained if those who can make a difference will work towards eldercare dental equity. This starts most particularly with dentists, their staff, hospice and long-term care institutions, as well as their staff managers, physicians, nurses, and aides, all working in tandem

for planning, implementing, and assessing dental programs within each healthcare setting.

Dentists must first evaluate the institutional setting in mind for enhancing change of oral care practices. Then, the dentist should consider those capabilities for stepping up oral care to levels that are reasonably within reach. After meeting with the staff administrator, and possibly even the medical staff as well, the two entities should then discuss how to implement the envisioned changes, taking into consideration the limitations the institution has therein.

For example, they should together decide if conditions exist for their patients to be evaluated yearly, biannually, or perhaps even monthly, which time frame will depend on the total number of individuals within the institution and the availability of staff as resources to help organize the entire patient "recall system". Thus, if the dental team can perform an oral exam or screening on 15 patients in one day, and the dentist is able to work for that entity one day a week, approximately 60 patients could be evaluated and their treatment plans customized/altered as need be each month. If, then, there are 180 patients in the facility, all could be covered within a three -month time frame, and this institution might well have each patient seen quarterly. However, were the dentist to only work once a month, then the patients within the facility may only receive an annual evaluation.

Of course, deflecting apathy starts with proper training, and this begins through advocacy education within the dental school itself. Schools are urged to develop a dental curriculum for "justice", placing a heavier emphasis on basic dental care for those with mental health and physical disabilities, geriatric dentistry, and nursing home oral health care. [27] Students should know that lower-paying positions and charitable services should be considered where need is significant, even if done on a limited basis. Rozas et al. speak of the "wide gap in knowledge regarding effective methods" specific to oral care in patients with dementia. [28] Oftentimes, a school can make a significant impact in a local healthcare community by sending its students to such sites on rotations, following proper planning and protocol education.

So that care can carry on properly once the dental staff is gone for the time being, the dentist must teach caregivers to make time for patients overall needs, as is practical within the scope of their environs. This program must have the goal of helping the staff implement a long-lasting oral maintenance program as efficiently and fiscally responsibly as is possible, customized to each individual patient's needs. Ellershaw and Ward are proponents of having in the curricula of all healthcare professionals those necessary educational objectives relating to the oral care in the dying. [29]

Some facilities may be able to set up an actual fully functional dental clinic complete with an air compressor, suction, reclining chair, overhead light, and amenities necessary to carry out cleanings and basic restorative procedures. They may be able to cleanse each patient's mouth after all meals. However, other entities may be unable to do little more than remove a patient's dentures nightly and soak them in a cleansing bath, hand a toothbrush and toothpaste to those capable of at least some semblance of self-care, and to attempt to clean the mouths of the remaining patients who are totally dependent for their personal hygiene. At least this would likely be an improvement over prior facility practices, and that is a start in the intended and right direction.

In all frankness, it is extremely rare for a nursing home, hospital or hospice to have a dedicated dental office, while it is much more common that there is absolutely no dental care afforded to patients by staff. In my experience, if a denture comes in and out easily, the cognizant patient is likely left to manage this at his or

her discretion. In cases where the patient is demented, combative, or has a denture that is difficult to remove, or one that is causing sore areas, the denture is removed and put into a drawer or storage cup.

Moreover, without patients' being monitored for loose teeth, oral cancers, and large areas of decay, some teeth shop exfoliate during meal time, going without notice, while other patients experience pain that they cannot communicate vocally or otherwise. It is for patients such as these, as well as for those who still yearn for their regular oral hygiene protocol, that we owe our attention and service, compassion and soothing touch.

For those patients who can verbally communicate that they are uncomfortable and have pain, it is imperative that the caregiver check for allergies and other medications being given to the patient that may not be compatible with a particular pain medication being considered for therapy. One also must be cognizant of the fact that pain medications may make these already frail patients more likely to fall, become disoriented, or more confused than is normally the case. Further, it is certainly advisable to use the lowest dose and least number of pills possible for managing patient pain, and to avoid opioids, if at all possible, by using alternating doses of nonsteroidal inflammatory drugs with acetaminophen where tolerated. [25]

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2.4 Suggested directives for oral palliative care management

In order to avoid oral discomfort in patients as much as is possible, the following protocol is recommended as a guide, especially for circumstances in which patients are unable to properly communicate. It is offered in a format that can be duplicated for institutional use.

Institutional recommendations for oral health standard of care when possible/practical per patient are:

Patient/Caregiver Concerns

Offer oral hygiene a minimum of once every 8 hours while in the acute care or long-term care or home.

- Refer patients and families to dental services for urgent follow-up treatment.
- Educate patients and families on the importance of good oral hygiene and follow-up dental services

Professional Caregiver/Registered Nurse Concerns:

- General assessment or evaluation of the oral cavity on admission performed at least daily and if possible, during every shift.
- Notify physician and dentist of any abnormalities causing distress present in the oral cavity.
- Assess what each patient can do independently.
- Observe for aspiration precautions and compliance while providing care.
- Provide oral care and dental care education to patients and families.

Institutional Concerns:

- Monitor staff performance.
- Provide or refer for access to dental services as appropriate.

2.4.1 Commonly identified problems reported by aides and family to the hospice staff

The following oral issues should be reported to the appropriate staff:

- Broken teeth
- Loose teeth
- Brown areas/dark staining/holes on or in the teeth
- Bleeding gums
- Swelling
- Sores
- Lumps
- Red or white patches
- Unusual-looking tissues of any type from any oral source
- Concerns of the patient of any type from any oral source

When appropriate, the hospice staff will consult with either the patient's dentist of record or the in-house dentist.

2.4.2 Xerostomia (dry mouth)

If the mouth is felt to be dry, one must treat the underlining cause as is appropriate. Not all xerostomia is secondary to a decrease in salivation or dehydration.

Other causes include:

- Anxiety and depression
- Hypothyroidism, autoimmune disease, and sarcoidosis
- Use of drugs, such as anti-muscarinics, opioids, diuretics
- Injury to the salivary glands or buccal mucosa
- Mouth breathing, or unhumidified oxygen
- A history of surgery, chemotherapy, or radiotherapy to the head and neck region

And most preferential means of palliation is to provide frequent fluids when one is able to drink, and if not, keep the mouth moistened.

Those at the end of life are vulnerable to all problems such as Candidiasis, no matter how well the mouth is cared for. It is important to check the mouth for any sore places or coatings that could indicate thrush and to treat expediently if causing the patient distress.

Saliva can be stimulated by sucking mints and candies, preferably those containing xylitol (cavity-fighting) sugar. Artificial salivas are available for purchase over-the-counter, but the effect is typically found to be no better than sipping fluids.

There is little evidence to support the use of mouthwashes, especially as they can be offensive towards the end of life; however, some individuals who have used those daily may wish to continue to do so.

Alternatives to mouthwashes, providing there is no painful thrush being treated in the mouth are as follows:

- Coconut oil on a toothette provides a comforting and pleasant-testing method of lubricating and alleviating dessication.

- Water makes an inexpensive and acceptable lubricant, but will not remove coatings around the mouth.

- Normal saline (1 teaspoon of salt dissolved in 500 mls of water) is also inexpensive and mildly antiseptic, but may not be acceptable if it is nauseating to the patient.

- Chlorhexidine mouthwash is an antibacterial and antifungal prescription used sometimes to help deter plaque buildup on the teeth.

- Sodium bicarbonate can help treat a dry, coated tongue for short periods of time.

- Commercially available glycerin and lemon mouthwash or oral swabs will actually increase dryness, as they draw water out of the mouth and my damage the enamel. These should be avoided.

Alternatives for dry mouth which can nicely simulate “feeding” and “bonding” between caregiver and the patient who can no longer swallow or manage liquids are to swab the mouth with toothette sponges dipped into such solutions as the patient may find pleasurable. These may include such items as semi-frozen tonic water and gin, semi-frozen fruit juices, coffees or teas, cold yogurts, and small dollops of coconut oil. Having the patient suck on ice chips or small pieces of frozen pears, peaches, or berries may also be soothing. The patient would best be sitting up for this to be attempted.

If the mouth is tender and sore, a topical teething anesthetic or an oral palliative mouthwash containing equal parts of xylocaine viscous, milk of magnesia, and Benadryl maybe used before and/or after application of foods and drinks.

2.4.3 Mucositis

This typically presents as dry, burning, and/or reddened tissues. It is by advisable to discontinue spicy, minty or cinnamon-containing foods and oral care products.

A liquid mixture for swabbing around the mouth after meals and before bedtime can be prescribed by a dental or medical professional. It consists of three equal parts of Benadryl (if tolerable), milk of magnesia, and xylocaine viscous, and can be easily compounded by any pharmacy.

A therapeutic regimen may consist of the following:

- use of a soft bristled toothbrush and non-irritating toothpaste (one without sodium laurel sulfate detergent and which does not contain spicy or irritating components).
- Replacement of toothbrushes weekly until healed.
- Rinsing with a sterile saline as needed.
- Removal of dentures except when needed for consumption of food.
- Soaking dentures twice a day in a 1:1 ratio of vinegar and water in solution.

If redness and pain are unresolved within seven days, consult a dentist; a treatment for Candidiasis (thrush) may be necessary.

2.4.4 Candidiasis

Often times, especially in those with poor diabetic control issues or in those using antibiotics, a fungal coating, typically white, can form on the tongue, throat, and other parts of the mouth. This "opportunistic" infection is called *Candida albicans*, and can cause a burning sensation within the mouth as well as at the corners of the lips; a palliative prescription can be administered for an antifungal medication by a dental or medical professional.

To treat the tissues, dentures must be removed during medication application to the oral tissues, and topical agents may be used on the dentures themselves. Sponge swabs maybe used to apply the medications for hospice patients who may be unable to rinse with liquid suspensions.

Systemic agents including ketoconazole, fluconazole, and/or amphotericin B may be required for severe or intractable cases. Candidiasis may be treated according to severity by one or more of the following medicinal agents:

- Nystatin suspension 100,000 IU (5 ml = 1tsp) four times daily for 1 to 2 weeks. The medication is to be held in the mouth for one minute, with a swish and swallow approach. An oral sponge may be employed if rinsing is not possible. This is the first choice of therapy if a patient is unable to safely hold a tablet/troche in the mouth.
- Clotrimazole troches 10 mg per troche
  This is to be used five times daily for two weeks. This is the first choice of therapy if a patient is able to hold the tablet in the mouth without risk of aspiration.
- Fluconazole tablets 100 mg. This is to be taken as two stat, then once daily for two weeks. This is preferable for moderate to severe cases or if topical treatment is impractical.
- Dentures may be soaked overnight in a few drops of Nystatin suspension mixed into a cup of cool or room temperature water.

2.4.5 Dysphagia (difficulty with swallowing)

Dysphagia is defined as difficulty in swallowing. It may be an acute or chronic condition that affects oral intake and is usually indicative of some disease process.

Because this condition is common with a patient's deconditioning near the end of life, many healthcare providers consider it relatively trivial and it is therefore unreported or underestimated. It is also frequently overlooked due to the presence of more prominent symptoms, such as pain or shortness of breath.

Difficulty swallowing liquids can indicate poor muscular control, and difficulty swallowing solids may indicate physiologic abnormality, such as a tumor. Sudden onset may be indicative of a psychogenic etiology.

Dysphasia has been detected in approximately 30% of patients with stroke, and 40 to 60% of patients with neurodegenerative disease, and in approximately 20% of patients with cancer, all of which may be treated with palliative care. It can cause or exacerbate other problems, such as weight loss, debility, and aspiration pneumonia, and in some cases it can hasten death.

Other routes of food administration (intravenous nutrition or gastrostomy feeding tubes) may be used in patients who are unable to eat. Often times, because patients may present with difficulty swallowing, the caregiver must be cautious in cleaning the mouth with use of too much liquid or lubricants such as coconut oil (which rapidly liquidates). Therefore, proceed with care when swabbing food/drinks substances during "feeding", as well as in cleaning and lubrication of the mouth.

2.4.6 Orally-related impediments to verbal communication

Please attend to this as is possible by applying lubrication consistently to the lips and oral cavity when they are dry.

(See section on Xerostomia for more in-depth discussion on methods of alleviating dry mouth.)

2.4.7 Poor Oral hygiene

Proper oral care is important, as it maintains self-esteem, comfort, a sense of well-being, and our ability to communicate, socialize, and enjoy taking in sustenance.

An additional significant problem among palliative care patients is poor oral hygiene. This is likely due to a number of factors, including the patient's cognitive and physical disabilities; a lack of optimal preventive devices and supplies; and the caregiver's inadequate knowledge, attitudes, and experience regarding provision of oral care to people other than themselves.

Finding particles of food, accumulated plaque and calculus (tartar), and mucus and saliva on the patient's teeth, palatal and buccal tissues, and dentures is common, yet is objectionable to many individuals.

Preventive care protocols should be established early and maintained throughout the palliative care process. A number of preventive protocols are appropriate for these patients:

Basic palliative oral care protocol

Keep lips moist at all times with a lip balm, coconut oil, or some such substance.

1. Keep intra-oral tissues moist at all times using saliva substitutes or coconut oil, applying with oral sponges or by the having patient rinse where possible.

2. Clean the teeth with a manual or power brush and fluoridated toothpaste (avoiding those that may be more irritating, such as mint or cinnamon-or those that tend to be dessicating, such as those with detergents like sodium laurel sulfate). Make a watery toothpaste slurry in instances where patients may risk choking on thick dentifrices. Perform this after each meal as is possible.

3. Clean between teeth with floss, and if necessary, using floss-aiding holders and devices. Brushes that fit between teeth are also available and can be very helpful. Perform this daily. Avoid use of water jet devices to clean food from between teeth.

4. Clean soft tissues of the inside of the mouth to remove adherent debris with a soft brush or oral sponge dipped in coconut oil or a saliva substitute.

5. Clean dentures (full coverage or partial) after eating with a denture brush while holding the appliance low in the sink and under a gentle stream of running cool (or slightly warm) water. They may be soaked in commercial denture cleaning solutions. Do not soak in harsh or toxic chemicals.

Poor oral hygiene can lead to aspiration pneumonia, a leading cause of death in nursing homes. It involves aspiration of bacteria from the teeth, dentures, and oral tissues into the lungs, complicated by difficulty swallowing and loss of protective reflexes such as coughing. Pneumonia presents with fever, altered mental status, and decreased oral intake. It eventually leads to fatal respiratory failure or sepsis.

Other factors leading to aspiration pneumonia are immunocompromised status; Alzheimer's; psychotropic and sedative drug administration; active periodontal disease; bedridden status; history of CVA, bulbar palsies; esophageal disease, COPD, CHF, GERD; intubator/ventilator use; aspirators; dysphasia, and other abnormalities of the protective airway mechanism; poorly fitting oral prostheses; and xerostomia.

2.4.8 Caries (tooth decay)

Caries, or cavities, are caused by an adequate cleansing of the bacteria from around and between the teeth. Hygiene must be performed properly by cleaning around and between the teeth as frequently and thoroughly as is possible after meals.

Exposed root surfaces, being softer than the enamel on the crown of the tooth, are especially susceptible to decay, and should be afforded appropriate attention.

We are seeing new trends emerge in the dental health needs of older adults as life expectancy and dentate status continue to change through the years, and we must continue meeting these challenges.

2.4.9 Periodontal disease (loss of the supportive tissues around the teeth)

Periodontal disease is a bacterial control issue in which the spaces between the teeth and gums can harbor damaging bacteria that, if not cleaned properly or frequently enough, will result in loss of bone, loosening of teeth, and life-threatening infections in the mouth and around the body.

Signs and symptoms which are indicative of periodontal disease include:

- Gums that bleed when brushed
- Gums that are red, swollen, or tender
- Gums that have receded or pulled away from the teeth
- Purulence (pus) between the gums and the teeth
- Movement or displacement of permanent teeth
- Halitosis (bad breath)

Adequately maintained oral care can alleviate this disease's progression and symptomatology.

2.4.10 Care of partial denture patients (and when is it okay not to wear the partials any longer?)

Independent mouth care for those with teeth or partial dentures:

- Dentures should be removed and soaked/brushed separately, low and over a sink or basin.
- Caregivers should wash hands and wear gloves.
- A soft toothbrush or oral sponge should be angled against the gumline, gently brushing teeth and an up-and-down motion with short strokes.
- Brush the patient's tongue.
- Apply lip moisturizer consistently as is necessary.
- Use toothpaste slurry or coconut oil for brushing, avoiding harsh or burning types of toothpastes, such as those with sodium laurel sulfate, mint, or cinnamon.

Discontinuation of denture-wearing is acceptable, if they are providing less benefit than they are creating discomfort and frustration for the patient. Usually, the hospice patient can maintain his same level of nourishment after discontinuing the use of his complete or partial dentures by changing the textures of foods eaten and by eating/being fed more slowly.

If the patient in fact is distressed while wearing his dentures, but is also having trouble functioning without them, a dental professional should examine the dentures for sore spots, poor fit, need for reline, and the like, as is possible.

2.4.11 Further Care in Cleaning the teeth: when flossing is a challenge

Daily brushing, flossing, and rinsing are three of the most important steps to having healthy teeth and gums. Yet, debilitated patients may have trouble wrapping floss around the fingers or in keeping a steady hand. They may also be intolerant to a caregiver's putting two fingers far back into the mouth.

There are a few methods that may make interdental cleaning easier. The patient or caregiver can use floss picks to clean under gums and in-between the teeth,

where plaque and food work their way under the gingiva every day and can lead to gum disease.

Other options include soft picks (thin, feathery, rubber toothpicks), and various floss folders, all of which can be used with one hand by the patient. For caregivers, it is easier to reach the back of the mouth by using a long-handled floss aid, a thin instrument shaped rather like a slingshot, across which floss can be threaded.

Flossing (or the closest semblance thereof) is necessary in accessing areas under the gums where a toothbrush cannot reach. It is important to brush after meals and to floss at least before bedtime each day.

Water jet irrigation devices are not generally recommended for hospice patients.

2.4.12 Care of Full Denture Patients (and when is it okay not to wear dentures any longer?)

The use of dentures is common in the hospice population of patients. Numerous studies involving long-term care facilities show that, while many patients have dentures, a small proportion of these dentures are actually worn, because of issues with comfort and function. This proportion is likely higher in palliative care patients because of comorbidities, including xerostomia (dryness), Candidiasis, and general physiologic debilitations and losses.

Atrophy of facial muscles in stroke or advanced head and neck cancer patients can contribute to the inability for dentures to stay in properly. Looseness of the denture can also be brought about by significant weight loss or from resorption over previous years of the bony architecture underneath the denture.

Various treatments being administered for palliative care patients can exacerbate sores in the mouth, causing a patient distress while wearing the denture, even when not eating or talking with it.

Discontinuation of denture-wearing is acceptable, if the dentures are providing less benefit than they are in creating discomfort and frustration for the patient. Usually, the hospice patient can maintain his same level of nourishment after discontinuing the use of his dentures by changing the textures of foods eaten and by eating/being fed more slowly.

If the patient in fact is distressed while wearing his dentures, but is also having trouble functioning without them, a dental professional should examine the dentures for sore spots, poor fit, need for reline, and the like, as is possible.

Oral Hygiene Plan of Care for the Edentulous Patient With or Without Dentures

- Remember that dentures are not necessary for proper eating, communicating, and other such functions.
- Dentures should be labeled on the inside with the patient's name written using an indelible marker or placed within the acrylic by a professional.
- Oral care should be provided after meals and as is necessary.
- Caregivers should wash hands and wear gloves.
- Dentures should be removed and safely set aside while cleaning the teeth.
- Dentures should be brushed with a toothbrush and toothpaste low in a sink or basin.
- Clean the grooved areas of dentures with the brush.

- Use cool or slightly warm water.
- Brush the patient's tongue and wipe the oral tissues (cheeks, palate, and under the lips); coconut oil can provide a nice-tasting and lubricating medium.
- Reinsert the dentures.
- Apply lip moisturizer.

2.4.13 Care of the Oral Tissues (tongue, cheeks, inside and outside of lips, floor and roof of the mouth)

These tissues should be cleaned anytime the teeth and/or dentures are cleaned. This can be accomplished either by rinsing (where the patient is capable), or by wiping the mouth with a lubricating substance, such as a saliva substitute or coconut oil placed on either a piece of gauze or a toothette sponge.

Take care not to choke patients with hasty or over-abundant use of these substances.

3. Conclusion

Oral care is an important component of institutionalized healthcare for the dependent and terminal because:

- Palliative care and dental health go hand-in-hand.
- The demographic of older adults who are entering hospice care is growing and likely will continue to constitute an increasingly larger populous engaged with end-of-life caregiving.
- The comorbidities and physiological changes associated with these aging individuals make them more vulnerable to oral health problems.
- With aging comes the use of multiple prescriptive and over-the-counter medications, causing a potential rise in medication errors, drug interactions, and adverse drug reactions, all of which are important in oral care considerations, particularly where local anesthetics and analgesics are concerned.
- The physical, sensory, and cognitive impairments often seen in this group may create challenges both with oral health self-care as well as with patient education and communication.
- Dental conditions associated with the aging mouth can include xerostomia (dry mouth), root and coronal caries (decay), and periodontal (gum) disease.
- Oral health related quality of life is a multi-dimensional concept which considers the totality of the patient's oral health, functional well-being, emotional well-being, expectations and satisfaction with care, and sense of self.
- Patient oriented outcomes with a focus on quality of life can enhance our understanding of the relationship between oral health and general health,

while demonstrating that improving one's palliation goes beyond the caregiver's simply assisting with or treating dental maladies.

- Appropriate oral care delivered adequately and expediently, will enhance the hospice patient's quality of life through a more esthetic and comfortable experience of well-being.

- This will include one's experiencing enhanced socialization, more pleasurable eating and drinking, freedom from pain and discomfort, and an enhanced ability to communicate verbally.

- Further, this will prevent medical problems such as bacteremia, aspiration pneumonia, and poor diabetic control issues.

- It will also help to manage patient complaints such as halitosis (bad breath), speech problems, dysphasia (trouble eating), and an inability for maintaining adequate nutrition and hydration.

- It will help to manage consequences from comorbid medical conditions such as Sjogren's syndrome, arthritis, strokes, radiation, and chemotherapy.

The most generous detail about delivering -and receiving-palliative care is that it focuses a great deal on kindness, and not so much on clinical perfection. There is really no general standard of care, as each individual is unique in his or her tolerance, basic needs, and willingness to allow intervention. Responsibilities as mentioned for facilities and dental providers in serving the terminally ill can certainly appear a bit daunting, yet palliative care only requires a caregiver to offer the best therapy possible in light of any situation that may exist. It is not so linked to stipulations and mandates, but rather to heartfelt compassion and a well-intended effort to soothe and comfort a person both physically and psychosocially.

Dentistry has long been absent in the role played in delivering such care, and as such, personal dignity and the sense of well-being aided by oral maintenance are concomitantly remiss. Dentists must step up to avail to caregivers in both institutions and at home a more well-understood prescriptive program for oral care that can be implemented at the various stages of need for end-of-life patients. Further, collaborative efforts among dentists, physicians, institutions, and their respective staff members must be strengthened to assure that care of the oral cavity does not continue to go unattended.

Finally, increased awareness to address these issues must begin in dental and medical schools, as students should learn early on about elder care, volunteerism, and advocacy. Without advances in oral care management of the infirmed and terminal, the void in these patients' receiving comprehensive systemic and psychological palliation will increase as the percentage of the elderly continues to rise.

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