



Menopause and its Effects on Oral Cavity

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Received: November 26, 2020

Published: December 14, 2020

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Abstract

Objective: The purpose of the study was to evaluate and analyse the effects of menopause on the oral cavity

Study Design: A description based cross-sectional online survey.

Duration: It was carried from august, 2020 to September, 2020.

Methods and Materials: A total of 104 patients have participated in this study. Patients were asked their age and when did they reach menopause. It was further divided to evaluate the knowledge, awareness, practices, and behaviour pattern associated with oral hygiene and symptoms of menopause.

Results: Among 104 participants the majority of females were between 51-55 years of age. 44% of females experienced symptoms of dryness in their mouth.

Conclusion: The findings of this study concluded that oral cavity goes through several noticeable changes during menopause due to hormonal changes.

Keywords: Menopause; Oral Cavity; Burning Mouth Syndrome; Xerostomia; Hormonal Replacement Therapy

Introduction

A woman's body goes through different adaptive physiological changes during different phases of her life; this brings a lot of hormonal changes along with different age groups [1]. Menopause is an irreversible hormonal change of cessation of the monthly cycle of menstruation for at least 12 successive months. Menopause can occur between 45 to 55 year of age. It can be a natural process or can occur as a result of surgical removal of ovaries or chemotherapy. As oral mucosa has estrogen receptors therefore the fluctuation in the level of hormones has a direct effect on oral health [2]. During menopause, with the cessation of hormones produced naturally, a lot of doctors recommend HRT which may or may not be completely effective. Blood supply to gum tissue, plaque build-up, and periodontal health of women all is affected because of changes in hormones during menopause. A dentist should have knowledge of these conditions so that diagnosis and treatment can be provided efficiently [3].

In postmenopausal women burning sensation occurs in the normal oral mucosa known as 'Burning Mouth Syndrome' [4]. The intensity of the symptoms can vary; they can range from slight discomfort to intense pain. In burning mouth syndrome mucosa is essentially normal which differentiate it from other conditions like Lichen Planus, Candidiasis and viral infections which have similar presentations [5]. Although no defined causes are told, there is a possibility that neuropathic factors may be involved. Burning mouth can be treated by low-dose topical or systemic Clonazepam [6].

Saliva plays an important role in lubrication and protecting the oral cavity from microbes by maintaining the salivary pH and flow rate [7]. One of the most common oral manifestations of menopause is xerostomia [8]. Due to lesser quantity of saliva patients often complain of altered taste perception with burning sensation of oral mucosa [9]. The reduced quantity of saliva may cause infections related to candida, cavities and other periodontal diseases.

HRT is said to be effective and artificial saliva can be very helpful as well [10].

Along with many changes in the oral cavity during menopause, women go through some periodontal issues as well [11].

Osteoporosis is a disease where there is a marked increase in bone loss and very little bone is made. Post-menopausal women at greater risk to get osteoporosis due to loss of hormones [12]. HRT is prescribed for osteoporosis to help strengthen the bones and reduce the risk of breaking the bone [13].

Methodology

A descriptive cross-sectional online survey was carried out during August 2020 to September 2020. The study was conducted on 104 females who gave consent and were informed their participation will be voluntary, anonymous and non-compulsory.

All female patients were in the age group of 40 years and above who gave consent to participate in the study were included.

For accessing the effects of menopause on the oral cavity a cross-sectional study was carried out. Females who agreed to participate were only included in this study. A total of 104 females were involved in the current study with the response of 100%.

A closed ended questionnaire consisting of 18 questions in both English and Urdu language was made and distributed among the participants.

The questionnaire was in two parts:

- Part 1 was related with demographic details of participants.
- Part 2 was related with information about practice of oral hygiene methods and symptoms of menopause.

The data were first transferred to Microsoft Excel and the results were analysed by using SPSS statistical software in terms of percentages.

Result

104 questionnaires were distributed among women of age between 40 to 56 and above through random sampling. The majority of women were between 40-45 years when they stopped menstruating i.e. 35%. All of the women thought it is important to maintain oral hygiene.

All 104 women brushed their teeth, however 44% brushed their teeth once a day and remaining brushed their teeth twice a day. 98% used tooth paste to brush their teeth while the remaining 2% used manjan. 75% women said they only went to dentist for emergency purposes. 44% women said they feel dryness in the mouth and 56% women said they don't feel any difference in amount of saliva.

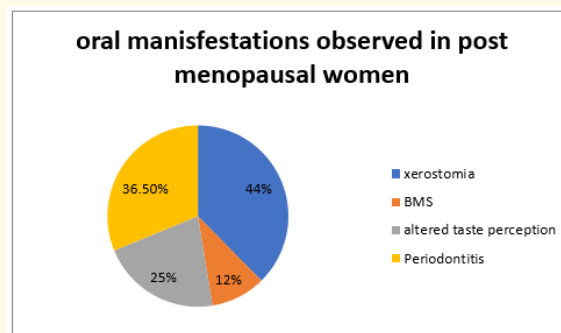


Figure a

Out of 104 women 12% women experienced tingling and burning sensation in the mouth. 25% women felt altered taste perception. There was an increase in the number of carious teeth in 34.6% women and 36.5% women felt their teeth have become loose. 57.7% women noticed and increase in plaque and calculus accumulation since menopause started.

The results of our study pointed out that the women who have reached menopause experience the symptoms of burning mouth syndrome, xerostomia, altered taste perception and periodontitis.

Discussion

In Pakistan oral health and female health awareness standards are not well and very inconsiderate. Majority of the women are not taught how to deal with changes in their oral health which occurs due to hormonal changes. They only get awareness when they go through the particular health problem. If they are taught beforehand through seminars and different conferences, it will be much easier for them to go through the physiological changes of life.

Due to inadequate estrogen, women are associated with calcium and vitamin deficiency which leads to many periodontal problems. Women enduring menopausal symptoms go through the dry mouth due to scarce salivary secretions and also altered taste

sensation. This eventually leads to dental caries and periodontal diseases [14].

Some researchers claim that although there was no such difference in pre and post-menopausal symptoms, women when given estrogen after they reached menopause had a better oral health and were responsive to treatment.

Xerostomia was one of the most common symptoms faced by the post-menopausal women. A study in Bengaluru city by Rukmini, *et al.* showed that 57.5% women had dry mouth while present study showed that 44% women experienced dry mouth [9]. Another study by Maheshet, *et al.* and Foglio Bondaet, *et al.* showed that the salivary flow in post-menopausal women was considerably decreased than menstruating women [15,16].

In a research by Farronato, *et al.*, gingival bleeding was seen in 75% women. It may be due to changes in hormonal levels. Present study shows 28.8% women had gingival bleeding while brushing. They had also frequently experienced gingival swelling and 32.7 had experienced halitosis [17].

In another research by Leena Palomo, *et al.* it was revealed that 62.8% women had one moderate to severe site of attachment loss [18].

Burning mouth syndrome is also one of the symptoms post-menopausal women faced, accounting to almost 12% women who answered in affirmative to sensing such discomfort in the present study. This result corresponded to a research done by Parveen Dahiya *et al.* which stated that middle aged females (age 40-60) had burning mouth syndrome [5]. BMS is mainly considered as a neuropathic disorder but the exact pathophysiology cannot be determined. According to a research by Grigoriy E Gurbits and Amy Tan did, post-menopausal women had a clear predisposition to developing burning mouth syndrome [19].

For the treatment, oral clonazepam (0.25 mg/day increasing to a maximum of 3 mg/day) has variable results in a research done by Pia Lopez Jornet, *et al.* [20].

Overall, it is noticeable in present study that women have faced oral discomfort after the change in their estrogen levels.

Conclusion

It is concluded that the menopause has an effect on oral mucosa same as its effects on other body systems. The hormonal changes

causes oral manifestation like burning mouth syndrome, xerostomia, periodontitis, increase in caries and osteoporosis. As shown in this review, despite the advancement in dental knowledge the prevalence of post-menopausal oral manifestations are still not reduced. Further studies should be conducted to evaluate the complications and come up with the suitable approach to treat them.

Acknowledgement

The authors would like to thank all the patients who participated in the survey.

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