

REVIEW ARTICLE

WOMEN'S ORAL HEALTH: AN OVERVIEW

ABSTRACT

Women's oral health demands special attention at different times during their lifespan. In this present article the main oral health needs and their dental management have been highlighted. Women's oral health needs during, puberty, menses, oral contraceptive taking phase, pregnancy & post-menopausal period have been explained. In women, certain diseases or conditions are unique, more prevalent, more serious, or have different manifestations or different outcomes than in men. This dimorphism is influenced greatly by the hormonal fluctuations that women experience and is reflected in the health of their oral tissues. Few of the social factors affecting oral health of the Indian women are also been discussed. Education and poor socio-economic status are the major barriers in women's oral health in India. There are gender differences in the culture, practice, attitudes and disease patterns in India, there are acute need of studies related to gender differences of oral diseases and behavior of Indian women towards oral hygiene.

Key words: Women's oral health, temporomandibular joint disorders, Sjogren's syndrome.

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INTRODUCTION

Women's health is one of the most important public health challenges. As interest in women's health issues grows, there is increasing concern that today's practice of medicine may not meet the health needs of women. A primary reason is the gender bias that has been inherent in medical education, research and clinical practice. The prevailing medical viewpoint has often been that the male body is considered to be the norm and that the female body exactly the same except for the reproductive function. This attitude has led to a lack of interest in researching gender differences and a consequent lack of knowledge of women's health issues.

Being a man or a woman has a significant impact on health, as a result of both biological and gender-related differences. The health of women and girls is of particular concern because, in many societies, they are disadvantaged by discrimination rooted in socio-cultural factors. For example, women and girls face increased vulnerability to HIV/AIDS.⁽¹⁻⁴⁾

Some of the socio-cultural factors that prevent women and girls to benefit from quality health services and attaining the best possible level of health include:

- Unequal power relationships between men and women;
- Social norms that decrease education and paid employment opportunities;
- An exclusive focus on women's reproductive roles; and
- Potential or actual experience of physical, sexual and emotional violence

Women have special oral health needs and considerations. Hormonal fluctuations have a surprisingly strong influence on the oral cavity. Puberty, menses, pregnancy, menopause and use of contraceptive medications all influence women's oral health and the way in which a dentist should approach treatment.

The revolution of women's health care began during the early years of the feminist movement in the 1960s. At that time little was known about gender-

specific health issues even among medical professionals. The activism of that decade, ranging from grass-roots demonstrations to Congressional hearings on oral contraceptives to the development of the National Women's Health Network, brought attention to a wide range of gender-specific health issues.⁽²⁻⁹⁾

In 1983, the federal government established the Public Health Service Task Force on Women's Health Issues.⁽³⁾

In 1990, the National Institutes of Health (NIH) created the Office of Research on Women's Health (ORWH). The ORWH was given a tripartite mandate:

- 1.To determine gaps in scientific knowledge regarding gender- specific conditions and diseases and to establish a research agenda to address these gaps;
- 2.To ensure that women are represented appropriately in research studies, especially clinical trials supported by the NIH;
- 3.To create specific initiatives to increase the number of women in biomedical careers and to facilitate their advancement and promotion.

As one part of updating the NIH agenda on women's health, a working group was identified specifically to examine the progress and to assess needs related to women's oral health as a significant aspect of women's general health. This working group focused on developing strategies to integrate women's oral health issues into the overall women's health agenda to improve health and the quality of life for women.⁽¹¹⁻¹⁴⁾

Table1: WOMEN'S ORAL HEALTH ACROSS THE LIFESPAN⁽¹⁵⁻³¹⁾

| Woman's Medical History | Oral Manifestation | Dental Management |
|-------------------------|---|--|
| Puberty | <ul style="list-style-type: none"> ● Oral changes due to poor nutrition, fad diets, and eating disorders: caries, dental erosion, delayed healing, increased bone loss, other changes in lips, oral mucosa, periodontium ● Puberty gingivitis | <p>Local preventive care, including a vigorous program of good oral hygiene.</p> <p>Mild gingivitis - scaling and improved oral hygiene.</p> <p>Severe gingivitis - aggressive treatment, including antimicrobial therapy. If the patient's gingivitis does not respond, more frequent recall during puberty may be indicated.⁽¹⁵⁻¹⁷⁾</p> |
| Menstruation | <p>Menstruation gingivitis</p> <ul style="list-style-type: none"> ● Buccal mucosal ulcerations ● Increased sensitivity to oral pain | <p>Local preventive care, including a vigorous program of good oral hygiene is vital. Topical and/or systemic antihypertensive medication may be beneficial for patients experiencing recurrent herpetic outbreaks. Topical corticosteroids may also be indicated for severe aphthous ulcers. Palliative treatment, such as topical anesthetic agents and/or systemic analgesics, may be necessary for the discomfort associated with the aphthous ulcerations and herpetic lesions⁽¹⁸⁻²¹⁾</p> |
| Oral Contraceptives | <p>Gingivitis</p> <ul style="list-style-type: none"> ● Concern over effectiveness of oral contraceptives with use of antibiotics ● Increased risk of post-surgical dry socket late in pill cycle | <p>A comprehensive medical history and assessment of vital signs, including blood pressure, are extremely important in this group of patients. Treatment of gingival inflammation exaggerated by oral contraceptives should include establishing an oral hygiene program and eliminating all local predisposing factors. Periodontal surgery may be indicated if there is inadequate resolution after initial therapy (scaling, root planing and curettage). Antimicrobial mouthwashes may be indicated as part of the home care regimen.</p> <p>A recent report from the ADA Council on Scientific Affairs⁽²²⁾ noted that, considering the possible consequences of an unwanted pregnancy, when prescribing antibiotics to a patient using oral contraceptives, the dentist should:</p> <ul style="list-style-type: none"> advise the patient to maintain compliance with oral contraceptives when concurrently using antibiotics. advise the patient of the potential risk for the antibiotic's reduction of the effectiveness of the oral contraceptive. recommend that the patient discuss with her physician the use of an additional nonhormonal means of contraception. |

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| | | <p>Although in the literature, oral manifestations have been attributed to oral contraceptive use, it can be presumed that the same effects could occur with the use of other contraceptive medications (e.g., implants, transdermal patches).</p> |
| Pregnancy | <ul style="list-style-type: none"> ● Pregnancy gingivitis ● Increased risk of pre-term, low-birth-weight babies with periodontal disease ● Increased risk of delayed tooth formation and maturation with heavy smoking ● Concern on timing of prescribed medications and breast feeding | <p>Elective treatment should be avoided during the first trimester and the last half of the third trimester. The first trimester is the period of organogenesis when the fetus is highly vulnerable to environmental influences. There is a hazard of premature delivery in the last half of the third trimester, and the patient may also be very uncomfortable in the dental chair. The second trimester is the safest period for treatment, and the focus should be on controlling active disease and eliminating potential problems that could occur later in the pregnancy. Irradiation should be avoided if possible, especially in the first trimester. The patient's physician should be consulted if there is a need to prescribe medications or use general anesthesia.^(23,24)</p> |
| Menopause | <ul style="list-style-type: none"> ● Menopausal gingivostomatitis ● Xerostomia (dry mouth) <p>Osteoporosis</p> | <p>Preventive oral prophylaxis.</p> <p><i>Sialogogue</i></p> <p>A concern for dentists, especially with regard to removable prosthodontics, is the condition of the mandibular residual ridge. When patients exhibit rapid continuing bone resorption under a well-fitting dental prosthesis, osteoporotic bone loss may need to be considered as contributing to the etiology and pathogenesis of the resorptive process. Postmenopausal osteoporotic women may require new dentures more often after age 50 than women without osteoporosis. The bone loss may become so severe that fabrication of a functional prosthesis may become difficult.</p> <p>Bone regeneration techniques and dental implants may be of significant benefit to an osteoporotic patient who has experienced decreased function of a denture. Because most dental implants depend on sufficient bone volume and density for success, bone regeneration therapy may be necessary prior to implant placement. It appears that there is no contraindication for osseointegrated implant therapy in the osteoporotic patient.^(18,21,25-31)</p> |

ORAL HEALTH ISSUES UNIQUE TO WOMEN

In women, certain diseases or conditions are unique, more prevalent, more serious, or have different manifestations or different outcomes than in men. This dimorphism is influenced greatly by the hormonal fluctuations that women experience and is reflected in the health of their oral tissues. Oral health statistics, however, are generally more favorable for women.^(21,32)

Oral diseases are complex in that they involve multiple genes and gene susceptibility factors interacting with behavioral and environmental variables. Because of the interaction of these variables, significant numbers of women are at risk for developing oral diseases. Because women generally live longer than men, women are more likely to experience multiple chronic conditions, multiple medications (polypharmacy), cognitive impairments, compromised functional status, and physical confinement. Significant numbers of women live in poverty or are the single head of a family without the ability to pay for dental care. Also, many women defer their own dental care for the sake of attending to the care of their children and other family members. Certain behavioral patterns, including smoking, unprotected sexual activity, and bingeing and purging, are increasing for women and these behaviors will probably lead to increases in oral cancer, AIDS-related oral lesions, tooth erosion, and tooth decay.^(29,31,33,34)

Certain diseases that affect the oral cavity are more common in women: temporomandibular joint disorders (TMD) and myofascial pain, trigeminal neuralgia, Sjogren's syndrome (90% are women), burning mouth syndrome, and eating disorders. Gingivitis during pregnancy and oral changes associated with menopause certainly are unique to women. In older women, osteoporosis, degenerative rheumatoid arthritis, and diabetes mellitus are more prevalent.⁽³⁵⁻³⁹⁾

Because the health of women's body and oral cavity is bidirectional, a woman must adopt strategies that promote both her general health and that of her oral cavity. Such an approach will allow her to maintain her oral health and maximize the quality of her life.

WOMEN'S ORAL HEALTH: INDIAN SCENARIO

Women's oral health in India is dependent on lots of factors, education being one the most important factor. Educated women have good knowledge for maintenance of the oral hygiene.

The various factors responsible for the deteriorating state of affairs regarding women's health and oral health in India are:

- India still has one of the lowest female literacy rates in Asia.
- Large Differences in Literacy Among the States
- Three Out of Five Girls Attend School Versus Three Out of Four Boys
- Beyond Literacy: Although there are numerous studies demonstrating a link between education and a variety of demographic indicators (i.e., fertility, infant and child mortality and morbidity), more recent studies are finding that there is a minimum threshold of education (more than 5 or 6 years) that must be achieved before there are significant improvements in female autonomy⁽³⁾, particularly in a percent of all Indian women, have more than a primary education.
- Gender Gaps in University Education
- Barriers to Education: There are several reasons for the low levels of literacy in India, not the least of which is the high level of poverty. Over one-third of the population is estimated to be living below the poverty line (The World Bank, 1997). Although school attendance is free, the costs of books, uniforms, and transportation to school can be too much for poor families. Poor families are also more likely to keep girls at home to care for younger siblings or to work in family enterprises. If a family has to choose between educating a son or a daughter because of financial restrictions, typically the son will be chosen.⁽⁴²⁾ Negative parental attitudes toward educating daughters can also be a barrier to a

girl's education. Also, daughters with higher levels of education will likely have higher dowry expenses as they will want a comparably educated husband. However, education sometimes lowers the dowry for a girl because it is viewed as an asset by the husband's family.

- Inadequate School Facilities
- India Has a Shortage of Female Teachers
- Gender Bias in Curriculum Still Exists: a study of Indian textbooks done in the 1980s found that men were the main characters in the majority of lessons. In these lessons, men held high-prestige occupations and were portrayed as strong, adventurous, and intelligent. In contrast, when women were included they were depicted as weak and helpless, often as the victims of abuse and beatings (Kalia, 1988). These depictions are strong barriers for improving women's position in society.

Education and poor socio-economic status are the major barriers in women's oral health in India. There are gender differences in the culture, practice, attitudes and disease patterns in India, there are acute need of studies related to gender differences of oral diseases and behavior of Indian women towards oral hygiene.

CONCLUSION

Health needs of women are different mainly because of the distinct changes that occur over their lifetime: puberty or menopause, as well as specific times, such as pregnancy. A woman's oral health needs can also change at these times, thus affecting their dental treatment plans. In the past, research on women's health has been unfairly neglected. More research should be encouraged to address the gender differences in the various aspects of general and oral health. Women's oral health is dependent on social factors like education, equality etc. Hence, improvement of women's oral health requires a multipronged approach which addresses these issues and leads uplifting of women's status in the society on the whole.

REFERENCES

1. Women's health. World Health Organization. [Online] Cited on 2008 Dec 21 Available from: URL: http://www.who.int/topics/womens_health/en/ (accessed on 26th Jan 2010)
2. National woman's health information center web site. [Online] Cited on 2008 Dec 21 Available from: URL: www.4women.gov/owh/pub/history/healthmvt.htm. (accessed on 26th Jan 2010)
3. PINN VW. Women's health research for the twenty-first century. *J Dent Educ.* 1999;63:223-230.
4. National Institute of Health, Division of Research Grants: NIH guide to grant and contracts. January 23,1987.
5. Executive Summary: Agenda for Research on Women's Health for the 21st Century. In Report of the Task Force on the NIH Women's Health Research Agenda for the 21st Century, Volume 1. Bethesda, MD, US Department of Health and Human Services, Public Health Service, National Institutes of Health,1999, NIH Publication No. 99-4385.
6. Sinkford JC, Valachovic RW, Harrison SG. Women's Oral Health: The Evolving Science. *J Dent Educ.* 2008; 72(2):131-134.
7. Sumaya CV, Pinn VW, Blumenthal SJ: Women's health in the medical school curriculum: Report of a survey and recommendations. Bethesda, MD: Health Resources and Services Administration, National Institutes of Health, Department of Health and Human Services, 1996.
8. Silverton S, Sinkford J, Inglehart M, et al: Women's health in the dental school curriculum: Report of a survey and recommendations. Bethesda, MD: US Department of Health and Human Services, Health Resources and Services Administration, and the National Institutes of Health, 1999, Publication No. 99-4399.

9. Slavkin HC. The Human Genome, Implications for Oral Health and Diseases, and Dental Education. *J Dent Educ.* 2001;65(5):463-479.
10. Jeffcoat MK, Hauth JC, Geurs NC, et al. Periodontal disease and preterm birth: Results of a pilot intervention study. *J Periodontol.* 2003;74:1214-18.
11. Offenbacher S, Katz V, Fertik G, et al. Periodontal infection as a possible risk factor for preterm low birth weight. *J Periodontol* 1996;67:1103-13.
12. Centers for Disease Control and Prevention. Recommendations for using fluoride to prevent and control dental caries in the U.S. 2001. *Morb Mort Wkly Rep.* 2001;50:1-41.
13. American Dental Association/U.S. Department of Health and Human Services. The Selection of Patients for Dental Radiographic Examinations-2004. (Accessed on November 2010) Available from: URL: http://www.ada.org/prof/resources/topics/topics_radiography_examinations.pdf
14. Ciancio, SG. ADA guide to dental therapeutics. 3rd ed. Chicago: American Dental Association;2003.
15. Briggs GG, Freeman RK, Yaffe SJ. Drugs in pregnancy and lactation. 4th ed. Baltimore: Williams and Wilkins; 1994.
16. Olin BR, ed. Drug facts and comparisons. St. Louis: Walters Kluwer; 1994.
17. Family Violence Prevention Fund, San Francisco, 2005. Enhancing Dental Professionals' Response to Domestic Violence. Website: www.endabuse.org/health Go to Health Material Index, then Dental Folio.(accessed on 26th Jan 2010)
18. National Domestic Violence Hotline Website: www.ndvh.org (accessed on 26th Jan 2010)
19. Brown S, Bonifaz DZ. An overview of anorexia and bulimia nervosa and the impact of eating disorders on the oral cavity. *CompendContinEduc Dent* 1993; 14(12):1594-1608.
20. Mandel L, Kaynar A. Bulimia and parotid swelling: a review and case report. *J Oral MaxillofacSurg* 1992; 50:1122-5.
21. Amar S, Chung KM. Influence of hormonal variation on the periodontium in women. *Periodontol* 2000.1994;6:79-87.
22. American Dental Association. Council on Scientific Affairs. Antibiotic interference with oral contraceptives. *JAm Dent Assoc* 2002;133:880.
23. Hatch JP, Rugh JD, Sakai S, Saunders MJ. Is use of exogenous estrogen associated with temporomandibular signs and symptoms? *JAm Dent Assoc* 2001;132:319-26.
24. Friedlander AH. The physiology, medical management and oral implications of menopause. *JAm Dent Assoc* 2002;133:73-9.
25. Jeffcoat MK, Chestnut CH, III. Systemic osteoporosis and oral bone loss evidence shows increased risk factors. *JADA* 1993;124:49-56.
26. Ruggiero SL, Mehrotra B, Osteonecrosis of the jaws associated with the use of bisphosphonates: a review of 63 cases. *J Oral Maxillofac Surg.* 2004;62:527-34.
27. Jeffcoat MK, Lewis CE, Reddy MS, Wang CY, Redford M. Postmenopausal bone loss and its relationship to oral bone loss. *Periodontol* 2000;23:94-102.
28. Ship J, Grushka M, Lipton JA, Mott AE, Sessle BJ, Dionne RA. Burning mouth syndrome: an update. *JADA* 1995; 16:842-53.
29. Epstein JB, Gorsky M. Burning mouth syndrome. *Am Fam Physician* 2002; 65:615-622.

30. Baum BJ. Salivary gland fluid secretion during aging. *J Am Geriatr Soc* 1989; 37:453-8.
31. Navazesh M. How Can Oral Health Care Providers Determine if Patients Have Dry Mouth? *JADA* 2003; 134:613-20.
32. Al-Hashimi I. The management of Sjogren's syndrome in dental practice. *JADA* 2001;132:1409-17.
33. Pintos A, Glick M. Management of patients with thyroid disease. Oral health considerations. *JADA* 2002; 133:849-58.
34. American Academy of Orthopaedic Surgeons: Antibiotic prophylaxis for dental patients with total joint replacements. *J Am Dent Assoc* 1997; 82:16-7.
35. American Academy of Periodontology: Tobacco use and the periodontal patient. *J Periodontol.* 1999;70:1419-27.
36. Beck J, Garcia R, Heiss G, et al: Periodontal disease and cardiovascular disease. *J Periodontol.* 1996;67:1123-37.
37. Center for Disease Control and Prevention: Fetal alcohol syndrome-United States, 1979-1992. *MMWR Morb Mortal Wkly Rep.* 1993;42:339-41.
38. Genco RJ: Current view of risk factors for periodontal diseases. *J Periodontol* 1996;67:1041-9.
39. Chernoff R: Nutritional need of elderly women. In Krummel DA, Kris-Etherton PM (eds): *Nutrition in Women's Health.* Gaithersburg, MD, Aspen Publishers, 1996,p:299-321.
40. Mifflin MD, St. Jeor ST, Hill LA, et al: A new predictive equation for resting energy expenditure in healthy individuals. *American Journal of Nutrition.* 1990;51:241-247.
41. Mattana D, Zarkowski P, Wyche C, et al: Perimenopausal women: Oral health status and preventive strategies. *Journal of Women & Aging* 1996;8:21-32.
42. Velkoff VA. International Programs Center. *Women's Education in India. Women of the World.* Issued on October 1998.