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KNOWLEDGE AND AWARENESS OF ORAL ULCERS AMONG GENERAL POPULATION OF TWIN CITIES OF PAKISTAN

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ABSTRACT

Mouth ulcers are a common complaint by patients, with individuals regularly presenting to primary care practitioners for diagnosis and treatment. As we know, mouth ulcers are annoying and often painful sores that appear inside the mouth. They most commonly occur inside the cheeks, on the lips, tongue and gums and, more rarely, on the roof of the mouth. In most cases, a single ulcer is due to trauma caused by accidental biting of the cheek or tongue, sharp foods, broken teeth, over vigorous tooth brushing or poorly fitting dentures. These traumatic ulcers tend to be isolated to the area of trauma and normally go away once the source of the problem is removed. The most traumatic ulcers heal on their own, within a week. Recurrent aphthous stomatitis is a frequent issue that causes mouth ulcers on a regular basis in otherwise healthy adolescents and teenagers. The cause is not known, but it is not infectious and is unlikely to be inherited. We have discus types of oral ulcers and there treatments. We in this thesis conducted a survey based questionnaires in twin cities of Pakistan suggesting some question that how much awareness does people of twin cities have about oral ulcer the results are quit good that most of the people thinks that they have good knowledge about oral ulcers and they maintain the hygiene too.

Keywords: Oral ulcer, Traumatic ulcers,Recurrent aphthous stomatitis, patients.

1. INTRODUCTION

1.1 INTRODUCTION

1.1.1 DEFINATION:

Oral cavity diseases are characterized by varied degrees of mucosal alterations, ranging from erythema, atrophy, or ulceration to white or hyperkeratotic patches or pigmentation. These are usually persistent and can be caused by an underlying systemic condition. An ulcer is a full-thickness rupture in the epithelium. This might cause pain and trouble eating, drinking, speaking, and keeping oral hygiene.(Yogarajah, S., et al 2021)

1.1.2 EPIDEMIOLOGY:

Oral cancer is a prevalent malignancy globally, ranking eighth and thirteenth for males and females, respectively. Most patients diagnosed are over 40 years old, and known causal risk factors include alcohol, cigarettes, human papillomavirus and vitamin insufficiency.(Janse van Rensburg, B., et al 2019) Mouth ulcers are widespread and are typically caused by trauma, such as ill-fitting dentures, shattered teeth, or fillings. Patients with ulcers that have been present for more than three weeks should be referred for a biopsy or additional investigations to rule out cancer or other serious disorders such as chronic infections.(Scully, C., et al 2000)

1.1.3 WORD ORIGIN:

The name 'aphthous' is derived from the Greek word aphthi, which means 'to put on fire' or 'to inflame' and is said to have been originally mentioned by the philosopher Hippocrates to describe the discomfort associated with a common disorder of the mouth during this time (equals aphthous stomatitis). The terms 'aphthous stomatitis' and 'aphthous ulcers' have been used interchangeably in the past, but the word aphthous stomatitis is now preferred.(Légeret, C., et al 2021)

1.2 CLASSIFICATION:

An ulcer is described as a full epithelial rupture that develops into a fibrin slough and appears as a white lesion surrounded by erythema. A mucosal lesion is called chronic if it lasts more than 14 days; otherwise, it is considered an acute ulcer. (Légeret, C., et al 2021) Mouth ulcers are classified on the basis of their underlying cause.

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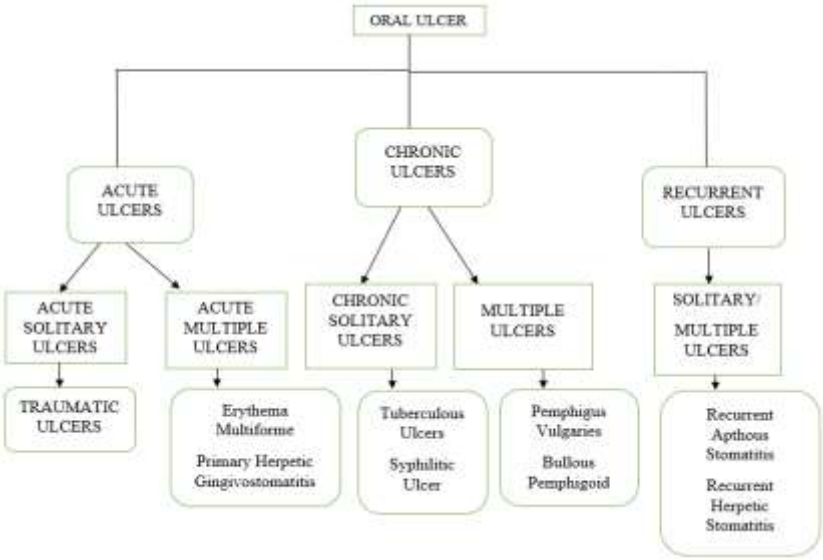

FIGURE: 1.1

1.2.1 TRAUMATIC ULCERS:

A traumatic ulcer is the most prevalent type of ulcer, and it is acute in nature. Physical, thermal, or chemical stress to the oral mucosa is frequently the cause of ulcers. Physical trauma can be produced by everyday activities such as tooth brushing or flossing, as well as sharp edges of dentures or teeth, and it can also be self-inflicted by the patient while under local anaesthetic during a dental operation. Thermal burns are most usually caused by hot food or beverages such as pizza, coffee, or tea, or by a heated dental instrument during a dental procedure. If the cause is removed, traumatised ulcers normally heal in 7-10 days. It is critical to distinguish between traumatic ulcers and squamous cell cancer. If the ulcer does not heal in two weeks, a biopsy is advised to rule out a deep fungal infection or cancer 4. These ulcers are usually solitary, however in the primary and tertiary phases, syphilis can show as a single ulcer.(Casale, M., et al 2017)

1.2.2 RECURRENT APHTHOUS STOMATITIS (RAS):

Recurrent mouth ulcers in the absence of underlying systemic disease are referred to as RAS. This is a prevalent, benign disorder with an unknown cause that affects up to 20% of the population. Ulcers frequently begin in childhood, peaking in adolescent or early adulthood, and then progressively diminishing in severity in later maturity. A nutritional deficit, such as ferritin, vitamin B12, or folate, is the most significant risk factor. Other risk factors include a genetic predisposition, an increased reaction to trauma, stress, and celiac disease. Aphthous ulcers can also be a symptom of systemic diseases such as Behcet's disease, mouth and genital ulcers with inflamed cartilage (MAGIC) syndrome, periodic fever, aphthous stomatitis, pharyngitis, and adenitis (PFAPA) syndrome, haematological disorders (cyclic neutropenia, leukaemia, anaemia secondary to haematnic deficiency(Yogarajah, S., et al 2021)

1.2.3 ORAL SQUAMOUS CELL CARCINOMA:

Squamous cell carcinoma (SCC) of the mouth manifests itself in a variety of clinical manifestations.It might appear as a white lesion (leukoplakia), a red lesion (erythroplakia), a red and white lesion (erythroleukoplakia), an indurated mass, or a mucosal ulcer.The most prevalent intraoral locations for this cancer are the tongue and the lateral tongue. Tobacco and alcohol usage are substantial risk factors for oral cancer. SCC of the lip, which is related with UV exposure and pipe smoking, frequently manifests as a chronic, nonhealing ulcer near the vermillion border This kind of cancer can resemble various different ulcerative disorders, including recurrent herpes simplex virus1 (HSV-1).(Siu, A., Landon, K., et al 2015)

1.2.4 IMMUNOBULLOUS DISEASE:

Immunobullous illnesses are rare autoimmune conditions in which blisters occur because of autoantibodies directed against mucocutaneous proteins. Blister rupture results in an infection. Ulcer or erosion. Pemphigus vulgaris and mucous membrane pemphigoid are the two most common immunobullous disorders that affect the oral mucosa. They differ in terms of blistering site (intra-epithelial for PV and subepithelial for MMP) and targeted protein antigens (DSG (desmoglein)-1 and DSG-3 for PV and BP180 and BP230 for MMP), resulting in diverse clinical manifestations. Blisters burst quickly in PV, forming superficial, ragged erosions that are generally red and seen on nonkeratinized mucosa. MMP shows intact blisters before they burst to generate superficial ulceration with a yellow base. (Yogarajah, S., et al 2021)

1.2.5 PRIMARY HERPETIC GINGIVOSTOMATITIS:

Primary herpetic is a common oral manifestation of herpes simplex virus (HSV) infection. HSV-1 is responsible for more than 90% of cases that develop above the waist.HSV-2 infection develop below the waist. It is not uncommon to culture HSV-2 from oral lesions due to shifting sexual behaviors. The age of occurrence is usually between 6 months and 5 years, with a peak incidence between 2 and 3 years. Fever, nausea, anorexia, and irritability are all prodromal signs. The virus is first encountered by inoculating contaminated secretions into the mucosa, skin, and eye, resulting in primary infection. The virus then establishes a persistent latent infection in a sensory ganglion, such as the trigeminal ganglion, which migrates along the sensory nerve axons. On both the hard and soft palates, vesicle clusters and/or ulcers occur. Gingival, tongue, buccal, and labial mucosa are also connected locations. The vesicles degrade into ulcers ranging in size from 1 to 5 mm, which combine to form enormous ulcers. Erythematous and scalloped borders. The mouth feels sore and inflamed, making swallowing and eating difficult. HSV reactivation may result in asymptomatic shedding of HSV in saliva and oral secretions. (Kharazmi, M., Sjöqvist, K., et al 2012)

1.2.6 ERYTHEMA MULTIFORME:

Erythema multiforme (EM) is an acute, hypersensitive reaction defined by the formation of discrete target-like lesions on the skin, which may be followed by erosions of the oral and/or vaginal mucosa. Erythema multiforme major is a cutaneous and mucous membrane reaction to medication exposure. Erythema multiforme mild, a reaction to HSV infection, does not have a mucosal manifestation. Large pseudomembrane-covered sores on the buccal mucosa, ventral tongue, and labial vestibule can be symptoms of intraoral lesions (Figure 8A). EM is distinguished by hemorrhagic crusting of the vermillion border of the lips. Cutaneous lesions are common with oralcavity lesions, but the oral mucosa might be damaged alone. Usually affects young adults, with a small preference for males. (Siu, A., Landon, K., et al 2015) An ulcer is a spot on the epithelial surface where the epithelial membrane has broken down. Ulcers in the mouth are common and have a wide range of etiologies, signs & symptoms, prognosis, and treatment options. Physical or chemical harm, infectious neoplasms, and immune system abnormalities, particularly autoimmune illness, are all common causes of mouth ulcers. Most oral lesions have a simple origin that can be determined by history and clinical appearance, and many of these lesions may be treated successfully with a variety of conservative procedures. Some ulcers, on the other hand, need a biopsy, culture, or other laboratory techniques for a clear diagnosis and the establishment of a particular treatment plan.

1.3 CAUSES OF ULCERS:

1.3.1 ULCERS CAUSED BY PHYSICAL INJURY:

1.3.1.1 CAUSE OF TRAUMATIC ULCER:

A traumatic ulcer is the most prevalent type of oral cavity ulcer, which is induced physical trauma. A laceration, abrasion, or heat burn is the initial damage, which progresses to a nonspecific ulcer. Most traumatic ulcers are caused by self-inflicted injuries such as mucosa bites, whether deliberate or inadvertent, or toothbrush injuries. Regrettably, some ulcers are induced by clinician-inflicted trauma during therapy. Oral wounds can be caused by poorly controlled hand or rotary instruments, overextended impression trays with rough borders, sharp provisional crowns, or Incorrect placement of aspiration devices. The "cotton roll injury," which occurs when a cotton roll adheres to the mouth after drying, is a distinctive iatrogenic oral ulcer (Woods et al., 1990).

1.3.1.2 DRUG INDUCED ORAL ULCERS:

Drugs that cause oral ulcers Oral ulcers can be caused by a variety of drugs, including beta-blockers, immunosuppressant, anticholinergic bronchodilators, platelet aggregation inhibitors, vasodilators, protease inhibitors, antibiotics, non-steroidal anti-inflammatory drugs (NSAIDs), antiretroviral, and antihypertensive NSAIDs are a class of medicines that are well-known for causing mouth ulcers 23, 24, 25. Oral ulceration has been linked to a number of new medications used to treat chronic diseases like diabetes, angina pectoris, rheumatoid arthritis, and osteoporosis, according to many recent publications.(Jinbu & Demitsu, 2014)

1.3.2 ULCERS CAUSED BY BACTERIAL INFECTIONS:

1.3.2.1ACUTE AND CHRONIC NECROTIZING ULCERATIVE GINGIVITIS:

Acute necrotizing uicerative gingivitis (ANUG) is a kind of necrotizing gingivitis that mostly affects young individuals and starts as a necrotizing lesion affecting the interdental papillae. The gingiva is prone to bleeding, and the necrotic papilla's tip seems to be "punched out" and coated with a yellow or yellow-white pseudomembrane (Fig 3). The clinical symptoms of ANUG include pain, fever, malaise, foetid breath, and lymphadenopathy. The condition frequently has a chronic course (CNUG), with periodontitis developing as a result. Spirochetes and fusobacteria are key etioiogic factors in ANUG, although the disease's pathogenesis is unknown. Nonspecific stress, according to several researchers, has an important role.(Woods et al., 1990)

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1.3.2.2 GINGIVITIS AND SOME SEXUALLY TRANSMITTED DISEASE:

Oral ulcers can be caused by gingivitis and other sexually transmitted illnesses. In individuals with poor dental hygiene, acute necrotizing ulcerative gingivitis manifests as a sudden sloughing of the gingiva. Trench mouth was named for the fact that it was quite frequent among World War I troops who were under a lot of stress and had little opportunity to get dental treatment while on the battlefield. The majority of patients with acute necrotizing ulcerative gingivitis are immunocompromised or malnourished. Smoking, fatigue, and poor dental hygiene or nutrition are all risk factors. Acute necrotizing ulcerative gingivitis is an opportunistic illness caused by anaerobic bacteria that ordinarily live in the mouth and cause infection when resistance is impaired. The disease is uncomfortable, and the interdental papilla (triangular gingival tissue between the teeth) is inflamed.

1.3.2.3 GONORRHEA:

Oro-genital spread of gonorrhoea can impact the oral mucosa, resulting in numerous ulcers with overlaying white pseudomembranes on bright red mucosa. Patients may be asymptomatic or experience severe oropharyngeal discomfort with lymphadenopathy.(Bruce et al., 2015)

1.3.3 ULCER CAUSED BY VIRAL DISEASES:

1.3.3.1 HERPES SIMPLEX INFECTION:

1.3.3.1.1 HERPES SIMPLEX VIRUS 1:

Oral ulcers can be caused by a variety of illnesses. The most prevalent viral cause of ulcers is primary herpes simplex type 1 (HSV-1).Individuals who are affected may develop extensive, tiny, superficial ulcers of the oral mucosa. The gingiva is frequently enlarged and ulcerated, resembling acute necrotizing ulcerative gingivitis (ANUG) (see below). Primary HSV-1 infection commonly occurs in the second or third decade of life, even though it was formerly thought to be a childhood illness. Severe and/or recurrent HSV-1 infection that presents atypically might indicate an underlying immunodeficiency, such as lymphoproliferative illness or HIV infection.

1.3.3.1.2 HERPES SIMPLEX VIRUS 2:

HSV-2 can cause oral ulcers like to those caused by moderate primary HSV-1 infection, notwithstanding its rarity. The causal virus is transmitted urogenital, resulting in the development of mouth ulcers.

1.3.3.2 EPSTEIN–BARR VIRUS:

Epstein–Barr virus (EBV) ulcers are uncommon; however they can be a symptom of infectious mononucleosis. A few little superficial ulcers of the oral mucosa make up the ulcers. EBV is more commonly linked to ulcers in certain non-lymphomas19 Hodgkin's or white spots known as oral hairy leukoplakia (OHL), which can develop in immunodeficiency (e.g. HIV disease, corticosteroid or other systemic immunosuppressant therapy, etc.). OHL has been reported in individuals with inflammatory bowel disease who are receiving treatment.(Porter & Leao, 2005)

1.4 MAIN DIFFERENTIAL DIAGNOSES FOR ORAL ULCERATION

INFLAMMATORY

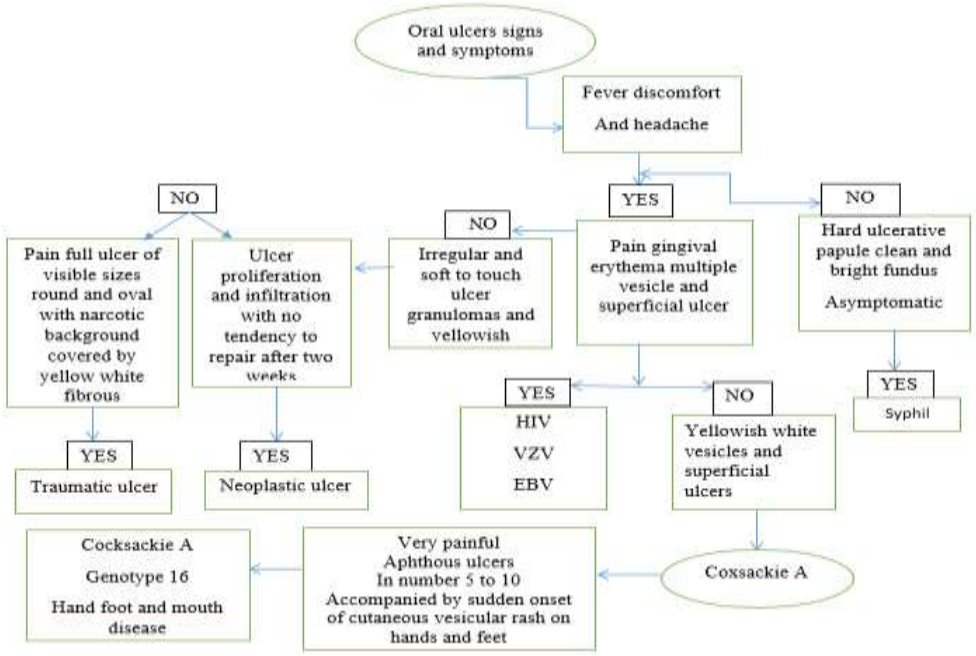

FIGURE: 1.2

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1.4 MAIN DIFFERENTIAL DIAGNOSES FOR ORAL ULCERATION

INFLAMMATORY

1.4.1 TRAUMA:

Soft, non-indurated delicate yellow base with crimson edges. Lips, buccal mucosa, tongue, or denture-bearing location are usually involved.

1.4.1.1 IDENTIFICATION:

Determine the source of the problem, such as a denture, biting, or a chemical (such as aspirin or dental materials).

1.4.2 RAS:

Patients always exhibit round/oval ulcers with considerable peri-ulcer erythema.

1.4.2.1 MINOR:

Minor is the most prevalent kind, accounting for around 80% of all RAS cases.

1 in 5 ulcers each crop, 5 mm in diameter, last 2 weeks, and heal without scarring.

Mostly non-keratinized mucosa is involved.

1.4.2.2 MAJOR:

1 in 3 crop ulcers are >10 mm in diameter, persist 3 weeks, and can heal with scarring. Any mucosal location might be affected.

1.4.3 HERPETIFORM: is a rare subtype. Up to 20 ulcers per crop, ranging in size from 12 to 20 mm in diameter, can cluster, persist up to two weeks, and heal without scarring. Non-keratinized mucosa is involved

1.4.3.1 IDENTIFICATION:

To rule out an underlying haematinic deficit or gastrointestinal distress, a serum test is performed.

1.4.4 BD

Orogenital ulcers (clinically identical to RAS), ocular illness (e.g. uveitis), and skin lesions (e.g. erythema nodosum) are also possible causes.

Vascular, rheumatic, neurological, and gastrointestinal problems are also possible.

1.4.4.1 IDENTIFICATION:

Based on history, interdisciplinary evaluation, and agreed-upon international criteria, there is no current viable test for diagnosis.Often observed in Turkish, Middle Eastern, and Japanese ethnic groupings. The HLA-B51 allele is linked to ocular BD.

1.4.5 VIRAL:

1.4.5.1 HSV:

Multiple tiny vesicles burst in primary herpetic gingivo-stomatitis, leaving circular yellow lesions. Hard palate and gingivae are involved. Frequently ill on a systemic level Viral swab for PCR crusted over Herpes labialis e ules on lips.

HSV antibodies are found in the blood, however IgG signifies only prior exposure and not ongoing infection.

1.4.5.2 HIV:

Identical to RAS .Serum shows HIV antibodies/antigen

1.4.6 BACTERIAL:

1.4.6.1 SYPHILIS:

Bacterial Syphilis Primary e painless oral chancre (ulcer with indurated edge) typically on lip or tongue Secondary e irregular flat ulcers that can coalesce (linear or round) involving tonsils, tongue or lip.

1.4.6.2 IDENTIFICATION:

Swab of bacteria for PCR. Antibodies against syphilis in serum. Immunohistochemistry was used to confirm Treponema.(Yogarajah & Setterfield, 2021)

1.5 TREATMENT:

Treatment of oral ulcers frequently requires a complete methodology at times including more than one subspecialty. For ideal treatment of oral ulcers, unfortunate dental cleanliness should be revised. Control of periodontal illness is the beginning stage for giving great oral cleanliness. Reference to a dental specialist to eliminate plagues, caries and ill-filling dental machines is fundamental. Sufficient hydration can be kept up with successive mouthwashes preceding and after suppers and a few times during the day. A gentle soluble mouthwash, for example, a mixture of

cetylpyridinium chloride (Cepacol) diluted 1:4 with water might be a valuable planning. Topical anesthesia is at times important to ease inconvenience and sensation of pain prior to eating. Hard, hot, corrosive, sharp, sweet and aggravating food sources, including mints, candies, and gum should be avoided. The mouth must be handled softly. These actions frequently give sensational alleviation of oral ulcers. Also, any related fundamental problems must be recognized and cured, or treatment might not be successful.(Bruce & Rogers, 2003) Latest treatment options offered in curing and managing mouth ulcers consist of certain topical as well as systemic corticosteroids, local antiseptics, mouth washes, certain antibiotics, immune system modulators, some analgesics, multivitamins and some anti-inflammatory drugs as well. As there are so many different treatment choices for mouth ulcers but the drawback lies in the instability of the curative effect which is followed with less chances of systemic adverse effects.(Yan et al., 2020)

1.5.1 CORTICOSTEROIDS:

Corticosteroids are used to reduce the span and pain of a single ulcer. It must be recollected, nonetheless, that effective or fundamental corticosteroids are contraindicated in the event that the ulcer is brought about by an infective etiology, either bacterial or viral (HSV). When suitable, 0.1% triamcinolone acetonide should be added in an emollient dental paste, and can be applied to mucosal lining a few times each day. This might be adequate for some individuals. Different journalist have proposed that a solution of corticosteroid, for example, a 0.1% mometasone furoate solution is a reasonable procedure for treatmentof oral ulcers (three drops applied to the ulcer, rubed in with the tongue and expectorated). Other more strong effective corticosteroids, such as fluocinonide gel (Lidex) or clobetasol balm (Temovate), are likewise powerful. (Bruce & Rogers, 2003)

Following are certain Corticosteroids used in treatment of oral ulcer:

- Betamethasone
- Hydrocortisone
- Prednisolone
- Beclometasone diproprionate(Brocklehurst et al., 2012)

1.5.2 ANTI-INFECTIVE ANTIBIOTICS:

Notwithstanding control of oral flora, systemic treatment with oral or incidentally intravenous antibiotic, antiviral or antibacterial anti-microbial is now and again vital. Systemic acyclovir might be used for treatment of oral herpesvirus disease, especially in serious illness or in immunocompromised people. More current antiviral specialists, for example, famciclovir and valacyclovir, have more rich and advantageous dosing plans, and are progressively utilized in administration of oral herpesvirus contaminations. Prophylactic antiviral treatment is useful in treating repetitive episodes of intraoral HSV disease. Systemic antibiotic are importantly used to control oral ulcers coming about because of bacterial contaminations, especially with extreme gingival sickness as found in intense necrotizing ulcerative gum disease. Particularly infective sicknesses, like syphilis, gonorrhea, etc. normally requires suitable coordinated antibiotic.(Bruce & Rogers, 2003)

Following are certain Anti-infectives used in treatment of oral ulcer:

- Tetracycline
- Dapsone
- Doxycycline
- Clofazimine(Brocklehurst et al., 2012)

1.5.3 MULTIVITAMINS:

Utilization of certain minerals and vitamins for the treatment of patients with repetitive aphthous ulcer expect to decrease uneasiness, rapid healing, diminish the number and reduce the size of ulcers, and work on the recurrence and length of illness free periods. Methylcobalamin (otherwise called mecobalamin and vitamin B12), is a cobalt-containing nutrient removed from the liver that can successfully work on the nearby microcirculation; advance the development and fixing of neighborhood new tissue, and lift ulcer healing. It is normally utilized in the clinical treatment of repetitive oral ulcer, which can reduce pain and work on other clinical symptoms. Vitamin E is a fat-solvent nutrient that can repress the development of Helicobacter pylori and diminish the repeated occurrence of ulcers after healing. Vitamin E is utilized to treat repetitive oral ulcer. Fe-complex enzyme is a typical medication utilized for ulcer treatment. It can really decrease pain and activate healing of ulcer, however the impact is restricted, and healing is slow.(Cui et al., 2022)

Following are certain multivitamins and minerals used in treatment of oral ulcer:

- Vitamin B12
- Vitamin C

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- Zinc sulphate
- Vitamin E(Brocklehurst et al., 2012)

1.5.4 ANTI-INFLAMMATORY AGENTS:

Local anti-inflammatory agents might be the most accommodating method for rapid recovery and decrease symptoms in the treatment from repetitive minor aphthous ulcers. Triamcinolone 0.1 percent can be applied to ulcers 2 to 4 times a day. This preparation likewise gives a defensive nearby protection to the ulcer. Early commencement of this treatment might bring about a more quick reaction. The preparation can be applied until the ulcer is recovered. For greater oral ulceration, dexamethasone remedy, 0.5 mg per 5 mL, might be utilized as a mouth wash and expectorated. Patients must to be cautioned of the potential for optional contagious disease while utilizing a steroid rinse. Systemic steroids are for the most part not suggested in that frame of mind of aphthous ulcers, despite the fact that they might be useful in the treatment of conditions that imitate aphthous ulcers.(McBride, 2000)

1.5.5 IMMUNE MODULATORS:

Immune modulators utilized for the treatment of aphthous ulcers have been examined most completely in patients contaminated with HIV. Aphthous ulcers in HIV-contaminated patients might have very extended recovery time, up to months. Thalidomide is the most often utilized for the aphthous ulcers that cause extreme pain while eating. Thalidomide is contraindicated in non-HIV-contaminated patients in light of its true capacity for huge adverse event and teratogenicity. Amlexanox 5% paste has been analyzed in a few investigations of the treatment of aphthous ulcers. It was applied to ulcers two to multiple times a day. Recovery time was minimized with it.(McBride, 2000)

Following are immune modulators used in treatment of oral ulcer:

- Montelukast
- Clofazimine
- Beta-glucan

1.5.6 HERBAL MEDICINE:

The improvement of oral ulcer is related with harmful Heat (hot spleen) or body's internal heat. The natural remedy procedure depends on precise conclusive analysis of the causes of illness. Herbs like Lonicera japonica Thunb, Forsythia suspensa and Anemarrhena asphodeloides Bunge have the impact of detoxifying as well as heat clearing. Scrophularia buergeriana and Pophora subprosrlata quickly reliefs pain of enlarged gum. Scutellaria baicalensis Huds and Scutellaria barbata have an anti-inflammatory effect. The dried roots of Scutellaria baicalensis Huds has a long history of inflammation treatment. Herbs are utilized orally. Oral ulcer patients are told to take the natural decoction one portion day to day, half in the first part of the day and half in the early evening after each meal.(McBride, 2000)

The plant is a rich asset that has been utilized for quite a long time to treat different disorders. There are numerous herbs with restorative properties. Portions of a plant can be utilized to treat many sorts of diseases. Flavonoid containing plants have antibacterial, anti-inflammatory, antioxidant, antiviral, antiallergic and anticancer effects which shows that such plants can treat mouth ulcers.(Hidayat et al., 2022)

Following are some herbal medicines used in treatment of oral ulcer:

- Soybean oil
- Perilla oil
- Aloe vera
- Curcuma longa
- Citrus hystrix(Brocklehurst et al., 2012)

1.6 ROLE OF PHARMACIST:

The role of Pharmacist in the providing general and oral medical services is a significant and important one. The health care departments took several steps to expand the commitments made by pharmacist in working on the range and nature of essential health services. The role of pharmacist has extended from container of prescriptions to perceive as individual from the medical care group. Pharmacist has served as the medicine master and, because of their insight and awareness, is generally approached by people in general to respond to wellbeing related questions. There are many different means by which pharmacist can adopt a forefront strategy to oral ulcer prevention, recognition, evaluation, management, and reference.

These incorporate advising uses of effective fluorides, particularly fluoride toothpastes; advising the utilization of delicate fiber toothbrushes; empowering for oral cleanliness practices; advising for diet, empowering utilization of dental products and services and preventive treatments, and giving guardians and other family members awareness, inspiration, certainty, and the abilities to prevent oral infection.(Priya et al., 2008)

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1.7 AIMS AND OBJECTIVES:

The purpose of this study was to investigate

- Knowledge, attitude, and behavior regarding oral ulcers and
- To enhance awareness among general population of Islamabad and Rawalpindi about oral ulcers.
- To achieve our objectives research was conducted by distributing these questionnaires among different age groups like university students and general public.

2. MATERIALS AND METHODS

2.0 METHODOLOGY:

2.1 STUDY DESIGN:

This is cross-sectional, descriptive and observational study. The awareness of oral ulcer was predicted using prospective method, in given time period, by circulating questionnaires among students of University of Lahore Islamabad Campus and knowing their level of knowledge and awareness regarding oral ulcers.

2.2 SAMPLE SOURCE AND TIME FRAME:

Students and faculty members of University of Lahore Islamabad Campus were sample source. Date was collected from 21st February 2022 to 2nd July 2022. Sample size includes 60 questionnaires and 40 interviews. Data of 100 participants was obtained.

2.3 INCLUSION AND EXCLUSION CRITERIA:

All students and faculty members within the age limit of 18 to 30 years of age were included in study. Students and faculty members below and above this age limit were excluded. Old and newborns were also excluded from study.

2.4 DATA COLLECTION:

Awareness of oral ulcer was predicted among the students and faculty members during the time frame of study. Socio-demographic information, knowledge, attitude and practice of participants were recorded. All the students and faculty members that falls in the inclusive criteria were included in the study. Practice includes experience of oral ulcer, number of lesions, pain sensation, cause, preferred treatment and recommendation.

2.5 DATA COLLECTION INSTRUMENTS:

Data collection instruments used for collecting date were closed-ended questionnaires. The questionnaires contain 4 sections. The first section contains the socio-demographic information. These were Gender, Age, Education and Weight. Second section was about the general knowledge about oral ulcer. Third section was about the attitude and causes of oral ulcer. Fourth section was about practice and experience. Overall questionnaires consist of 22 questions. 9 out of 22 questions were having option of YES/NO while other contains multiple options respectively.

In order to collect data from faculty members interviews were conducted from them. The time period of interview was approximately 5 to 15 minutes.

2.6 DATA COLLECTION METHODS:

- Questionnaires were circulated among university students and faculty members.
- Faculty members were interviewed to check there knowledge regarding oral ulcers.

2.7 DATA COLLECTION SCALES:

- Certain numerical values were used to express age, weight, heal time and number of lesions.
- Response to questionnaires was also monitored.
- Percentage and frequencies was used to describes the awareness among individuals.

2.8 STATISTICAL DESIGN:

2.8.1 DATA ANALYSIS:

Date collected in study was analyzed using Statistical Package for Social Sciences (SPSS). Descriptive analysis was used for statistical evaluation i-e frequency and percentage of oral ulcer in male and female, frequency and percentage of people in age of 18-30 who experienced oral ulcer. Chi square test was applied to determine the occurrence of oral ulcer. P-value of less than 0.05 was stated as significant. Similarly effect of socioeconomic status on oral ulcer was determined by correlation test

2.9 ETHICAL APPROVAL:

This study was ethically approved by Research Ethics Committee (REC), Department of Dietetics and nutritional sciences; University of Lahore Islamabad Campus.

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3. ANALYSIS AND RESULTS

3.0 RESULTS:

3.1: SOCIO-DEMOGRAPHICS:

TABLE: 3.1

Questions	Option	Frequency	Percentage
Gender	Male a. Female	a. 20 b. 40	a. 33.3% b. 66.7%
Age	a. 21-25 years b. 26-30 years	a. 50 b. 10	a. 83.3% b. 16.7%
Education	a. Undergraduate b. Post Graduate	a. 57 b. 3	a. 95.0% b. 5.0%
Weight	a. 40-50 kg b. Above 50 kg	a. 22 b. 38	a. 36.7% b. 63.3%
Any Comorbidities	a. Diabetes b. Hypertension c. Any other d. None	a. 2 b. 3 c. 37 d. 18	a. 3.3% b. 5.0% c. 61.7% d. 30.0%

The above socio-demographic table show the frequency and percentages of different option given to the participants. Age group was selected between 21-30 years most of the participants were under-graduated

3.2 KNOWLEDGE BASED INFORMATION:

3.2.1 According to survey forms questionnaires

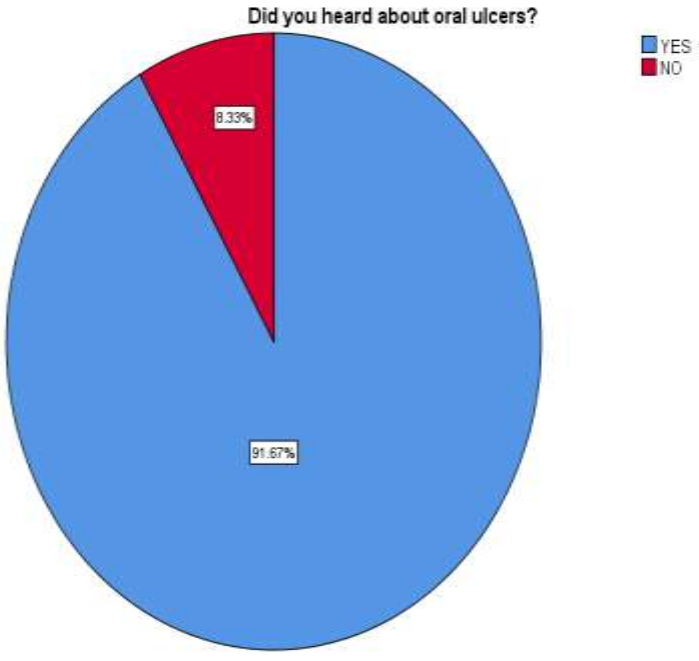
8.33% did not heard about oral ulcers

91.67% did heard about oral ulcers.

Did you heard about oral ulcers?

TABLE: 3.2.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	57	95.0	95.0	95.0
	NO	3	5.0	5.0	100.0
	Total	60	100.0	100.0	



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3.2.2 According to the above histogram shown is based on survey questionnaires shows that:

About 26 respondents have good knowledge about oral ulcers.

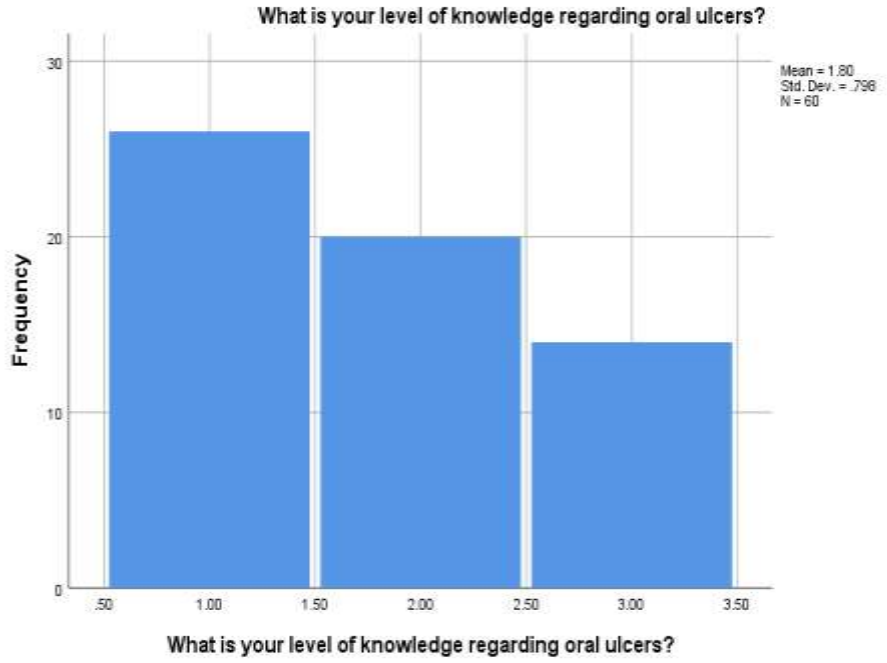
20 have fair knowledge regarding the survey.

14 have poor knowledge about oral ulcers.

What is your level of knowledge regarding oral ulcers?

TABLE: 3.2.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	GOOD	26	43.3	43.3	43.3
	FAIR	20	33.3	33.3	76.7
	POOR	14	23.3	23.3	100.0
	Total	60	100.0	100.0	



Mean = 1.80

Std dev = .798

No of participants were = 60

3.2.3 According to the survey based questionnaires

19 respondent shows that common region for oral ulcer is tongue

41 present respondents thinks oral floor is the region

Common region for oral ulcers?

TABLE: 3.2.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Tongue	19	31.7	31.7	31.7
	Oral Floor	41	68.3	68.3	100.0
	Total	60	100.0	100.0	

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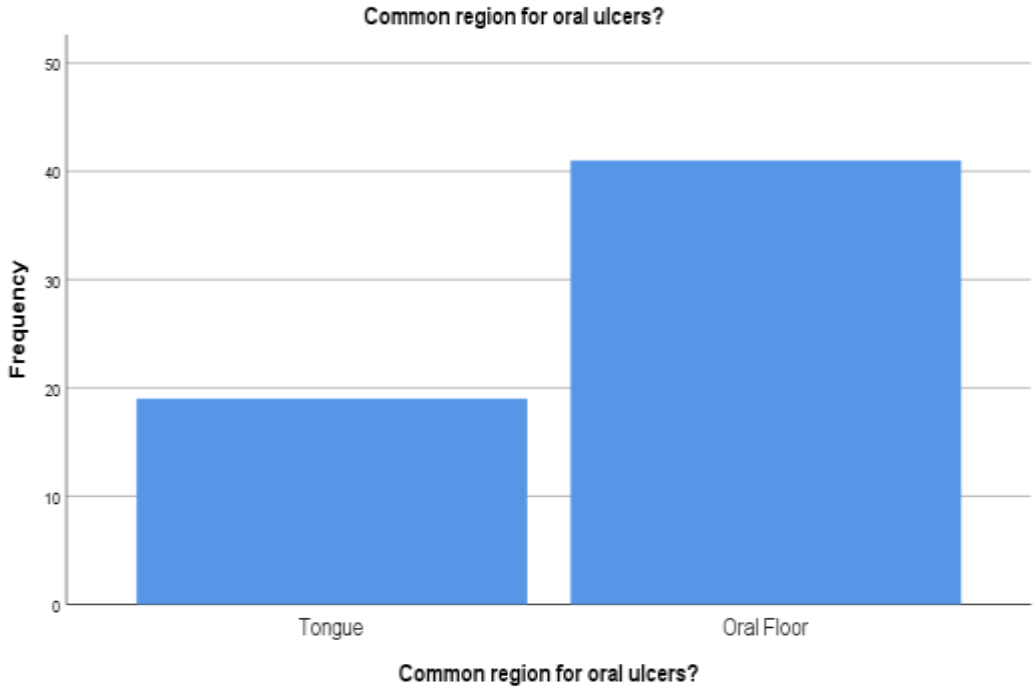


3.2.4 According to the pie charts which is drawn from the information collected by participants 41.67% thinks mixture of red and white

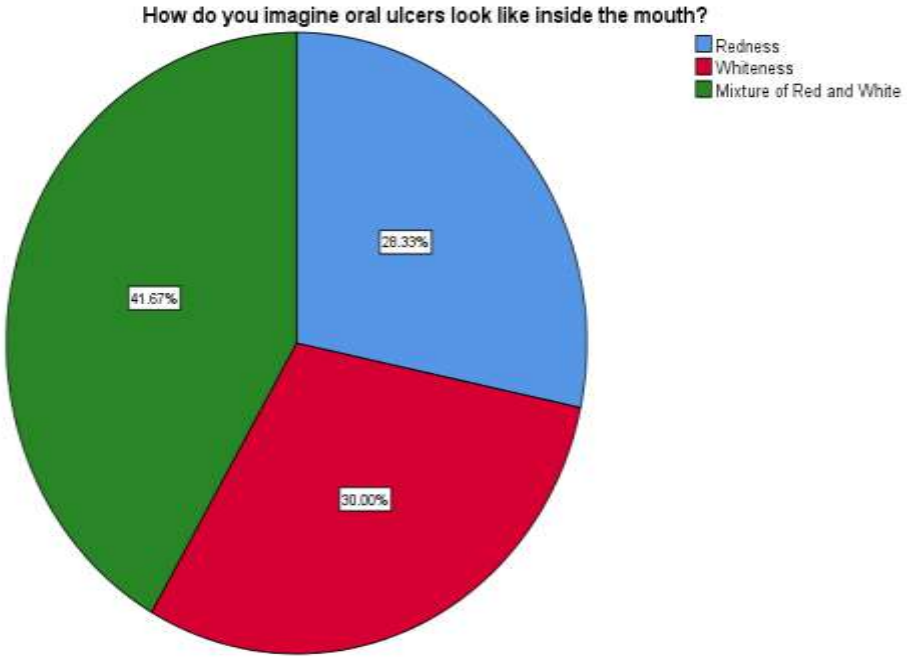
28.33% thinks that inside mouth it would look like red

30.00 % thinks its white

How do you imagine oral ulcers look like inside the mouth?

TABLE: 3.2.4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Redness	17	28.3	28.3	28.3
	Whiteness	18	30.0	30.0	58.3
	Mixture of Red and White	25	41.7	41.7	100.0
	Total	60	100.0	100.0	



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3.2.5 According to survey:

23 participants says 7-14 days.

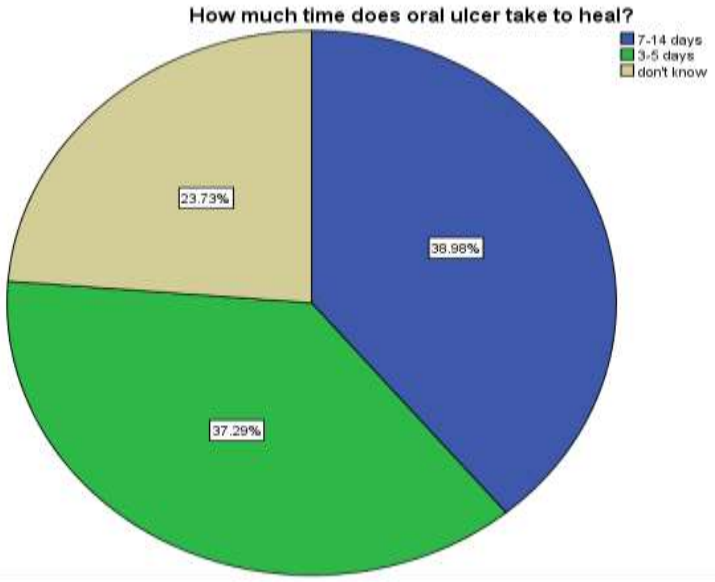
22 participants says 3-5 days.

14 participants says they don't know

How much time does oral ulcer take to heal?

TABLE: 3.2.5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	7-14 days	23	38.3	39.0	39.0
	3-5 days	22	36.7	37.3	76.3
	don't know	14	23.3	23.7	100.0
	Total	59	98.3	100.0	
Missing	System	1	1.7		
Total		60	100.0		



3.2.6 According to survey:

6 participants says less then 18 years.

29 participants says in the age of 18 – 30 years.

8 says more then 30 years.

17 says they do not know.

Which is the predominant age group with oral ulcer occurrence?

TABLE: 3.2.6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than 18 years	6	10.0	10.0	10.0
	18-30 years	29	48.3	48.3	58.3
	More than 30 years	8	13.3	13.3	71.7
	don't know	17	28.3	28.3	100.0
	Total	60	100.0	100.0	

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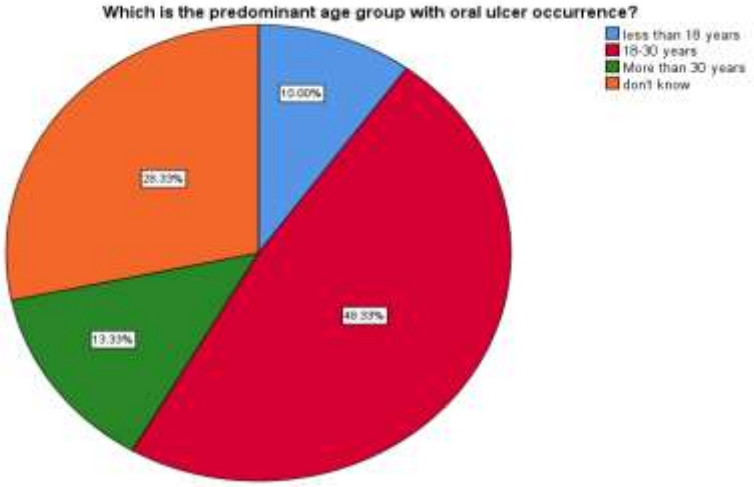


TABLE: 3.2.7

Questions	Options	Frequency	Percentage	Gender		Chi Square Value
				Male	Female	
Did you heard about oral ulcers?	a. Yes b. No	a. 57 b. 3	a. 95% b. 5%	a. 18 b. 2	a. 38 b. 1	.209
If yes, what is your level of knowledge regarding oral ulcers?	a. Good b. Fair c. Poor	a. 26 b. 20 c. 14	a. 43.3% b. 33.3% c. 23.3%	a. 7 b. 6 c. 7	a. 19 b. 14 c. 7	.312
What do you think is common region (site) for oral ulcers?	a. Tongue b. Oral Floor	a. 19 b. 41	a. 31.7% b. 68.3%	a. 5 b. 15	a. 14 b. 26	.432
How do you imagine oral ulcers look like inside the mouth?	a. Redness b. Whiteness c. Mixture of Red and white	a. 17 b. 18 c. 25	a. 28.3% b. 30.0% c. 41.7%	a. 4 b. 8 c. 8	a. 13 b. 10 c. 17	.416
How much time does oral ulcer take to heal?	a. 7-14 days b. 3-5 days . I don't know	a. 23 b. 22 c. 14	a. 38.3% b. 36.7% c. 23.3%	a. 7 b. 9 c. 4	a. 16 b. 13 c. 10	.676
Which is the prominent age group with oral ulcer occurrence?	a. Less than 18 years b. 18-30 years c. More than 30 years d. I don't know	a. 6 b. 29 c. 8 d. 17	a. 10.0% b. 48.3% c. 13.3% d. 28.3%	a. 3 b. 12 c. 2 d. 3	a. 3 b. 17 c. 6 d. 14	.292

3.3ATTITUDE BASED INFORMATION:

3.3.1 According to survey:

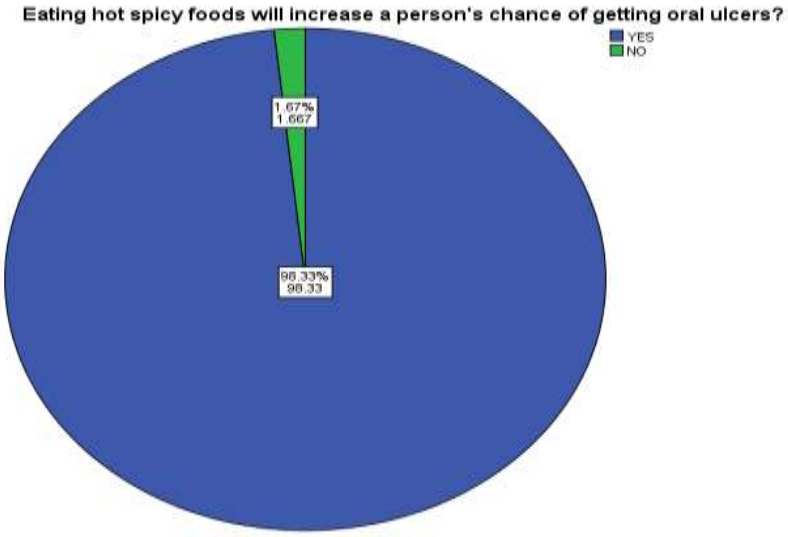
98.3% people says YES

Only 1.7% people says NO

Eating hot spicy foods will increase a person's chance of getting oral ulcers?

TABLE: 3.3.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	59	98.3	98.3	98.3
	NO	1	1.7	1.7	100.0
	Total	60	100.0	100.0	



3.3.2 According to survey:

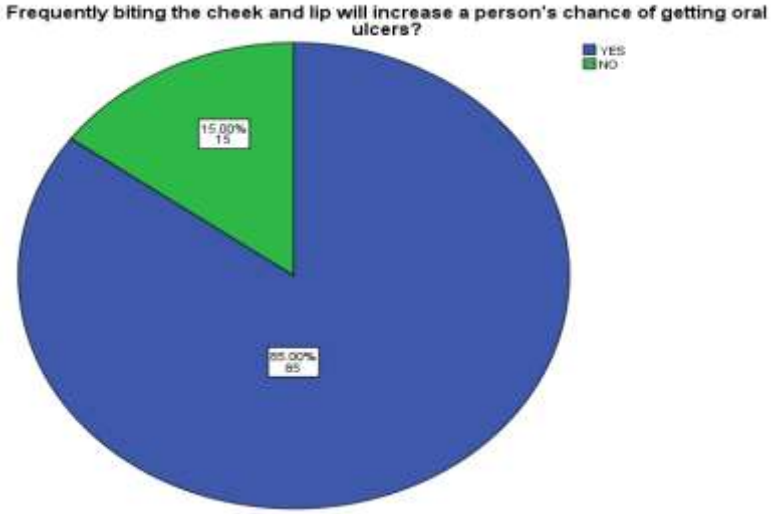
85% people says YES

15% people says NO

Frequently biting the cheek and lip will increase a person's chance of getting oral ulcers?

TABLE: 3 .3.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	51	85.0	85.0	85.0
	NO	9	15.0	15.0	100.0
	Total	60	100.0	100.0	



3.3.3 According to survey:

76.7 % people says YES

23.3% people says NO

Stress can cause oral ulcers?

TABLE: 3 .3.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	46	76.7	76.7	76.7
	NO	14	23.3	23.3	100.0
	Total	60	100.0	100.0	

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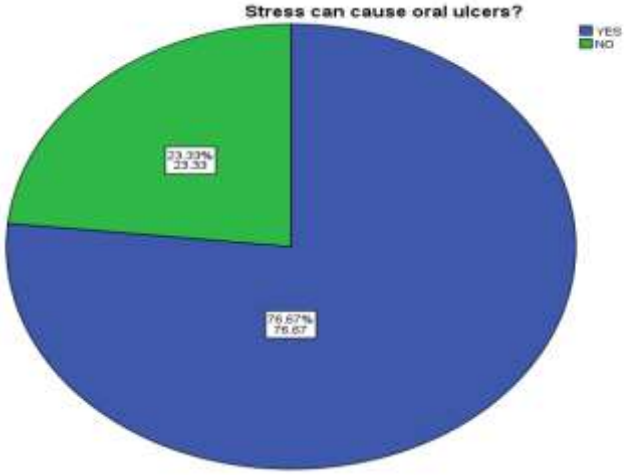


3.3.4 According to survey:

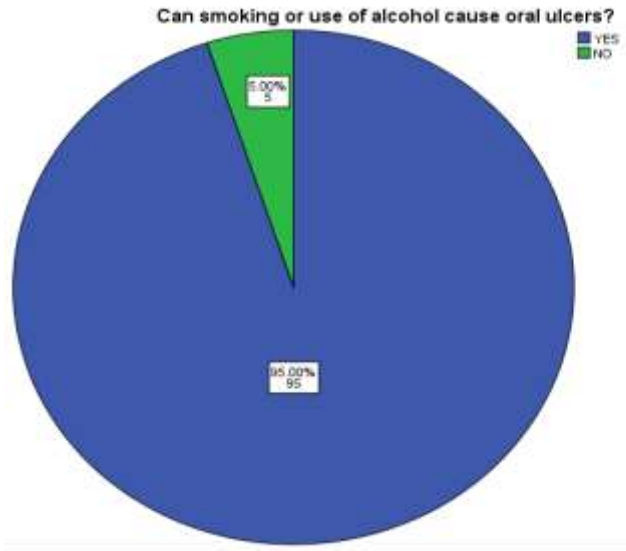
95% people says YES

5% people says NO

Can smoking or use of alcohol cause oral ulcers?

TABLE: 3.3.4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	57	95.0	95.0	95.0
	NO	3	5.0	5.0	100.0
	Total	60	100.0	100.0	



3.3.5 According to survey:

98.3% people says YES

1.7% people says NO

Poor oral hygiene can cause oral ulcers?

TABLE: 3.3.5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	59	98.3	98.3	98.3
	NO	1	1.7	1.7	100.0
	Total	60	100.0	100.0	

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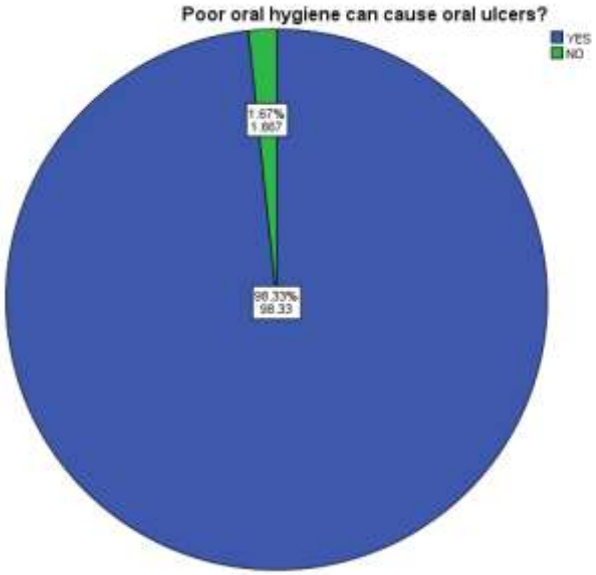

TABLE: 3.3.6

Did you ever experience oral ulcer?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	49	81.7	81.7	81.7
	NO	11	18.3	18.3	100.0
	Total	60	100.0	100.0	

3.4 PRACTICE BASED INFORMATION:

3.4.1 According to survey;

81.33% people says YES

18.33% people says NO

TABLE: 3.4.1

Questions	**Options**	**Frequency**	**Percentage**	**Gender**		**Chi Square Value**
				Male	**Female**	
Eating hot and spicy foods will increase a person's chance of getting oral ulcers?	Yes No	59 1	99.3% 1.7%	20 0	39 1	.476
Frequently biting the cheek and lip will increase a person's chance of getting oral ulcers?	Yes No	51 9	85.0% 15.0%	18 2	33 7	.443
Stress can cause oral ulcer?	Yes No	46 14	76.7% 23.3%	16 4	30 10	.666
Can smoking or use of alcohol cause oral ulcers?	Yes No	57 3	95.0% 5.0%	17 3	40 0	.012
Poor oral hygiene can cause oral ulcers?	Yes No	59 1	98.0% 1.7	20 0	39 1	.476

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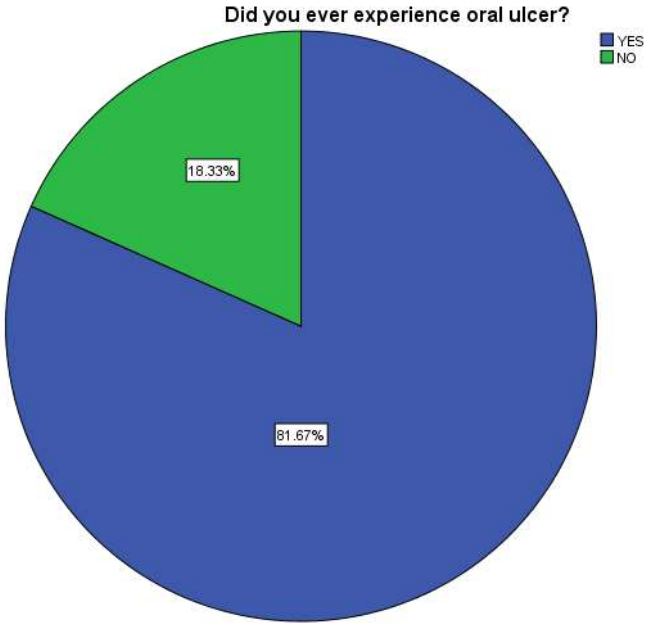


4.4.2 According to the survey:

34 people say they experienced 1-2 lesions.

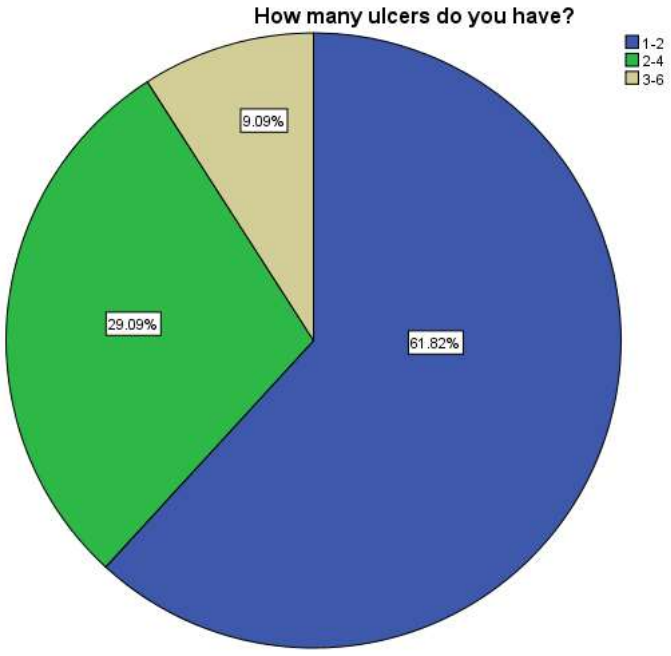
16 people say they experienced 2-4 lesions.

4 people say they experienced 3-6 lesions.

How many ulcers do you have?

TABLE: 3.4.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-2	34	56.7	61.8	61.8
	2-4	16	26.7	29.1	90.9
	3-6	5	8.3	9.1	100.0
	Total	55	91.7	100.0	
Missing	System	5	8.3		
Total		60	100.0		



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3.4.3 According to Survey:

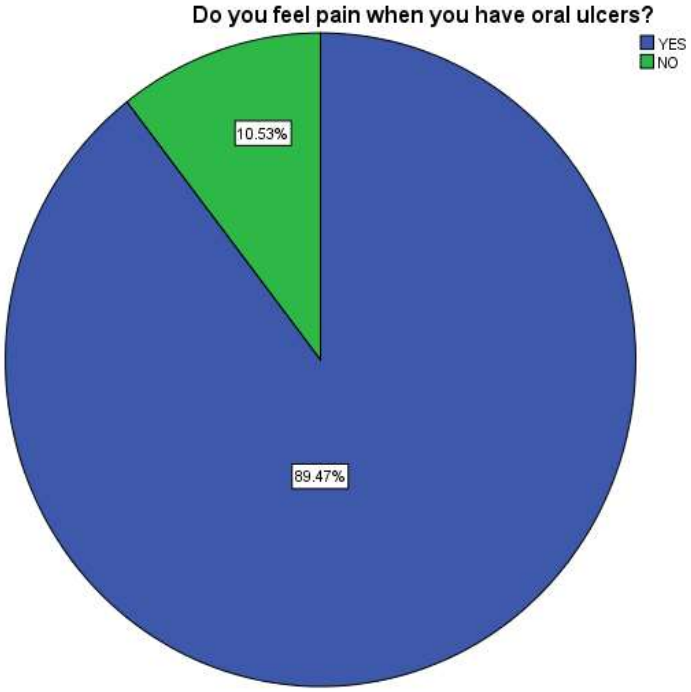
89.47% people say YES

10.53% people say NO

Do you feel pain when you have oral ulcers?

TABLE: 3.4.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	51	85.0	89.5	89.5
	NO	6	10.0	10.5	100.0
	Total	57	95.0	100.0	
Missing	System	3	5.0		
Total		60	100.0		



3.4.4 According to survey;

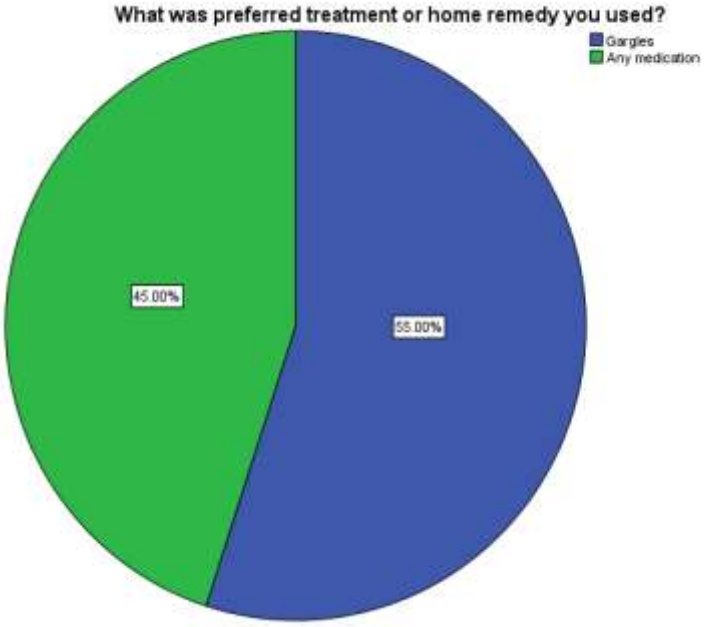
55.00% people say they treated oral ulcers by doing gargles.

45.005 people say they treated oral ulcers by using any medication.

What was preferred treatment or home remedy you used?

TABLE: 3.4.4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Gargles	33	55.0	55.0	55.0
	Any medication	27	45.0	45.0	100.0
	Total	60	100.0	100.0	



3.4.5 According to survey:

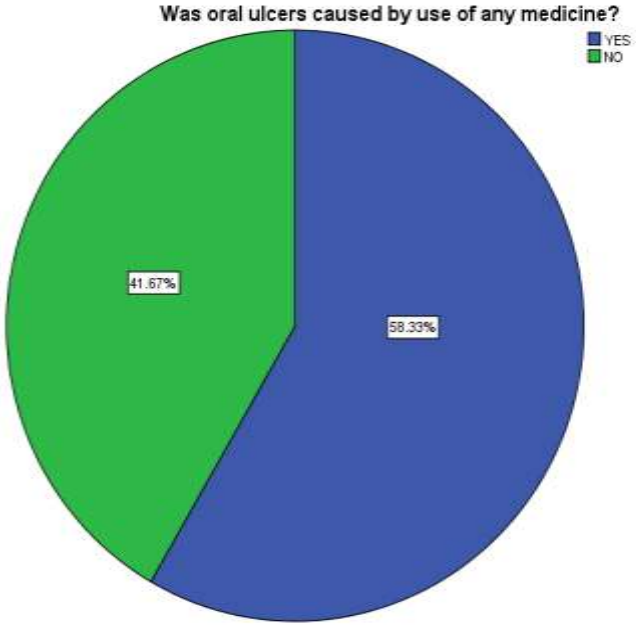
58.33% people say YES.

41.67% people say NO

Was oral ulcers caused by use of any medicine?

TABLE: 3.4.5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	35	58.3	58.3	58.3
	NO	25	41.7	41.7	100.0
	Total	60	100.0	100.0	



3.4.6 According to the survey:

21.67% people say that oral ulcer patient should visit Dentist.

55.00% people say that oral ulcer patient should visit Medical Practitioner.

23.33% people say that oral ulcer patient should approach Community Pharmacy.

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What would you recommend someone if he/she is suffering from oral ulcers?

TABLE: 3.4.6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Visit Dentist	13	21.7	21.7	21.7
	Visit Medical Practitioner	33	55.0	55.0	76.7
	Approach community pharmacy	14	23.3	23.3	100.0
	Total	60	100.0	100.0	

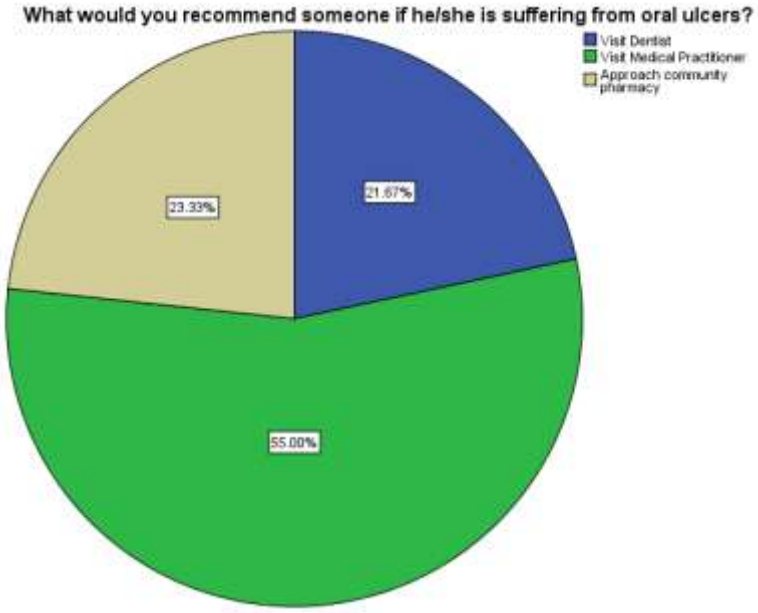

TABLE: 3.4.6

Questions	Options	Frequency	Percentage	Gender		Chi Square Value
				Male	Female	
Did you ever experience oral ulcer?	a. Yes b. No	a. 49 b. 11	a. 81.7% b. 18.3%	a. 18 b. 2	a. 31 b. 9	.238
How many ulcers (lesion) do you have?	a. 1-2 b. 2-4 c. 3-6	a. 34 b. 16 c. 5	a. 56.7% b. 26.7% c. 8.3%	a. 11 b. 7 c. 0	a. 23 b. 9 c. 5	.190
Do you feel pain when you have oral ulcers?	a. Yes b. No	a. 51 b. 6	a. 85.0% b. 10.0%	a. 17 b. 2	a. 34 b. 4	1.000
What was preferred treatment or home remedy you used?	a. Gargles b. Any Medication	a. 33 b. 27	a. 55.0% b.45.0%	a. 12 b. 8	a. 21 b. 19	.582
Was oral ulcer caused by use of any medicine?	a. Yes b. No	a. 35 b. 25	a. 58.3% b. 41.7%	a. 13 b. 7	a. 22 b. 18	.459
What would you recommend someone if he/she is suffering from oral ulcer?	a. Visit Dentist b. Visit Medical Practitioner Approach Community Pharmacy	a. 13 b. 33 c. 14	a. 21.7% b. 55.0% c. 23.3%	a. 5 b. 9 c. 6	a. 8 b. 24 c. 8	.530

4. DISCUSSION

4.1 DISCUSSION:

The idea was triggered by the apparent lack of awareness about oral ulcer in patients who presented to the regional unit. In twin cities particularly in men, there are higher than average rates of mouth and pharyngeal cancer, so it is imperative to try to gain a better understanding of people's awareness, their appreciation of risk factors and presenting symptoms, and what action they would take if they had a persistent and painful mouth ulcer. The study design allowed people to give responses with and without prompting which probably gave a true reflection of the actual level of awareness, and how they viewed mouth or oral cancer compared with other cancers. The face-to-face approach allowed for a much better feeling for people's responses than is possible with a postal survey the survey shows that the public's awareness regarding mouth ulcers is high relative to the number of cases each year. The link between oral cancer, smoking and spicy food was mirrored in our study; Smoking was recognized as a risk factor by three-quarters, and alcohol by less than a quarter. These findings are similar to a house-hold survey of 2001.7 a third of the responders. It is of concern that over one tenth thought that this was not a symptom, even when prompted. Interestingly, around 80–90% stated that they would see a doctor or a dentist if they had a mouth ulcer that had lasted for more than three weeks. This is reassuring as it tends to support early presentation, but what people say and what they actually do can be very different. Symptoms such as a white or red patch, abscess or boil, and loose teeth were seldom mentioned unprompted in our survey, but half of those questioned thought that an abscess or boil was a feature when prompted. This suggests some degree of uncertainty and it might mean that they would be slow to recognize the potential seriousness of these symptoms. Awareness, risk factors, and symptoms were relatively unaffected by area, sex, age, family history, alcohol history, education, employment, and whether or not they had a dentist In this survey two-third would see their doctor, and just over a quarter their dentist, if they had a painful mouth ulcer that had lasted for more than three weeks. It was surprising that this pattern was seen even in those with a dentist. People seem to be more likely to go to their doctor with symptoms, which raises issues about the teaching of oral cancer to undergraduate medical students, was a non-healing mouth ulcer.

5. CONCLUSION

It was concluded that general population in twin cities had much awareness regarding oral ulcers. According to our research age group of 18 -30 years was considered as the common age for oral ulcers. 98% people considered that poor oral hygiene is the main cause of oral ulcer. 55% of people think that by visiting medical practitioner oral ulcers can be treated or prevented.

6. RECOMMENDATIONS

According to the knowledge and information gathered by us after this research we recommend that everyone should maintain good oral hygiene as is the only way to avoid oral ulcers and other dental related problems. We recommend that by doing gargles various times a day can also be helpful in treating oral lesions. For preventing oral ulcers we should avoid hot and spicy food, quit smoking and other injurious products. If someone observers mixture of red and white lesions he/she must visit a medical practitioner. Everyone must twice in a year visit any certified Dentist to maintain good oral health and prevent oral ulcers. Avoid unhealthy food during oral ulcers as oral ulcers take 7 – 14 days to heal properly. One should also avoid frequent lip and cheek biting as it can lead to oral ulcers. Oral ulcer can also be caused stress, smoking and use of alcohol. Self-medication is also one of the leading causes of oral ulcer so avoid self-medication. If you feel sever pain due to oral ulcer, you can take OCT pain killers for pain relief. You can use over the counter Topical Anesthetics. Drink plenty of water to stay hydrated and prevent dryness inside the mouth which may worsen oral ulcers. Do warm salt water gargles few times a day. We do recommend the use of mouth washes (without alcohol) and don't forget to brush your teeth twice a day for better oral health. At last we do recommend you to take a healthy diet full of nutrients and vitamins, including fruits and vegetables.

7. REFERENCES

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