RESEARCH PAPER

Prevalence of Gingivitis in Tehsil Takht Bhai District Mardan KPK Pakistan

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Abstract

Oral hygiene is important for the social, economic and personal developments (Petersen 2003). Poor oral hygiene is the most common cause of gingivitis. Gingivitis is an inflammatory disease which affects gums. The sign and symptoms of gingivitis is pain, swelling, bleeding of the gingival tissues. Untreated gingivitis if left then it leads to periodontitis and loss of teeth. Studies showed that periodontitis is associated with killer diseases like diabetes, cardiovascular diseases, rheumatoid arthritis and low birth weight etc (Gangadhar *et al.* 2011). The area of study was TakhtBhai, Mardan at THQ in the months of February 2018 to April 2018. According to table 4.1 62.5% of the studied population of the urban area of district TakhtBhai showed that they have gingivitis while about 83.3% of the total studied population showed gingivitis and they belong to the rural areas of the district TakhtBhai. This showed that the oral hygiene in the residents of TakhtBhai is very poor and needs to improve through awareness and the consequences of it.

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Introduction

The most important aspect of an individual health is its oral hygiene. Usually oral hygiene is ignored frequently which work for tooth decay, gingivitis and periodontitis etc. Carious teeth, lost teeth and severe gingival problems are common in the poor residents of villages and town. These poor residents often seek treatment at severe stages of the diseases by visiting public sector hospitals (Iqbal *et al.* 2006). Oral hygiene is not only important for the development of personal relations but for an individual social, economic and personal developments are also affected by this. Therefore, maintenance of oral hygiene is very important (Petersen 2003). Maintenance of good oral hygiene is basis of a healthy mouth. Good oral hygiene can also prevent 80% of all dental problems (Nomaan*et al.* 2012). Due to poor oral hygiene one of the most common disease is gingivitis. It is an inflammatory disease which affects the gingival tissues. The sign and symptoms of gingivitis is pain, swelling, bleeding of the gingival tissues while brushing. If gingivitis is left untreated then it can become more severe and leads to periodontitis and loss of teeth. Periodontitis is a disease which also have a very bad impact on body systems. Many studies showed that periodontitis is associated killer diseases like diabetes, cardiovascular diseases, rheumatoid arthritis and low birth weight etc (Al-Khabbaz*et al.* 2011; Rakchanok*et al.* 2010; Gangadhar*et al.* 2011).

Swelling of gum is called gingivitis. Gingivitis is the mildest form of periodontal diseases. Reddening, swelling and bleeding of gums is due to gingivitis. Inadequate oral hygiene leads to gingivitis. Professional treatment and good oral home care can reverse gingivitis. Factors such as diabetes, smoking, aging, genetic predisposition, systemic diseases and conditions, stress, inadequate nutrition, puberty, hormonal fluctuations, pregnancy, substance abuse, HIV infection, and certain medicational use may contribute to gingivitis. Periodontitis is caused by untreated gingivitis. Plaque can spread. It grows below the gum line. Toxins produced by the bacteria in plaque gums. A Chronic inflammatory response is stimulated by the toxin production in which the body turns on itself and the tissues and bone that support the teeth are broken down and destroyed. Gums separate from the teeth. It forms pockets (spaces between the teeth and gums) that become infected. As the disease progresses, the pockets deepen. Ultimately destruction of gum tissue and bone occurs (Bimala *et al.* 2015). Chronic gingivitis is the most common periodontal infection among children and adolescents and may include plaque-induced chronic gingivitis - the most prevalent form, steroid hormone-related gingivitis, drug-influenced gingival overgrowth and others (Lang *et al.* 2009). The etiology of gingivitis is multi-factorial and the result of more than one factor acting together. A wide range of factors has been identified as significantly associated with gingivitis including the presence of bacteria biofilm, genetic, socioeconomic, demographic, iatrogenic, and behavioural factors. These factors seem to influence the process, making it difficult to identify the risk factors (Lopez *et al.* 2006). The aim of the current research work was to find out the prevalence of Gingivitis in Tehsil TakhtBhai District Mardan KPK Pakistan.

Material and methods

This investigation was done in tehsil Takhtbhai. Data was collected with the help of a questionnaire. The questionnaire of gingivitis includes the name of the patient/respondent along with address. Age, gender, socio-economic status, family history, oral hygiene, gingival bleeding, halitosis, stains, sensitivity, plaque, gingival recessions and medical history of the patients were also included in the questionnaire.

Medication and treatment were also present in the questionnaire.

All the data was collected in THQ Hospital (TakhtBhai).

The following is the design of the questionnaire due to which this study was possible thoroughly which shows all the required questions asked/filled from/by patients/respondents.

Questionnaire of Gingivitis

Name: _____

Address: _____

Socio-economic status: _____

Medical History: _____

Family History: _____

Oral hygiene method: Brushing/Miswak/Dandasa

Smoking: Yes/No

Gingival bleeding: Yes/No

Halitosis: Yes/No

Stains: Yes/No

Treatment: _____

Medical THQ Hospital (TakhtBhai) _____

Extraction: _Age:_____

       Gender: _____

Statistical analysis

All the data analysed properly and results were presented as mean ±SEM. Values were calculated using Statistical software.

Result

About 100 patients of different ages of both the gender were studied through questioners. The results suggest that the oral hygiene is not up to the mark in the people of takhtbhai. About 70% of the people studied use toothbrushes for only once a day in the morning. About 30% of the studied sample showed that people use twice in a day.

Table 1. Showing gingivitis in urban and rural areas.

Sample	Positive	Negative	Percentage
Urban	50	30	62.5%
Rural	100	20	83.3%

The total number of the patients that were examined was about more than 200 and out of which more than 180 patients were suffering from gingivitis and they show clear signs and symptoms of this disease. According to the survey taken in TakhtBhai THQ hospital we came to know that the total population of TakhtBhai in 2017 was 237306. Out of which 60% of the total population was from rural area and the remaining 40% was from urban area.

Table 2. Showing comparison of gingivitis in urban and rural areas.

Urban	Rural	Mean
15	10	12.5
20	15	17.5
30	20	25
60	40	45
90	50	55
120	70	80
140	90	105
160	120	130

The survival rate of inflamed teeth is 63% in next 50 years while that of non-inflamed teeth is 95% in next 50 years.

More than 200 peoples were examined out of which more than 180 people show the symptoms of this disease. If we see the table we came to know that 50% people live in rural area and 40% in urban area that means you can say that out of 100 people 60 people would be from village area and 40 people from the city area.

Standard deviation of the rural locality will not show a very extreme change they may have a very minor

change depending upon their habitat in which they live because the ratio of the people living in the village area is very low that visit any dentist with a perfect routine. The people of village area do not prefer to visit any dentist rather they prefer to visit ant nearby doctor who is not even specialist of a suitable disease.
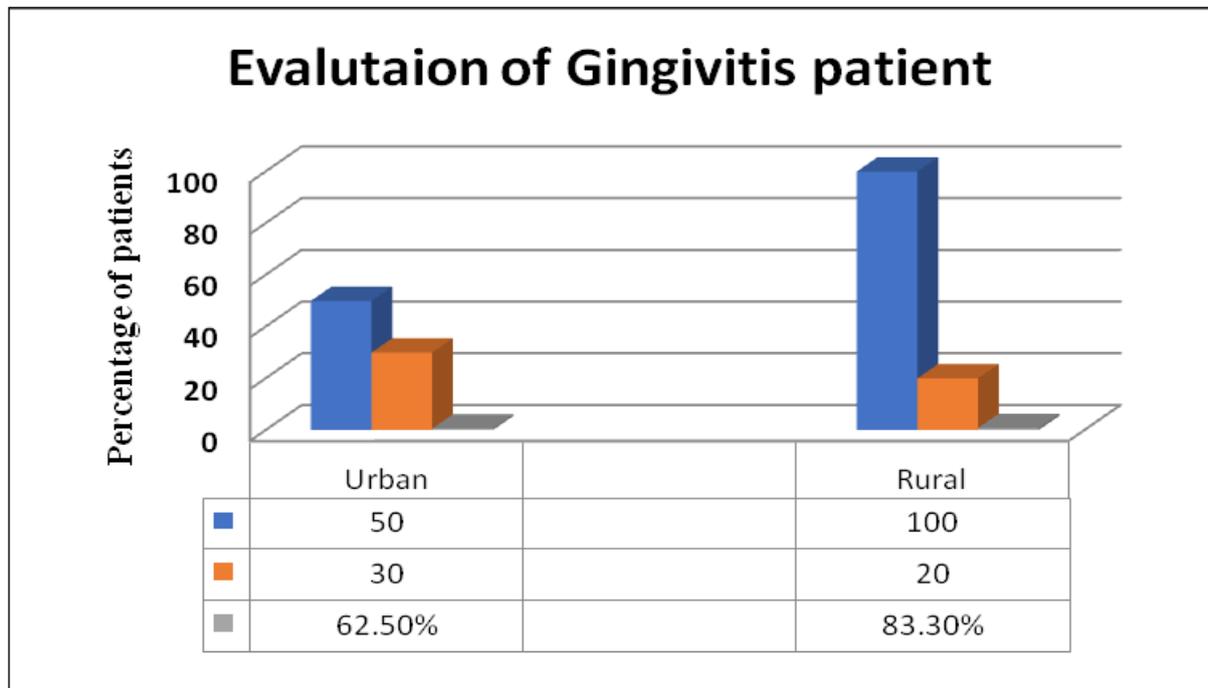

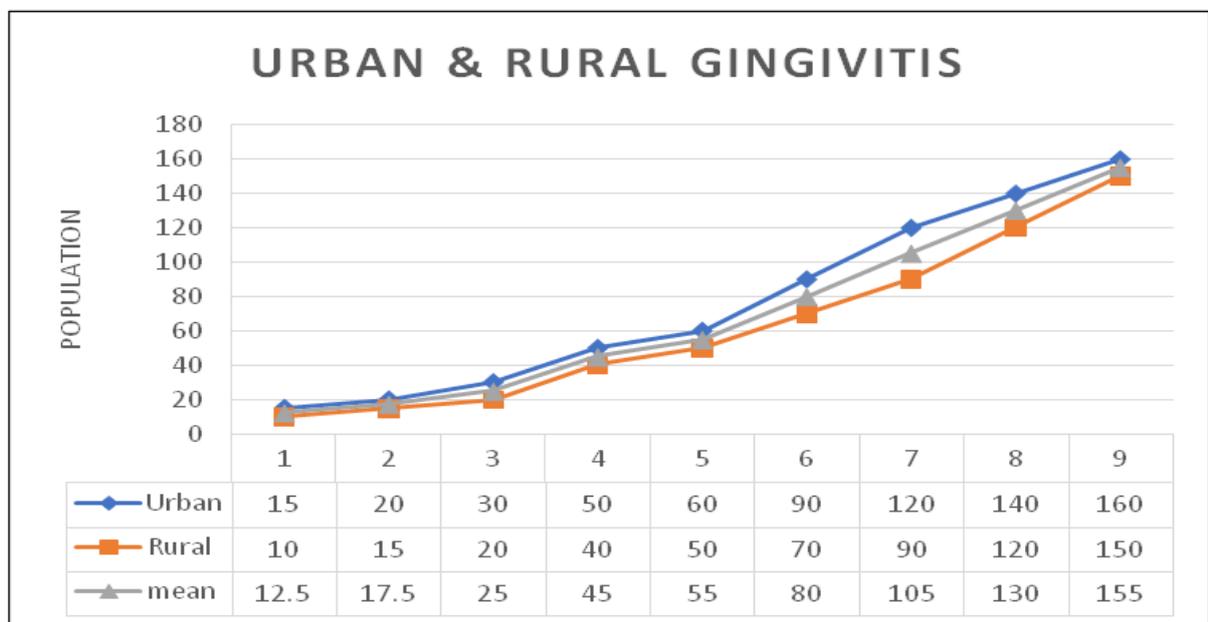**Fig. 1.** Showing gingivitis prevalence in urban and rural areas.

Fig. 2. Comparing gingivitis and its prevalence urban and rural areas.

Different methods for cleaning the teeth like brushing, muswak and dandasa etc. As far as the urban locality is concerned they chose the method of brushing. Similarly, in rural locality muswak and dandasa are the most prominent methods.

Discussion

The whole study was related to the prevalence of gingivitis. We have setup and survey in the Takhtbhai. From the survey we came to know that there are many people that suffer from this disease, the survey

was set up with the help of questionnaire analysis. Many questions were asked from different patients and doctors and then we have examined many patients. According to the population during the survey we came to know that there are many people are that live in TakhtBhai. The population of the TakhtBhai in 2017 was 237306 out of all these peoples 60% were those that live in rural locality and only 40% were having urban locality. When we calculated the ratio of educated people we came to know that 60% of females are educated and only 40% of males educated in that area. So we can say that

40% of females are illiterate and 60% of males are illiterate. So the illiteracy rate of male is higher than the male.Similarly we also came to know that the people of the TakhtBhai have very poor oral hygiene they do not take care of their oral activities due to which they face many disease related to oral problems. Similarly they eat and drink too much which then act as another important factor that increase the ratio of gingivitis because eating too much and taking not care of oral activities can contribute more to increase the oral problems.
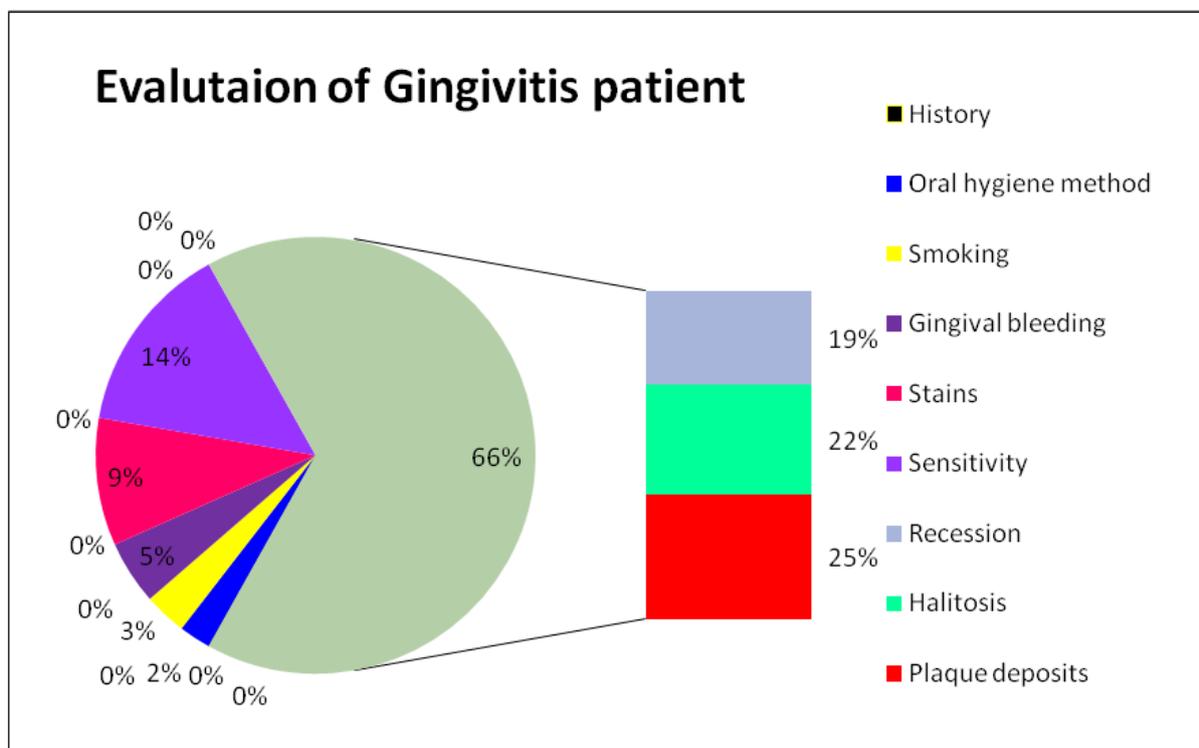

Fig. 3.

In the results we have setup different types of visual representations in which we have seen the both urban and rural localities show different towers in the graphical representations. Similarly, collectively when we calculated the mean we draw a dispersed chart in which the dots showed the result that at which point the changes has been observed and this all is independent of the environment, but it depends upon the life style of the peoples of both rural locality and urban locality.The people of rural locality do not take care of themselves and thus suffer allot from many of the problems not only from the oral one but from

many other also. They do not recommend any other to improve their hygienic conditions. On the Other hand if we move towards the urban locality they are very conscious about their health about their hygiene thus they suffer less comparatively.

Conclusion

The study suggests that overall prevalence of gingivitis is almost 100 percent in rural areas and urban areas of district TakhtBhai. The questioner data showed that rural areas are severely affected by the diseases along with other complications. In urban

areas the cases were less severe as compared to rural areas. From this study we have concluded that awareness of oral hygiene is necessary in the district. Oral hygiene is completely ignored by the people of district. With awareness program the use of dandasa, miswak, tooth brush and tooth pastes should be recommended daily twice a day so to avoid gingivitis and other mouth diseases. Daily supplement should be recommended too to the people.

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