90% of the athletes were using tooth brush to clean their teeth while 25.66% were using wooden tooth pick followed by plastic tooth pick, thread, charcoal, chew stick/ miswak. Around half of the athletes (47.66%) were using tooth paste without containing fluoride.

19% of athletes had visited the dentists in less than six months while 15% of the participants never received dental care. 24% athletes visited the dentist for consultation while 39.33% were having pain or any trouble with teeth and 14.66% visited for the treatment.

Around 40 athletes were suffering from difficulty in biting food very often during the past 12 months. 30% of athletes were experienced difficulty in chewing food. 46%of the athletes didn't have any difficulty with speech/trouble pronouncing word. More than half of the athletes (54.33%) didn't feel dry mouth during the past 12 months. 58.66% of athletes didn't felt tensed because of the problems with their teeth. 61.33% of the athletes didn't take any off at work because of their teeth or mouth. 62.66% of athletes didn't feel less tolerant of spouse or people who are close to you. (Table 1)

34.33% of the athletes were consuming various types of fresh fruits once a week while 12.33% were consuming several times a day. Most of the athletes consumed various types of biscuits, cakes, creams, sweet pie, buns, jams, honey, chewing gums containing sugar once a week. 18% of athletes were consuming various type of lemonade, coca cola several times a day followed by tea with sugar and coffee with sugar. (Table2)

14% of athletes used to have cigarette several times a day. 7.33% of athletes used to have tobacco several times a day while 82.66% never used snuff in form of tobacco. Only 10 % of athletes consumed 5 or more alcoholic drinks daily. (Table3)

55.33% of athletes were consuming any drinks for rehydration during sports activity.(Table 4) 50% of athletes were using chewing gums.20.66% of athletes werewearing mouth guard during playing. All athletes were using readymade mouth gaurds. (Figure2).

Discussion

Oral health is important both for well-being and successful elite sporting performance. Intense dietary and training pressures on athletes could put them at high risk of oral problems for many reasons. The energy athletes need for training often means they have high-carbohydrate diets and regularly use sugary, acidic energy drinks that may contribute to decay[3] and erosion[4] in their teeth.

For the present study the WHO 2013 Oral Health Questionnaire for Adults with three new questions pertaining to the objectives of the study was used to collect information on oral health and associated risk factors in the study population.

The mean age of the athletes was 22.00±5.04 year (range 10-35years). The majority of the athletes were from urban areas. Studies done by Needleman et al[5], Aida Mulicet al[6], Cosme Gay Escoda[7]et al also had similar participant characteristics in terms of mean age (i.e. 25.7 years, 21 years, 21years respectively). Whereas in the study done by Leroy R6 in Belgium, the mean age of the participants was 33 years. In the present study 72.33% of the participants were males and 27.66% were female. This is in contrast to the findings of Needleman et al and Aida Mulicet al who reported percentage of males as 57% and 35% respectively. This finding suggests that a higher number of females are involved in sports and athletics in other countries as compared to India.

A UCL survey at the London 2012 Olympic Games[5] found that 18% of athletes said that their oral health had a negative impact on their performance and 46.5% had not been to the dentist in the past year. The latest consensus statement aims to address such issues from embedding oral health into the wider culture of sports healthcare and health promotion. In the present study 45% of athletes were having poor or very poor or average state of gums which may ultimately leads to gingivitis and similar finding were found in the study done by the Escoda GC[7] et al.

Clearly, pain and discomfort from tooth decay, dental erosion, periodontal (gum) disease or infected wisdom teeth will affect performance. We see psychological impacts on, for example, bleeding gums, bad odors and poor appearance. These have well-documented effects on confidence. It has also been shown that mouth infection, for instance from periodontal disease, increases the levels of inflammation in the rest of the body and this can impair performance as well as increase risk of injury."

Exercise can have both positive and negative effects on immune function and susceptibility to illnesses. The relationship between exercise and susceptibility to infection has been modelled in the form of a "J"-shaped curve. This model suggests that, while engaging in moderate activity may enhance immune function above sedentary levels, prolonged, high intensity exercise may impair immune function[9]

Mouth guards are made of polyvinyl chloride, rubber, or a polyvinyl acetate copolymer. It offers good protection for interference in speaking and breathing. Dentistry should be working diligently to require mandatory use of mouthguards in all sports, which starts at the local and state level. Only 22.6% of the athletes reported use of mouth guards during playing. Marcos Britto[10] (21.6%) also found the similar result from their study.

Sports drinks are beverages that stated purpose is to help athlete's electrolytes, replace water and energy after training or competition, though their efficacy. Sugar sweetened beverages have high levels of sugar and drinking these can significantly contribute to tooth decay and erosion. In the present study 50% of the participants reported use of chewing gums during the training. Sugar containing chewing gums are frequently consumed by athletes and sportspersons which may lead to increased sugar exposure and hence dental caries. A healthier alternative could be sugar free chewing gums which are easily available over the counter nowadays.

The strength of this study included the number of athletes recruited (n= 300) and the inclusion of self-reported impacts.

The oral health improvement strategies will need to be developed and tested and these could include programs aimed at changing health behavior (including knowledge, awareness and oral health promoting activities), diet and the use and formulation of sports drinks and supplements.

Conclusion and Summary

Sports dentistry – involves the prevention and treatment of orofacial athletic injuries and related oral diseases, as well as the collection and dissemination of information on dental athletic injuries and the encouragement of research in the prevention of such injuries. WHO recommended structured questionnaires were used for collection of self-assessed data onto oral health and risk factors. The self-perceived oral health status of the study participants was as follows:

1. Around 40 athletes were suffering from difficulty in biting food very often during the past 12 months
2. 30% of athletes experienced difficulty in chewing food.
3. Only 10% of the respondents felt embarrassed about the appearance of their teeth.
4. 14% of the athletes sometimes avoided smiling at their teeth while 16% of the athletes had slept that is often interrupted during the past 12 months.
5. Self-perceived oral health status of the athletes in the present study was good.
6. 50% of athletes were using chewing gums and 20.66% were using mouth guard during playing

Recommendations

·As oral health is an important element of overall health and wellbeing, health promotion and diseases prevention intervention are urgently required to optimize athletic performance. Mouth gaurd should be used before any activity so that we prevent the dental trauma in the ground and should be mandatory and custom made in all sports. Suggest athletes to use less numbers of energy drinks because it may cause dental erosion and decay. Sports committees must be developed. We should implement relevant preventive care programs. Opening the clinics during hours that work best for the athletes. Athletes should be educated on the potential harmful effects of the

beverages like sports drink and techniques for minimizing this damage.

- Dental care should also be available on an emergency basis like:

o Treatment of broken or injured teeth
o Fillings
o Replacement of caps
o Limited oral surgery's
o Acute infections

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Table1: Distribution of athletes experiencing problems during the past 12 months.

PROBLEMS	VERY OFTEN	FAIRLY OFTEN	SOME TIMES	NO	DON'T KNOW	TOTAL
Difficulty in biting food	40(13.33%)	66(22%)	55(18.33%)	112(37.33%)	27(9%)	300
Difficulty in chewing	23(7.6%)	85(28.33%)	56(18.66%)	105(35%)	31(10.33%)	300
Difficulty with speech/trouble pronouncing word	12(4%)	45(15%)	71(23.66%)	138(46%)	34(1.33%)	300
Dry mouth	22(7.3%)	26(8.6%)	53(17.66%)	163(54.33%)	36(12%)	300
Embarrassed due to appearance of teeth	32(10.66%)	22(7.33%)	38(12.66%)	177(59%)	31(10.33%)	300
Felt tense due to problem with teeth	34(11.33%)	22(7.33%)	38(12.66%)	176(58.66%)	30(10%)	300
Avoiding smiling because of teeth	19(6.33%)	27(9%)	42(14%)	181(60.33%)	31(10.33%)	300
Sleep interrupted	14(4.66%)	16(5.33%)	48(16%)	187(62.33%)	35(11.66%)	300
Days not work due to teeth	30(10%)	13(4.33%)	34(11.33%)	184(61.33%)	39(13%)	300
Difficulty undertaking their usual activities	27(9%)	19(6.33%)	26(8.66%)	183(61%)	45(15%)	300
Felt less tolerant of spouse	21(7%)	24(8%)	21(7%)	188(62.66%)	46(15.33%)	300
Diminished participations in social activities	34(11.33%)	21(7%)	14(4.66%)	187(62.33%)	44(14.66%)	300

Table2: Distribution of athletes based on their sugar consumption/snacking items:

Consumptions	Several times a day	Every times a day	Several times a week	Once a week	Several times a month	Never	Total
Consumption of various type of fresh fruits	37(12.33%)	65(21.66%)	59(19.66%)	103(34.33%)	30(10%)	6(2%)	300
Consumption of various types of biscuits, cakes, creams	13(4.3%)	63(21%)	69(23%)	110(36%)	35(11.66%)	10(3.3%)	300
Consumptions of various types of sweet pies and buns	16(5.33%)	35(11.66%)	71(23.66%)	115(38.33%)	53(17.66%)	10(3.3%)	300
Consumptions of various types of jams or honey	31(10.33%)	49(16.33%)	83(27.66%)	81(27%)	45(15%)	11(3.66%)	300
Consumption of various type of chewing gums containing sugar	26(8.66%)	55(18.33%)	62(20.67%)	90(30%)	56(18.66%)	11(3.66%)	300
Consumption of various type of lemonade, coco-cola	54(18%)	65(21.66%)	42(14%)	59(19.66%)	62(20.66%)	18(6%)	300
Consumption of various type of tea with sugar	106(35.33%)	44(14.66%)	19(6.33%)	57(19%)	47(15.66%)	27(9%)	300

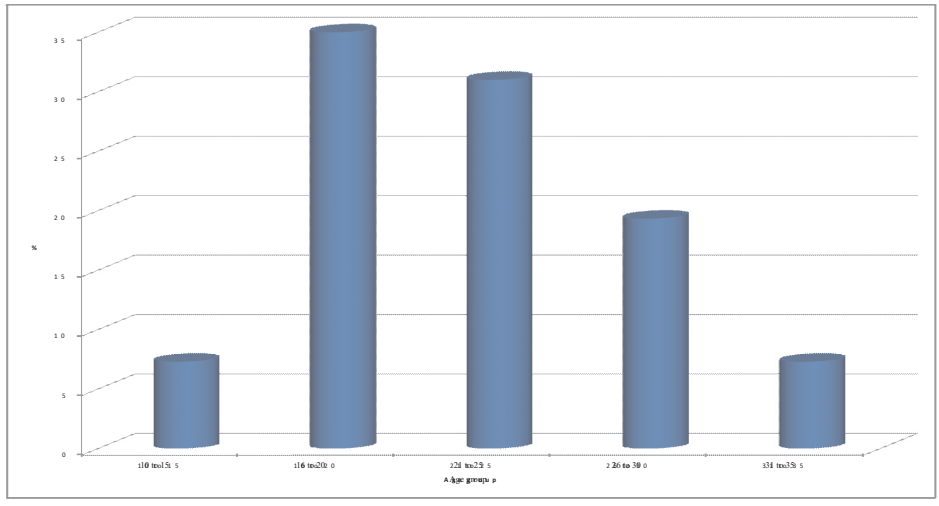
Table 3: Distribution of athletes based on to bacco consumption.

Consumption of cigarettes	42(14%)	25(8.33%)	28(9.33%)	10(3.33%)	24(8%)	171(57%)	300
Consumption of cigars	7(2.33%)	22(7.33%)	27(9%)	13(4.33%)	22(7.33%)	209(69.66%)	300
Consumptions of pipes	0(0%)	11(3.66%)	22(7.33%)	21(7%)	19(6.33%)	227(75.66%)	300
Consumption of tobacco	22(7.33%)	5(1.66%)	16(5.33%)	18(6%)	22(7.33%)	217(72.33%)	300
Consumption of snuff	5(1.66%)	5(1.66%)	9(3%)	12(4%)	21(7%)	248(82.6%)	300
Consumption of other type of to bacco	0(0%)	0(0%)	0(0%)	0(0%)	0(0%)	300(100%)	300

Table4:Distribution of athletes consuming any drinks for rehydration during sports activity.

Response	Number	%
Yes	166	55.33
No	134	44.66
Total	300	100

Figure1: Distribution of athletes by age or age group



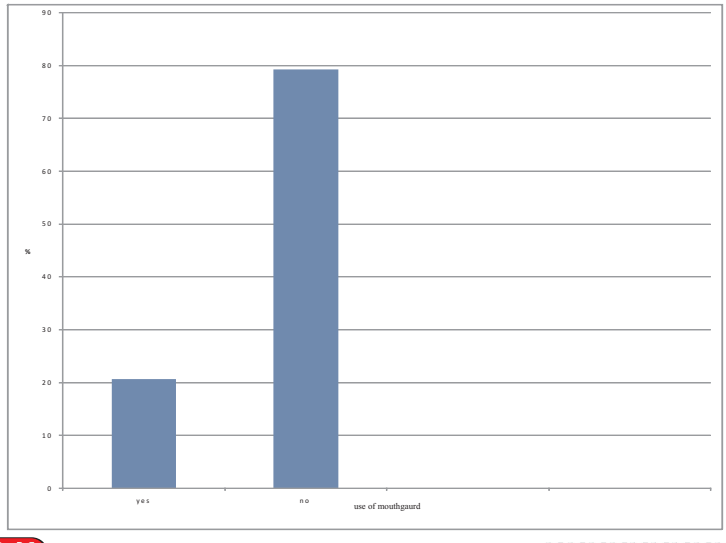


Figure2:Distribution of athletes wearing mouth-gaurd during playing.