

## KAP study regarding ill effects of smoking over the health of people particularly oro-dental health and their prevention

DR RIAZ GUL<sup>1</sup>, DR ADIL ZARIF<sup>1</sup>, DR HIRA GUL<sup>1</sup>  
COMMUNITY MEDICINE DEPARTMENT, NWSM PESHAWAR.

### ABSTRACTS

*The effects of smoking on human health are serious and in many cases, deadly. There are approximately 4000 chemicals in cigarettes, hundreds of which are toxic. The ingredients in cigarettes affect everything from the internal functioning of organs to the efficiency of the body's immune system; the effects of cigarette smoking are destructive and widespread. All forms of tobacco including cigars, smokeless tobacco, and huka pose dental health concerns*

### OBJECTIVES:

*To Assess the knowledge/awareness, attitude and practices (KAP) of people about adverse effects of smoking on their health particularly oro-dental health*

### METHODOLOGY:

*The study was conducted in two teaching hospital of Peshawar i.e. KCD (Khyber college of dentistry and SBDC (Sardar begum dental college).it was a cross sectional descriptive study carried out over 400 patients who attended the OPD of these hospitals for some reasons. Approval of the study was taken from the ethical committees of both the hospitals. Non probability sampling technique was adopted for the study. All relevant information about the study was gathered with the help of semi structured questionnaire. Purpose of the study was explained to the patients. The study was conducted from May 2016 to November 2016. Patients with systemic diseases that could affect oro-dental health were excluded from the study. Data was presented in the form of tables and graphs.*

### RESULTS:

*According to their dentist 52% of study patients had adverse oral hygiene. About 74.5% smokers were aware of adverse effects of smoking. 55% of the people who smoke cigarette are 21-30 years of age. 26.5% people smoked 1-3 times a day. . In a significant number of patients 41% people started smoking because of peer pressure. Mass media had a significant role in developing this habit. About 74.5% are aware of adverse effects of smoking and they consider that it causes bad effects on respiratory system and oral hygiene. Most of the smokers use tooth paste to get rid of bad breath. About 59% people visited dentist only when some oro-dental problem arises. According to dentist 39.5% of smokers have adverse oral health status.*

### CONCLUSION:

*Despite of knowledge of adverse effects of smoking and complaining of bad breath and other conditions related to oro-dental hygiene, majority of them were engaged in regular smoking and they are still satisfied from their oral health ,*

**KEY WORDS:** Oro dental hygiene, adverse Oral health,

### INTRODUCTION

Smoking is a practice where a substance, most commonly tobacco, is burned and the smoke absorbed or inhaled. This is primarily done as a form of recreational drug use, as combustion releases the active substances in drugs such as nicotine and makes them available for absorption through the lungs.

**Correspondence**  
Prof. Dr. Riaz Gul  
Head Department of Community  
Medicine Northwest  
raizgul\_70@yahoo.com  
Cell# 0345-9386866

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Smoking is a greater cause of death and disability than any single disease. Despite of great number of morbidity and mortality caused by smoking still a large number of people in the world smoke one way other<sup>2</sup>. Most people who smoke so because they can't stop. Nicotine is a highly addictive substance that makes people feel energized and alert.<sup>3</sup> Tobacco advertising also has a big influence on why people smoke. For years, the industry has focused on making smoking glamorous through advertising in movies, television, and billboards. Smoking produces a feeling of satisfaction that's difficult to give up<sup>4</sup>. Smoking is a social activity as well. Many people who smoke do so as way to start conversations and interact at parties or in social gatherings.. This is known as "social smoking" and it usually involves alcohol as a complement<sup>5</sup>. Many teenagers start smoking due to peer pressure. They may also smoke to feel more mature or as a form of rebellion against parental authority<sup>6</sup>. It has been proved that children are also more likely to smoke if their parents do. According to WHO figures, it is responsible for approximately five million deaths worldwide every year. Tobacco smoking is a known or probable cause of approximately 25 diseases, and even the WHO says that its impact on world health is not fully assessed<sup>7</sup>. Studies conducted in UK show that smokers in their 30s and 40s are five times more likely to have a heart attack than non-smokers<sup>8</sup>. If you smoke for a lifetime, there is a 50% chance that your eventual death will be smoking-related-half of all these deaths will be in middle age<sup>9</sup>. Smoking also increases the risk of having a stroke. Another primary health risk associated with smoking is lung cancer, which kills more than 20,000 people in the UK every year<sup>10</sup>. Smoking also increases the risk of oral, uterine, liver, kidney, bladder, stomach and cervical cancers, and leukemia<sup>11</sup>. Smoking adversely affects the reproductive system, especially in women. Men experience lower sperm count, more abnormal sperm with decreased motility<sup>12</sup>. Smoking in pregnancy greatly increases the risk of miscarriage, is associated with lower birth weight babies, and inhibited child development<sup>13</sup>. The WHO expects the worldwide health toll to reach 10 million, causing 17.7% of all deaths in developed countries by the year 2020. There are believed to be 1.1 billion smokers in the world, 800 million of them in developing countries<sup>14</sup>. Apart from having adverse effects of smoking on our general health, smoking also has very adverse effects upon our dental health and is responsible for many oro dental problems. Cigarettes aren't the only products to blame. All forms of tobacco, including cigar, smokeless tobacco and hoka water pipes, pose dental health concerns<sup>15</sup>. Chronic persistent smokers are more prone to develop the following oro dental problems more frequently as compared to non-smokers.

Persistent bad breath, discolored teeth, An increase of calculus (tartar) build-up, periodontal (gum and cone) disease that may progress more quickly and be more severe than in non-smokers, jaw bone loss, shifting teeth, oral cancer, mouth sores, root caries (cavities), sinusitis, hairy tongue, smokers lip (like a burn), Altered sense of taste and smell, Delayed wound healing<sup>16</sup>. As many as 40% men and 8% women in Pakistan smoke regularly. While tobacco use is declining in most other countries of the world, sadly it is on the rise in Pakistan. If we don't take any action, the current global death toll of 5 million per year from tobacco use will increase to 10 million per year by 2025. In Pakistan, estimated 100,000 people die every year form tobacco related diseases<sup>17</sup>. In response to intense pressure and lobbying of national and international organizations, the government of Pakistan has changed the health warning from "smoking is injurious to health-ministry of Health". To "smoking causes cancer and heart diseases-ministry of health" and now it is at more prominent place on cigarette packet- both in national language (urdu) and English<sup>18</sup>. The solution to the problem is not just maintaining good oral hygiene but to get health professional motivated to support and assist you not only in creating awareness among the people to change their attitude but also to adopt healthy practices in their routine life.<sup>19</sup> Men and women of all ages experience major and immediate health benefits when they quit smoking. Ex-smokers have a decreased risk of heart disease, respiratory illnesses, strokes and many cancers. In fact, after 15 years, an ex-smokers risk of death is similar to that of a person who has never smoked<sup>20</sup>.

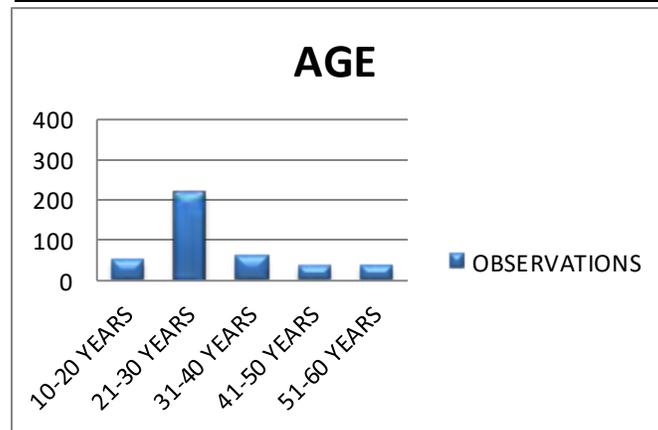
Quitting will have a significant, positive impact on oral health as well, reducing the rate and incidence of gum disease, oral cancers and bone and tooth loss; keeping teeth whiter and allowing sores to heal and disappear<sup>21</sup>. The main purpose of this study was to Assess the knowledge/awareness, attitude and practices of patients about adverse effects of smoking on their health particularly oro-dental health and to recommend measures for general public to improve their orodental hygiene.

**RESULTS:**

**AGE OF SMOKERS**

**Table No: 1**

S.No	AGE YEARS	OBSERVATIONS	PERCENTAGE
1	10-20 YEARS	50	12.50%
2	21-30 YEARS	220	55%
3	31-40 YEARS	60	15%
4	41-50 YEARS	34	8.50%
5	51-60 YEARS	36	9%
	TOTAL	400	100%

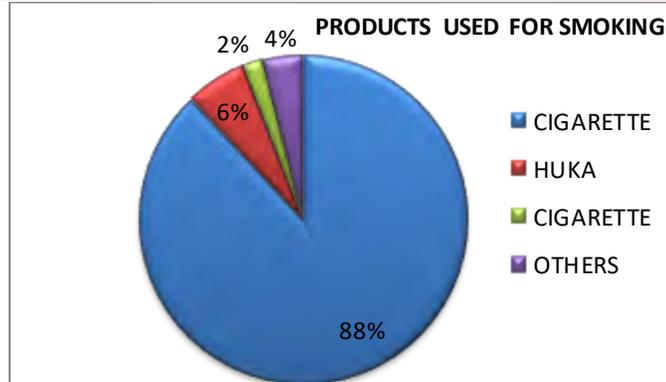


**Table and graph 1** indicates numbers of smokers in different age groups. It shows that (12.5%) of smokers are in 10-20age. 50 220 (55%) of smokers are in 21-30 years of age. 60 (15%) are in 31-40 years age group. 36 (9%) smokers came in range of 51-60 years of age while 34 (8.5%) of people are 41-50 years of age.

**PRODUCTS USED FOR SMOKING**

**Table No:2**

S.No	PRODUCTS USED FOR SMOKING	OBSERVATIONS	PERCENTAGE
1	CIGARETTE	352	88%
2	HUKA	24	6%
3	CIGARETTE	8	2%
4	OTHERS	16	4%
	TOTAL	400	100%

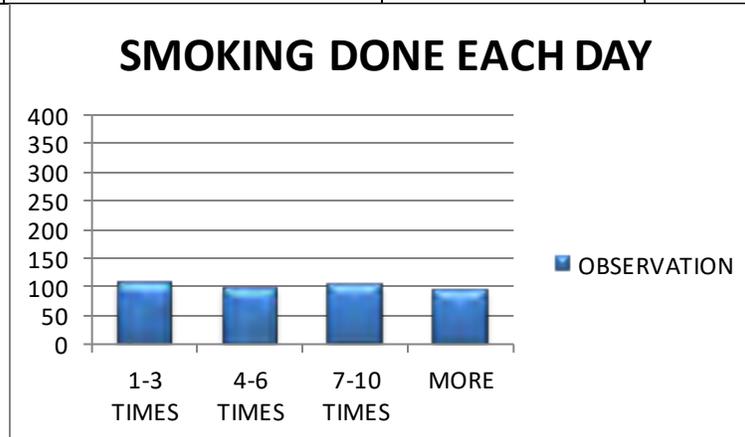


**Table and graph 2** shows that 352 (88%) of people smoke cigrate, 24(6%) people smoke huka, 8(2%) people smoke cigar, 16(4%) people have other smoking method

**NUMBER OF TIMES SMOKING DONE EACH DAY**

**Table: No: 3**

S.No	NUMBER OF TIMES SMOKIN DONE EACH DAY	OBSERVATIONS	PERCENTAGE
1	1-3 TIMES	106	27%
2	4-6 TIMES	98	24.5%
3	7-10 TIMES	102	25.5%
4	MORE	94	23.5%
	TOTAL	400	100%

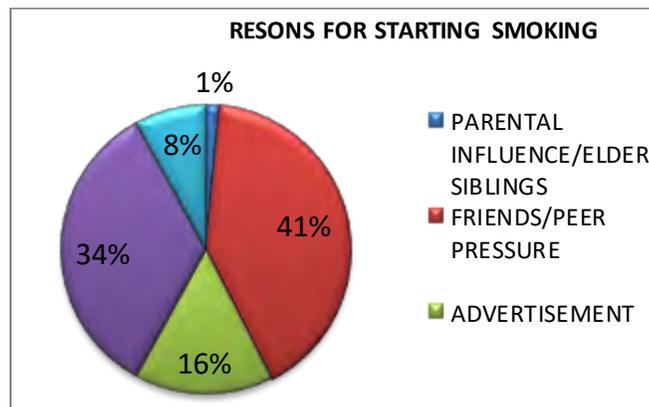


**Table and graph 3** shows that 106 (26.5%) people smoke 1-3 times a day.102 (25%) people smoke 7-10 times a day. 98 (24.5%) people smoke 4-6 times a day, while 94 (23.5%) people smoke more than 10 times a day.

**REASON FOR STARTING SMOKING**

**Table No: 4**

S.No	REASON FOR STARTING SMOKING	OBSERVATIONS	PERCENTAGE
1	PARENTAL INFLUENCE/ELDER SIBLINGS	6	1.50%
2	FRIENDS/PEER PRESSURE	164	41%
3	ADVERTISEMENT	62	15.50%
4	STRESS/DEPRESSION	136	34%
5	OTHERS	32	8%
	TOTAL	400	100%

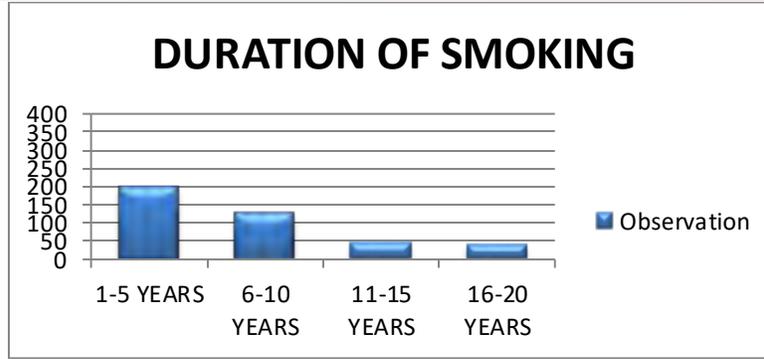


**Table and graph 4** shows that how people started smoking. 164 (41%) started to smoke because of peer pressure, 136(34%) started smoking because of some stress. 62 (15.5%) were influenced by advertisements, 32 (8%) started because of other reasons while 6 (1.5%) started because of parental influence

**DURATION OF SMOKING**

**Table No: 5**

S.No	DURATION OF SMOKING	OBSERVATIONS	PERCENTAGE
1	1-5 YEARS	196	49%
2	6-10 YEARS	124	31%
3	11-15 YEARS	42	10.50%
4	16-20 YEARS	38	9.50%
	TOTAL	400	100%

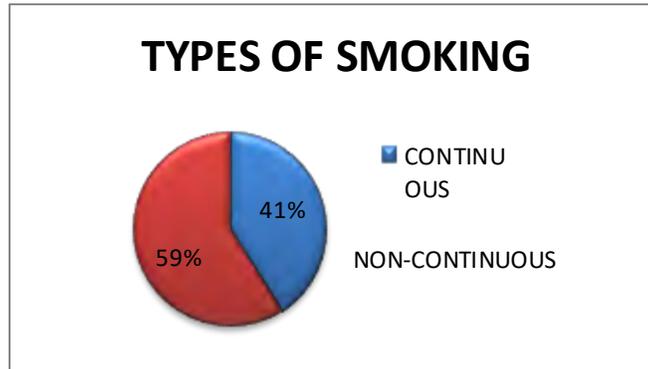


**Table and graph 5** depicts duration of smoking. 196 (49%) people smoke for the last 1-5 years. 124 (31%) for 6-10 years. 42 (10.5%) for 11-15 years. 38 (9.50%) are smoking from last 16-20 years.

### TYPES OF SMOKING

Table No: 6

S.No	TYPES OF SMOKING	OBSERVATIONS	PERCENTAGE
1	CONTINUOUS	164	41%
2	NON CONTINUOUS	236	59%
	TOTAL	400	100%

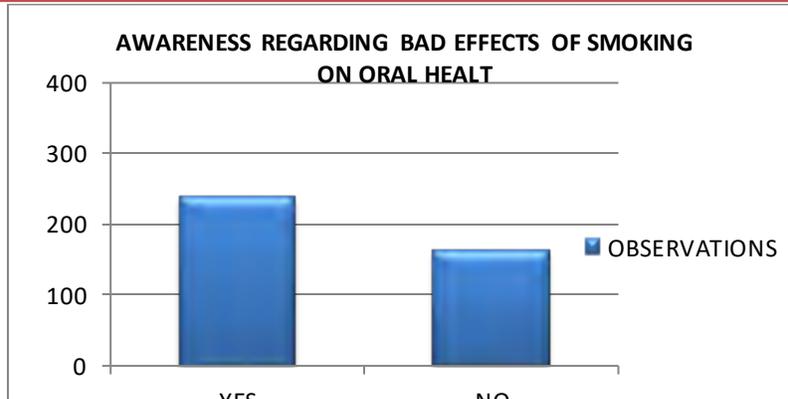


**Table and graph 6** depicts number of continuous and non-continuous smokers. 236 (59%) were non-continuous while 164 (41%) were continuous

### AWARENESS ABOUT BAD EFFECTS OF SMOKING GENERAL HEALTH

Table No: 7

S.No	AWARENESS REGARDING BAD EFFECTS OF SMOKING ON ORAL HEALTH	OBSERVATIONS	PERCENTAGE
1	YES	238	59.50%
2	NO	162	40.50%
	TOTAL	400	100%

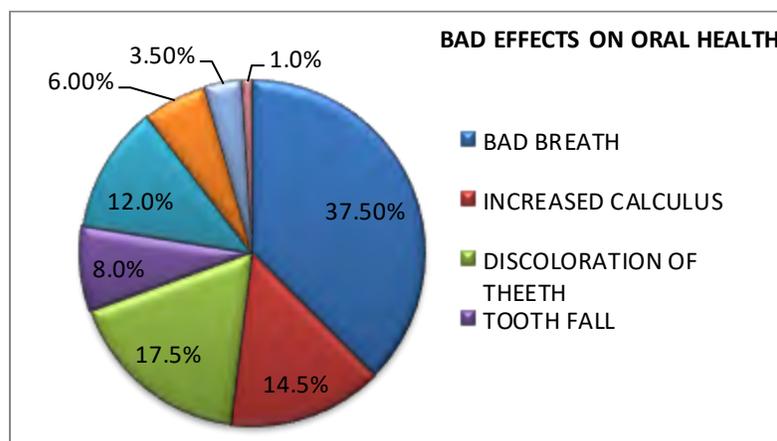


**Table and graph 7** depicts no of people aware or not aware of bad effects of smoking. 298 (74.5%) were aware of bad effects of smoking, while 102 (25.5%) were not aware

**BAD EFFECTS OF SMOKING ON ORAL HEALTH**  
**Table No: 08**

S.No	BAD EFFECTS OF SMOKING ON ORAL HELALTH	OBSERVATIONS	PERCENTAGE
1	BAD BREATH	150	37.50%
2	INCREASED CALCULUS	58	14.5%
3	DISCOLORATION OF THEETH	70	17.5%
4	TOOTH FALL	32	8.0%
5	ORAL ULCERS/MOUTH SORES	48	12.0%
6	ROOT CARRIES	24	6.00%
7	ALTER SENSE OF TASTE AND SMELL	14	3.50%
8	OTHERS	4	1.0%
	TOTAL	400	100%

Note: Subjects Were Given the Option To Choose More Than One Effects



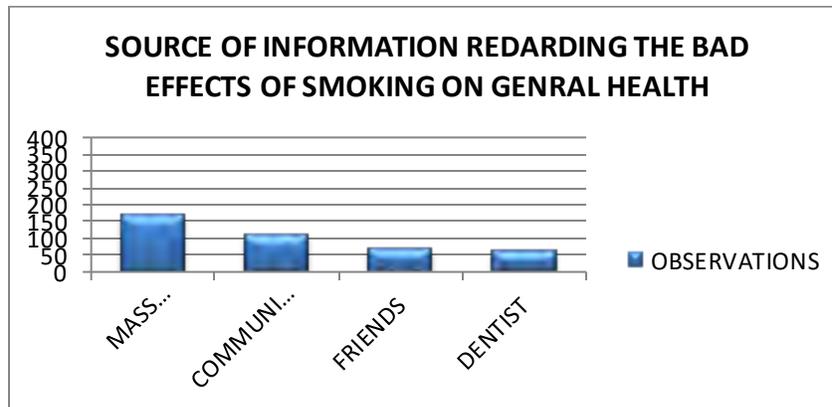
**Table and graph 8** shows the effects on oral health noticed by the smokers. 150(37.5%) complains of bad breath, 58 (14.5%) people increase calculus 70 (17.5%) people complains of dislocation of teeth, 32(8%) people complains tooth fall, 48(12%) complains of oral ulcers, 24(6%) complains of

root carries, 14 (3.5%) complains of altered sense of taste and smell and 4(1.0%) have complains of different other effects.

**SOURCE OF INFORMATION REGARDIN THE BAD EFFECTS OF SMOKING ON GENRAL HEALTH**

**Table No: 09**

S.No	SOURCE OF INFORMATION REGARDIN THE BAD EFFECTS OF SMOKING ON GENRAL	OBSERVATIONS	PERCENTAGE
1	MASS MEDIA	166	41.50%
2	COMMUNITY	108	27.00%
3	FRIENDS	68	17.00%
4	DENTIST	58	14.50%
	TOTAL	400	100.00%



**Table and graph 9** indicates different sources of information regarding effect of smoking. 166(41.5%) got information form mass media 108 (27%) got information from community, 68(17%) got information from friends while 58(14.5 %) form dentist

**PRODUCTS USED FOR GETTING RID OF BAD BREATH**

**Table No: 10**

S.No	PRODUCTS USED FOR GETTING RID OF BAD BREATH	OBSERVATIONS	PERCENTAGE
1	TOOTH PASTE	150	38%
2	MOUTH FRESHENER	102	25.50%
3	MASWAK	70	17.50%
4	MOUTHWASH	48	12%
5	OTHERS	30	7.50%
	TOTAL	400	100%

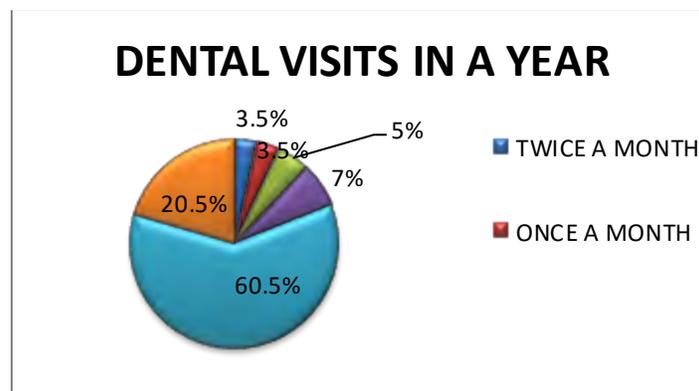


**Table and graph 10** illustrates that what are the products used for getting rid of bad breath. 150(38%) people use toothpaste. 102(25.5%) use mouth freshener. 70(17.5%) people use maswak. 48(12%) smoker use mouth wash, while 30 (7.50%) uses other remedies to get rid of bad breath.

### DENTAL VISITS IN A YEAR

**Table No: 11**

S.No	DENTAL VISITS IN A YEAR	OBSERVATIONS	PERCENTAGE
1	TWICE A MONTH	14	3.5%
2	ONCE A MONTH	14	3.5%
3	EVERY 3 MONTHS	20	5%
4	EVERY 6 MONTHS	28	7%
5	WHEN PROBLEM ARISES	242	60.5%
6	NONE	82	20.5%
	TOTAL	400	100%

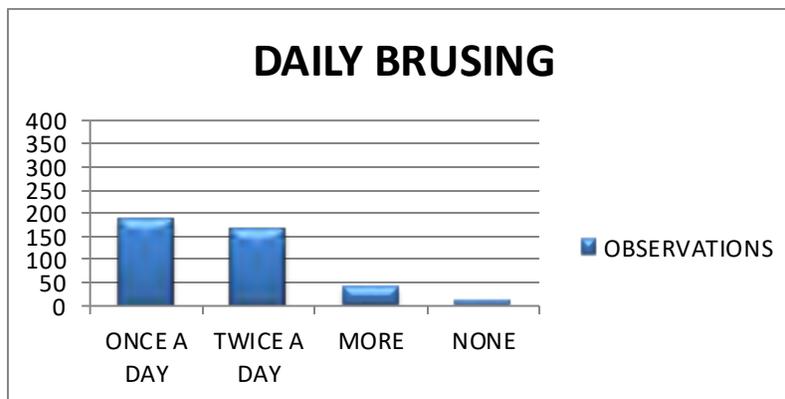


**Table and graph 11** shows number of dental visits by smokers in a year. 14 (3.5%) visit dentist twice a month. 14 (3.5%) visit dentist once a month. 20 (5%) visit dentist every 3 months. 28 (7%) visits once every 6 month. 242 (60.50%) visits when problem arises and 82(20.5%) people never brush their teeth.

**DAILY BRUHSING**

**Table No: 12**

S.No	DAILY BRUSING	OBSERVATIONS	PERCENTAGE
1	ONCE A DAY	186	46.5%
2	TWICE A DAY	164	41%
3	MORE	40	10%
4	NONE	10	2.5%
	TOTAL	400	100%

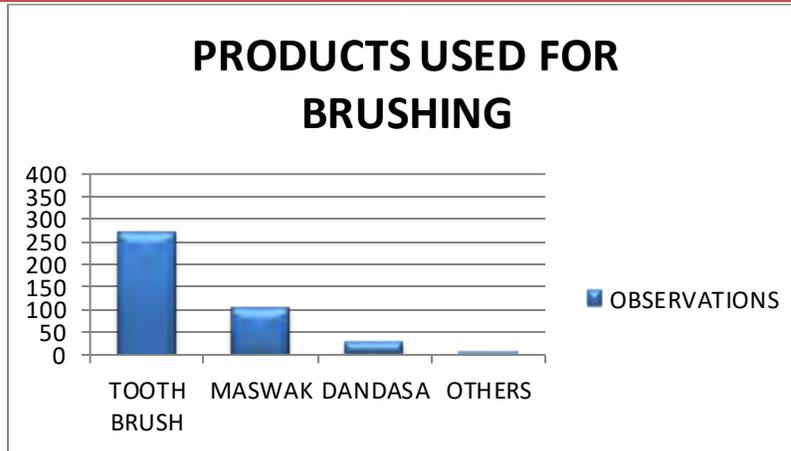


**Table and graph 12** shoes number of times people brush daily. 186(46.5) people brush teeth once a day, 164(41%) brush teeth twice a day 40 (10%) people brush more than twice a day. 20(10%) people brush more than twice a day. 10 (2.5%) people never brush their teeth

**RODUCT USED FOR BRUSHING**

**Table No: 13**

S.No	PRODUCT USED FOR BRUSHING	OBSERVATIONS	PERCENTAGE
1	TOOTH BRUSH	270	67.50%
2	MASWAK	103	25.75%
3	DANDASA	25	6.25%
4	OTHERS	2	0.50%
	TOTAL	400	100%

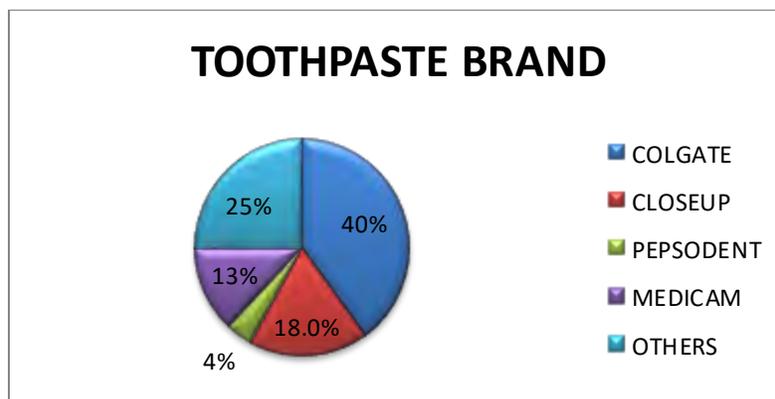


**Table and graph 13** shows the product used for brushing. 270 (67.50%) use tooth brush for brushing. 102(25.50%) use maswak and 25 (6.25%) use dandasa , while only 2 patients were using other home remedies for cleaning their teeth.

**BRAND OF TOOTHPASTE USED**

**Table No:14**

S.No	BRAND OF TOOTHPASTE USED	OBSERVATIONS	PERCENTAGE
1	COLGATE	160	40%
2	CLOSEUP	72	18.0%
3	PEPSODENT	16	4%
4	MEDICAM	52	13%
5	OTHERS	100	25%
	TOTAL	400	100%

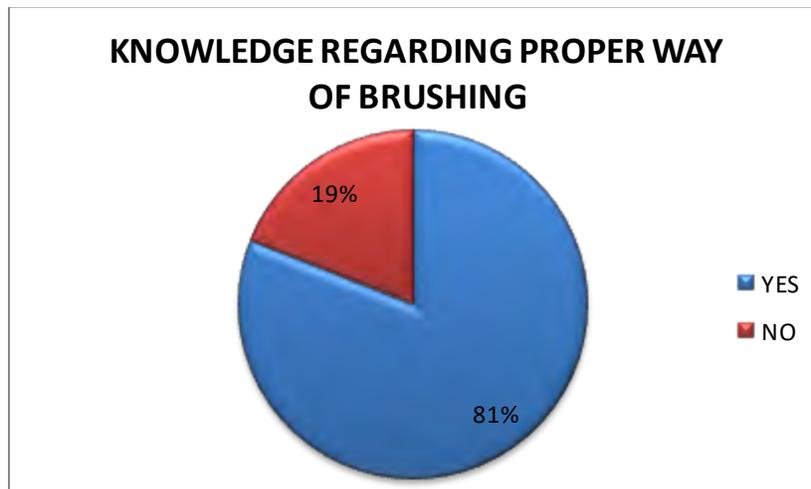


**Table and graph 14** shows the brand of tooth paste used mostly. 160 (40%) people use Colgate. 72(18%) use Closeup. 52 (13%) use Medicam while, 16 (4%) use Pepsodent. 100 (25%) use other brands.

**KNOWLEDGE REGARDING PROPER WAY OF BRUSHING**

**Table No: 15**

S.No	KNOWLEDGE REGARDING PROPER WAY OF BRUSHING	OBSERVATIONS	PERCENTAGE
1	YES	324	81%
2	NO	76	19%
	TOTAL	400	100%

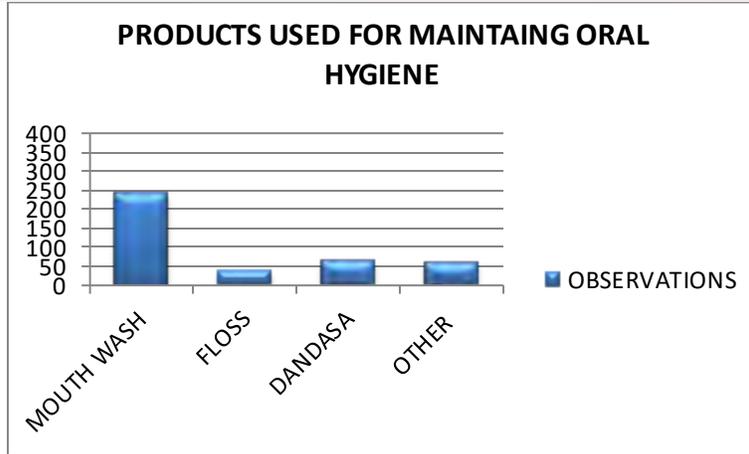


**Table and graph 15** shows that how many people know the proper way of brushing. 324 (81%) know the proper way of brushing. While 76 (19%) don't know the proper way of brushing.

**PRODUCTS USED FOR MAINTAINING ORAL HYGIENE**

**Table No: 16**

S.No	PRODUCT USED FOR MAINTAINING ORAL HYGIENE	OBSERVATIONS	PERCENTAGE
1	MOUTH WASH	240	60%
2	FLOSS	36	9%
3	DANDASA	64	16%
4	OTHER	60	15%
	TOTAL	400	100%

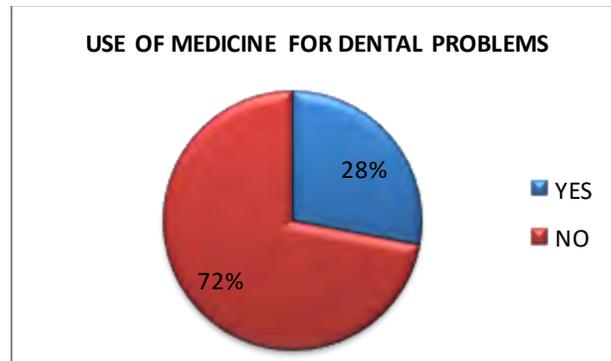


**Table and graph 16** shows that what other products are used to maintain oral hygiene. 240 (60%) use mouthwash. 64(16%) people use dandasa. 60(15%) use other products.36(9%) use floss.

### USE OF MEDICINE FOR DENTAL PROBLEMS

**Table No: 17**

S.No	USE OF MEDICINE FOR DENTAL PROBLEMS	OBSERVATIONS	PERCENTAGE
1	YES	112	28%
2	NO	288	72%
	TOTAL	400	100%

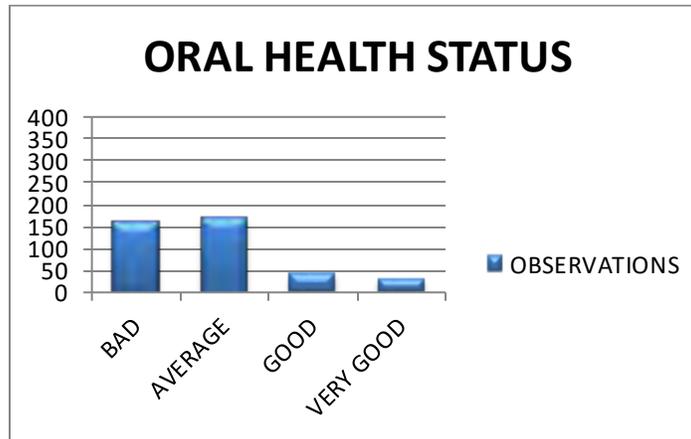


**Table and graph 17** shows number of people using or not using medications for dental problem. 112 (28.17%) people are using certain medication while 288 (72%) people are not using.

**ORAL HEALTH STATUS ACCORDING TO DENTIST**

**Table No: 18**

S.No	ORAL HEALTH STATUS ACCORDING TO DENTIST	OBSERVATIONS	PERCENTAGE
1	BAD	158	39.50%
2	AVERAGE	170	42.50%
3	GOOD	42	10.50%
4	VERY GOOD	30	7.50%
	TOTAL	400	100%

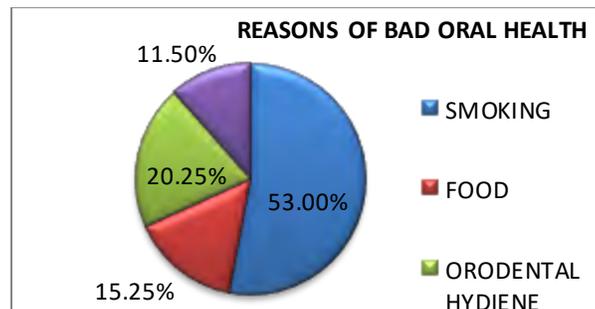


**Table and graph 18** indicates the oral health status of subjects according to dentist. 170 (42.5%) have average health, 158(39.5%) have bad oral health, 42(10.5% have good oral health, while only 30 (7.5%) have very good oral health status

**REASON OF BAD ORAL HEALTH**

**Table No: 19**

S.No	REASON OF BAD ORAL HEALTH	OBSERVATIONS	PERCENTAGE
1	SMOKING	212	53.00%
2	FOOD	61	15.25%
3	ORODENTAL HYGIENE	81	20.25%
4	OTHERS	46	11.50%
	TOTAL	400	100%

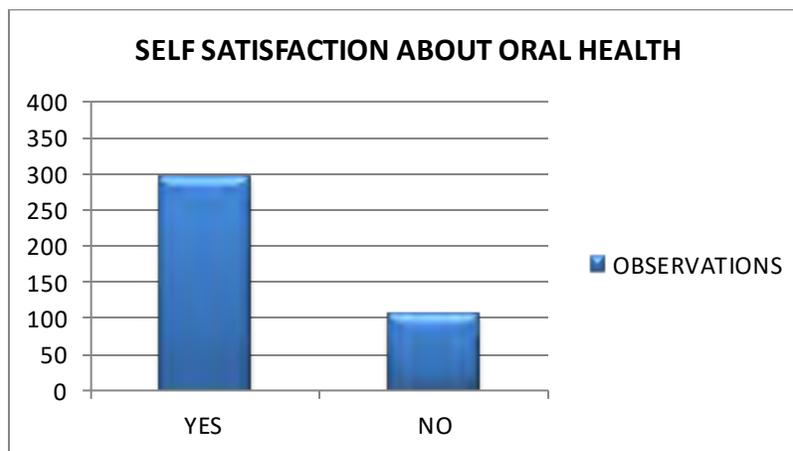


**Table and graph 19** shows the reasons for bad oral health, 212(53.00%) people considered smoking as a cause for their bad oral health, 81 (20.25%) considered poor oro-dental hygiene as a cause, 61(15.25%) considered food as a cause, while 46(11.50%) gave other reasons

**SLEF SATISFACTION ABOUT ORAL HEALTH**

**Table No: 20**

S.No	SELF SATISFACTION ABOUT ORAL HEALTH	OBSERVATIONS	PERCENTAGE
1	YES	296	74%
2	NO	104	26%
	TOTAL	400	100%



**Table and graph 24** shows the no of people satisfied or not satisfied by their oral health. 296 (74%) are satisfied by their oral health while 104 (26%) are not satisfied by their oral health.

**DISCUSSION**

Our results show that majority of the patients visiting the dental OPD were young to middle aged males. The highest prevalence of smoking among males was seen in those aged 21-30 years and majority of them smoke cigarettes. Our study findings are similar to those of a study conducted by Department of International Health; USA Our study also reveals that 88% of the smokers smoked cigarettes.<sup>22</sup> While trying to find out the conditions or factors that compel people to smoke, we found that peer pressure is the major cause leading to increased prevalence of smoking. 41% of the smokers were made to smoke by their friends. 34% of the smokers started smoking because of stressful life conditions. Advertisement also plays some role but only 8% of the smokers were influenced by the advertisements, maybe because of the ban imposed on cigarette advertisements by the government. Similar results were almost obtained by other studies conducted where peer pressure and stressful life were found to be the most common factors responsible <sup>23</sup> We all know that the longer we are exposed to the risk factor more are chances of the disease occurrence. Our study however failed to establish such a relationship between the duration of smoking and its effects. 26.5% of the smokers smoked 1-3 times a day whereas 25.5% smoked 7-10 times a day, none of the patients were chain smokers. Researchers have proved in their studies the association

of duration of smoking with different serious diseases like lung cancer.<sup>24</sup> Surprisingly majority of the smokers coming to the dental OPD for some dental problem were just beginners. 49% of the smokers were smoking for 1-5 years and yet they were facing the dental problems while those who were smoking for 6-10 years accounted only 31% of the smoker patients, similarly those smoking for 11-15 years accounted 10.5% smoker patients. In an attempt to find out the knowledge and awareness among smokers regarding the effects of smoking on general health and oral health in particular, we were surprised to find out that majority of the smokers were still smoking in spite of knowing the ill effects of smoking. According to our study 74.5% of the smokers were aware of the bad effects of smoking on health, out of which 55% thought that smoking caused reparatory diseases while 16% thought that heart was affected by smoking. The same trend has been observed by other researchers in their studies that majority of the smokers continue with this bad habit despite of knowing its adverse effects.<sup>25</sup> As far as the source of the information regarding the bad effects of smoking is concerned, mass media, whether it is newspaper, television or internet is playing its role in creating awareness among the population. In this regard 34.8% of the smokers got information through mass media. Here we must not forget that it is also the mass media that in some way is responsible for promoting cigarette smoking as a symbol of status and courage and therefore is contributing to the increased prevalence. Majority of the smokers had problem of bad breath and to overcome this problem 73% of the smokers used tooth paste, while a few used additional products such as mouth freshener 28.5% maswak 24.5% and mouth wash 17%. Here majority of the smokers were using a combination of two or more products. Use of tooth paste and mouth fresheners were commonly used products by majority of people for their oro dental hygiene in results of other studies.<sup>26</sup> In Pakistan the concept of regular dental visit is yet to be established. Through our study we were able to find out that majority 59.5% of the smokers visited the dentist only when they had some dental problems while 20.5% of the smokers had never visited the dentist before. 46.5% of the smokers brushed once a day while 41% had the habit of brushing twice daily. 2.5% of the smokers never bothered to brush. Majority of the smokers brushed their teeth in morning before breakfast. Regarding the knowledge among smokers about the proper way to brush, 81% of the people said that they were aware of the proper way to brush 80.5% of the smokers used toothpaste for brushing their teeth and the brand they preferred was Colgate. The increased preference for Colgate may be due to the fact, that our study was conducted in two of the dental hospitals where Colgate has been arranging free dental checkups and free giveaways. Smokers often have dental problems and that is why we asked them whether they were using any medications. About 28% people used medication for various dental problems and these medicines were usually prescribed by dentists. It is very important to know the oral health status of the smokers according to the dentist. According to the dentist majority of the smokers had an average to bad oral health status. 60.75% smokers were of the view that smoking was responsible for their poor oral health. Surprisingly, in contradiction to the dentist opinion about their oral health status majority of the smokers were satisfied with their oral health.

## CONCLUSION

After going through our project findings we were able to arrive at a conclusion. According to our study most of the people preferred to smoke cigarette rather than other form of tobacco available. Though most of the people were just beginners i.e., they had been smoking only for a short duration of period still they were encountering dental problems. Most of the people started smoking because of their friends/peer pressure but some other factors like stress, advertisements and parental

influence also contributed. 74.5% of people were aware of bad effects of smoking on health like lung cancer, coronary heart disease, bronchitis, stomach problem etc while 25.5% were unaware. Although many smokers knew the bad effects of smoking on their dental health which includes bad breath, discoloration of teeth and oral ulcers by they still choose to smoke. In our study most of the smokers use toothpaste to get rid of bad breath which is the main problem they were encountering due to smoking, while others use mouth freshener, maswak and dandasa. Majority of the smokers 59.5% visited dentist only when some dental problem arises. Very few people were found to be having routine checkups. Majority of smokers were using medicine for the oro-dental problems and these medicine were prescribed by the doctor/dentist. According to dentist 39.5% of the smokers had bad oro-dental hygiene for which the smokers considered smoking as a cause while 42.5% of the smokers had average oro-dental hygiene. Despite of all the problems these smokers were facing, still majority 74% were satisfied by their oral health status.

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