

## Original Research Article

## THE DEMOGRAPHIC OF LIPS AND ORAL CAVITY CANCER

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### Abstract

Lips and oral cavity cancer is caused by an uncontrolled division of abnormal cells in a part of the body or malignant growth resulting from an uncontrolled division of cells or tissues of the oral. Globocan reported in Afghanistan in 2020 that 22 817 people of both sexes have taken cancer, lips, and oral cancer, the sixth position out of 38928341 population in Afghanistan. Globocan reported in 2020 that Lip-oral cavity cancer comes in the third position among males In Afghanistan. From 10 528 Male patients in Afghanistan Number of new cancer cases in 2020, lip and oral cavity was 5.9 percent, Globacon reported. Factors in Afghanistan that can increase the highest risk of lip and oral cavity cancer include tobacco, heavy alcohol use, and dietary intake. The risk of lip and oral cavity cancer is about 5 to 10 times greater among smokers than among people who never smoked. Foods such as fruits, vegetables, curcumin, and green tea can also reduce the risk of slips and oral cavity cancer, while the so-called pro-inflammatory diet, rich in red meat and fried foods, can enhance the risk of occurrence. On the other hand, recent research demonstrated that a high intake of anti-inflammatory index decreases the risk of lip and oral cavity cancer among the adult population.

### Introduction

Lips and oral cavity cancer is caused by an uncontrolled division of abnormal cells in a part of the body or malignant growth resulting from an uncontrolled division of cells or tissues of the oral (Historical et al., n.d.). Historial references reveal that the cradle of oral oncology was in ancient Egypt, the Asian continent, and Greece. Cancer management was confined to an approximate surgical practice to remove abnormal masses and avoid bleeding with cauterization (Rights et

al., n.d.). The prevalence of lips and oral cavity cancer in antiquity is much less known. Still, literature analysis cannot exclude a consistent prevalence of this cancer in past populations, probably with a likely lower incidence than today, because many descriptions of its aggressiveness were found in ancient medical texts. However, it is still challenging to be sure that every single report of oral masses could be associated with cancer, particularly for what concerns the

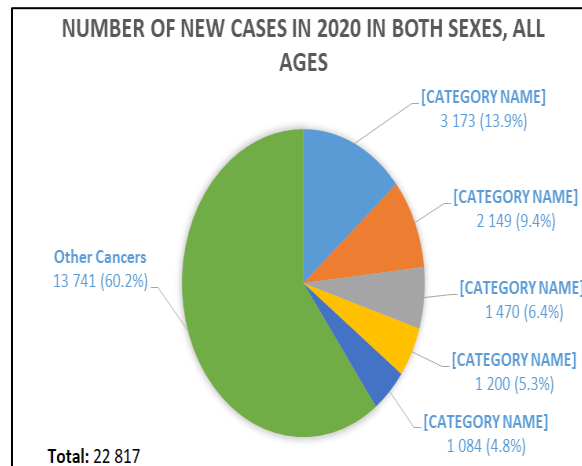
period before the Middle Ages (Davoudi-Kiakalayeh et al., 2017). World Health Organization (WHO) revealed that the prevalence of new cancer cases was 19292789, the number of deaths was 9958133, and the number of prevalent cases 5 years will be 505 will 7 worldwide, 2020 (International Agency for Research on Cancer, 2020). There are several reports from most studies that lung 1435 943 (14.3%) the first common cancer, the second is the prostate, and the third is colorectum among all ages in males (International Agency for Research on Cancer, 2020). In addition, the number of new cases in 2020, females of all ages first is breast 2 261 419 (24.5%) second Colorectum 865 630 (9.4%) third Lung 770 828 (8.4%) (International Agency for Research on Cancer, 2020). According to recent research in 2020 Turkey, the number of lip and oral cavity cancer cases in males was 117 39.8, and the females were 177 60.2 (Fatima et al., 2015) ). As well as, in Iran, from 2010-2020, the number of lip and oral cavity cancer cases among males was 62,648 and 41,591 among females (Republic et al, 2019). In addition, a report from Pakistan showed that the cases of lip and oral cavity cancer were 71% among males and 29% among females (World Health Organization, 2020). Furthermore, the demographic of health status in India due to gender demonstrated that the prevalence of lips and oral cavity cancer was 16 % in males and 5% among females. Some factors that can increase the highest risk of lips and oral cavity cancer include tobacco, heavy alcohol use, and dietary intake. For instance, the risk of lip and oral cavity cancer is about 5 to 10 times greater among smokers than among people who never smoked (Ram et al., 2011). Additionally, a retrospective study in India demonstrates that high tobacco intake increases the risk of lips and oral cavity cancer among males and has a long association with tobacco habits (Hashibe et al., 2000). A review study in

Beijing city of China, revealed that the intake of smoking and drinking alcohol increases the risk of lip and oral cavity cancer among both genders (Zheng et al., 1993). In addition, a study designed in Pakistan showed that the use of tobacco and smoke is associated with a risk of lip and oral cavity cancer and mentioned that high tobacco usage is associated with an increased risk of HPV infection (OR=7.98) ((Fatima et al., 2015). Most epidemiological studies in Tukey demonstrated that tobacco and alcohol consumption are the leading risk factor for lip and oral cavity cancer (Khalili, 2008) (Kumar et al., 2016). Foods such as fruits, vegetables, curcumin, and green tea can also reduce the risk of slips and oral cavity cancer, while the so-called pro-inflammatory diet, rich in red meat and fried foods, can enhance the risk of occurrence. On the other hand, recent research demonstrated that a high intake of anti-inflammatory index decreases the risk of lip and oral cavity cancer among the adult population. According to our findings, several studies demonstrated cancer risk to dietary intake and other factors in Afghanistan. On the other hand, no reported study also showed the risk of lips and oral cavity cancer and the association of the risk factors to lips and oral cavity cancer among the Afghan population in Afghanistan. Therefore, we aimed to review the prevalence and risk of lip and oral cavity cancer in Afghanistan.

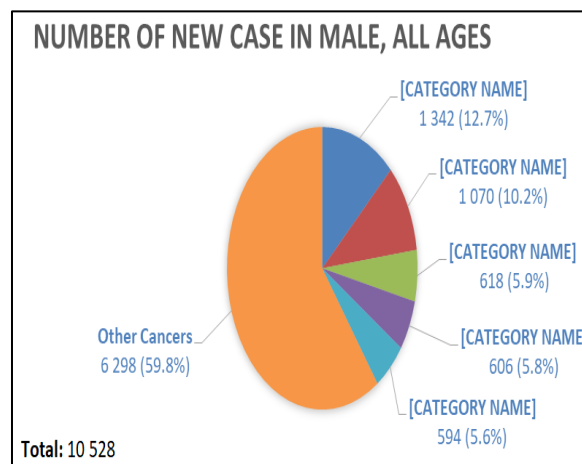
**Results:** Out of the 38928341 population in Afghanistan, as Globocan reported in 2020, Lip-oral cavity cancer comes in the third position among males. Moreover, according to global figure 1, lips and oral cavity occupy the sixth position among both genders in 22817 new cases. Among 12289 new Cassese said that overall, lips and oral cavity cancer has been 49.6%) parentage in females. Further, according to the global, 913 new cases and 648 individuals have died, and 1578 percent are in danger.

According to a globacon report in Afghanistan, in 2020, 22817 people of both sexes took cancer. Breast cancer had the first position, and the stomach had the second position in both gender; moreover, lips and oral cancer had the sixth position.

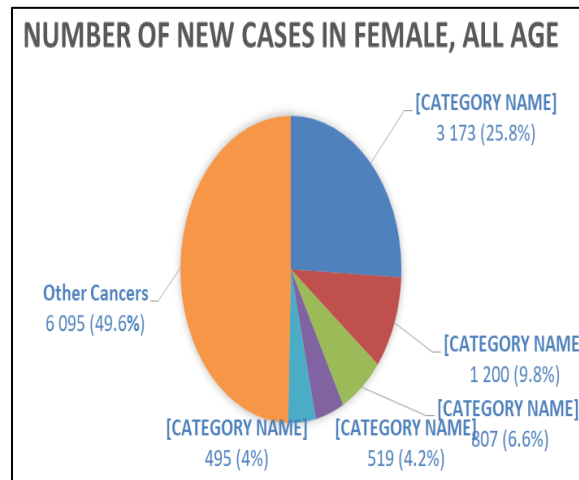
12289 new cancer cases in 2020 were recorded In Afghanistan; among females of all ages, 3173 people had breast cancer, 1200 people had the cervix uteri, 807 people had the stomach, 519 people had corpus cancer, 495 people had ovary cancer, and 6095 people have other cancer.



**Figure 1:** According Globacon report in Afghanistan in 2020, 22 817 people in both sexes as taken the cancer and the Breast cancer has the first position as well the stomach has the second position in both genders moreover the lips and oral cancer has the six positions.



**Figure 2:** From 10 528 Male patients in Afghanistan which Globacon reported, Number of new cases of cancer in 2020, among males, all ages which had stomach cancer was 12.7 percent, lung cancer has been 10.2 percent, lip, oral cavity was 5.9 percent, leukemia has been 5.8 %, colorectum has been 5.6 % and other cancer was 59.8 %.



**Figure 3:** In Afghanistan 12 289 female were reported as cancer patients in 2020, by Globacon of all ages 12 289 which reported, 3173 people had Breast cancer, 1200 female patients had the cervix uteri, 807 people had the Stomach Cancer, 519 people were reported to have Corpus uteri Cancer, 495 had Ovary cancer and 6 095 had other cancer.

Incidence, Morality prevalence by cancer site										
Cancer	New cases				Death				5 year provenance all age	
	number	Rank	(%)	cum.risk	number	Rank	(%)	cum.risk	numbers	prop.(per)
Breast	3173	1	13.9	3.11	1783	2	11.1	2.7	5930	31.29
stomach	2149	2	9.4	1.50	1918	1	12.0	1.36	2913	7.48
lung	1470	3	6.4	0.99	1349	3	8.4	0.91	1713	4.40
Cervix uteri	1200	4	5.3	1.07	823	7	5.1	0.83	2089	11.02
leukemia	1078	5	4.7	0.27	761	8	4.8	0.21	2349	6.03
Oesophagus	1020	6	4.5	0.70	983	4	6.1	0.67	1116	2.87
Brain, central nervous system	1015	7	4.4	0.36	897	6	5.6	0.35	1935	4.97
Liver	956	8	4.2	0.61	922	5	5.8	0.61	1182	3.04
Lip, oral cavity	913	9	4.0	0.52	648	9	4.0	0.39	1578	4.05
Kidney	608	10	2.7	0.29	380	11	2.4	0.22	1122	2.88
Non-Hodgkin lymphoma	584	11	2.6	0.23	423	10	2.6	0.18	1148	2.95

<b>Corpus uteri</b>	519	12	2.3	0.55	185	19	1.2	0.24	964	5.09
<b>Colon</b>	499	13	2.2	0.34	371	12	2.3	0.27	797	2.05
<b>Ovary</b>	495	14	2.2	0.43	346	14	2.2	0.37	918	4.84
<b>Rectum</b>	473	15	2.1	0.29	267	17	1.7	0.16	795	2.04
<b>Bladder</b>	455	16	2.0	0.31	273	15	1.7	0.20	806	2.07
<b>Prostate</b>	450	17	2.0	0.81	272	16	1.7	0.47	655	3.28
<b>Pancreas</b>	365	18	1.6	0.25	351	13	2.2	0.24	372	0.96
<b>Thyroid</b>	260	19	1.1	0.12	74	25	0.46	0.05	550	1.41
<b>Larynx</b>	251	20	1.1	0.16	192	18	1.2	0.13	445	1.14
<b>Hodgkin lymphoma</b>	237	21	1.0	0.06	103	22	0.06	0.03	498	1.28
<b>Testis</b>	182	22	0.80	0.09	59	29	0.37	0.03	420	2.10
<b>Hypopharynx</b>	152	23	0.67	0.10	70	26	0.44	0.05	165	0.42
<b>Oropharynx</b>	151	24	0.66	0.10	95	23	0.59	0.06	253	0.65
<b>Gallbladder</b>	144	25	0.63	0.10	108	20	0.67	0.07	187	0.48
<b>Multiple myeloma</b>	128	26	0.56	0.06	104	21	0.65	0.05	190	0.49
<b>Nasopharynx</b>	121	27	0.53	0.05	89	24	0.56	0.03	237	0.61
<b>Anus</b>	112	28	0.49	0.06	65	28	0.41	0.04	187	0.48
<b>Melanoma of skin</b>	112	29	0.49	0.06	68	27	0.42	0.04	216	0.55
<b>Salivary glands</b>	61	30	0.27	0.27	38	30	0.24	0.03	131	0.34
<b>Vulva</b>	39	31	0.17	0.17	24	31	0.15	0.03	79	0.42
<b>Kaposi sarcoma</b>	28	32	0.12	0.01	19	32	0.12	0.01	55	0.14
<b>Vagina</b>	20	33	0.09	0.03	15	33	0.09	0.02	37	0.20
<b>Mesothelioma</b>	14	34	0.06	0.01	13	34	0.08	0.01	22	0.06
<b>penis</b>	11	35	0.05	0.02	5	35	0.03	0.01	22	0.11
<b>All cancer sites</b>	22817	-	80.29	11.55	16018	-	85.56	9.05	38554	99.0

## Discussion

According to WHO reports, the population of Pakistan was 216565317 in 2019. These demographics demonstrated that 10.9% of Pakistan's population reported lips oral and cavity cancer, which may contribute to the

risk of lips and oral cavity cancer. Such as chewing habits of betel quid (paan), areca nut (chaya), raw tobacco, gutka, his war, and Manipuri. Furthermore, the National Cancer Registry Program in India, 2020 reported that 10.3% of the Indian population said oral and

cavity cancer and 8.8% died. Additionally, the high intake of alcohol, paan, tobacco chewing, and smoking demonstrated that over five people die every hour daily because of lip and oral cavity cancer (Kumar et al., 2016) (International Agency for Research on Cancer, 2020). More than 83 million in Iran revealed that 0.87% population has lips and oral cavity cancer, and smoking and tobacco are the risk factors for lips and oral cavity cancer (Republic, 2019);(Maleki et al., 2015). Moreover, 0.90% of Turkey's population has lip and oral cavity cancer due to tobacco and alcohol usage, and 0.34% of deaths (Globocan-Küresel Kanser İnsidansı Mortalite ve Prevalansı, 2020)(Tanriover et al., 2014). The Yemenis population has a high prevalence of lips and Oral cavity cancer among people younger than 45. Moreover, According to WHO reports, the population of Tajikistan country was 9537642, which demonstrated that 1.4 % of Tajikistan's population reported lips and oral cavity cancer, and 1.3% died, which these factors may contribute to the risk of lips and oral cavity cancer. Such as tobacco, alcohol, and betel quid (paan) (Shafiq et al., 2019). Moreover, According to WHO reports, the population of Uzbekistan was 33469199, which demonstrated that 2.9 % of Uzbekistan's population reported lips or oral cavity cancer, and 2.5 % died, which these factors may contribute to the risk of lips and oral cavity cancer. Such as cigarette smoking and alcohol drinking (Evstifeeva & Zaridze, 1992). Moreover, According to WHO reports, the population of china country was 1447470079. These demographic demonstrated that 0.66 % of china's population reported lips and oral cavity cancer, and 0.49 % died, which these factors may contribute to the risk of lips and oral cavity cancer. Such as Tobacco smoking and alcohol (Zheng et al., 1990). Moreover, According to WHO reports, the population of the USA country was 331002653, and this demographic demonstrated that 1.1 % of the

USA's population reported lips and oral cavity cancer, and 0.70%. These factors may contribute to the risk of lips and oral cavity cancer. Such as smoking and alcohol (IARC Inc., 2020). Furthermore, several studies demonstrated the risk factors for lips and oral cavity cancer, which are strongly associated with smokeless tobacco (Shamma and Qat), cigarette smoking, and alcohol drinking. Moreover, many countries revealed that smokeless tobacco products are a significant source of carcinogenic nitrosamines. The cancer risk of smokeless tobacco users is probably lower than that of smokers but higher than that of non-tobacco users. The Australian government reported insufficient evidence to decide whether screening by visual inspection reduces the death rate for oral cancer. Besides, the government of Iran demonstrated that lack of knowledge is the main barrier to the provision of routine oral cancer examinations. The opinion of dentists about the effectiveness of continuing education courses supports the development of these courses on lips and oral cavity cancer. As well, more emphasis should be placed on lips and oral cavity cancer prevention in dental schools. Food intake is the leading risk factor for lip and oral cavity cancer. A study in Iran country 2007 shows for reducing oral cancer, we should reduce calorie intake, monounsaturated fat, and red or processed meat in our diet (Verma et al., 2020).

Moreover, In 1998 The case-control evidence was that a diet emphasizing fruit and vegetable intake might protect against oral cancer (Marshall & Boyle, 1996). Also, in 2021, a study shows protection against cancer in Spain. Foods such as fruits, vegetables, curcumin, and green tea can reduce the risk of oral cancer (Rodríguez-Molinero et al., 2021).in addition, in Beijing, The results of the study suggest that increased protein and fat intake are related to a decreased risk of oral cancer. However, carbohydrate intake



showed a moderate risk for lips and oral cavity cancer (Zheng et al., 1993) additionally, a study in Iran shows that fruits, vegetables, and cereals are the primary source of vitamins and fiber. Vitamin C, E, antioxidants, zinc,  $\beta$ - carotene, and folate effectively prevent slips and oral cavity cancer (Taghavi N et al, 2007).

Moreover, in a study in the United States, Italy, and China shoes, the combined analysis that decreases risk for everyone could be achieved by encouraging high fruit and vegetable consumption (Macfarlane et al., 1995). Moreover, in 2007 in Brazil, the study data suggested that the traditional Brazilian diet, consisting of rice and beans plus moderate amounts of meat, may confer **protection against oral cancer** (Marchioni et al., 2007 & Marchioni et al., 2007). **Also, in 2010 a study in brazil** showed that taking of fat food is a factor for oral cancer (Toporcov et al., 2004) Thus, rich in red meat and fried foods can enhance the risk of occurrence of lips and oral cavity (Rodríguez-Molinero et al., 2021) **Green Tea a study in 2014 shows which** tea consumption may have a protective effect on lips and oral cavity cancer, especially in green tea consumption (Ma et al., 2015) .a study in 2006 shows Chronic smoking is associated with a lower systemic status of several B vitamins, reduced oral folate, and changes in folate form distribution in the mouth (Gabriel et al, 2006) . A study in 2013 shows that a diet rich in fruits and vegetables and poor in meat and products of animal origin has a favorable role against lips and Oral cavity cancer (Bravi et al., 2013).moreover, A study in 2014 found high levels of folate intake. Folate, also known as vitamin B9, is water-soluble and may protect against the risk of lips and oral cavity can (Gabriel et al., 2006). In a study in 2018, High or low serum levels of both copper and zinc may have an association with the risk of developing oral cancer; thus, these parameters

should be controlled in the diet (Chen et al., 2019); a study in 2012 shows That fried foods, high-fat and processed meats, and sweets pattern were positively associated only with laryngeal cancer (Bradshaw et al., 2012).

**Conclusion:** Based on the above observations, we can conclude that consuming fruit, vegetables, and green tea reduces the risk of oral cancer. Besides z intake of vitamins C, E, B, folate, zinc, and fibers can prevent oral cancer. The information of carbohydrates moderately increases in oral cancer. Meanwhile, fat, red meat, and protein intake can severely increase the risk of oral cancer

### Study Limitations

As there is no oncology service without stomatology national curative and specialized hospital all around the country so I was unable to have any other access to data on the one hand, the price of treatment and lack of free chemotherapy services in the hospital and the high time or duration of treatment, has caused the patients to leave the hospital arbitrarily. as well as the lack of radiotherapy centers to the hospital and the country, has caused the patients to be sent to neighboring countries for radial treatment, which caused problems in the evaluation of treatment. On the one hand, lack of follow-up of patients in the center of the provinces and on the other hand, the lack of ease of telephone in some remote provinces caused problems in the patients' beliefs.

### Acknowledgement

We all thank full from the data collection team and participants. Data availability statement: The raw data supporting the conclusions of this article will be made available by the authors, on reasonable request to the corresponding author

**Ethical approval statement:** lips and oral cavity cancer are high in man than women due to high usage of tobacco , consuming

fruit, vegetables, and green tea reduces the risk of oral cancer. by the medical bioethics committee of the SIHE ethics committee (code: 1386-1411). The patients/participants provided their written informed consent to participate in this study.

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