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RESEARCH ARTICLE

DEMOGRAPHIC PROFILE AND RISK FACTORS OF HEAD AND NECK SQUAMOUS CELL CARCINOMA IN NATIONAL ONCOLOGY CENTER IN ADEN, YEMEN: PROSPECTIVE CROSS-SECTIONAL STUDY

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Abstract

Head and neck squamous cell carcinoma (HNSCC) is a significant health concern in Yemen, with a notable impact on the population. Major risk factors for HNSCC in this region include qat chewing, cigarette smoking, and tobacco. The goal of our study was to analyze the correlation between demographic profiles, affected anatomical sites, and risk factors. A prospective cross-sectional study was conducted using data extracted from the medical records of patients diagnosed with HNSCC at the National Oncology Center (NOC) in Aden, Yemen, covering the period from January 2023 to December 2023. Information on patient demographics, primary tumor locations, family history, and exposure to risk factors such as qat chewing and cigarette smoking was collected through a structured questionnaire. The study included 100 patients, with a male-to-female ratio of 2.45:1. The mean age of the patients was 53.2 ± 14.7 years, with a significant portion (41%) falling in the 36–54 age group and (40%) falling in the 55–73 age group. The most commonly affected site was the nasopharynx, accounting for 48% of cases. Qat chewing was the predominant risk factor among patients (74%), followed by cigarette smoking (50%) and tobacco (28%). Middle-aged individuals, particularly men aged 36–54 and 55–73 years, are disproportionately affected by HNSCC in Yemen. The nasopharynx emerges as the most prevalent site of cancer. Qat chewing stands out as a prevalent risk factor among patients, followed by cigarette smoking and tobacco. Public education on the risk factors associated with HNSCC is essential for effective disease management and prevention efforts in Yemen.

Keywords: Cigarette smoking, Head and Neck Squamous Cell Carcinoma, Qat chewing, Yemen.

1. Introduction

Head and neck cancers (HNC) represent a diverse set of malignancies affecting the upper respiratory and digestive systems, predominantly originating in critical anatomical regions like the oral cavity, larynx, and pharynx [1,2]. Squamous cell carcinoma accounts for about (90%) of these cancers, with a notable correlation of (80–90%) between squamous cell carcinoma cases and prolonged alcohol and tobacco consumption [3,4]. The remaining (10%) of HNC arise from lymphocytes, connective tissue cells, and salivary gland cells [5].

Globally, HNSCC stands as the seventh most prevalent cancer, with an annual incidence of around 900,000 new cases leading to approximately 450,000 deaths [6]. Projections indicate a significant rise in HNSCC cases by 2030, influenced by lifestyle factors such as alcohol and tobacco usage, along with the emergence of human papilloma virus (HPV)-related oropharyngeal cancers [6,7]. Other risk factors encompass exposure to environmental pollutants, areca nut (betel quid) chewing, radiation exposure, and specific occupational hazards [1,7].

This escalating burden underscores the critical need to comprehend and address pivotal risk factors, including alcohol, tobacco, viral infections, and environmental exposures. Studies by Sawair et al. highlighted oral cancer as the most frequent type of cancer in Yemen, while Basaleam et al. reported HNC as the fourth most common cancer among Yemeni patients [8,9].

In regions like the Indian subcontinent and Southeast Asia, betel quid chewing and Epstein-Barr virus (EBV) infections are significant contributors to oral and nasopharyngeal cancers, respectively [10]. Notably, the incidence of oropharyngeal and oral cancers, especially

among men in Western countries, is on the rise due to factors like HPV infection and oral sexual behaviors [11].

In Yemen, similar to countries like India and Southeast Asia, the prevalent habits of tobacco dipping or chewing are significant [12]. Tobacco smoking stands out as the primary carcinogenic risk factor in Yemen, contributing to approximately (16.3%) of cancers [13]. Furthermore, the use of smokeless tobacco products like shamma and zardah, along with qat treated with chemicals and pesticides, plays a crucial role in the etiology of HNC. The risk in Yemen appears to escalate in proportion to the intensity and duration of exposure to each carcinogen [14].

In this prospective study of 100 HNSCC patients, different risk factors for HNSCC and its subtypes were analyzed, and it was observed that chewing qat and smoking are the strongest independent risk factors responsible for increased risk of HNSCC; further, this has synergetic correlations with tobacco consumption.

In Yemen, HNC are a major problem due to limited healthcare access, inadequate infrastructure, and ongoing humanitarian crises. Factors like tobacco and qat chewing make the situation even worse, leading to more people developing these cancers. To tackle this public health issue, we carried out a study in Aden, Yemen, aiming to understand the demographics and risk factors of patients with HNSCC.

2. Materials and Methods

A prospective cross-sectional observational study was conducted on a cohort of 100 patients diagnosed with HNSCC. Before they participated in the study, all patients provided written informed consent. The inclusion criteria comprised patients with clinically and histologically confirmed HNSCC admitted to the NOC in Aden, Yemen. Aden, a prominent city in southern Yemen, serves as a pivotal regional healthcare hub, particularly for cancer treatment. The NOC in Aden is a specialized medical facility dedicated to the diagnosis, treatment, and management of various cancer types, including HNSCC. Data collection was carried out between January 2023 and December 2023.

The study encompassed patients with primary HNSCC originating from any subsite within the head and neck region (oral cavity, nasopharynx, oropharynx, hypopharynx, larynx, and others) with a confirmed pathological diagnosis. All patients evaluated in the outpatient clinic at NOC during the study period who met the eligibility criteria, whether previously diagnosed or newly diagnosed, were included. Data collection procedures involved a meticulous review of patient records and the administration of structured questionnaires to ensure comprehensive data capture.

We carefully reviewed patient records to gather important information such as their personal details (name, file number, contact information, diagnosis site, nationality, age, sex, marital status, city of residence, occupation, and education level). For patients with incomplete records or new admissions, we used a questionnaire. This questionnaire focused on key risk factors, including the use of hookah/mada'a, tobacco consumption, qat chewing, betel quid/tombul use, cigarette smoking, and family history of cancer. Demographic details such as age, sex, primary tumor site, marital status, residence location, occupation, and education level were also included in the questionnaire.

The questionnaire was completed either by the patient, their accompanying relative, or the researcher, considering cases where patients were unable to communicate verbally due to their health condition. On average, each interaction and questionnaire completion session with the patients took approximately 20 minutes.

The sample size calculation was not performed a priori; instead, all eligible patients within the study period were included. Statistical analyses were conducted using IBM SPSS Statistics for Windows (Version 25.0). Descriptive statistics such as frequencies, mean ± standard deviation for continuous variables, and percentages/proportions for categorical data were employed to summarize the characteristics of the study population. Inferential statistical tests, including the chi-square test and Kruskal-Wallis H test, were utilized to explore associations between variables such as age, sex, cancer site, and risk factors. Statistical significance was set at a P value less than 0.05.

3. Results

During the time period, we identified 100 patients with HNSCC who fulfilled the inclusion and exclusion criteria. The male-to-female ratio was 2.45:1. The average age of the patients is reported to be 51.7 years for males and 56.7 years for females, with standard deviations of 13.2 and 17.6, respectively, resulting in an overall mean age of 53.2 years with a standard deviation of 14.7. When categorizing patients by age group, the data reveals that most patients fall within the age range of 36–54, with (73.2%) males and (26.8%) females. Overall, the total patient count shows a male predominance at (71%) compared to (29%) females, totaling 100 patients (Table 1).

Table 1. Distribution of Head and Neck Squamous Cell Carcinoma Patients by Age and Gender

Age (years)	Male patients, n (%)	Female patients, n (%)	Total patients, n (%)
Mean ± SD	51.7 ± 13.2	56.7 ± 17.6	53.2 ± 14.7
<36	8 (72.7)	3 (27.3)	11 (11.0)
36-54	30 (73.2)	11 (26.8)	41 (41.0)
55-73	30 (75.0)	10 (25.0)	40 (40.0)
>73	3 (37.5)	5 (62.5)	8 (8.00)
Total	71 (71.0)	29 (29.0)	100 (100.0)

The nasopharynx was the most common site of HNSCC, accounting for 45 (45%) cases, followed by the oral cavity 38 (38%) and larynx 12 (12%). Using Chi-Square tests, the researchers found a significant relationship between age and HNSCC subtype (p = 0.028). The majority of patients aged 36–54 years had the highest representation across all sites, notably in the oral cavity, with nasopharyngeal carcinoma predominating in patients under 36 years and laryngeal carcinoma more prevalent in those 55–73 years. Additionally, the analysis revealed a statistically significant association between gender and HNSCC subtype (p = 0.029), with male patients having a higher incidence of nasopharyngeal and laryngeal cancers, while oral cavity tumors were more evenly distributed between genders (Table 2).

The study population of HNSCC patients is predominantly married (83%). Geographically, most patients come from the southern governorates of Aden (36%), Lahj (23%), and Abyan (22%). The largest occupational groups are laborers (43%) and homemakers/housewives (23%). In terms of education, the percentages are evenly split between illiterate (32%) and elementary education (32%), with smaller percentages having secondary, diploma, or university-level education (Table 3).

Table 3. Demographic Characteristics of patients with Head and Neck Squamous Cell Carcinoma

Characteristic	No.	%
Marital Status		
Single	15	15.0
Married	83	83.0
Divorced	2	2.00
Widowed	0	0.00
Residence Governorate		
Aden	36	36.0
Lahj	23	23.0
Abyan	22	22.0
Al-hudyada	6	6.00
Taiz	3	3.00
Al-daleh	7	7.00
Others*	3	3.00
Occupation		
Farmer	7	7.00
Housewife	23	23.0
Laborer	43	43.0
Teacher	6	6.00
Military	18	18.0
Student	3	3.00
Education Level		
Illiterate	32	32.0
Elementary	32	32.0
Secondary	22	22.0
Diploma	7	7.00
University	7	7.00

*Others include one from Marreb, one from Sanaa and one from Ibb.

Table 2. Distribution of Patients by Age and Gender Across Different Head and Neck Cancer Sites, with Chi-square Test Results (p-value < 0.05)

Characteristic	Oral Cavity	Naso pharynx	Hypo pharynx	Larynx	Oro pharynx	Total	p-value
Age							
< 36 years	1	10	0	0	0	11	
36-54 years	20	16	1	2	2	41	
55-73 years	13	17	1	9	0	40	0.028
> 73 years	4	2	1	1	0	8	
Total	38	45	3	12	2	100	
Gender							
Male	21	34	2	12	2	71	
Female	17	11	1	0	0	29	0.029
Total	38	45	3	12	2	100	

According to the risk factors, chewing qat was the most common risk factor, with (74%) of patients reporting this habit. Cigarette smoking was seen in (50%) and tobacco use in (28%) of patients. The use of hooka/mada'a and betel quid/tombul was less common, reported by (18%) and (10%) of patients, respectively. When looking at combined risk factors, various interplays between different risk behaviors were evident: (10%) of individuals reported using both hookah/mada'a and tobacco, while (17%) engaged in the dual behavior of hookah/mada'a and chewing qat. Notably, (7%) of the population reported using both tobacco and Betel quid. Additionally, (8%) of patients engaged in both chewing qat and betel quid; the co-occurrence of chewing qat and cigarette smoking was substantial, with (49%); and a family history of cancer represented (25%) of patients (Table 4).

The Kruskal-Wallis H test was instrumental in uncovering significant correlations between specific risk factors and diverse forms of cancer. Noteworthy findings from the statistical analysis revealed substantial associations in oral cavity cancer, wherein cigarette smoking exhibited a significant link ($p = 0.040$), underscoring an augmented risk among smokers. Similarly, Hookah and Tobacco use ($p = 0.029$) displayed statistically significant relationships with cancer occurrence. Within the realm of nasopharynx cancer, the utilization of hookah and mada'a was notably associated ($p = 0.008$), while hookah and chewing Qat ($p = 0.013$) also exhibited significant correlations, suggesting heightened risks for individuals employing these substances. Moreover, larynx cancer manifested significant associations with chewing qat ($p = 0.029$), cigarette smoking ($p = 0.002$), and the combined use of chewing qat and cigarette smoking ($p = 0.002$), accentuating the escalated risks for individuals partaking in these behaviors. Lastly, within the oropharynx category, tobacco and Betel quid/tombul ($p = 0.017$), as well as chewing qat and Betel quid/tombul ($p = 0.028$), showcased significant relationships, as detailed in (Table 5).

Table 4. Distribution of Patients by Risk Factors

Risk Factor	No.	%
Hookah/mada'a		
Yes	18	18.0
No	82	82.0
Tobacco		
Yes	28	28.0
No	72	72.0
Chewing Qat		
Yes	74	74.0
No	26	26.0
Betel quid/Tombul		
Yes	10	10.0
No	90	90.0
Cigarette smoking		
Yes	50	50.0
No	50	50.0
Hookah/mada'a and Tobacco		
Yes	10	10.0
No	90	90.0
Hookah/mada'a and Chewing Qat		
Yes	17	17.0
No	83	83.0
Tobacco and Betel quid		
Yes	7	7.00
No	93	93.0
Chewing Qat and Betel quid		
Yes	8	8.00
No	92	92.0
Chewing Qat and Cigarette smoking		
Yes	49	49.0
No	51	51.0
Family history of cancer		
Yes	25	25.0
No	75	75.0

Table 5. Results of Kruskal-Wallis H Test for Different Risk Factors Across Various Types of Cancer Sites (p-value < 0.05)

Cancer Type	Risk Factor	Number (%)	Kruskal-Wallis H	p-value
Oral cavity (n=38)	Hookah/mada'a	10 (26.3%)	2.843	0.092
	Tobacco	13 (34.2%)	1.161	0.281
	Chewing Qat	26 (68.4%)	0.982	0.322
	Cigarette smoking	14 (36.8%)	4.202	0.040
	B.quid/Tombul	5 (13.2%)	0.672	0.412
	Hookah & Tobacco	7 (18.4%)	4.781	0.029
	Hookah & Chewing Qat	9 (23.7%)	1.921	0.166
	C.Qat & C.smoking	14 (36.8%)	3.589	0.058
	Tobacco & B.quid/Tombul	3 (7.90%)	0.075	0.785
	C.Qat & B.quid/Tombul	3 (10.5%)	0.526	0.468
Nasopharynx (n=45)	Hookah/mada'a	3 (6.70%)	7.049	0.008
	Tobacco	12 (26.7%)	0.071	0.789
	Chewing Qat	32 (71.1%)	0.351	0.553
	Cigarette smoking	23 (51.1%)	0.040	0.841
	B.quid/Tombul	4 (8.90%)	0.111	0.739
	Hookah & Tobacco	2 (4.40%)	2..778	0.096
	Hookah & Chewing Qat	3 (6.70%)	6.130	0.013
	C.Qat & C.smoking	22 (48.9%)	0.001	0.984
	Tobacco & B.quid/Tombul	3 (6.70%)	0.014	0.906
	C.Qat & B.quid/Tombul	3 (6.70%)	0.196	0.658
Hypopharynx (n=3)	Hookah/mada'a	1 (33.3%)	0.488	0.485
	Tobacco	1 (33.3%)	0.043	0.835
	Chewing Qat	2 (66.7%)	0.086	0.770
	Cigarette smoking	1 (33.3%)	0.340	0.560
	B.quid/Tombul	0 (0.00%)	0.340	0.560
	Hookah & Tobacco	1 (33.3%)	1.852	0.174
	Hookah & Chewing Qat	1 (33.3%)	0.579	0.447
	C.Qat & C.smoking	1 (33.3%)	0.301	0.583
	Tobacco & B.quid/Tombul	0 (0.00%)	0.230	0.631
	C.Qat & B.quid/Tombul	0 (0.00%)	0.266	0.606
Larynx (n=12)	Hookah/mada'a	4 (33.3%)	2.150	0.143
	Tobacco	1 (8.30%)	2.590	0.108
	Chewing Qat	12 (100.0%)	4.743	0.029
	Cigarette smoking	11 (91.7%)	9.375	0.002
	B.quid/Tombul	0 (0.00%)	1.500	0.221
	Hookah & Tobacco	0 (0.00%)	1.500	0.221
	Hookah & Chewing Qat	4 (33.3%)	2.552	0.110
	C.Qat & C.smoking	11 (91.7%)	9.834	0.002
	Tobacco & B.quid/Tombul	0 (0.00%)	1.016	0.313
	C.Qat & B.quid/Tombul	0 (0.00%)	1.174	0.279
Oropharynx (n=2)	Hookah/mada'a	0 (0.00%)	0.444	0.505
	Tobacco	1 (50.0%)	0.485	0.486
	Chewing Qat	2 (100.0%)	0.710	0.399
	Cigarette smoking	1 (50.0%)	0.000	1.000
	B.quid/Tombul	1 (50.0%)	3.592	0.58
	Hookah & Tobacco	0 (0.00%)	0.224	0.636
	Hookah & Chewing Qat	0 (0.00%)	0.414	0.520
	C.Qat & C.smoking	1 (50.0%)	0.001	0.977
	Tobacco & B.quid/Tombul	1 (50.0%)	5.378	0.017
	C.Qat & B.quid/Tombul	1 (5.00%)	4.842	0.028

4. Discussion

The global incidence of head and neck cancer HNC has shown a concerning upward trend, surpassing half a million reported cases annually [15–17], as the etiological landscape undergoes potential shifts, particularly in light of decreasing smoking rates, notably in developed nations [18]. Specifically, the incidence of HNSCC has exhibited a consistent rise on a global scale, especially among younger cohorts, with a notable (36.5%) increase over the last decade [19]. Predictions suggest that this escalation will continue, with an anticipated (30%) annual surge in incidence by 2030, yielding an estimated 1.08 million new cases each year [6,7,17,20,21]. This mounting incidence is observable across both developed and developing regions [22]. Lifestyle elements, such as heightened alcohol and tobacco consumption in developing settings, alongside the escalating prevalence of HPV-related oropharyngeal cancer, are identified as contributors to the escalating incidence of HNSCC [6,23].

Understanding the epidemiology and the risk factors for oral cancers can help with the early identification and prompt treatment of patients with oral cancer. Early diagnosis of oral cancer is important as it leads to early institution of therapy, which translates into a better prognosis. Late detection and diagnosis are directly proportional to increased morbidity and mortality.

In our investigation, a pronounced gender disparity was evident in the incidence of HNSCC, with men being significantly more affected than women, exhibiting a male-to-female ratio of 2.45:1.00. This finding aligns with existing research that has similarly reported male-to-female ratios of 2.41:1.00 in HNSCC cases [6,24,25]. The observed gender discrepancy may stem from endogenous sex-specific biological factors or exogenous environmental influences that impact healthcare access, cancer perceptions, and treatment adherence [27,28]. Previous epidemiological inquiries have highlighted notable gender variations in cancer incidence and mortality, indicating that the heightened risk among men is likely attributable to increased exposure to established risk factors, such as tobacco and alcohol usage [28]. Additionally, the predisposition towards certain habits among males [16] and their social autonomy coupled with easy access to consumable products [29] could further contribute to this observed gender disparity.

Regarding patient demographics, our study revealed a mean age of 53.2 ± 14.7 years among patients, consistent with findings from prior research [6]. Singh et al. reported that (47.6%) of individuals in a study conducted on the northern Indian population fell within the 40–60 age range [30]. Al-Jaber et al. noted that oral squamous cell carcinoma in individuals from Arab countries typically occurs between the fifth and sixth decades of life, echoing our study's findings [24]. A study from eastern India indicated a mean age at HNSCC diagnosis of 52.1 years [31]. The age groups with the highest patient proportions in our study were 36–54 years and 55–73 years, accounting for (41.0%) and (40.0%), respectively. Similar age distributions have been reported by Kiran et al. and Alam et al., with male patients predominantly represented in these age categories [33,34]. Across all age groups, male patients constituted (71.0%) of the cohort, in contrast to (29.0%) for females, highlighting a gender imbalance that underscores the importance of considering age and gender factors in healthcare contexts to tailor appropriate care and interventions based on the demographic composition of the patient cohort.

In recent years, there has been a notable rise in the incidence of nasopharyngeal squamous cell carcinoma (NPSCC) in Arab nations, including Yemen [34]. Within our study, the nasopharynx emerged as the most commonly affected site, representing (45%) of cases, followed by the oral cavity (38%) and the larynx (12%). This finding diverges from numerous global studies where the oral cavity is typically identified as the most prevalent site for HNSCC [6,34,36].

Analysis of our study revealed that a majority of HNSCC patients were married, with a notable geographic concentration originating from the southern governorates of Aden, Lahj, and Abyan, likely due to the proximity of the NOC in Aden to these regions. Occupation-wise, the largest cohorts consisted of laborers and homemakers/housewives, a trend possibly linked to laborers' heightened susceptibility to tobacco addiction, given nicotine's stimulative effects in this demographic. Educational attainment within the cohort was evenly distributed between individuals with limited literacy and elementary education levels, with smaller percentages possessing secondary, diploma, or university-level education.

Tobacco products, both smokeless and combustible, stand as significant contributors to the incidence of HNSCC [36]. Other notable risk factors encompass exposure to environmental pollutants, areca nut (betel quid) chewing, radiation exposure, and certain occupational exposures [1,7,38]. Within our study, the most prevalent risk factors among patients were qat chewing, cigarette smoking, tobacco (including shammah "smokeless tobacco"), hookah use, and areca nut (betel quid), accounting for (74.0%, 50.0%, 28.0%, 18.0%, and 10.0%), respectively.

Our investigation underscores the significance of tobacco smoke, non-smoke, and hookah use as primary risk factors for oral cavity cancer, aligning with findings from prior studies emphasizing their pivotal role in the development of oral cancers and premalignant lesions [38]. In our study, we estimated that the use of tobacco in its diverse forms contributes to about (71%) of oral cancers. Correspondingly, other studies have linked

roughly (75%) of oral cancers to these same risk factors [39]. Moreover, hookah use has been associated with oral mucosal changes that may foster the emergence of premalignant conditions [38]. Shammah (smokeless tobacco) comprises powdered tobacco mixed with lime, pepper, ash, and diverse flavorings. Studies on Yemeni shammah users have demonstrated a strong link between daily shammah consumption and the development of leukoplakia, a precancerous oral lesion [40].

In our prospective study, qat chewing emerged as the predominant risk factor among HNSSC patients, particularly in oral cavity cancer cases, accounting for (74.0%) and (26.0%), respectively. These findings align with existing research highlighting the potential association between qat chewing and the development of oral squamous cell carcinoma (OSCC). Case reports and studies have elucidated a robust correlation between qat use and OSCC development, with some suggesting a higher prevalence of oral leukoplakias among qat users [8,42,43]. Notably, qat consumption often coincides with concurrent cigarette smoking and/or waterpipe use, both direct or indirect risk factors for OSCC development, as observed in our study [43]. Additionally, individuals involved in qat cultivation and consumption may face heightened exposure to pesticides and insecticides, posing additional health risks [44].

The utilization of areca nut or betel quid products correlates significantly with elevated rates of oral cavity cancer, particularly in high-incidence regions like the Indian subcontinent [7,10,11,46]. The risk of HNSCC escalates further when areca nut is combined with tobacco, as evidenced by studies reporting a 3-fold to 10-fold increased risk associated with these practices [46]. In our study, the use of areca nut alone, tobacco and areca nut together, and qat chewing combined with areca nut accounted for (13.2%, 7.90%, and 10.5%), respectively.

Oral consumption of tobacco facilitates direct exposure of oral mucosa to carcinogens, potentially leading to cancer development at the point of contact. Prolonged retention of tobacco or betel quid in the buccal pouch intensifies the infiltration of carcinogens mixed with saliva, causing irritation of the adjacent mucosa and the tongue. Tumors are more likely to develop on the lateral borders of the tongue and buccal mucosa due to these factors [47].

Tobacco snuff usage, in conjunction with tobacco chewing, constitutes a significant risk factor for hypopharyngeal and oropharyngeal cancers [48]. The combination of tobacco with betel quid is known to be carcinogenic, contributing to cancers of the oral cavity and pharynx [49], a pattern mirrored in our findings, where (50.0%) of oropharyngeal cancer cases involved the use of this combination.

Studies suggest a stronger correlation between smoking and cancers of the larynx and pharynx compared to the oral cavity, potentially attributed to the greater direct exposure of these anatomical sites to inhaled smoke [50,51]. Our results reinforce this trend, demonstrating that (91.7%) of laryngeal cancer patients were smokers. The aerodynamics of respiratory flow in the upper airway, transitioning from laminar in the oral cavity to turbulent in the larynx, may explain the heightened exposure of the larynx and pharynx to inhaled smoke compared to the oral cavity [50].

The escalating prevalence of shammah and its association with premalignant oral conditions highlights the urgent need for enhanced public health surveillance and interventions to effectively address this emerging public health concern. Collaborative efforts are essential to heighten awareness regarding the risks linked to shammah consumption, support cessation initiatives, and implement regulatory measures to curb the spread of this detrimental practice. Further research is crucial to elucidate the specific pathways through which chewing may contribute to oral and other cancers. Nonetheless, existing data underscores the importance of addressing the public health implications of this widespread practice, particularly in regions with high qat consumption rates. The significant burden of HNSCC attributed to areca nut/betel quid underscores the critical importance of tailored public health strategies to combat this prevalent and modifiable risk factor, especially in areas where its usage is deeply rooted in cultural and socioeconomic contexts.

5. Conclusions

The demographic portrait of HNSCC patients in Yemen reveals a predominance of middle-aged males, with qat chewing, smoking, and tobacco consumption emerging as prevalent risk factors. Notably, the nasopharynx stands out as the most commonly affected site. Despite a significant portion of HNSCC patients lacking identifiable risk factors, risky habits like tobacco and alcohol loom large among men. With the global rise in HNSCC incidence, particularly in Asia, comprehensive educational initiatives on HNSCC, with a specific focus on high-risk behaviors such as tobacco and alcohol use, are imperative to stem the tide of HNSCC cases. Efforts should be directed towards prevention, early detection, HNSCC diagnosis, and fostering tobacco-free environments. Additionally, it is important to note that due to the small sample size in this study, further research with larger cohorts is warranted to validate these findings.

The highlighted link between qat chewing and oral squamous cell carcinoma underscores the pressing need for targeted public health campaigns aimed at at-risk populations. Equally important is the education of healthcare professionals on the early warning signs of oral carcinoma, emphasizing the incorporation of oral cancer screenings into routine patient care practices.

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مقالة بحثية

الملف الديموغرافي وعوامل الخطر لسرطان الخلايا الحرشفية في الرأس والرقبة في المركز الوطني للأورام في عدن، اليمن: دراسة مقطعية مستقبلية

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المُلخّص

يعد سرطان الخلايا الحرشفية في الرأس والرقبة (HNSCC) مصدر قلق صحي كبير في اليمن، وله تأثير ملحوظ على السكان. تشمل عوامل الخطر الرئيسية للإصابة بـ HNSCC في هذه المنطقة مضغ القات وتدخين السجائر والتبغ. كان الهدف من دراستنا هو تحليل العلاقة بين الملامح الديموغرافية والمواقع التشريحية المتضررة وعوامل الخطر. تم إجراء دراسة مقطعية مستقبلية باستخدام البيانات المستخرجة من السجلات الطبية للمرضى الذين تم تشخيص إصابتهم بـ HNSCC في المركز الوطني للأورام في عدن، اليمن، والتي تغطي الفترة من يناير 2023 إلى ديسمبر 2023. تم جمع معلومات عن التركيبة السكانية للمرضى، ومواقع الأورام الأولية، والتاريخ العائلي، والتعرض لعوامل الخطر مثل مضغ القات وتدخين السجائر من خلال استبيان منظم. شملت الدراسة 100 مريض، وكانت نسبة الذكور إلى الإناث 2.45:1. كان متوسط عمر المرضى 53.2 ± 14.7 عامًا، مع وجود جزء كبير (41%) في الفئة العمرية 36-54 عامًا و (40%) في الفئة العمرية 55-73 عامًا. وكان الموقع الأكثر إصابة هو البلعوم الأنفي، وهو ما يمثل (48%) من الحالات. وكان مضغ القات هو عامل الخطر السائد بين المرضى (74%)، يليه تدخين السجائر (50%) والتبغ (28%). يتأثر الأفراد في منتصف العمر، وخاصة الرجال الذين تتراوح أعمارهم بين 36-54 عامًا و55-73 عامًا، بشكل غير متناسب بـ HNSCC في اليمن. يظهر البلعوم الأنفي باعتباره الموقع الأكثر انتشارًا للسرطان. ويبرز مضغ القات كعامل خطر شائع بين المرضى، يليه تدخين السجائر والتبغ. يعد التثقيف العام حول عوامل الخطر المرتبطة بـ HNSCC أمرًا ضروريًا لإدارة الأمراض بشكل فعال وجهود الوقاية في اليمن.

الكلمات المفتاحية: التدخين بالسجائر، سرطان الخلايا القرنية في الرأس والعنق، مضغ القات، اليمن.

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