

Primary head and neck cancers in Jos, Nigeria: A re-visit

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Summary

Background: To document the pattern of primary head and neck cancers in Jos, Nigeria.

Study Design: A record-based study of head and neck cancers histologically diagnosed at the Jos University Teaching Hospital (JUTH), Jos, between January 1987 and December 2002.

Results: A total of 710 cases (over 44 cases per year) were diagnosed, with a rising trend.

The most common sites for cancer were the eyes (15.4%), lymph nodes (12.4%), thyroid gland (11.8%) and the oral cavity (7.6%). Carcinomas 432 (60.8%), lymphomas 119 (16.8%) and sarcomas 105 (14.8%) were the commonly reported cancers. Carcinomas were most commonly reported in the thyroid gland (19.2%), oral cavity (10.2%) and the eyes (9.5%). AIDS-related cancers constituted 12.3% of all head and neck cancers and were commonly reported in the 3rd decade of life. This is higher than the 10.9% and 7.6% previously reported for Jos ($p=0.89$) and Maiduguri ($p=0.034$) respectively. Carcinomas were associated with alcohol use and tobacco smoking ($p<0.001$), while kaposi sarcoma was more associated with HIV-positive patients than squamous cell carcinoma ($p=0.016$).

The duration of symptoms for cancers varied with sites and cancer type but ranged from 6.5- 89.7 months (mean = 37.7 ± 51.1 months). 59 (93.7%) of the staged cancers reported in the late stages (III & IV).

48 (43.2%) of the treated cancers had primary surgery, while most lymphomas were treated with primary chemotherapy.

Conclusion: There is a rising trend in the occurrence of head and neck cancers in Jos, with a considerable proportion of the patients being below 30 years. The late presentation of patients, late stage at presentation, the rising profile of HIV/AIDS in the area and the non-availability of relevant specialists in the hospital could adversely affect the prognosis of these cancers.

Key-words: Head and neck, Cancers, Jos, Nigeria.

Résumé

Cette étude est une étude rapport-basé pour documenter le modèle de primaire de cancers de tête et cou histologiquement diagnostiqué à l'Université de Jos Enseignant l'Hôpital (JUTH), Jos, entre le 1987 janvier et le 2002 décembre. Un total de 710 cas (par-dessus 44 cas par l'année) ont été dia-

gnostiqué, avec une tendance montante. Les sites les plus communs pour le cancer étaient les yeux (15.4%), les ganglions lymphatiques (12.4%), la glande de thyroïde (11.8 %) et la cavité oral (7.6%). Les carcinomes 432(60.8%), les lymphomes 119(16.8 %) et les sarcomes 105(14.8 %) étaient les cancers ordinairement rapportés. Les carcinomes étaient le plus ordinairement rapportés dans la glande de thyroïde (19.2%), la cavité oral (10.2 %) et les yeux (9.5%). Les cancers LIES AU SIDA ont constitué 12,3% de tous cancers de tête et cou et ont été ordinairement rapportés dans la troisième décennie de vie. Ceci est plus haut que le 10,9% et 7,6% précédemment rapporté pour Jos ($p=0.89$) et Maiduguri ($p=0.034$) respectivement. Les carcinomes ont été associés avec l'usage d'alcool et le tabac fumant ($p<0.001$), pendant que le sarcome de kaposi a été plus associé avec les malades VIH-POSITIFS que ($p=0.016$ de carcinome de cellule de squamous). La durée de symptômes pour les cancers a changé selon les sites et selon le cancer tape mais étendu de 6,5- 89,7 mois (signifie = $37,7 \pm 51,1$ mois). 59 (93.7 %) des cancers montés rapportés dans les étapes dernières (III & IV). Il y a une tendance montante dans l'événement de cancers de tête et cou dans Jos, avec une proportion considérable des malades est au dessous de 40 années. La présentation dernière de malades, en retard l'étape à la présentation, le profil montant de VIH/SIDA dans le secteur et la non-disponibilité de la spécialité dentaire dans l'hôpital affecterait défavorablement le pronostic de cancers oraux.

Introduction

Cancers, and specifically carcinomas, of the head and neck vary widely between populations and have been associated with various known predisposing/aetiological factors like tobacco use¹; alcohol ingestion and smoked foods²; Chinese-style salted foods³; very hot drinks⁴; viruses and industrial pollution⁵. The association of these predisposing factors with head and neck cancers make these cancers preventable and controllable following early diagnosis¹.

Global epidemiology shows that head and neck cancers constitute between 5-50% of all cancers⁶. In Nigeria, there is no true incidence for head and neck cancers, but studies in Jos, Lagos and Maiduguri have reported a yearly incidence of about 20-38 cases^{7,8,9}. These studies showed variations in the prevalent sites of head and neck cancers (neck, nasopharynx and oral cavity respectively), which supports the possibility of geographical variations in the aetiological factors. The extent of reporting of these cancers could also be related to the availability of specialists in the different

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sections of the head and neck region, with low reporting in sites with no corresponding surgical specialty in the hospital.

Reports of head and neck cancers in Nigeria and other African countries have shown a relatively higher occurrence of these cancers among under-40 year-olds than in studies from developed countries^{7,8,9}. Bhatia reported an annual incidence of 24 cancers in the head and neck region in Jos. The non-standard criterion for the classification of the sites, in the previous study in Jos, which excluded malignant tumours of sites like the scalp, meninges, brain, eyes and thyroid gland may also be a factor in this relatively low occurrence of head and neck cancers recorded for the area⁷. The North central region of Nigeria has been reported to have the highest rate of HIV-seropositivity of 9.86% between 1989 and 1999 and AIDS-associated cancers, in a recent study, was reported to constitute 1.8% of AIDS-related lesions of the oral cavity seen at the APIN Clinics in Jos^{10,11}.

This study is aimed at updating the reported epidemiological pattern of head and neck cancers in the parts of North Central Nigeria served by the Jos University Teaching Hospital, Jos.

Materials and methods

The Histopathology Department of the Jos University Teaching Hospital (JUTH) at Jos receives biopsies from tertiary hospitals, government specialist and general hospitals, mission and private hospitals in Plateau, Benue, Nasarawa, Kogi states in North Central Nigeria and the southerly-located states in the North east zone (especially Bauchi and Taraba states) serving a population of about 14 million people, by the 1991 Census.

The ethical clearance required to access data for the study was obtained from the Chief Medical Director of the hospital.

Socio-demographic information and history of cancer management, after the pattern of the Minimum Cancer Dataset¹² developed by the British Association of Head and Neck Oncologists (BAHNO), were retrieved from pathology and medical records of patients diagnosed of cancers of the head and neck at the hospital from January 1987 till December 2002.

For the purpose of this study, head and neck cancers would be defined as primary malignant neoplasms of epithelial, connective and neural tissue origin or any lesion of unspecified cellular origin but showing histological features of a malignancy (M-8000/3) involving sites in the head and neck, as classified by the 3rd Edition of the International Classification of Diseases (ICD-O)¹³. This excludes secondaries/metastases, benign neoplasms and reportable benign lesions of the head and neck.

Patients of ages "0-14 years" and "15+ years" were defined as "children" and "adults", respectively, to conform with the standards reported by the International Agency for Research on Cancer (IARC)¹⁴. The clinical staging of cancers used in the study is as developed by the American Joint Committee on Cancer (AJCC)/UICC and is based on the TNM System¹⁵.

The data was analysed statistically using the SPSS 11+ and Epi Info Version 6.0. Relationships between nominal data

were determined using the Yates Corrected and Fischer's Exact Chi-square tests, while the association between habits and cancers was determined using the Kruskal-Wallis and Kolmogorov-Smirnov Tests. The Student's t-test was used to compare the duration of symptoms for different neoplasms and different age groups. A p-value of 0.05 or less was considered significant.

Results

A total of 710 primary head and neck cancers were reported, giving a yearly incidence of about 44 cases (Table 1).

One hundred and thirty five cases (19%) were reported in children while 541 cases (76.2%) were reported in adults. A total of 34 cases (4.8%) were of unspecified ages (Table 2). Carcinomas, Sarcomas and lymphomas were more common in adults (94.7%, 65.7% and 63.0% respectively), while retinoblastomas were less commonly reported in adults (11.5%) (Table 3).

Sarcomas and specifically kaposi sarcoma, constitute 105(14.8%) and 30(4.2%) of head and neck cancers respectively.

Trend of cancers

There is a rising trend in the reporting of cancers at the hospital over the study period, with about 2.5 fold increase in the prevalence of cancers every 5 years over the rate in 1987-1991 (Figure 1).

Histological distribution

Epithelial tissue malignancies constituted 98(72.6%) of all childhood head and neck cancers, of which retinoblastomas 46(46.9%) and lymphomas 40(40.8%) were the most common. Cancers of epithelial tissue origin constituted 491 (90.8%) of reported head and neck cancers in adults, of which carcinomas constituted 409 (83.3%) of the epithelial malignancies reported (Table 2).

Site distribution and age of occurrence

The most common sites of primary cancers among children and adults in this series were the eyes (43%) and the thyroid gland (13.7%) respectively. Lymphomas and lesions of unknown primary sites affecting the lymph nodes accounted for 17.2% of all head and neck cancers.

Although the ages of occurrence of cancers vary with sites, cancers of the head and neck were commonly reported in the 1st and 5th decades, with about 58.6% and 75% occurring at ≤ 40 years and ≤ 50 years respectively. In the 60+ year olds, the prevalence was only 12.9% (Table 4).

Risk factors among cancer patients

A total of 79 patients were interviewed on different habits like tobacco use (smoking/chewing), snuff use (oral/nasal), kolanut chewing, alcohol use and sucking of petrol (Table 5). Alcohol use and tobacco smoking were associated with cancers of the head and neck ($p=0.00$), with alcohol use being the greater risk factor ($p=0.014$).

Duration of symptoms of cancers

The average duration of symptoms for cancers of the

Table 1 Primary head and neck cancers by age groups and ICD-0 sites

Sites	ICD-0 No.	Age groups (Years)			Total	Percentage of H & N cancers
		0 - 14	15 - 75+	Unspecified		
Eye	C69	58	45	6	109	15.4
Thyroid	C73	1	74	9	84	11.8
Oral cavity	C00-06	3	50	1	54	7.6
*Unknown		36	14	-	50	7.0
Primaryes NHL	C82, 83, 85	12	34	-	46	6.5
(Jaw) bones	C41	19	21	1	41	5.8
Nasopharynx	C11	1	37	2	40	5.6
Larynx & vocal cord	C32	1	33	3	37	5.2
Scalp	C44	2	31	1	34	4.8
*Unrecorded sites		10	19	3	32	4.5
Salivary glands	C07, C08	1	27	3	31	4.4
Unspecified neck, nose & nasal cavity		3	17	1	21	3.0
Max. antrum	C31	1	19	-	22	2.8
Hodgkin's Disease other sites	C81	2	17	1	20	2.8
Eyelid		3	12	1	16	2.2
Pharynx		2	7	1	10	1.4
Skin		1	7	-	8	1.1
Ear		-	8	-	8	1.1
Other	C84	3	5	-	8	1.1
Lymphomas oropharynx	C10	3	3	-	6	
Tonsils	C09	-	4	-	4	0.6
Periorbital area		-	4	-	4	0.6
Other sinuses		2	-	1	3	0.4
Total		135	541	34	710	

*These cancers (3 carcinomas and 5 sarcomas) were reported in the lymph nodes

Table 2 Histological types of cancers by age group

Type of cancer	Age groups (Years)			Total
	0 - 14	15 - 75+	Unspecified	
Carcinoma	11	395	26	432
Sarcoma	35	68	2	105
Lymphoma	41	75	3	119
Retinoblastoma	46	3	3	52
Others	2	-	-	2
Total	135	541	34	710
(%)	(19.0)	(76.2)	(4.8)	

head and neck before presentation was 37.7± 51 months (children =5.5 ± 5.2 months; adults =26.2 ± 39.96 months), with variations according to sites (Table 6). Patients with cancers of sites like the thyroid, scalp, lymph nodes, face, ear, eyelids (exposed sites) stayed for over 24 months, while patients with cancers of the oro-pharynx, maxillary antrum and nasopharynx stayed for less than 12 months before reporting to the hospital (Table 6).

Stage at presentation of cancers

A total of 63 cases had the TNM staging recorded. The earliest presenting cancer was a case of stage I (T₁N₀M₀) basal cell carcinoma of the nose (1.6%). All the other cancer cases were diagnosed at the stage II (T₂N₀M₀), stage III (T₃N₀M₀ and any T, N₁M₀) and stage IV (any T, N₂M₀; and any T or N, M₁) of head and neck cancers (Table 7).

HIV status and AIDS-related cancers

A total of 87 AIDS-related cancers (kaposi sarcoma and non-Hodgkin's lymphoma) were diagnosed, constituting 12.3% of all head and neck cancers in this series (Table 8).

A total of 68 head and neck cancer patients were tested for the human immunodeficiency virus (HIV). Of these, 9 (13.2%) were positive, 58 (85.3%) were negative and 1(1.5%) was not confirmed, as the patient was lost to follow-up.

The commonly reported cancers among HIV positive patients were oral kaposi sarcoma and squamous cell carcinoma of the conjunctiva (Table 8), but kaposi sarcoma was

Table 3 Histological types of primary head and neck cancers by site

Sites	Histological types of cancers				Total	Male - Female Ratio
	Carcinomas	Sarcomas	Lymphomas	Others		
Eye & adnexa	41	10	5	*53	109	1.2:1
Thyroid	83	1	-	-	84	1:2:1
Lymph nodes (primary)	-	-	72	-	72	1.8:1
Oral cavity	44	9	1	-	54	2.4:1
Lymph nodes (Unknown primaries)	36	14	-	-	50	1:1
(Jaw) bones	15	13	12	1	41	1.9:1
Nasopharynx	30	7	3	-	40	1.4:1
Larynx & vocal cord	37	-	-	-	37	11.3:1
Scalp	29	5	-	-	34	1.4:1
Unrecorded sites	-	12	20	-	32	2.6:1
Salivary Glands	30	-	1	-	31	1:1
Unspecified neck	8	9	5	-	22	3.4:1
Nasal cavity	16	5	-	-	21	1.6:1
Maxillary antrum	20	-	-	-	20	3:1
Other sites	10	6	-	-	16	1.3:1
Eyelid	6	4	-	-	10	4:1
Pharynx	7	1	-	-	8	1:1
Skin	7	1	-	-	8	7:1
Ear	2	6	-	-	8	1:1
Oropharynx	4	-	-	-	4	3:1
Tonsil	4	-	-	-	4	4:0
Periorbital area	1	2	-	-	3	3:0
Other sinuses	2	-	-	-	2	2:0
Total	432	105	119	54	710	1.5:1
(%)	(60.8)	(14.8)	(16.8)	(7.6)		

*Retinoblastoma 52(7.3%), Malignant Teratoma 1(0.3%)

more commonly associated with these patients ($p=0.016$).

Treatment modalities of cancers

The common primary treatment modalities were surgery (44.4%) and chemotherapy (25%), with variations according to the nature of the cancer (Table 9).

Discussion

Previous studies on head and neck cancers in Nigeria and Canada showed variations in the "inclusion criteria" for neoplasms and sites ^{7,8,16}. While some focused solely on malignant neoplasms, other studies included reportable benign neoplasms of sites like the salivary glands, jaws and thyroid glands. This, expectedly, would give varying figures for the proportion of cancers of specific sites, in relation to the total head and neck cancers. A previous study on head and neck cancers in Jos excluded some of the head and neck cancer sites as defined by the ICD-O ^{7,13}. Otoh and others in a study in North Eastern Nigeria recommended the need for uniformity for appropriate comparison of results of studies,

which would be limited to those studies with identical criteria ⁹.

The yearly hospital incidence of 44 cases of head and neck cancers reported in this study is the highest so far reported for Nigeria ^{7,8,9}. The increase over the previously reported figure for Jos could be attributed to the broadened inclusion criteria, the increase in the reporting of ocular cancers, the prevalence of thyroid carcinomas in the zone and the improved histopathology services "paralleling an increased number of ophthalmologists" in the hospital ¹⁷. The prevalence of cancers of the eyes and thyroid gland relative to other head and neck sites in this study, contrasts with previously reported findings of the prevalence in the neck, nasopharynx and oral cavity ^{7,8,9}.

The prevalence of cancers of the eyes and thyroid gland is significantly higher ($p<0.05$) than previously reported for Lagos and Maiduguri ^{8,9}. Ionizing radiation is the only known carcinogen for thyroid cancers, but it has also been associated with established risk factors such as a history of adenoma and goiter and prolonged TSH elevation ¹⁸. Akpata and others reported the endemicity of fluorosis as a result of high fluoride levels in drinking water in most parts of North

Table 4 Age distribution of primary head and neck cancers by sites

Sites	Age groups (Years)										Total	
	<10	11+	21+	31+	41+	51+	61+	71+	81+	Unsp.		Unsp.
Eye & adnexa	56	6	13	7	5	7	6	2	-	1	6	109
Thyroid	-	6	9	15	17	12	9	3	-	4	9	84
Lymph nodes (primary)	8	17	17	11	4	7	2	-	1	4	1	72
Oral cavity	2	3	8	11	6	9	7	2	2	3	1	54
Lymph nodes (Unknown primaries)	1	8	4	10	10	7	3	-	-	7	-	50
(Jaw) bones	16	11	2	2	3	3	2	1	-	-	1	41
Nasopharynx	1	4	2	6	14	2	6	1	-	2	2	40
Larynx & vocal cord	1	-	5	5	10	6	6	1	-	-	3	37
Scalp	1	2	3	10	5	7	2	-	-	1	3	34
Unrecorded Sites	6	7	6	2	1	-	3	2	2	-	3	32
Salivary Glands	-	3	4	4	6	3	2	2	2	2	3	31
Unspecified neck	3	2	3	2	4	3	-	1	-	4	-	22
Nasal cavity	3	-	2	2	8	2	2	1	-	-	1	21
Maxillary antrum	-	2	1	3	6	5	1	2	-	-	-	20
Other sites	3	1	6	3	-	-	-	1	-	1	1	16
Eyelid	1	1	1	1	3	2	-	-	-	-	1	10
Pharynx	-	1	1	2	1	-	-	2	-	1	-	8
Skin	-	1	1	1	-	2	2	-	1	-	-	8
Ear	3	-	4	-	1	-	-	-	-	-	-	8
Oropharynx	-	-	-	3	-	1	-	-	-	-	-	4
Tonsil	-	-	-	3	-	-	-	-	1	-	-	4
Periorbital area	-	2	-	-	-	-	-	-	-	-	1	3
Other sinuses	-	-	1	-	1	-	-	-	-	-	-	2
Total	105	77	93	103	105	78	53	21	9	30	36	710

Table 5a Habits associated with head and neck cancers

Responses	Tobacco Smoking	Tobacco Chewing	Snuff Use	Kolanut Use	Alcohol Use	Fuel Sucking
Yes	16	-	1	2	31	1
No	63	2	1	-	48	-
Not Recorded	83	160	160	160	83	161
Total	162	162	162	162	162	162

Table 5b Association between habits and head and neck cancers (One sample Kolmogorov-Smirnov test)

	Habits	
	Tobacco smoking	Alcohol use
K-S z- Score	4.348	3.514
Asymp. Sig (2-tailed)	0.000	0.000

Table 6 Cancer journey by sites

Site (ICD-0)	Interval B/w symptoms & 1 st appointment (Months) by age groups			Interval b/w referral & 1 st appointment (days)	Duration in admission (days)
	All ages	0 - 14	15 - 75+		
Oral cavity (C00 - C06)	13.4±14.2	-	13.4±14.2	12.3±20.4	10.2±16.5
Nasopharynx (C11)	9.4±3.1	-	9.4±3.1	19.6±25.2	2.6±3.1
Max. Antrum (C31)	-	10±SD	8±6.5	18±25.3	5.2±4.2
Larynx & VC (C32)	26.4±28.6	-	26.4±28.6	50.3±77.5	16±10.8
Eye & Adnexa (C69)	10.1±13.9	5.2±5.8	16.6±19.4	5.1±6.3	6.8±5.0
Nose/Nasal cavity (C30)	12±0.00	-	12±0.00	5±7.1	-
Thyroid Gland (C73)	49.2±36.1	-	49.2±36.1	8.8±14.9	5.5±2.8
Salivary Glands (C07)	12.0±7.8	-	12.0±7.8	-	31.8±23.9
Oropharynx (C10)	3.0±0.00	-	3.0±0.00	18.0±0.00	2.0±0.00
Pharynx	12.0±0.00	-	12.0±0.00	38.0±0.00	-
Jaws (C41)	4.0±1.4	5±SD	3±SD	-	-
Scalp (C44)	89.7±74.3	-	89.7±74.3	5.5±2.1	13.0±0.00
Ear	36.0±0.00	-	36.0±0.00	-	-
Face	68±90.5	4±SD	132±SD	19.0±0.00	24±0.00
Eyelids	25.5±35.2	7.5±2.1	34.5±41.7	16.8±23.6	15.7±18.3
Tonsils	6.5±2.1	-	6.5±2.1	-	9.0±12.7
Lymph nodes (Primary cancers)	34.1±72.1	2±SD	36.6±74.5	7.7±6.5	10.0±10.8
Lymph nodes (unknown primaries)	7.4±3.0	6±SD	7.8±3.4	3.0±2.8	-
Skin	7.0±SD	-	7.0±SD	-	18.0±0.00
All cancers	37.7±51.1	5.5±5.2	26.2±39.9	12.8±26.0	8.2±10.4

Table 7 Stages at presentation by cancer types (n = 63)

Cancer types	TNM Stage ¹⁵			
	I	II	III	IV
Carcinomas	1	3	3	47
Sarcomas	-	-	-	8
Retinoblastoma	-	-	-	1
All cancers (%)	1(1.6)	3(4.8)	3(4.8)	56(88.9)

Table 8a Cancers among HIV positive patients

Lesions	Sites	HIV positive (n = 9)	HIV negative (n = 30)
		No. (%)	No. (%)
Kaposi sarcoma	Oral cavity	3 (33.3)	1 (3.3)
Squamous cell Carcinoma's	Eye(conjunctiva)	3 (33.3)	24 (80)
Non-Hodgkin's Lymphoma	Lymph nodes	2 (22.2)	2 (6.7)
Follicular carcinoma	Thyroid	1 (11.1)	3 (10)

Table 8b Prevalence of AIDS-related cancers

Sites	AIDS-related cancers ²¹		Total
	Kaposi Sarcoma	Non-Hodgkin's lymphoma	
Lymph nodes	7	46	53
Unspecified site	12	-	12
Neck	2	3	5
Oral cavity	3	1	4
Nasopharynx	-	3	3
Eyes	-	2	2
Ear	2	-	2
Jaw	1	1	2
Salivary glands	-	1	1
Skin	1	-	1
Eyelid	1	-	1
Total	30	57	87

Table 9a Treatment modalities by cancer types (n = 11)

Cancer types	Treatment modalities				
	Surgery	Chemotherapy	Radiotherapy	Combination therapies	Not recorded
Carcinomas	35	6	8	11	3
Sarcomas	4	8	-	4	-
Lymphomas	-	13	-	-	-
Retinoblastoma	9	-	-	10	-
Total	48	27	8	25	3

Table 9b Frequency of combination therapies by cancer types

Cancer types	Treatment modalities				Total
	Surgery+ chemotherapy	Surgery+ radiotherapy	Chemotherapy+ radiotherapy	Surgery+ chemotherapy+ radiotherapy	
Carcinomas	5	5	1	-	11
Sarcomas	1	2	-	1	4
Lymphomas	-	-	-	-	-
Retinoblastoma	10	-	-	-	10
Total	16	7	1	1	25

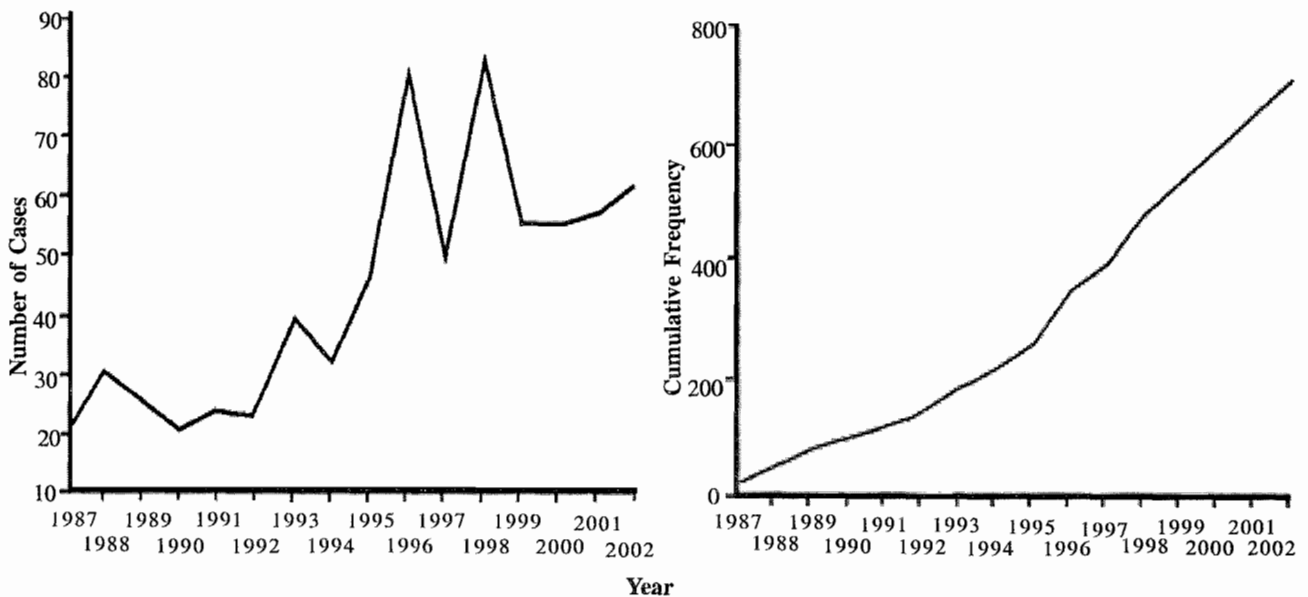


Fig. 1 Yearly trends of head and neck cancers in JUTH

Central Nigeria¹⁹. Banwo and others reported an association between fluoride ions and endemic goiter in Plateau state of Nigeria²⁰. These findings suggest that endemic fluorosis may be a risk factor for thyroid cancers in Nigeria. There is a need for further research to confirm or refute this observation.

Previously reported epidemiological studies on HIV/AIDS in various countries worldwide have identified kaposi sarcoma, non-Hodgkin's lymphoma and cervical lymphadenopathy as common AIDS-associated cancers of the head and neck region^{10,21}. In this series, kaposi sarcoma and non-Hodgkin's lymphoma constitute 12.3% of all head and neck cancers. This is significantly higher than the 7.6% reported for Maiduguri ($p=0.034$) and an increase over the 10.9% ($p=0.89$) previously reported for Jos^{7,9}. This high and rising trend agrees with the reported high prevalence of HIV/AIDS in the North Central zone and in Plateau State. The apparently high occurrence of squamous cell carcinoma among HIV-positive patients agrees with the accumulating data, which suggest the increased risk of HIV patients for developing cancers like the Hodgkin's lymphoma and conjunctival squamous cell carcinoma²².

The 12.9% prevalence of cancers among the over-60 year olds in this series and in previously reported findings in Nigeria (10.9% - 23.6%) shows that it is relatively uncommon in the older age group than reported for developed countries^{7,8,9,23}. This could be attributed to the early and advanced system of cancer reporting and the availability of modern diagnostic facilities in the hospitals in developed countries. It also informs the need for cancer screening among the younger age groups of 20-40 years.

The association of alcohol and tobacco with head and neck cancers, especially oral and pharyngeal cancers agrees with previously reported studies¹³. Alcohol use is relatively more common in this zone, with the proliferation of cheap local alcoholic beverage outlets. The role of alcohol in the aetiology of cancer has been reported⁹. The site distribution of oral cancers in this series agrees with the findings in countries with a reported prevalence of alcohol-related cancers of the oral cavity¹⁴.

The longer duration of symptoms for enclosed sites than exposed sites in this study agrees with the reported findings for North Eastern Nigeria⁹. Children with cancers reported much earlier than adults ($p<0.05$). This could be attributed to the higher pain threshold in adults, the biologic behaviour of childhood cancers characterized by a high rate of proliferation activity (which make them easily noticeable) and response to treatment and the location of the cancers¹⁷. Majority (95.7%) of the patients reported at the late stages (III/IV) of the cancers. This agrees with previously reported findings for cancers in Nigeria and Africa^{9,24}. The treatment modalities reported in this series are related to the nature of the cancers of prevalent sites (retinoblastomas and follicular carcinomas) in this series.

Conclusion

There is a rising trend in the reporting and occurrence of head and neck cancers in Jos, with a considerable proportion of the patients being below 40 years. The late presentation of

patients, stage at presentation, the rising profile of HIV/AIDS in the region and the non-availability of relevant specialists, like the oral and maxillofacial surgeons in the hospital could adversely affect the prognosis of treatments for these cancers.

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