

Prevalence and Knowledge of Risk factors of cancer patients in the Niger Delta region.

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ABSTRACT

Aim: To highlight current knowledge on the risk factors of cancers in the Niger Delta Region of Nigeria and to discuss potential health care actions to improve prevention and treatment.

Methods: The study was conducted among consenting adults from the Niger Delta region of Nigeria. Participants included all consenting patients with confirmed histological diagnoses of cancer that were referred from and resident in the Niger Delta region of Nigeria. They were interviewed using a socio-demographic and self-prepared structured questionnaire which is self-explanatory.

Results: They were 69 respondents comprising of 48(69.6%) females and 21(30.4%) males. Those that had primary degree of education were 44(63.8%). There were more business people (petty traders) 43(62.3%) and the respondents were predominantly Christians 66(95.6%). Most of the respondents were aware of cancer and their condition 58(84.1%). Lymphomas (15.9%) and multiple myelomas (14.6%) were the commonest haematological cancers seen while breast, cervical and skin cancers (18.8%) were the most common non haematological cancers. Source of water was mainly from borehole and tap water and all the respondents (100%) were aware that oil spillage can cause cancers.

Conclusion: Though oil spillage remain a critical factor contributing significantly to the cause of cancer formation in the Niger Delta region, we found that there is an increased knowledge of people who are now aware of oil spillage as a risk factor for cancer as they are now locating far away from oil companies and no longer getting their water from the river.

Keywords: Cancer prevalence; Risk factors; Niger Delta.

INTRODUCTION

The Niger Delta region of Nigeria has been noted for a high prevalence of cancers with over 200 different known cancers that affect humans;¹ and is a major cause of morbidity and mortality in the Niger delta region of Nigeria, a region noted for its high petrochemical activities.²⁻⁴ In this region of Nigeria among the known risk factors is the possibility of oil spillage which is a common event in Nigeria especially in this region.⁵ A 1983 report issued by the Nigeria National Petroleum Corporation (NNPC) states that “been witnessed

is the slow poisoning of the waters of the country and the destruction of vegetation and agricultural land by oil spills which occur during petroleum operations.” But since the inception of the oil industry in Nigeria, more than twenty-five years ago, there has been some concern and effective effort on the part of the government especially in the spillage land to control environmental problems associated with the industry'.⁶ Studies have found that people in the affected areas complain about many consequences including health issues such as breathing problems and skin lesions; many have lost basic human rights such as health, access to food, clean water, and an ability to work.⁷ In a study by Omoti et al on occupational risk factors for lymphoid malignancies in Benin City Nigeria, agricultural farmers were found to be significantly affected.⁸ Awareness and knowledge by the people of risk factors involved may go a long way in ameliorating or decreasing the incidence of the cancers already with us.

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METHODS

The study was conducted among consenting adults from the Niger Delta region, the oil producing states of Nigeria between July 2014 and April 2016. Participants included all consenting patients from departments of Haematology, Radiotherapy and other related Oncology clinics and wards in University of Benin Teaching Hospital Edo state with confirmed histological diagnoses, community populace and referral from others resident in the Niger Delta region of Nigeria. They were interviewed using a self-prepared structured questionnaire which was self-explanatory. The questionnaire was designed to find out the socio-demographic characteristics, type of cancers, possible risk factors causing the high incidence of cancers in the Niger Delta region of Nigeria. Data from the questionnaire were coded and analysis was done using IBM SPSS version 20 software. Data were presented as tables, diagrams and percentages with variables expressed as means \pm SD. Fishers' exact test was used to test for association between the variables. Statistical level of significance was set at $p < 0.05$.

RESULTS

They were 69 respondents comprising of 48(69.6%) females and 21(30.4%) males. Their age ranged from 31-60 years with a mean age of 49.84 years. There were more married people 54(78.3%). Those that had primary degree of education were 44(63.8%). Of the total 69 respondents there were more business people (petty traders) 43(62.3%) and the patients were predominantly Christians 66(95.6%) as shown in table 1. The commonest non haematological cancers seen were breast, cervical and skin cancer each 13 (18.8%) while the most common haematological cancers were Lymphomas 11 (15.9%) and multiple myeloma 10 (14.6%) as revealed in table 2. Edo (39.1%) and Delta (21.7%) states recorded the highest number of patients while Akwa Ibom and Imo states were the least (1.45%). Table 3 showed the risk factors associated with the cancer patients. Their source of water was mainly from borehole (44.9%) and tap water (30.4%) while the distance of the source to the home was mainly in the same compound

and less than 10km away (76.8%). The number of gas flaring sites near the home was reduced (42.1%) and all the respondents knew that oil spillage can cause cancer.

TABLE 1: DEMOGRAPHIC FACTORS OF PATIENTS (N=69)

VARIABLES		N O	PERCENTAG E
GENDER	Male	21	30.4
	Female	48	69.6
MARITAL STATUS	Married	54	78.3
	Single	2	2.8
	Divorced	8	11.6
	Widowed	5	7.3
EDUCATION	1 Level	44	63.8
	2 Level	13	18.8
	3 Level	12	17.4
OCCUPATIO N	Business(traders)	43	62.3
	Applicants	5	7.3
	Civil servant	14	20.3
	Artisans	7	10.1
RELIGION	Christian	66	95.6
	Muslims	3	4.4

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TABLE 2: TYPES OF CANCER PRESENTATION

TYPES OF CANCERS	OF FREQUENCY (N)	PERCENTAGE (%)
BREAST CANCER	13	18.8
CERVICAL CANCER	13	18.8
SKIN CANCER	13	18.8
LYMPHOMA	11	15.9
MULTIPLE MYELOMA	10	14.6
HEAD AND NECK	5	7.3
COLORECTAL	2	2.9
PROSTATE	2	2.9

TABLE 3: Risk factors associated with cancer patients in NigerDelta region.

Variables	Frequency (N)	Percentage (%)
Source of water		
Borehole	31	44.9
Tap	21	30.4
Well river	12	17.4
River	5	7.3
Distance of source of water to home		
Same compound	30	43.5
10 Km	23	33.3
20 Km	13	18.8
30 Km	3	4.4
Oil companies close to water source		
Yes	34	49.5
No	35	50.5
Gas flaring sites near Home		
Yes	29	42.1
No	40	57.9
Can oil spillage cause cancer		
Yes	69	100
No	Nil	0

DISCUSSION

Cancer cases are expected to surge by 57% worldwide in the next 20 years, an imminent "human disaster" that will require a renewed focus on prevention to combat, according to the WHO (World Health Organization).⁹ The World Cancer Report, produced by the WHO's specialized cancer agency and released on World Cancer Day, predicts that new cancer cases will rise from an estimated 14 million annually in 2012 to 22 million within two decades. Over the same period, cancer deaths are predicted to rise from 8.2 million a year to 13 million. The rising incidence of cancer, brought about chiefly by growing, aging populations worldwide, will require a heavier focus on preventive public health policies.⁹

The number of female respondents (69.6%) was more than the males. This is similar to the study carried out by Nwankwoala et al¹⁰ from 1997 to 2000 where 69.75% were females while 30.18% were males. This may be due to the fact that females have a better health seeking tendency. Arising from the high female respondents, carcinomas of the breast and cervix obviously accounted for more of the cancers (37.6%) seen in the study. This is similar to the case reported in the University of Port Harcourt Teaching Hospital (UPTH) in River state where carcinomas of the reproductive system formed a large percentage;¹⁰ this is understandable as majority of the patients were also females.

The high incidence of cancers in the Niger Delta region of Nigeria has been attributed to many factors amongst which is the effect of oil spillage from oil industries in this region.¹¹ Lymphomas and multiple myelomas were the most common haematological malignancies recorded; and this is similar to what is obtained globally^{2,12} and even in Nigeria.¹³ Multiple myeloma is seen in all races being the most prevalent blood cancer after Non-Hodgkin's lymphoma.² It is said that myeloma account for 1% of all human cancers and 10% of all haematological malignancies.¹² Outside the gender breast and cervical cancers which were the commonest, the general cancer commonest to both sexes was skin cancer. Reason could just be

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because of increase pollution of the air and environmental changes from radiation.

The Niger Delta region in Nigeria, a region known for its petrochemical industries and gas flare sites comprises of nine states. It is a region known for oil exploration and related activities with threatening environmental problems in Nigeria; hence it is a region faced with environmental pollution from gas flare and oil spills causing devastation effects on communities around the area of spill, destroyed aquatic lives, vegetation and farm lands.¹⁴ However, in this study, majority (75.3%) of the patient's source of water was tap and borehole mainly in the same compound where they live which is an improvement on what happened in the past when people had to get their water directly from the contaminated rivers; but whether the ground where the borehole was dug is contaminated is left to desired imagination.

Majority of the patients who came to access our facility came from Edo who were resident and from Delta States. The study carried out in University of Port Harcourt Teaching Hospital (UPTH) in Bayelsa and Rivers states revealed that majority of their patients also came from Bayelsa state and Rivers State who were resident in Port Harcourt. In their study the incidence of cancers in the communities correlated with the polluting activities of oil companies especially Shell Petroleum Development Company (SPDC) Nigeria Limited and the results of the analysis pinpointed SPDC activities as the main constituent of cancer etiology in the Niger Delta region;¹⁵ while there was no statistical correlation done in our study we found out that (50.5%) of the patients do not have oil companies located in their areas and 57.9% do not have the gas flaring sites located near their water source but rather the presence of the oil companies close to their water source supply seems to make no difference. Again this could be due to advocacy that has been carried out in this area including reports of environmental and human rights abuses targeted at reducing poverty, ignorance and health reforms by multinational oil companies operating in the Niger Delta region.

In a study by Omoti and Halim in a 13 year period (1990 to 2003) of patients from the Niger Delta region of Nigeria that presented at the University

of Benin Teaching Hospital (UBTH), a major referral center in the region, they found out that most of the patients presented in the late stage 3-4 and they were residents near petrochemical industries and gas flaring sites.³ However, in this study most of the patients presented in stage 1 and 2 and were not living in areas near the gas flaring sites (57.9%). This could possibly be due to awareness and sensitization carried out over the years. It is good that though people are aware of the hazards of gas flaring and oil spillage and locating far from the oil companies but the truth is that their lands may be polluted as majority of them (76.8%) have their source of water supply just less than 10km from these sites; so proactive measures need to be taken to reduce these pollutions from the companies.

In 2002, the Ubeji community in the Warri area of the Nigerian Delta State claimed to have been viciously affected by more than a decade of oil production in their fragile mangrove habitat. Waste disposal and pollution by the Warri Refining and Petrochemicals Company (WRPC) have spoiled fishing in that area and reportedly caused a number of poisoning deaths among some of the inhabitants.¹⁶ In a study by Ordinioha and Brisibe,¹⁷ it was found that the health hazards created by oil exploration and exploitation are covert and slow in action and not given the deserved attention in official documents in Nigeria, even as they can be major contributors to the disease burden in oil-bearing communities. Their results showed that an average of 240,000 barrels of crude oil are spilled in the Niger Delta every year, mainly due to unknown causes (31.85%), third party activity (20.74%), and mechanical failure (17.04%).

In conclusion, though oil spillage remain a critical factor contributing significantly to the cause of cancer formation in the Niger Delta region, we found out that there is an increased knowledge of people who are now aware of oil spillage as a risk factor for cancer as they are now locating far away from oil companies and no longer getting their water from the river. A clearer understanding of the patterns of cancers will assist providers of health care as they plan the management of cancers. Such epidemiological data and other information can also be used to guide the future

funding of public health programs geared towards prevention and management of cancers.

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DISCLOSURE

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