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HEALTH SEEKING BEHAVIOUR AND HEALTH-RELATED QUALITY OF LIFE AMONG STUDENTS OF NIGER DELTA UNIVERSITY, BAYELSA STATE, NIGERIA

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ABSTRACT

Asides consideration of highest attainable standard of health as a fundamental right of every human being, being healthy has been noted as the achievement of the peak of wealth in some quarters. This study assessed health seeking behavior, incidence of disease conditions, medication use, prevalence of self-medication, and health-related quality of life (HRQoL) among students of Niger Delta University. A pre-tested 3-part questionnaire incorporating questions on subjects' demographics, health seeking behaviour and self-medication practice, including Short Form-12v2® for collection of HRQoL data (relative to the mid-point of a rating scale of 1 – 100) was administered to 400 students of the university using convenient sampling technique. Data generated were expressed in simple percentages, and estimated mean values compared using student t-test as appropriate. Categorical variables were compared using Fisher's Exact test while level of significance at two tail test was set at $p < 0.05$. Majority (65.2%) of the students studied were aware of appropriate health seeking behaviour. Two hundred and thirty two (58.0%) of the cohort required the use of drugs in the preceding one month to the time of study out of which prevalence of self-medication practice was estimated to be 47.0%. Pain (34.6%), malaria (22.2%), and bacterial infections (11.1%) were the most frequently managed conditions while analgesics (37.1%), antibacterials (19.7%), and antimalarials (18.9%) were the commonly used medications. Mean scores for respondents' physical and mental health status were 51.58 ± 7.39 and 47.99 ± 8.97 ($p < 0.0001$), respectively while average HRQoL score for all respondents was 49.79 ± 8.41 relative to the general population norm based score of 50 ± 10. Incidence of self-medication practice was high among the students surveyed despite high level of awareness of appropriate health seeking behaviour. Analgesics were the most used medications, pain been the most commonly treated condition. Respondents' average physical health status score was higher than their mental health status', and their overall HRQoL score was similar to the general population norm.

KEYWORDS: **Health related quality of life; Health seeking behaviour, Niger Delta University, Self-medication**

INTRODUCTION

As part of the principles contained in the preamble to the constitution of world health organization, health is defined as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" [1]. Meanwhile, the main determinants of health have been described to be either non-modifiable (age, sex, and genetic factors) or modifiable (lifestyle choices, influence of social, cultural, and environmental conditions etc.). Identification of the foregoing has led to an increased awareness of health as a global issue [2].

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Asides consideration of highest attainable standard of health as a fundamental right of every human being [1], being healthy has been noted as the attainment of the peak of wealth in some quarters. This is because unhealthy individuals often have their daily activities constrained and may have challenges achieving set goals. Hence, people habitually strive to attain and maintain a state of optimal health, both mentally and physically as well as social well-being in order to achieve ideal quality of life [3].

Any activity undertaken by an individual for the purpose of managing perceived health problem or illness has been literally described to constitute health seeking behaviour [3]. Thus, in the event of ill-health, the search for appropriate remedy becomes inevitable, and affected individuals have been observed to behave differently in accessing required health care services. Factors that may influence human health seeking behaviour include type of illness, perceived intensity of illness, accessibility to health facilities, economic and financial status. Others include gender, socio-cultural factors and demographic characteristics [3, 4]. When accessing health care services particularly for young people, issues like confidentiality, embarrassment in disclosing health issues, and previous unsatisfactory encounter with care givers often affect decision making [5, 6, 7, 8]. Furthermore, young people are perceived to exhibit lack of trust in health care professionals which makes them to seek health care informally. This entails using drugs on their own initiative thereby engaging in self-medication [9, 10]. This explains why students generally buy drugs from patent medicine stores when sick and not going to the hospital until they experience complications that they can no longer endure [11].

Young adults especially university students are the future of any society. This makes them a vulnerable group in dire need of prompt formal health care services when the need arises. This is because ill health in this population may cause poor health-related quality of life (HRQoL), reduced cognitive development, reduced school attendance and poor academic performance [12]. This study seeks to explore the health seeking behaviour, self-medication practice, and HRQoL among the students of Niger Delta University, Bayelsa State in South-south Nigeria as up till now, there is no information or any research being carried out in this subject area in the locality.

MATERIALS AND METHODS

Setting

The study was conducted among the students of Niger Delta University which is located on Wilberforce Island in Southern Ijaw Local Government Area of Bayelsa State, South-south Nigeria. The students' population in the institution at the beginning of academic activities in the 2001/2002 session was 1,039. Currently, this number has increased to more than 10,000 students [13].

Study design

Following ethical approval, a 3-part questionnaire which incorporates majorly questions on respondents' demographics, health seeking behaviour and self-medication practice, including Short Form-12v2® for collection of HRQoL data was pre-tested in 20 students. It was then administered to 400 students of the university using convenient sampling technique. A combination of self-administration and interview were employed for the questionnaire administration. The sample size, 400 (inclusive of overage) was adopted for this study given that a sample of 384 is the requirement for 10,000 subjects (which is the estimated students' population in Niger Delta University currently). A Sample Size Table at 95 % confidence interval and 5 % margin of error was used as a guide [14].

Data collection

The questionnaire adopted for this study was in three sections. The first part contained questions on socio-demographic information such as gender, age, level of study in the university, and extracurricular activities. The second part contained questions which dealt with respondents' health seeking behaviour, the use of drugs within the preceding one month to the time of the survey, names, sources and the prescriber of the drugs used including the disease state(s) for which the drugs were used. The third part of the questionnaire (which was attached to the first two) was basically the Short Form – 12 version 2 (SF-12v2®) questionnaire (designed by QualityMetric Incorporated, Lincoln, RI, USA) and this was used for the assessment of respondents' health related quality of life (HRQoL).

The SF-12v2® health survey questionnaire contains 12 questions which solicit responses for 8 health subscales. These subscales are in two parts. The first part includes physical functioning (PF), role physical (RP), bodily pain (BP), and general health

(GH) which jointly compute the physical component summary (PCS) score. The second part comprises vitality (VT), social functioning (SF), role emotional (RE), and mental health (MH) which collectively estimate mental component summary (MCS) score. The PCS and MCS scores denote respondents' physical and mental health status respectively. Summation of PCS and MCS scores gives the overall HRQoL value and are separately presented on a scale of 0 – 100 points relative to the midpoint (mean ± SD, 50 ± 10) score which is referred to as the general population norm based score (NBS). Individual's PCS, MCS, and overall HRQoL scores higher than the referenced population norm indicate better health while lower scores indicate worse health. Report sample who are at risk of first stage positive depression screening are those respondents whose reported MCS scores are 'at' or 'below' 42 in comparison to the midpoint score [15].

Data Analysis

Data obtained from the first two parts of the questionnaire were coded and entered into Statistical Package for Social Sciences (SPSS) version 20.0. They were analyzed as appropriate and presented using descriptive statistics. Respondents' HRQoL data were assessed with the aid of the QualityMetric Health Outcomes™ Scoring Software version 5.0 (QualityMetric Incorporated, Lincoln, RI, USA) and GraphPad Instat version 3.10 for windows (GraphPad Software, San Diego California USA). Average values generated for the PCS and MCS scores, their subscales as well as overall HRQoL data were compared as applicable using Student t-test. Categorical variables were evaluated using Fisher's Exact test while level of significance at two tail test was set at $p < 0.05$.

RESULTS

The response rate in this study was 100%. Majority of the students surveyed were females (67.2%) while the average age of all respondents was 21.71 ± 4.019, their age range been 16 - 44. Most were in 200 Level (25.2%) and 300 Level (21.5%) as at the time of conduction of the study. The students mostly engaged in religious (59.8 %) and sporting (15.5 %) activities in addition to their normal academic pursuit. Majority (65.2%) of the respondents claimed they visit the hospital when ill while the rest indicated that they frequent community pharmacy (22.5%), patent medicine vendor (10.5%), and traditional medicine practitioner (1.8%), respectively. Meanwhile, 232 (58.0%) of the subjects indicated a need to use medication in the preceding one month to the time of this survey. Of these, 109 (47.0%) self-medicated while 69 (29.7%), 29 (12.5%), 13 (5.6%), and 12 (5.2%) of the lot had their medications prescribed by medical doctors, pharmacists, patent medicine vendors, and nurses respectively. The respective sources of the medications used as claimed by the participants were pharmacy (69.0%), patent medicine store (30.6%), and the road side kiosk (0.4%), (Table 1).

Majority (34.6%) of the respondents claimed to have managed pain in the preceding month to the survey. This was followed by those who managed malaria (22.2%), bacterial infections (11.1%), immune deficiency (7.3%), and typhoid fever (7.0%) amongst others (Table 2).

Most commonly used medication among the respondents surveyed were analgesics (37.1%), followed by antibacterials (19.7%), antimalarials (18.9%), and multivitamins (7.6%). Other medications used are as presented below (Table 3).

Average scores for all respondents' PCS and MCS relative to the norm based score of 50 ± 10 were 51.58 ± 7.39 and 47.99 ± 8.97 ($p < 0.0001$), respectively. Of the specific subscales which constitute the respondents' physical health component, PF (56.42 ± 13.43) and GH (53.00 ± 9.20) were higher than the norm compared to the RP (49.62 ± 8.60) and BP (46.98 ± 10.13) which were below the norm. Meanwhile, the SF (48.04 ± 10.77), RE (45.15 ± 10.39), and MH (47.87 ± 9.89), all of which make up the respondents' mental health component were below the norm excluding the VT (54.52 ± 9.02) which was higher than the norm. Overall, average HRQoL score (49.79 ± 8.41) for all of respondents was very close to the specified norm of 50 ± 10 (Table 4).

Average overall HRQoL scores for the male and female respondents were close to the norm (50.50 ± 7.64 vs. 49.18 ± 8.71, $p = 0.1399$). Meanwhile, male students exhibited higher average PCS score than their female counterparts at 53.29 ± 6.06 vs. 51.57 ± 6.92 ($p = 0.0157$) while the average MCS score for both genders were similar (at 47.70 ± 8.05 vs. 46.79 ± 9.62, $p = 0.3505$). In all, 109 (27%) of the respondents were at risk of first stage positive depression screening while, 26 and 28% of respective 131 and 269 male and female respondents were similarly affected ($p = 0.7208$) , (Table 5).

Table 1: Respondents' demographics, health seeking and medication use behavior

Respondent Characteristics	N (%)
Gender	**(n = 400)**
Male	131 (32.8)
Female	269 (67.2)
Age (years)	**(n = 400)**
< 18	23 (5.8)
> 18	377 (94.2)
Age range	16 – 44
Average age (Mean ± SD)	21.71 ± 4.019
Level of study	**(n = 400)**
100 Level	83 (20.8)
200 Level	101 (25.2)
300 Level	86 (21.5)
400 Level	69 (17.2)
500 Level	59 (14.8)
600 Level	2 (0.5)
Extracurricular Activities	***(n = 400)***
Religious fellowship	239 (59.8)
Sport Club	62 (15.5)
Kegites	6 (1.5)
Executive of a Student Union	17 (4.2)
Others	76 (19.0)
Place visit when ill	***(n = 400)***
Hospital	261 (65.2)
Community Pharmacy	90 (22.5)
Patent Medicine Vendor	42 (10.5)
Traditional Medicine Practitioner	7 (1.8)
Need to use drugs in the preceding one month	***(n = 400)***
Yes	232 (58.0)
No	168 (42.0)
Prescriber of drugs	***(n = 232)***
Self	109 (47.0)
Medical Doctor	69 (29.7)
Pharmacist	29 (12.5)
Nurse	12 (5.2)
Patent Medicine Vendor	13 (5.6)
Source of drugs	***(n = 232)***
Pharmacy	160 (69.0)
Patent Medicine Store	71 (30.6)
Roadside Kiosk	1 (0.4)

n, number of subjects; N, number of observations

Table 2: Disease conditions managed by respondents surveyed

Disease treated (n =424)	N (%)
Pain	147 (34.6)
Malaria	94 (22.5)
Bacterial infections	47 (11.1)
Immune deficiency	31 (7.3)
Typhoid	30 (7.0)
Catarrh (common cold)	29 (6.8)
Ulcer	10 (2.4)
Diarrhea	10 (2.4)
Helminthiasis	6 (1.41)
Allergy	5 (1.2)
Heartburn	5 (1.2)
Fungal infection (Candidiasis)	5 (1.2)
Sore throat	5 (1.2)
Sickle cell disease	1 (0.2)
Hypertension	1 (0.2)
Motion sickness/emesis	2 (0.5)
Others	1 (0.2)

Table 3: Drugs Used by the Respondents

Drugs Used (n = 461)	N (%)
Analgesics	171 (37.1)
Antimalarials	87 (18.9)
Antibacterials	91 (19.7)
Antihistamines	25 (5.4)
Vitamins/Multivitamins	35 (7.6)
Antacids	7 (1.5)
Anthelminthics	6 (1.3)
Antidiarrhoeals	4 (0.9)
Antiulcer	11 (2.4)
Antifungals	7 (1.5)
Antianxiety	1 (0.2)
Hematinics	10 (2.2)
Hormone drugs	3 (0.7)
Dietary supplements	1 (0.2)
Lozenges	1 (0.2)
Antiemetic	1 (0.2)

Table 4: Norm Based Scores (NBS) of physical and mental component summaries including the 8-health domain scales generated for all students

Domains (n = 400)	HRQoL scores, (Mean ± SD)
Physical/Mental Component Summaries	
PCS	51.58 ± 7.39
MCS	47.99 ± 8.97
Student t-test	p < 0.0001
Physical Health Subscales	
PF	56.42 ± 13.43
RP	49.62 ± 8.60
BP	46.98 ± 10.13
GH	53.00 ± 9.20
Mental Health Subscales	
VT	54.52 ± 9.02
SF	48.04 ± 10.77
RE	45.15 ± 10.39
MH	47.87 ± 9.89
Average HRQoL	49.79 ± 8.41

*HRQoL - Health Related Quality of Life; PF - Physical Functioning; RP - Role-Physical; BP - Bodily Pain; GH - General Health; VT – Vitality; SF - Social Functioning; RE - Role-Emotional; and MH - Mental Health. *Each subscale and summary measured is scored in relation to the norm (i.e. Mean value) of 50 and a standard deviation of 10 (Interpretations: observations < 50 indicate worse health, while observations > 50 indicate better health).*

Table 5: Comparison of Norm Based Scores (NBS) of physical and mental component summaries including the 8-health domain scales generated for male and female respondents

	Male Respondents	Female Respondents	
Domains	**HRQoL scores, (Mean ± SD), (n = 131)**	**HRQoL scores, (Mean ± SD), (n = 269)**	**Student t-test (p - value)**
Physical/Mental Component Summaries			
PCS	53.29 ± 6.06	51.57 ± 6.92	0.0157
MCS	47.70 ± 8.05	46.79 ± 9.62	0.3505
Student t-test	p < 0.0001	p < 0.0001	
Physical Health Subscales			
PF	53.40 ± 7.71	52.20 ± 8.32	0.1665
RP	49.16 ± 8.26	48.62 ± 8.70	0.5541
BP	48.57 ± 9.75	45.26 ± 10.71	0.0030
GH	56.10 ± 6.80	54.17 ± 7.87	0.0167
Mental Health Subscales			
VT	56.12 ± 9.07	54.37 ± 9.36	0.0771
SF	45.77 ± 9.45	45.96 ± 10.53	0.8612
RE	45.09 ± 10.14	44.67 ± 10.67	0.7075
MH	50.33 ± 8.27	48.15 ± 9.83	0.0292
Average HRQoL	50.50 ± 7.64	49.18 ± 8.71	0.1399
First Stage Positive Depression Screening (%)			
% respondents at Risk*	26	28	

% All respondents at Risk, 27%; Fisher's Exact test: *p = 0.7208, Relative risk = 0.9358, 95% CI: 0.6776 - 1.292

DISCUSSION

Self-medication practice was rampant among the students surveyed despite reporting high awareness as to right health seeking behaviour. Health conditions that were managed were majorly pain, malaria, and bacterial infections, respectively. Most commonly used medications were analgesics, followed by antibiotics and antimalarials the sources of which were mainly the Pharmacies and Patent Medicine Stores. On the average, HRQoL score of 49.79 ± 8.41 for the respondents was very close to the adopted general population norm (of 50 ± 10), while their physical health status was higher than their mental health status. Meanwhile, the average HRQoL scores for both male and female respondents were comparable.

Awareness regarding appropriate health seeking behavior has been reported to exhibit inverse relationship with self-medication practice [16]. It is believed that right health seeking behavior reduces the tendency to self-medicate [17]. However, this is contrary to the finding in this study given that appreciable number of the undergraduates surveyed reported using medications without the advice of designated prescribers. This is in spite of their awareness as to the essence of visiting the hospital when the need arises. Meanwhile, similar observation has been reported by Lucovic and colleagues [18] among a cohort of medical students in Belgrade, Serbia.

Pain, malaria, and bacterial infections among other conditions were the most treated among the students studied. Meanwhile, the prevailing environmental degradation in the community which hosts the University have been implicated in the causation of infectious diseases treated in this study [19]. This is aside the most prevalent condition been pain which is a likely consequence of exertion which may be informed by the hectic lifestyle that characterize academic activities among students [20]. Expectedly, analgesics, antibiotics, and antimalarials were the most reported agents that were employed for self-medication among the respondents. This observation is similar to that recounted by Lucas *et al*. [21] among a group of similar students in Maputo, Mozambique.

Overall, average HRQoL score for the subjects studied was close to the referenced general population norm (i.e. 50 ± 10). Their collective physical health status was higher than their mental health as estimated from the average PCS and MCS scores. These were similar to estimations obtained among a group of medical students in the United States [22]. However, it is important to note that for a given population, scores for mental health subscales increase, while those for physical health components decrease with advancement in age [23]. This is consistent with the observation in this study given that the population study was made up of young individuals hence, the higher value recorded for their physical health status compared to the mental health component.

In addition to the foregoing, overall average HRQoL scores for both genders studied were similar which is in consonance with a finding related by Mercier and colleagues [24]. Meanwhile, the higher physical health status recorded for male students compared to that obtained for the females corroborated the widely held view that males are more physically stronger than their female counterparts [25]. Members of both genders in the sample report however exhibited comparable mental component scores. Meanwhile, females have been noted to be predisposed to manifesting depression than males elsewhere [26].

Importantly, high proportion (27%) of the students that were at risk of screening positive for depression in this study necessitates the need for further investigation. This is because a link between depression and suicidal ideation among students has been established [22].

A limitation to this study was the use of the SF-12v2 norm based score (50 ± 10) which was derived for the US general population as the basis for comparison with mean values generated from the respondents' HRQoL domains. In addition, the subjects studied were drawn mainly from the undergraduate population of Niger Delta University in Bayelsa State of Niger Delta Area; hence, findings from this study cannot be generalized to the students of other tertiary institutions in the region and in Nigeria at large.

CONCLUSION

Self-medication practice was widespread among the students surveyed, and analgesics were the most used medications, pain been the most commonly treated condition. This is in spite of high level of awareness of appropriate health seeking behavior among majority of the respondents. Average HRQoL score among the respondents was similar to the norm based score with no gender difference. Majority of the study population exhibited better physical health status relative to their mental health.

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CONFLICTING OF INTEREST

There is none for this study.

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No fund was received for this study.

AUTHORS' CONTRIBUTIONS

GKA conceived, designed the study, analyzed the data, and prepared the manuscript. DTW collected the data and contributed to data management and manuscript preparation. KEE contributed to manuscript preparation. All authors read and approved the final manuscript for publication.

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