

General Perception of Illness and Gender Differences in Health Seeking Behaviour amongst Kom People of Boyo Division in Cameroon during the COVID 19 Pandemic

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Received June 17, 2021; Revised July 24, 2021; Accepted August 04, 2021

Abstract Background: Individual responses to health are influenced by an array of issues, ranging from personal traits, such as beliefs, to elements acquired through education and the socioeconomic environment. Individual responses to health became intensified during the COVID 19 pandemic in Cameroon. Health-seeking behavior is an important indicator of how health services are used and how they can modify the health outcomes of populations. This study aimed to evaluate the perception of illness and health-seeking behavior amongst the indigenous Kom people in Njinikom Sub Division, Cameroon within the COVID 19 pandemic era Cameroon to help facilitate this process of making health care choices within a brewing COVID 19 pandemic. **Methods:** A cross-sectional study was carried out by trained interviewers (five nurses), during which a total of 400 people (55.7% female) aged 18-60 years were chosen using multistage random sampling and interviewed after obtaining their informed consent. Data on the respondent's socio-demographic structures and patterns of illness and health-seeking behaviors in their last illness were collected using structured questionnaires. The study statistic used was Chi-square (X²), with a significant level (α) set at 0.05. Four components of community engagement were considered in the study, namely; (1) social support, (2) individual motivation, (3) service utilization, and (4) community acceptance. **Results:** The study revealed malaria as the most common disease (51%), followed by typhoid fever (21%). Results showed that women are more likely to seek health than males. The differences explained above were significant (X² = 8.771, P = 0.003). A significant relationship was also observed between gender and health-seeking with an effect size of 0.148 (P = 0.003), as well as between level of education and health-seeking (X² = 49.422, P < 0.001). There was no significant relationship between religion and health-seeking (X² = 6.383, P = 0.076), as well as between occupation and health-seeking (X² = 44.476, P < 0.001). **Conclusion:** Health-seeking behavior in Njinikom includes a high rate of self-medication and use of traditional medicine, due to the misconception of disease and the costs of health services. Even among respondents who prefer orthodox medicine, the principal reasons for its use were comparisons to traditional medicine, usually with a bad perceptual concept of it. Better health outcomes will be achieved if practical health literacy and promotional programs are developed that take into account the special needs of the community members and their living environment.

Keywords: health seeking, behaviour, perception of illness, community health, health promotion

Cite This Article: Kenneth Yongabi Anchang, Uwakwe Promise Chinedu, Bernadette Ateghang, and Obasi Chidera, "General Perception of Illness and Gender Differences in Health Seeking Behaviour amongst Kom People of Boyo Division in Cameroon during the COVID 19 Pandemic." *American Journal of Public Health Research*, vol. 9, no. 5 (2021): 189-200. doi: 10.12691/ajphr-9-5-2.

1. Introduction

The human health is affected by social determinants including but not limited to culture, socio-economic condition, demographics features, and politics, physical, chemical and biological environments [1]. These factors which become a crucial consideration when faced with pandemics such as COVID-19 may influence the individual health behavior, which can be defined as those

personal attributes such as beliefs, expectations, motives, values, perceptions, and other cognitive elements; personality characteristics, including affective and emotional states and traits; and overt behavior patterns, action, and habits that relate to health maintenance, health restoration and health improvement [2].

Some studies demonstrated that in many African countries, better education increases the chance of better health knowledge, to make more healthy choices, and supports access to health care services when ill [3,4,5]. But, the evidence suggest that in developing countries, the

action of providing education and knowledge is not enough to promote important changes in health behavior, especially in an era of increased social media misinformation and misconceptions as witnessed in the COVID-19 era [6].

Because of that, the study of other useful indicators becomes necessary. In this context, the health seeking behavior becomes an important indicator of how the health services are used and how they can modify the health outcomes of populations [7,8]. For example, in Zimbabwe and Nigeria, some studies reported the importance of removing obstacles like high costs or access to health care services in order to improve the health seeking behavior in pregnant women and children under five years [9,10].

Another study in the rural area in the Eastern Cape of South Africa evaluated the importance of the traditional practitioners as a valuable human resource and with a high influence in the health seeking behavior of mothers who had children under five years old with acute diarrhea [11]. Similarly in Uganda, other study mentioned that the increase access to health care with strategies like increasing of mobile clinic services or the integration of the community (with their cultural background) will be useful to improve of health-seeking behavior [7].

In Cameroon, a recent qualitative study brings out the need of governmental and non-governmental organizations to enhance people's capacities and health policies to incorporate practices currently used and support pro-hygienic initiatives [12]. The aim of this study is, therefore, to evaluate the perception of illness and health seeking behavior in indigenous Kom people in Njinikom sub Division, Cameroon to help facilitate this process.

2. Materials and Methods

2.1. Study Area

The study was carried out in Njinikom sub division, Boyo Division in the North West Region of Cameroon in 2020. The Northwest Region (known before 2008 as the

Northwest Province) is the third most populated province in Cameroon (Figure 1). It has one major metropolitan city. The province saw an increase in its population from approximately 1.2 million in 1987 to an estimated 1.8 million in 2010. The population density of 99.12 people per square kilometer is higher than the national average of 22.6. The provincial urban growth rate is 7.95%, higher than the national average of 5.6%, while the rural growth rate, at 1.16%, is equal to the national rate. In 2001, according to the Statistical Provincial Services of the North-West Province, the population of the province is young, with over 62% of its residents being less than 20 years old. Therefore, the dependency rate in the province is high, particularly in the rural areas. The Northwest Region has many ethnic groups, including immigrants from other regions and countries. Nigeria is well represented, as it borders the region to both the north and the northwest. The native population comprises a variety of ethnic and linguistic groups. The main ethnic groups are of Tikar origin. In the provinces, the social organization recognizes a chief as its head, also called the *Fon*. The Fons, who in their tribal area may be more influential than the official administrative authorities, are considered the living representative of the tribal ancestors. Njinikom is located 6°14'N 10°17'E.

The Kom language, *Itanikom*, is the language spoken by the Kom people of Cameroon.

2.2. Study Design

A cross-sectional study was carried out by trained interviewers (five nurses) for the period of 5 days between April to 2020 to April 2021 in Boyo division of North West Region, Cameroon. The area is mountainous and grassland fields and is inhabited mainly by the Kom speaking people. The Kom people are mainly farmers with few in civil service, trading, artisans and student. There are two faith-based hospitals: Bingo Baptist and Catholic hospital in Njinikom. These areas haven't any Government hospital or pharmacy shops but they have numerous medicine retail shops and vendors.

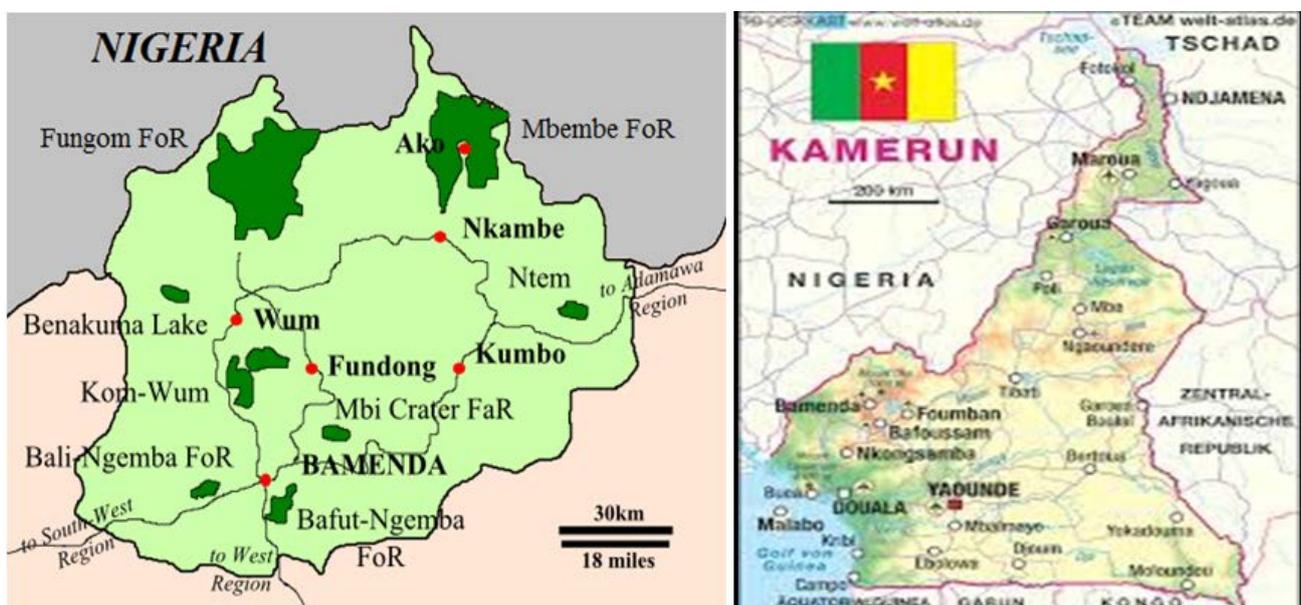


Figure 1. Map of Cameroon showing the Study area

Data collection from this study was collected from respondents between April 2020 to April 2021. Surveys were carried out in the study area with in-depth interviews (IDIs) and focus group discussions (FGDs) also carried out. Using a semi structured interviews guides adapted from a rapid assessment method validated in a setting in Nigeria. Three different interview guides were developed from IDIs for all the various groups (Farmers, students, etc.).

A total of 400 people (females and males) aged 18-60 years were chosen using multistage random sampling. Kom is made up of three sub divisions namely, Fundong, Belo and Njinikom sub divisions. The Njinikom sub division was selected by balloting. Ten quarters in each sub division constituted a cluster. By simple random sampling, Wombong was selected. The survey commenced from the quarter head house (the local chief) after determining the direction to go by spinning a bottle. Because the list of the houses in the community could not be obtained, every other house was selected. In each of the selected house, two adults irrespective of the sex were randomly selected to be interviewed. All adults who were permanent resident within the cluster were eligible.

The data was collected using structured questionnaires (validated by a pilot study and an expert judgment process), which consisted of open and close-ended questions, to collect information on socio-demographic structures of the respondent as well patterns of illness and health seeking behaviors in their last illness. For instance; what makes the people go to the hospitals? Is it only when they take ill or that they have in their regular routine to go for a medical checkup when not ill; what guides their selection of health care? Where do they seek health care? The data was collected in the evening time in order to include adults who have gone out in the morning for various activities to return home.

Ethical clearance was obtained from Ethical Review authorization Ref.CBC/DHS-L/14/2080 while consent was obtained from the local chief and the community group leaders before the survey within the community. At each selected houses, informed consent was obtained from each respondent after explaining to him/her what the project is meant to address. All potential candidates responded to all questions.

Data was entered with Microsoft Excel ® software and results were analyzed using STATA v 13 ®.

3. Results

55.7% of respondents were females. The mean age was 33 ± 10 years. 29.3% were students while 27.8% were civil servants. 54.2% attained at least secondary education and 32.5% attained tertiary education. The socio-demographic characteristics of the respondent are summarized in [Table 1](#).

Table 1. Socio-demographic characteristics of respondents

Characteristic	n (%)
Sex	
Female	223 (55.7%)
Male	177 (44.3%)
Marital Status	
Married	197 (49%)
Single	188 (47%)
Widow	9 (2%)
Divorce	3 (1%)
Separated	3 (1%)
Educational Status	
Secondary	217 (54.2%)
Tertiary	130 (32.5%)
Primary	47 (11.8%)
None	6 (1.5%)
Religion	
Christian	360 (90%)
Traditional religion	20 (5%)
Muslim	16 (4%)
None	4 (1%)
Occupation	
Student	117 (29.3%)
Farmers	111 (27.8%)
Petty trader	89 (22.3%)
Tailor/seamstress	27 (6.8%)
Hair dresser	9 (2.3%)
Others	47 (11.8%)

While in [Table 2](#) below, shows that the difference in health seeking attitude among men and those who do not really seek health was not really significant as seen from the standard deviation.

Table 2. Gender of respondents * Health Seeking Cross tabulation

			Health Seeking		Total
			Yes	No	
Gender of respondents	Male	Count	95	82	177
		Expected Count	109.3	67.7	177.0
		% within Gender of respondents	53.7%	46.3%	100.0%
		% of Total	23.8%	20.5%	44.3%
		Std. Residual	-1.4	1.7	
	Female	Count	152	71	223
		Expected Count	137.7	85.3	223.0
		% within Gender of respondents	68.2%	31.8%	100.0%
		% of Total	38.0%	17.8%	55.8%
		Std. Residual	1.2	-1.5	
Total	Count	247	153	400	
	Expected Count	247.0	153.0	400.0	
	% within Gender of respondents	61.8%	38.3%	100.0%	
	% of Total	61.8%	38.3%	100.0%	

The highest cause of morbidity referred by respondents in the last illness episode was malaria fever (51%); followed by typhoid fever with (21%). The other causes are summarized in Figure 2.

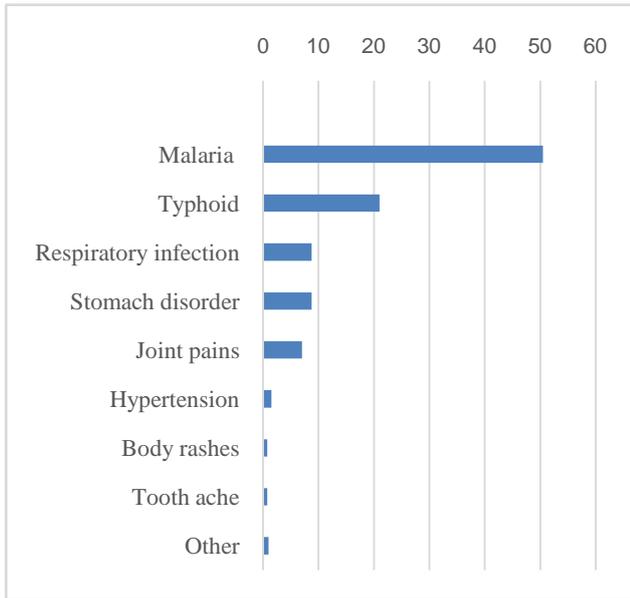


Figure 2. Percentage of presumptive last illness episode referred by respondents

While 204 (51%) of the respondents treated themselves in the last illness episode (80% used orthodox medicine and 20% traditional medicine), further 196 (46%) sought treatment in various places to get well. In this group, 40 (21%) sought treatment with a chemist and 33 (18%) in a pharmacy. Also, 41 (22%) got treatment in a government hospital and 33(18%) in a private hospital. 23 (12%) went to a church and 16(9%) to a traditional healer. The remaining 10 (3%) refers that they didn't take any action but got well.

58% of the respondents have an average monthly income of less than 15, 000 frs. Of these, 31% have monthly income less than 15,000 frs. Only 6% of the respondents have average monthly income above 29,000 frs. Figure 3 shows the relation between average monthly income and place of treatment.

The most frequent reasons for choosing a place for a treatment are the distance from house, quality of drugs, quality of treatment and the quick attention. In the case of the traditional healers, the most frequent reason for choosing them is that they provided better cure than hospitals (Table 2). When we asked about the reasons for seeking treatment; 123 (30.7%) answered that it depends of the seriousness of symptoms; 109 (27.2%) referred that their self-treatment failed, 85 (21.3%) told that they are searching the best treatment and 83 (20.8%) people mentioned their illness were interfering with work.

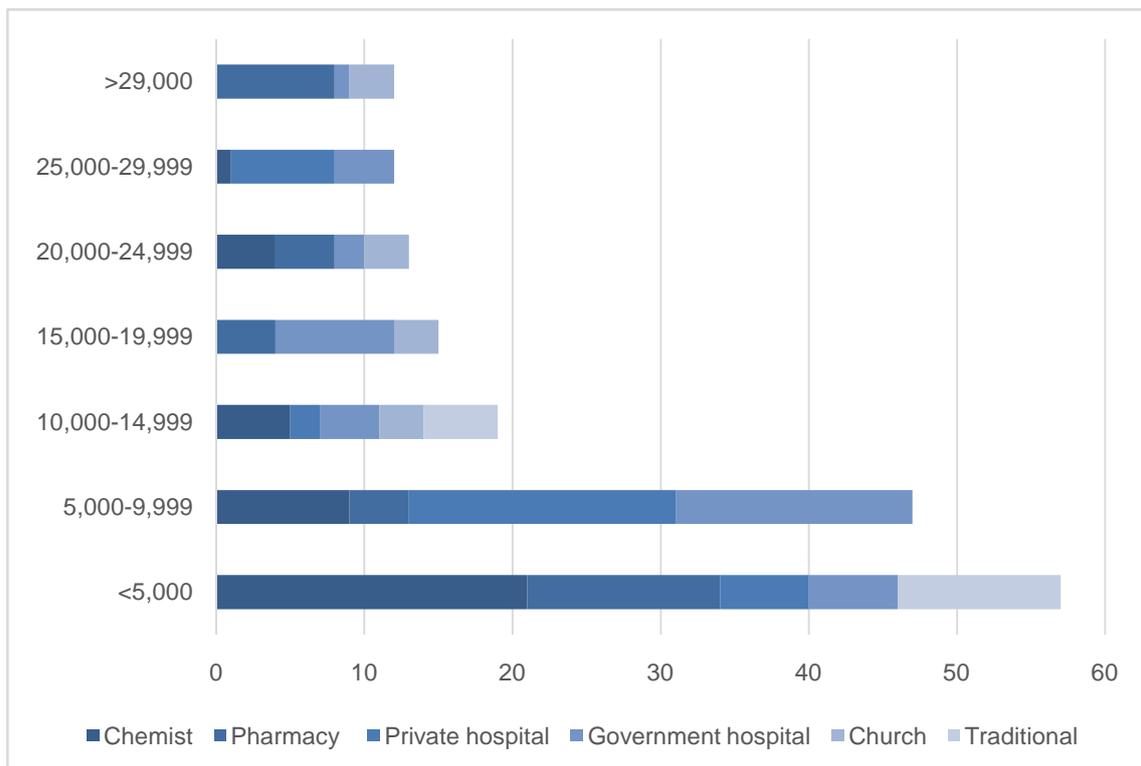


Figure 3. Average monthly income and place of treatment in the last illness episode referred by participants

Figure 4 gives a graphical presentation of the link between gender and health seeking from which one can observe that more females seek health compared to males.

Figure 5 below shows that 26% of respondent seek health and have attended tertiary education, 24% seek health and have attended Secondary education and 6% seek health and have no formal education or have just

primary school education. A majority of people who seek health have either tertiary or secondary education background.

Figure 6 depicts that more married people seek health. Also, there is no significant difference in the number of singles who seek health and those who do not seek health. More widows, divorced and separated respondents seek health compared to those who do not seek health.

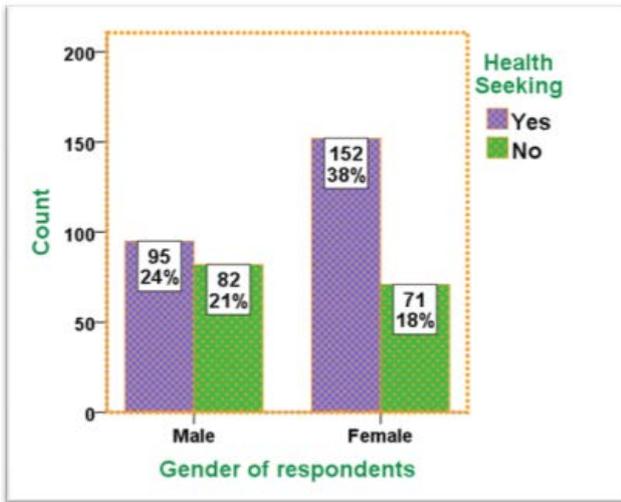


Figure 4. Gender by Health Seeking Clustered Bar chart

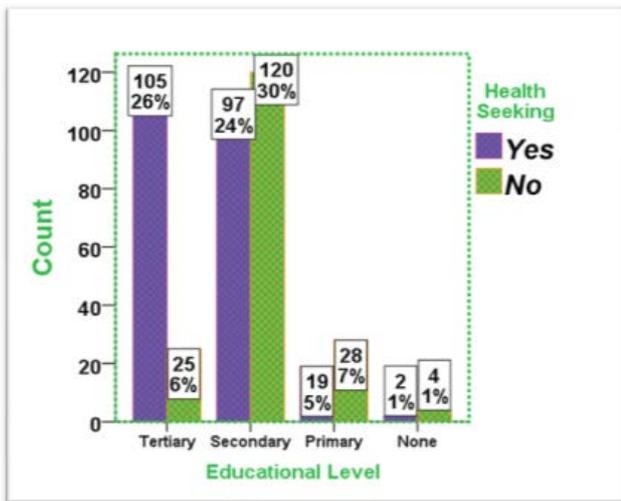


Figure 5. Educational level by Health Seeking Clustered bar chart

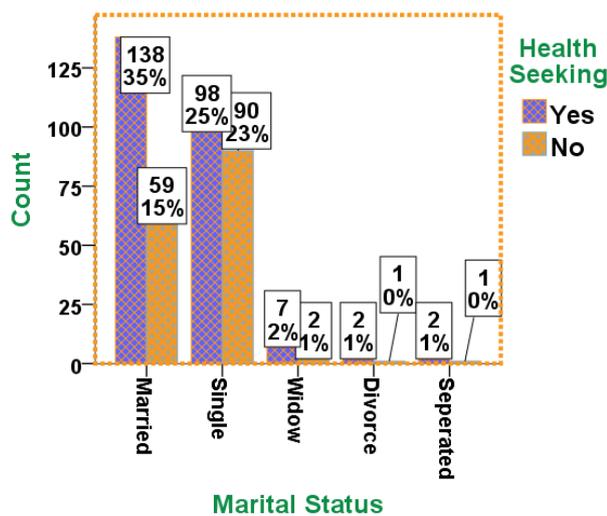


Figure 6. Marital Status and health seeking clustered bar chart

In Table 3, suggest that self-medication was widespread, and generally distance played a role in choice of location of health care. The closer the health care facility to the potential health seeking patient, the more likely that it influences choice.

Table 3. Reasons why people choose a place of treatment for their referred last illness episode

Reasons for seeking treatment in:	Frequency (%)
Self-treatment	
I had a minor illness	74 (36.3%)
It was cheaper	51 (25.0%)
I have a medicine shop close to my home	44 (21.5%)
I knew my disease and the right drug to take	35 (17.2%)
Total	204 (100.0%)
Patent medicine store	
Close to my house	10 (25.0%)
Low cost	9 (22.5%)
Their medicine work for me	7 (17.5%)
They can treat minor illness	6 (15.0%)
Other reasons	8 (20.0%)
Total	40 (100.0%)
Pharmacy shops	
Provide right quality drugs	9(27.3%)
Function like hospital	8(24.2%)
Quick attention	4(12.1%)
Close to my house	3 (9.1%)
Other reasons	9 (27.3%)
Total	33 (100.0%)
Government hospital	
Provide best treatment	23 (56.1%)
Low cost	6 (14.6%)
I work there	6 (14.6%)
They have specialist	4 (9.8%)
Other reasons	2 (4.9%)
Total	41 (100.0%)
Private hospital	
Quick attention	16 (48.4%)
Provide best treatment	8 (24.2%)
They have specialist	3 (9.1%)
Low cost	3 (9.1%)
Other reasons	3 (9.1%)
Total	33 (100.0%)
Traditional healers	
Provide better cure than hospitals	4 (25%)
They are good as doctors	5 (31.3%)
Other reasons	7 (43.8%)
Total	16 (100%)

From Table 4 below, more females are health seeking (68.2%) compared to males (53.7%). The table suggests that there is an adverse relationship between being male and seeking health (standardized residual of -1.4).

Generally, 38% of respondents seek health and are female than male. The differences explained above, where and only 23.8% of respondents seek health that are male. significant; $X^2 = 8.771, df = 1, P = 0.003$. This implies that women are more likely to seek health

Table 4. Chi-Square tests for Gender by health seeking

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	8.771 ^a	1	.003		
Continuity Correction ^b	8.168	1	.004		
Likelihood Ratio	8.763	1	.003		
Fisher's Exact Test				.004	.002
Linear-by-Linear Association	8.749	1	.003		
N of Valid Cases	400				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 67.70.

b. Computed only for a 2x2 table

In Table 5, Independently of the type of treatment chosen by the patient, 196 (49%) would select the treatment with orthodox medicine and 110 (27.5%) would choose the traditional medicine. The reasons for preferring one or other treatment are summarized.

Table 5. Reasons for preferring the use of orthodox or traditional medicine

Reasons for preferring the use of:	Frequency (%)
Orthodox Medicine	
Orthodox medicine work better	61 (31.1%)
Traditional medicine is not reliable	30 (15.3%)
Traditional medicine has no dosage	27 (13.8%)
Traditional medicine is not tested	17 (8.7%)
Traditional medicine is unhygienic	15 (7.7%)
Other reasons	46 (23.4%)
Total	196 (100.0%)
Traditional Medicine	
It's very effective	29 (26.4%)
Serve same purpose as orthodox drugs	13 (11.8%)
It's more effective for some diseases	12 (10.9%)
Their liquid drugs are easy to take	11 (10.0%)
Other reasons	45 (40.9%)
Total	110 (100.0%)

In Table 6 below, inferring from the symmetric measures above, the phi, Cramer's V and contingency coefficient show that there is a significant relationship between gender and health seeking with an effect size of 0.148.

Table 6. Symmetric Measures for gender by Health seeking Crosstab

	Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.	
Nominal by Nominal	Phi	-.148		.003	
	Cramer's V	.148		.003	
	Contingency Coefficient	.146		.003	
Interval by Interval	Pearson's R	-.148	.050	-2.987	.003 ^c
Ordinal by Ordinal	Spearman Correlation	-.148	.050	-2.987	.003 ^c
N of Valid Cases	400				

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

From Table 7 below, amongst the different levels of education sampled, respondents with tertiary education are more likely to seek health than any other category (80% and a standardized residual 3.8). Generally, as the level of education increases, so too does the likelihood of seeking health increase.

Table 7. Educational Level * Health Seeking Cross tabulation

		Health Seeking		Total	
		Yes	No		
Educational Level	Tertiary	Count	105	25	130
		Expected Count	72.5	57.5	130.0
		% within Educational Level	80.8%	19.2%	100.0%
		% of Total	26.3%	6.3%	32.5%
		Std. Residual	3.8	-4.3	
	Secondary	Count	97	120	217
		Expected Count	121.0	96.0	217.0
		% within Educational Level	44.7%	55.3%	100.0%
		% of Total	24.3%	30.0%	54.3%
		Std. Residual	-2.2	2.4	
	Primary	Count	19	28	47
		Expected Count	26.2	20.8	47.0
		% within Educational Level	40.4%	59.6%	100.0%
		% of Total	4.8%	7.0%	11.8%
		Std. Residual	-1.4	1.6	
	None	Count	2	4	6
		Expected Count	3.3	2.7	6.0
% within Educational Level		33.3%	66.7%	100.0%	
% of Total		0.5%	1.0%	1.5%	
Std. Residual		-.7	.8		
Total	Count	223	177	400	
	Expected Count	223.0	177.0	400.0	
	% within Educational Level	55.8%	44.3%	100.0%	
	% of Total	55.8%	44.3%	100.0%	

In **Table 8** below, the chi square tests of significance with the fisher's Exact Test was used to verify if there is a link between level of education and health seeking. The differences observed were significant $X^2 = 49.422$, $df = 3$, $P = < 0.001$, the risk to reject the null hypothesis (there is no link between educational level and health seeking) while it is true is lower than 0.01%.

Table 8. The chi square test of independence for educational level and health seeking

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	49.422 ^a	3	.000	.000		
Likelihood Ratio	52.489	3	.000	.000		
Fisher's Exact Test	52.016		.000	.000		
Linear-by-Linear Association	38.616 ^b	1	.000	.000	.000	.000
N of Valid Cases	400					

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 2.66.

b. The standardized statistic is 6.214.

From **Table 9**, the symmetric measure presented in **Table 6** (Phi, Cramer's V, Contingency Coefficient) all show that there is a strong positive relationship between educational level and health seeking. The more educated you become, the more conscious you become of your health.

Table 9. Symmetric Measures between Educational level and Health seeking

		Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.	Exact Sig.
Nominal by Nominal	Phi	.352			.000	.000
	Cramer's V	.352			.000	.000
	Contingency Coefficient	.332			.000	.000
Interval by Interval	Pearson's R	.311	.045	6.530	.000 ^c	.000
Ordinal by Ordinal	Spearman Correlation	.331	.045	6.994	.000 ^c	.000
N of Valid Cases		400				

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Table 10 presents that Christians are the most likely religion to seek health more than any other religion (62.5% and a standardized residual of 0.4). 56.3% of Muslims seek health, 35% of traditional religions people seek health and 50% of

respondents who do not belong to a particular religion seek health. The most less likely religious group to seek health are the traditional religious people.

Table 10. Religion of respondents * Health Seeking Cross tabulation

			Health Seeking		Total
			Yes	No	
Religion of respondents	Christian	Count	225	135	360
		Expected Count	218.7	141.3	360.0
		% within Religion of respondents	62.5%	37.5%	100.0%
		% of Total	56.3%	33.8%	90.0%
		Std. Residual	.4	-.5	
	Traditional Religion	Count	7	13	20
		Expected Count	12.2	7.9	20.0
		% within Religion of respondents	35.0%	65.0%	100.0%
		% of Total	1.8%	3.3%	5.0%
		Std. Residual	-1.5	1.8	
	Muslim	Count	9	7	16
		Expected Count	9.7	6.3	16.0
		% within Religion of respondents	56.3%	43.8%	100.0%
		% of Total	2.3%	1.8%	4.0%
		Std. Residual	-.2	.3	
	None	Count	2	2	4
		Expected Count	2.4	1.6	4.0
		% within Religion of respondents	50.0%	50.0%	100.0%
		% of Total	0.5%	0.5%	1.0%
		Std. Residual	-.3	.3	
Total	Count	243	157	400	
	Expected Count	243.0	157.0	400.0	
	% within Religion of respondents	60.8%	39.3%	100.0%	
	% of Total	60.8%	39.3%	100.0%	

In Table 11, The observed differences in health seeking between the different religious groups was not significant at $\chi^2 = 6.383, p = 0.076$. This implies that there was no significant difference between the observed and expected frequencies in the distribution of health seeking respondents in the various categories of religion. We did not find enough evidence to conclude that knowing someone’s religions affiliation can permit us to determine whether he more likely to seek health or not. The risk to reject the null hypothesis while it is true is 7.6% which is higher than the level of significant of 5%.

Table 11. Chi-Square Tests of independence between religion and health seeking

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	6.354 ^a	3	.096	.098		
Likelihood Ratio	6.184	3	.103	.136		
Fisher's Exact Test	6.383			.076		
Linear-by-Linear Association	2.367 ^b	1	.124	.143	.077	.024
N of Valid Cases	400					

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 1.57.

b. The standardized statistic is 1.538.

The symmetric measures in Table 12 did not find any significant relationship between religion and health seeking.

Table 12. Symmetric measures between religion and health seeking

		Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.	Exact Sig.
Nominal by Nominal	Phi	.126			.096	.098
	Cramer's V	.126			.096	.098
	Contingency Coefficient	.125			.096	.098
Interval by Interval	Pearson's R	.077	.051	1.541	.124 ^c	.143
Ordinal by Ordinal	Spearman Correlation	.104	.051	2.088	.037 ^c	.039
N of Valid Cases		400				

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Table 13 presents the cross tabulation between occupation and health seeking. The table shows that farmers (83.8%), then petty traders (77.5%) are more likely to seek health than other occupational categories sampled. 66.7% of students as well as tailors and seamstresses seek health compared to just 44% of hair dressers and 34% of people from other occupational categories who seek health. Generally, 69.5% of respondents seek health as opposed to 30.5% of respondents that do not seek health.

Table 13. Occupation of respondents * Health Seeking Cross tabulation

			Health Seeking		Total
			Yes	No	
Occupation of respondents	Students	Count	78	39	117
		Expected Count	81.3	35.7	117.0
		% within Occupation of respondents	66.7%	33.3%	100.0%
		% of Total	19.5%	9.8%	29.3%
		Std. Residual	-.4	.6	
	Farmers	Count	93	18	111
		Expected Count	77.1	33.9	111.0
		% within Occupation of respondents	83.8%	16.2%	100.0%
		% of Total	23.3%	4.5%	27.8%
		Std. Residual	1.8	-2.7	
	Petty Traders	Count	69	20	89
		Expected Count	61.9	27.1	89.0
		% within Occupation of respondents	77.5%	22.5%	100.0%
		% of Total	17.3%	5.0%	22.3%
		Std. Residual	.9	-1.4	
	Tailors/Seamstresses	Count	18	9	27
		Expected Count	18.8	8.2	27.0
		% within Occupation of respondents	66.7%	33.3%	100.0%
		% of Total	4.5%	2.3%	6.8%
		Std. Residual	-.2	.3	
	Hair Dressers	Count	4	5	9
		Expected Count	6.3	2.7	9.0
		% within Occupation of respondents	44.4%	55.6%	100.0%
		% of Total	1.0%	1.3%	2.3%
Std. Residual		-.9	1.4		
Others	Count	16	31	47	
	Expected Count	32.7	14.3	47.0	
	% within Occupation of respondents	34.0%	66.0%	100.0%	
	% of Total	4.0%	7.8%	11.8%	
	Std. Residual	-2.9	4.4		
Total	Count	278	122	400	
	Expected Count	278.0	122.0	400.0	
	% within Occupation of respondents	69.5%	30.5%	100.0%	
	% of Total	69.5%	30.5%	100.0%	

From Table 14, the observed differences in seeking health between the different occupational categories was significant $\chi^2 = 44.476, df = 5, p < 0.001$.

The risk to reject the null hypothesis (There exists no link between occupation and health seeking) while it is true is lower than 0.01%.

Table 14. Chi square test of independence between occupation and health seeking

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	44.476 ^a	5	.000	.000		
Likelihood Ratio	42.828	5	.000	.000		
Fisher's Exact Test	42.604			.000		
Linear-by-Linear Association	19.539 ^b	1	.000	.000	.000	.000
N of Valid Cases	400					

a. 1 cells (8.3%) have expected count less than 5. The minimum expected count is 2.75.

b. The standardized statistic is 4.420.

In Table 15, the symmetric measure presented in Table 9 (Phi, Cramer's V, Contingency Coefficient) all show that there is a positive and significant relationship between occupation and health seeking.

Table 15. Symmetric measures of occupation and health seeking

		Value	Asymp. Std. Error ^a	Approx. T ^b	Approx. Sig.	Exact Sig.
Nominal by Nominal	Phi	.333			.000	.000
	Cramer's V	.333			.000	.000
	Contingency Coefficient	.316			.000	.000
Interval by Interval	Pearson's R	.221	.054	4.527	.000 ^c	.000
Ordinal by Ordinal	Spearman Correlation	.137	.055	2.759	.006 ^c	.006
N of Valid Cases		400				

- a. Not assuming the null hypothesis.
- b. Using the asymptotic standard error assuming the null hypothesis
- c. Based on normal approximation.

From Figure 7, shows that more farmers seek compared to other occupations. 23% of respondents were farmers and seek health, 20% are students and seek health and 17% are petty traders and seek health. More farmers seek health more than any other occupation.

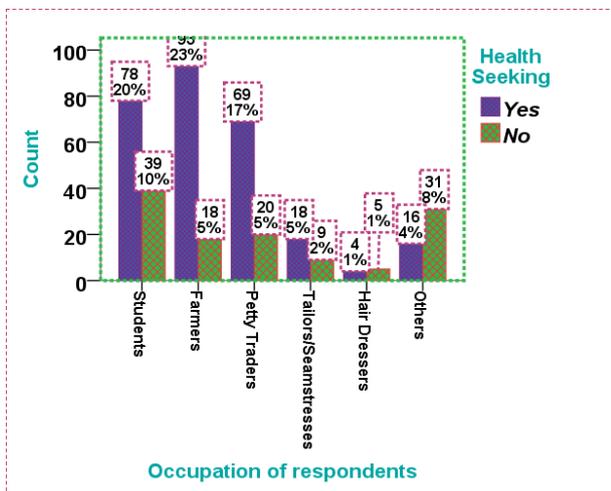


Figure 7. Occupation influences health seeking

Figure 8 shows that a greater majority of respondents are Christians and are health seeking (56%). More traditional doctors do not seek health (3% of the total population).

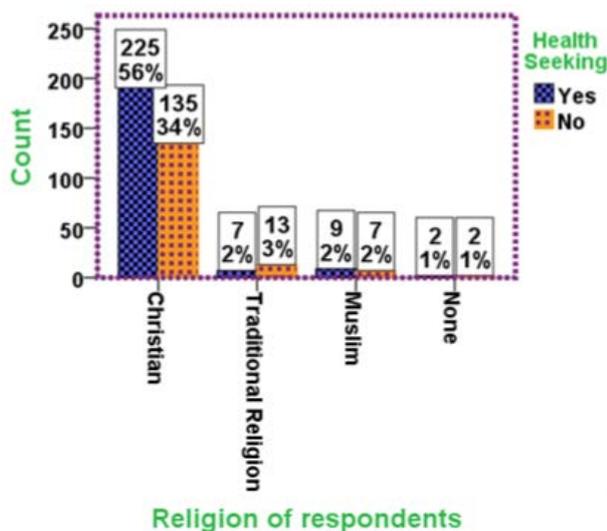


Figure 8. Religion by health seeking clustered bar chart

4. Discussion

This study found 51% to perform self- medication and the most frequent reasons for that were the perception of disease (“a minor illness”) and costs of health services. This is similar to study of Klein et al [13] (50%) and Begashaw et al [14] (43%). The reasons which the respondents in our sample gave us are consistent to previous studies about the less accessibility to health facilities and unlicensed drug sellers [15].

The economic status was one factor studied. 31% of the respondents earned on the average less than 15,000 frs monthly and only 6% of them earned above 29,000 frs. In view of the cost of living in Cameroon, 15,000 frs per month is inadequate [16]. So, poverty could be a factor that influence and determine illness and health seeking behavior considering that 25% did self-treatment because they could not afford cost of treatment; and, among those that sought treatment, 70% did not use hospital treatment. In case of women and child health, the relation between poverty and health status or health seeking behavior had been well established [12,17] but we recommend making more studies about the inequalities in the distribution of health resources [18], which in relation to health seeking behavior must be investigated with an special emphasis in rural places like Njinikom.

The sub-estimation of the disease’s real magnitude can perhaps be explained by the association to the health literacy of the people investigated. Health literacy seems to be independent of educational status. In our study 98% of the respondents have had some form of education. Educational status is an indicator of socio-economic development of the country, it also determine factors such as reproductive behavior, use of contraceptive, infant mortality, proper hygienic habits, utilization of health services which are necessary to achieve healthy status. Hence, the educational level usually is related to the health-seeking behavior [5,19].

About the behavioral patterns, 70% of the respondents did not utilize hospital for treatment. Various reasons were given for the use of alternative centers. For those who utilize chemist and pharmacy their reasons include; closeness to them, low cost of treatment, quick attention and that they can also provide same treatment as doctors. Traditional herbal treatment is said to be as good as hospital treatment among those who used that option. All these information are consistent with Makoge et al [12],

who finds a very similar dynamics of health-seeking behaviour in a qualitative study.

In this context, the use of traditional medicine has been considered more effective than orthodox medicine in 27% of respondents. In Cameroon, the traditional medicine practice have been considered a priority in integration of health system, because is socially and culturally accepted [20]. These practices have to be respected when traditional healers are making them under appropriate circumstances and contexts. In our study, people's reasons for preferring the use of traditional medicine are their efficacy and practicality. These are perceived similar to orthodox medicine; which are in turn consistent to the idea of the traditional doctors being agents, who help to reconnect the social and emotional equilibrium of patients based on community rules and relationships [21].

However, we must to take into consideration that the most frequent cause of morbidity in respondents was malaria (70%), similar to other community health surveys. Because of this finding it is very important to improve the medical seeking behavior in the people, especially in rural areas such as Njinikom, where preventive public-health measures and health education on malaria should be more regular in order to prevent misconception in people and undesirable health seeking behavior [22,23].

The limitations of this study include the methodological design (a cross-sectional study) and the method of sample selection. Therefore, these results were not possible to be inferred in all populations, nonetheless, this study is a valuable source of information in terms of the health seeking behavior patterns found among the Njinikom people in Cambodia.

5. Conclusion

In summary, the health seeking behavior in Njinikom includes a high rate of self-medication and use of traditional medicine. The principal reasons for self-medication were the misconception of disease and the costs of health services. The traditional medicine was considered effective and cheaper than the orthodox medicine, but among respondents who prefer orthodox medicine, the principal reasons for its use were comparisons to traditional medicine, usually with a bad perceptual concept of it. Furthermore, the study illustrates how malaria as the most common disease is under-treated. It is recommended to use the study results to build practical health literacy and promotional programmes that take into account the special needs of the Njinikom people and their life world in order to facilitate and strengthen better health outcomes among them.

Ethics Approval and Consent to Participate

Ethical clearance was obtained from Ethical Review authorization Ref. CBC/DHS-L/14/2080 while consent was obtained from the local chief and the community group leaders before the survey within the community. At each selected house, informed consent was obtained from each respondent after explaining to him/her what the

project is meant to address. All potential candidates responded to all questions.

Consent for Publication

Participants were made aware in the consent form that the results of the study would be published but that no data would be presented to allow the identification of individuals.

Availability of Data and Materials

The dataset supporting the conclusions of this article are available with the authors, upon request.

Competing Interests

The authors declare that they have no conflict of interests.

Funding

This project was entirely supported by the PRF Research Foundation, Cameroon

Authors' Contributions

KAYongabi supervised the data collection, analyzed the data and prepares the manuscript. KAYongabi and coauthors critically edited the manuscript. All authors read and approved the final manuscript.

Acknowledgements

The authors express profound gratitude to Phytobiotechnology Research Foundation (PRF), Cameroon for facilitating this study.

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