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FACTORS INFLUENCING THE HEALTH SEEKING BEHAVIOUR OF PERSONS WHO HAVE DIABETES IN THE KUMASI METROPOLIS

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ABSTRACT

Inappropriate Health Seeking Behavior has been linked to worse health outcomes, increased morbidity and mortality rates and poorer health statistics of a country. This study therefore sought to identify the factors that influence the health seeking behavior of persons with diabetes in the Kumasi Metropolis. This study employed a cross-sectional study design and a quantitative approach. Convenience sampling method was used to select 120 participants. An interviewer administered questionnaire was used to collect the data. Data collected was analyzed using, frequency tables, multiple linear regression and chi square using STATA. About 79% of the participants were females with a majority belonging to the Akan ethnic group. The findings suggested that more than 80% of persons with diabetes in the Kumasi Metropolis are consumers of the Government healthcare facilities). Statistically significant values were recorded health-seeking behaviors at government health facilities and occupation ($t = -2.74$, $p = 0.007$) and also with age ($t = -2.19$, $p = 0.03$). The chi square analysis showed a relationship between Perceived susceptibility, perceived severity and the usage of government healthcare facilities.

Keywords: Diabetes, health-seeking, factors, Health Belief Model, psychosocial

Introduction

According to the World Health Organization (2015), the life expectancy rate of Ghanaians is 62.5 years. However, Ghana is riddled with non-communicable diseases such as hypertension, diabetes and stroke which reduces the quality of life for the aged. About 422 million people in the world are living with diabetes, and a majority of this population are found in low and middle-income countries including people in the sub-Saharan Africa. Every year, diabetes accounts for over 1.6 million deaths in the world. Currently 19 million adults are living with diabetes in Africa. This is projected to increase to 47 million in the next 20 years due to Impaired Glucose Tolerance which increases the risk of developing type 2 diabetes (IDF,2019). Unfortunately, the incidence and prevalence of diabetes continue to rise (WHO,2020). There has been a significant increase in the burden of diabetes in Africa from 6.2% to 13.9% (Boaheng,2019). The prevalence of diabetes in Ghana is consistent with that of countries in the sub-Saharan Africa.

Diabetes requires accurate diagnosis in order to design appropriate treatment and intervention. Any hindrance in finding and receiving appropriate medical care early for an array of health conditions may lead to development of complications that may lead to disabilities and death or increased cost of

care due to the progression of the disease (Nuhu, 2016). Early detection of diabetes is vital in order to prevent Diabetes related health complications such as cardiovascular problems encapsulate ischemic heart disease, myocardial infarctions, high blood pressure and stroke. Sociodemographic characteristics, belief systems and practices, level of education and political systems have been noted to play a huge role in the health seeking behavior of individuals. Research indicates that Inappropriate Health Seeking Behavior can be connected to worse health outcomes, increased morbidity and mortality rates and poorer health statistics of a country (Atuyambe, 2008).

Research conducted in Low- and Middle-Income Countries suggest that the vast disparities that exist in such communities are designated by a difference across the various socio-demographic groups in seeking health (Akinyemi & Latunji, 2018). Health care seeking behavior constitutes knowledge of the causes and treatment of a disease, the perceived severity, cultural practices and the socio-economic status (Hatcher & Shaik 2007).

In order to identify changes that need to be made in the management of diabetes, it is imperative to understand the extent to which the current structures and programs contributes to the situation. There is a paucity of information about healthcare seeking behavior of Ghanaians living with chronic diseases such as diabetes. Knowledge about the health seeking behavior of persons with diabetes can be applied in the design of diabetes diagnosis and treatment programs. This study therefore sought to identify the factors that influence the health seeking behavior of persons with diabetes in the Kumasi Metropolis.

Experimental

Study design and approach

The study employed a cross-sectional design and a quantitative approach to determine the factors that influence the health seeking behavior of persons with diabetics in the Kumasi Metropolis. This provided estimates of the general population, measured the level of actions and provided results that was precise, definitive and standardized (Sukamolson, 2007)

Study population

The population of interest were Ghanaians above the age of 18 who are diabetics living and attending healthcare in Kumasi Metropolis. The study was conducted at the Suntreso Government Hospital and the Cocoa Clinic. Non-Ghanaians and patients who were less than 18 years of age at the time of data collection were excluded from the study.

Sample size estimation

For the purpose of achieving standardization, the sample size of 93 was calculated using the Cochran's formula (Cochran, 1963).

$N= Z^2\ pq \div d^2$

where N is the estimated sample size

z-score at 95% confidence level

p is the estimated prevalence of diabetes of 6.46% (Asamoah-Boaheng *et al*, 2019)

d is the level of precision corresponding to a 95% confidence interval.

Therefore $N= (1.96)^2\ (0.0646)\ (0.9354) / 0.052$

$N=92.85 \sim 93$

The final sample size was adjusted to 120 to adjust for missing data and drop outs.

Sampling technique
Sampling is a necessary element in research in order to ensure that the selected sample is representative of the population of interest (Taherdoost, 2020). The convenience sampling method was employed. The researcher selected participants who visited the facilities for care and were willing to participate in the research. The participants were removed from the general population to a secluded area and the questionnaire was administered in order to prevent contamination.

Data collection tools
Interviewer administered questionnaire was employed in the study to produce more desirable responses to questions involving behaviors (Okamoto *et al*, 2002)

Data handling and management
Data collected from respondents was submitted into an online survey creator which was later entered into Microsoft excel. Data was cleaned before entered into the STATA application software for analysis.

Data analysis and presentation
Cleaned and coded data from Microsoft excel application was transferred to STATA statistical software for analysis. Analyzed data was represented in the form of frequencies, tables and figures.

Validity and reliability
To ensure content validity, the tool was submitted to the research supervisor and other supervisors in order to obtain their expert opinions to ensure appropriateness (Rubio *et al*, 2003). Reliability was guaranteed by applying methods regularly and controlling the conditions of the research.

Ethical considerations
A written informed consent was obtained from all participants. Ethical approval was sought from the Human Research, Publications and Ethics Committee of the Kwame Nkrumah University of Science and Technology. Also, indicators that may lead to the identification of respondents from information obtained was removed to ensure that data cannot be tracked backed to them.

Results

Demographic characteristics of participants
A total of 120 participants were involved in the study. About 79% of the participants involved in the research were females. About 47% of participants are married, 34% are widowed and 9% are divorced. Majority of participants belong to the Akan ethnic group with 92.50%. 95% of participants were Christians. 25% of participants have had no formal education and only 10% have tertiary education. 44% have had some vocational training. 98% of participants have an active National Health Insurance.

TABLE 1
Demographic characteristics

Age group (years)	Frequency	Percentage
26-30	1	0.83
31-40	10	8.33
41-50	15	12.5
51-60	36	30
61-70	38	31.67
71-80	13	10.83
81-90	5	4.17
101-110	2	1.67

Gender		
Female	95	79.17
Male	25	20.83
Marital Status		
Married	56	46.67
Widowed	41	34.17
Divorce	11	9.17
Single	11	9.17
Separated	1	0.83
Educational Level		
No formal Education	30	25
Primary Education	24	20
Secondary/ Vocational Education	53	44.17
Tertiary	13	10.83
Ethnic Group		
Akan	112	93.33
Northerner	5	4.17
Ewe	1	0.83
Ga	2	1.66
Religion		
Christianity	114	95
Islam	6	5
Duration of Disease		
less than 5 years	53	44.16
5 years to 10 years	39	32.5
11 years to 15 years	10	8.33
16 years to 20 years	12	10
Greater than 20 years	6	5
National Health Insurance Status (NHIS)		
Active Health Insurance	118	98.33
No Health Insurance	2	1.67
Occupation		
Unemployed	45	37.5
Trader	43	35.83
Cook	2	1.67
Vulcanizer	2	1.67
Retired	11	9.16
Fashion designer	2	1.67
Farmer	4	3.33
Driver	2	1.67
Pastor	1	0.83
Public Service Worker	8	6.67

First choice of healthcare facility among persons with diabetes

A total of 120 participants were placed into the two institutions of healthcare choices. About 99 (82.5%) study participants used the government facilities as their first point of care for their diabetes treatment. Additionally, about 5 (4.17%) study participants used the private health facilities as their first choice of healthcare facility for their diabetes treatment. About 16 (13.33) of the participants used both the government healthcare facilities and the Private healthcare facilities. Specifically, it was determined that 108 (90%) of study participants used the government health facilities as the choice for their routine checkups whereas 5(4.17%) used the private facilities for their routine diabetic checkups.

TABLE 2

First choice of healthcare facility

Attribute	Frequency (n = 120)	Percentage
Government facility for diabetes treatment		
Everytime	99	82.5
Sometimes	13	10.83
Never	6	6.67
Private facility for diabetes treatment		
Every time	5	4.17
Sometimes	9	7.5
Never	106	88.33
Government facility for routine checkup		
Every time	108	90
Sometimes	7	5.83
Never	0	4.17
Private facility for routine checkup		
Everytime	5	4.17
Sometimes	6	5
Never	109	90.83

Multiple linear regression to determine the influence of sociodemographic variables on health seeking behavior.

Multiple linear regression models were run to determine the influence of sociodemographic variables on health seeking behavior. Statistically significant differences were observed for health-seeking behaviors at government health facilities and age ($t = -2.19$, $p = 0.03$). A statistically significant value was recorded regarding health-seeking behaviors at government health facilities and occupation ($t = -2.74$, $p = 0.007$).

Regarding private facilities and the sociodemographic variables, religion produced statistically significant values for care at private facilities ($t = 2.62$, $p = 0.01$)

TABLE 3

Choice of health facility (Government)

Variables	Coefficient	S.E	t	P value	95% CI	
Age	-0.0081152	0.0036986	-2.19	**0.03**	- .0154395	-.0007909
Marital status	-0.0425629	0.0341095	-1.25	0.215	-.1101091	.0249832
Occupation	-0.0355236	0.0129764	-2.74	**0.007**	0.0612203	-0.0098268
Educational level	0.0796435	0.0524035	1.52	0.131	-.0241298	.1834167
Religion	0.4473684	0.2340699	1.91	0.058	-.0161536	.9108905
Duration	0.0023427	0.0040469	0.58	0.564	-.0056712	.0103567
National Health Insurance	0.7711864	0.3983341	1.94	0.055	-.0176236	1.559996

TABLE 4
Choice of health facility (Private)

Variables	Coefficient	S.E	t	p value	95% CI	
Age	0.0034538	0.0037	0.93	0.352	-.0038733	.0107809
Marital status	-0.0091533	0.0337806	-0.27	0.787	-.0760481	.0577414
Occupation	-0.0025586	0.01317	-0.19	0.846	-.0286357	.0235185
Educational level	0.0008696	0.0520774	0.02	0.987	-.1022578	.103997
Religion	0.5964912	0.2273715	2.62	**0.01**	.1462338	1.046749
Duration	0.0009131	0.0039877	0.23	0.819	-.0069836	.0088098
National Health Insurance	-0.6101695	0.3942334	-1.55	0.124	-1.390859	.17052

Note; S.E = Standard Error, t = the student's value t, p value = probability value (α = 0.05)
Chi square analysis to determine Predictors of Health-Seeking Behaviors based on Modified Constructs of the Health Belief Model.

Chi square analysis was ran on Stata statistical package to determine the determinants of Health-seeking Behaviors based on selected constructs of the Health Belief Model. The chi square analysis revealed age group, gender, religion, health insurance status, perceived susceptibility, perceived severity, perceived benefits and cues to action predicted health-seeking behaviors at government health facilities. Health insurance status, perceived severity, perceived benefits and cues to action predicted health-seeking behaviors at private health facilities.

TABLE 5
Predictors of health-seeking at government health facilities based on selected constructs of the health belief model.

Variable	Coefficient	P-value
Perceived Susceptibility	7.7438	**0.021**
Perceived Severity	71.6724	**0**
Perceived Benefits	18.1123	**0.02**
Perceived Barriers	9.0568	0.338
Cues to Action	18.6228	**0.017**

TABLE 6
Predictors of Health-Seeking at Private Health Facilities based on selected constructs of the Health Belief Model.

Variable	Coefficient	P-value
Perceived Susceptibility	7.3538	0.6
Perceived Severity	59.559	**0**
Perceived Benefits	17.2644	**0.045**
Perceived Barriers	17.4761	0.133
Cues to Action	25.0569	**0.015**

Discussion

Data from our findings suggest that more than 80% of persons with diabetes in the Kumasi Metropolis are consumers of the Government healthcare facilities. A majority of the participants argued that healthcare for diabetes at government facilities are very effective and of a high quality due to the availability of specialized medical professionals. This argument is congruent to the research undertaken by Ahmad *et al*. (2019) which stated that the availability of health professionals at a health facility is inclusive in the facilitative

factors that encourage patients at a particular health facility. Only about 13% of respondents patronized the private facilities. There is evidence of a mixed health-seeking behavior both at the government and private health facilities which from data obtained show that the time spent at government facilities were too long which therefore causes some of the participant to use the private health facilities during an episode of ill-health. Interestingly, over 90% of respondents have health insurance coverage which covers almost all expenses at the mainstream facilities, especially at the government health facilities and this could also account for the high patronage of their services. (Shi, 2012) argued that affordability of service and socioeconomic factors can affect the level of utilization of a facility.

Sociodemographic factors associated with the health-seeking behavior

The second research question was developed to delve into the factors that influence the health-seeking behavior among persons with diabetes in Kumasi Metropolis. This question was explored by finding the differences in the above-mentioned options of healthcare.

Influence of age on health-seeking behaviors

There was a statistically significant association between age and health-seeking behaviors at the government health facilities. However, there was no significant association between age and health-seeking behaviors associated with private facilities. This study revealed that older individuals who have diabetes sought care from government facilities than the private facilities. According to Denton and Spencer (2010), there is a high burden associated with chronic diseases and persons of the old age.

Influence of occupation on health-seeking behavior

There was a statistical significance associated with occupation and healthcare consumption at the government facilities but there was no association between occupation and seeking healthcare at private facilities. Majority of participants (37%) were unemployed and are consumers of the government health facilities. This finding is indicative of the role of NHIS in promoting accessibility and patronage of healthcare services at government facilities.

Influence of gender on health-seeking behaviors

Moreover, Females were noted to utilize healthcare at government health institutions more than the males, although there were no outstanding differences existed between females and males for healthcare at private facilities. This finding is congruent to the study by Thompson *et al*. (2016) involving over 7000 patients from 10 provinces in Canada, using the international Quality and Cost of Primary care survey (QUALICOPC), the authors found proof that depicted significant gender differences in health-seeking behaviors between men and women. It was noted that more women appeared to be visiting their primary care provider for both bodily needs and psychological health concerns compared to men.

Influence of religion on health-seeking behaviors

The sociocultural variable religion only brought about a substantial difference in care at private health facilities. Precisely, respondents who were Muslims sought for treatment and management of diabetes at private health facilities compared to Christians.

Relationships between health-seeking behaviors and selected constructs of the health belief model

Health-seeking behavior and perceived susceptibility

Despite the small coefficient associated with perceived susceptibility and health-seeking behavior, perceived susceptibility was found to be correlated to healthcare consumers at government healthcare facilities. It is possible that those who recognize themselves to be vulnerable to diabetes complications, normally, may feel the need to take action by resorting to seeking care from government health facilities which have been associated with improved care for chronic and non-communicable diseases due to the availability of specialists

Health-seeking behaviors and perceived severity

A hypothesis is presented by (Kim & Kim, 2020)which presupposes that the more seriousness one attaches to a health problem, the more willing one is to find ways to reduce the likelihood of occurrence of the disease and its complications. There was a positive correlation recorded between perceived severity and health-seeking behaviors both at government healthcare facilities and private healthcare facilities. This is suggestive of the nature and the severity attributed to the disease. Persons who viewed diabetes as a life threatening condition were found to be visiting the health facilities with more frequently for their routine checkups.

Perceived benefits and health-seeking behaviors

The results from the chi-square analysis revealed significant association between both options of care and their perceived benefits. This suggests that persons who have diabetes and experienced positive results from the facility of choice are more likely to be a consumer of that particular facility. Health facilities can improve patronage of their services by removing or reducing barriers that discourage clients from using their facilities

Cues to action and health-seeking behaviors

Cues to action refers to the role of others in influencing persons who have diabetes to seek care. This was found to be significantly associated with health-seeking behaviors at both government and private health facilities. Thus, individuals who received prompts from family members and friends toward a particular healthcare facility have a higher likelihood of engaging that option as a first place to go during episodes of ill-health.

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