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Health-Seeking Behaviour of Orthopedic Trauma Patients Attending Saint Joseph Hospital in Koforidua, Ghana

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Abstract :
Introduction: *In Ghana, several options including orthodox medicine, traditional medicine, and self-medication are available to those who seek health, but the choice of any of these options is influenced by several factors, including the level of education and socio-economic background of the health-seeker. Limited healthcare availability, accessibility and socio-economic characteristics are also cited to be determinants of one's health seeking behaviour.*
Objectives: *This study examined the health seeking behaviour of orthopedic patients, by examining their types of trauma and the relationship between their socioeconomic characteristics and health-seeking behaviour.*
Methodology: *The study was a hospital based cross-sectional study conducted at Saint Joseph hospital in Koforidua, Ghana, where 257 both males and females aged 20years or older visiting the facility were recruited to participate in the study. Data were analyzed using the SPSS programme IBM version 20. One sample t-test and regression analysis to evaluate possible relationship between the explanatory variable and health seeking behaviour. A $p<0.05$ was considered as statistically significance.*
Results: *The findings revealed that most reported trauma was fractures 242(94.2 %). Employment status ($p<0.005$), type of community or residence ($p<0.028$) was significantly related with health seeking behaviour. No relationship however existed between age, gender, educational background and other socio-economic characteristics.*
Conclusion: *The study established that, there is relationship between employment status, type of community or residence and health seeking behaviour.*
Keywords: *health-seeking, Orthopedic, Trauma, Fracture*

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I. Introduction

Health-seeking behaviour has been defined as a "sequence of remedial actions that individuals undertake to rectify perceived ill-health." In particular, health-seeking behaviour can be described with data collected from information such as the time difference between the onset of an illness and getting in contact with a healthcare professional, type of healthcare provider patients sought help from, how compliant patient is with the recommended treatment, reasons for choice of healthcare professional and reasons for not seeking help from healthcare professionals (Oberoi et al., 2016). Health seeking behavior is complex and no single method may be used to explain or establish any pattern

In Ghana, several options including orthodox medicine, traditional medicine, and self-medication are available to those who seek health, but the choice of any of these options is influenced by several factors, including the level of education and socio-economic background of the health-seeker (Omotosho, 2010). Limited healthcare availability, accessibility and socio-economic characteristics are also cited to be determinants of one's health seeking behaviour (Witter, Armah-Klemesu &Graham, 2009). Closely related to these factors is the issue of healthcare utilization which has also gained attention, as far as health-seeking behaviour is concerned.

According to the Dorland's Illustrated Medical Dictionary (2010) healthcare utilization is the extent to which a given group of people uses a particular health service in a specified period. This phenomenon also includes patients seeking orthopedic trauma care which, according to Badlani, Boden and Philips (2012), is a specialized branch of orthopedic surgery dealing with problems which relate to the bones, joint and soft tissues (like muscles, tendons and ligaments) of the entire body, resulting from trauma. Burkhart, Cole and Savioe

(2012), has it that orthopedic trauma service aims at healing the fractured bones and restoring the anatomic alignment of the joint surfaces, in order to allow the injured body part to recover and function to the maximum.

Evidence shows that, people have different reasons for their health choices. For instance, a study by Ndubuisi et al (2015), found that, the main reason for the utilization of traditional bone setting is advice from relatives and friends: others include cheap cost, sociocultural belief, easy accessibility and fear of operation. On the other hand, Stanifer et al (2015) cited cost of hospital care, cultural identities, and individual health status as barriers to utilization of healthcare setting for management of their health conditions.

Currently, there is a direct competition between the orthopedic hospitals or traditional bone-setting centers despite the numerous advantages which an orthopedic patient is likely to derive from an effective care at the hospital or clinic (Kuubiere, Alhassan and & Issahaku, 2013). However, there is some form of interaction between the two health care providers through cross-referrals which, in most instances, are not coordinated and also not official (Kuubiere et al., 2013).

For example, a study on the efficacy of traditional bone-setting in central Ghana indicated that, most respondents (84%) felt their condition was perfectly normal after the treatment, 14% developed slight deformities, while 2% had major deformities. On the other hand, Kuubiere and colleagues discovered that traditional treatment of orthopedic traumas in northern Ghana resulted in complications, including mal-union of fractures (31%), non-union of fractures (21%), infections (17%) and gangrenous body parts (3%). In spite of the situation, 57% of those interviewed preferred to refer any form of fracture (whether simple or complicated) to a traditional healer.

The above finding also shows an interesting scenario because some of the respondents went to hospital prior to seeking traditional treatment, or came to the hospital after having sought traditional treatment. This leaves several questions unanswered regarding what the true health seeking behaviour of orthopedic trauma patients is. The purpose of the study was to identify the health seeking behavior of orthopedic patients at Saint Joseph's Hospital Koforidua.

II. Methods

2.1Study Designs

A quantitative method using a cross sectional survey design was used for this study. The study was conducted from July 2017 to December, 2017 at St. Joseph Hospital, Effiduase-Koforidua, located in the New Juaben Municipal District of the Eastern Region of Ghana. The hospital serves patients from different parts of Ghana and beyond. The primary focus for setting-up the hospital was to offer Healthcare Service in Orthopedics and traumatology. However, over the years, the services have been diversified to include some general health care services such as General Medicine, General surgery, Public Health Care, Eye, Ear, Nose and Throat (ENT), Anti Natal Care, Delivery and Pre- Natal Care. Currently, it is a two hundred (200) or more bed capacity hospital with a total of about four hundred (420) workers, comprising of doctors, nurses, physician assistants, anesthetists, radiographers, biomedical scientists, physiotherapists and other paramedics. It is also the preferred destination of clinical training/attachment for many local and international students. The Saint Joseph hospital was selected for this study because it is one of the leading orthopedic hospitals in Ghana which treat many orthopedic and trauma cases from all over the country and the sub-region.

2.2Sample Size and Sampling Method

The sample size was calculated using Yamane (1965):

$n=N/1+N\ (e)^2$

Where: n = required sample size
N= sample frame or the population size
e= alpha level or the margin of error (0.05)
$n=563/1+563(0.05)^2$
n=233.8525
Making 10% allowance for losses ~ 257

2.3Data Collection and Procedures

Data were collected at the time when the patient had received the appropriate orthopedic care. A non-randomized procedure was used to successively recruit 257 patients. Patients with dislocations, and open or closed fractures were included. Comatose patients and patients under 18years were excluded. Patient sociodemographic characteristics included age, sex, level of education, occupation, whether a patient had received initial treatment from any other hospital before seeking care from the hospital under study and the cause of injury were assessed. The time interval between injury and presentation for care was noted. Injury characteristics noted included injury type (dislocation or fracture), fracture pattern (simple, segmental or comminuted), fracture location (upper limb, spine, pelvis or lower limb), bone fractured, segment of bone

involved in fracture (shaft, proximal periarticular or distal periarticular), joint dislocated and the time of day when injury occurred. The reasons onto which patients based their decisions to seek treatment from this hospital were also noted.

2.4Statistical Analysis

Analysis was done using SPSS, version 20.0; SPSS. Cross tabulations of variables were constructed and Fisher's exact test and chi-square with p-values were calculated to determine statistical significance, if any. A one-way analysis of variation (ANOVA) was performed to compare means between groups and Pearson's correlation index was performed to identify relationships between continuous variables. A p-value was predetermined at $p < 0.05$.

III. Result

3.1 Sociodemographic Characteristics

Table 1 presents the percentage of the demographic characteristics of the study population. Results indicate that, majority (30.0%) were between the ages of 30-34years as compared to their counterpart. Majority of the participant were males (68.9%). One hundred sixty-five (64.2%) participants were married and 52(34.0%) were not married. Two hundred and twenty–seven (88.3%) of the study participants had their education on junior high school level and above. Two hundred (77.8%) of the participants were Christians and 72(34.3%). Majority, 123(47.9%) were Self-employed. About (23.3%) had their income below 500 Ghana cedis. Majority, 180(70.0%) lives in town. More of the participant (76.3%) lives around the area.

Table 1: Distribution of demographic characteristics of the study population

Age	n(%)
20-24	7(2.7%)
25-29	8(3.2%)
30-34	62 (24.1%)
35-39	78(30%)
40-44	39(15.2)%
45-49	10(4.0%)
50 and Above	53(20.8%)
Gender	
Female	80(31.1%)
Male	177(68.9%)
Marital Status	
Single	72(28.02)
Divorced	(3.502%)
Married	165 (64.2%)
Widowed	11(4.28%)
Education Status	
No formal Education	20(7.8%)
Primary School	10(3.9%
Junior High School	54(21.0%)
Senior High School	129(50.2%)
Tertiary Education	44(17.1%)
Religion Status	
Christianity	200(77.8%)
Islam	47(18.3%)
Traditional	1(0.4%)
Others	9(3.5%)
Employment Status	
Government worker	70(27.2%)
Self-employed	123(47.9%)
Private sector worker	31(12.1%)
Unemployed	29(11.3%)
Others	5(1.6%)
Monthly Earning (GH₵)	
<500	60(23.3%)
500-1000	119(46.3%)
1001-2000	63(24.5%)
2001 and above	15(5.8%)
Type of community	
Village	23(9.0%)
Town	180(70.0%)
City	54(21.0%)
Others	0(0.0%)
Distance from a health facility	

<30 minutes drive	196(76.3%)
≤2 hours drive	45(17.5%)
≥ 2 hours drive	15(5.8%)
Others	1(0.4%)

3.2 Types Of Orthopedic Traumas

The Table 2 presents results on types of orthopedic traumas, fractures, causes of trauma among the study participants. Results indicated that fracture-related, 242(94.16 %) was higher as compared to trauma 7 (2.7%), dislocations 5(1.9%) and sprains/strains with 3(1.2%) constituting the least. The majority of the fractures consisted of femur (69.7%), tibia/fibula (14.4%), humerus 16(6.2%), radius/ulna (3.5%), and others 1(0.4%). With regard cause of trauma, road traffic accident (74.3%) documented the highest percentages followed by falls (18.0%)), industrial accidents (3.1%), gunshot (2.7%) and other forms of orthopedic trauma causes (5(1.9%)) constituting the least.

Tables 2: Showing distribution of type of orthopedic traumas, fractures, causes of trauma among the study participants.

Types of Orthopedic Traumas	n(%)
Fracture-related	242(94.16 %)
Traumas	7(2.7%)
Dislocations	5(1.9%)
Sprains/strains	3(1.2%)
I. TYPES OF FRACTURES	
A break in the thigh bone(femur)	179(69.7%)
A break in the lower leg bone (Tibia/ Fibula)	37(14.4%)
A break in the upper arm bone (humerus)	16(6.2%)
A break in the lower arm bone(Radius/Ulna)	9(3.5%)
Others	1(0.4%)
Missing responds	15(5.8%)
Cause of Trauma	
Through a road traffic accident	191(74.3%)
Through an industrial accident	8(3.1%)
Through a fall	46(18.0%)
Gunshot	7(2.7%)
Others	5(1.9%)

Table 3 presents results on health care preferences among the study participants. Results indicated that out of 257 study participants, majority of them 243(94.6%) indicated their preference for orthodox healthcare whilst 6(2.3%) preferred traditional, 3(1.2%) preferred spiritual healthcare, 4(1.6%) preferred herbal and 1(0.4%) did not indicate his health care preference.

Table 3: Distribution of health care preferences among the study population

Health care preferences	n (%)
Orthodox healthcare	243(94.6%)
Traditional	6(2.3%)
Spiritual healthcare	3(1.2%)
Herbal	4(1.6%)
Others	1(0.4%)

3.3 One sample t -test analysis

In order to determine the health-seeking behaviour of orthopedic trauma patients, a one-sample t-test was run to test whether a sample mean of a normally distributed variable significantly differs from a hypothesized value of 35. This is based on a hypothesis that, the sampled population will show a negative health-seeking behaviour towards orthodox healthcare for their traumatic orthopedic conditions.

Table 4: Summary of Mean and Standard Deviation of Health Seeking Behaviour

Variable	**N**	**Mean**	**Std. Dev.**	**Std. Error Mean**
Health seeking behavior	257	24.65	2.33	0.692

Table 5: Summary of One-Sample T-Test of Health Seeking Behaviour.

Variable	Test value = 35					
Health seeking behavior	T	Df	Sig.(2 tailed)	Mean Difference	95% C.I	
	-453.86	256	0.000	-10.35	Lower	Upper
					-33.92	-30.74

3.4Regression Analysis

In order to examine the relationship between the socio-economic background and health-seeking behaviour, a regression analysis was conducted using health-seeking behaviour as the independent variable. The regression model below shows that the socio-economic factors (predictors) explained 38.5% of health-seeking behaviour (the dependent variable) which is statistically significant ($R^2 = 0.051$, $p = 0.000$).

Table 6: Model Summary –Determinants of Health Seeking Behaviour

Model	R	R Square	Adjusted R Square	SME	**Sig**
1	0.291	0.385	0.051	0.330	0.000

Table 7: Regression Table for Factors Influencing Health Seeking Behaviour

Predictors	**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**
	B	Std. Error	Beta		
(Constant)	0.695	0.209		3.324	0.001
Age	0.012	0.016	0.054	0.734	0.463
Gender	-0.012	0.048	-0.016	-0.246	0.806
Marital status	0.044	0.027	0.123	1.633	0.104
Religion	-0.058	0.035	0.112	-1.681	0.094
Level of education	-0.025	0.028	-0.077	-0.900	0.369
Employment status	0.073	0.026	0.214	2.809	0.005*
Monthly earnings(GHC)	0.009	0.032	0.022	0.277	0.782
Type of community	0.104	0.047	0.164	2.211	0.028*
Community distance	0.042	0.043	0.074	0.972	0.332

3.**5 Inferential Statistics**

As indicated in table 3, the mean difference between the sample and the test value (hypothesized mean) was -10.35. Thus, the respondents' health-seeking behaviour was statistically lower than the expected population mean in a significant manner ($t = 453.86$; $P = 0.000$). This implies that the respondents will prefer to seek treatment for their orthopedic traumas at the traditional bone setting, prayer camps or any other form rather than orthodox treatment. Therefore, the hypothesis that the orthopedic trauma patients have a negative health-seeking behaviour was supported by the data.

Table 5 indicates that, 61.5% of their health-seeking behaviour is influenced by other factors, apart from the socio-economic characteristics of the respondents. It needs to be emphasized that, although the relationship between health-seeking behaviour and some of the demographic variables were non-existent, the situation could be different in practice. The 'negative' relationship established only statistically indicates that people seek healthcare due to some other reasons than the variables studied.

With regards to table 6, the relationship between the socio-economic characteristics of the patients and their health-seeking behaviour, the regression analysis indicated that respondents' religion explained 11.2% health-seeking behaviour ($B = 0.112$; $P = 0.094$). Similar significant relationships were found in the type of respondents' community ($B = 0.164$; $P=0.028$) which account for 16.4% of the respondents' health seeking behaviour and the respondents' employment status explaining 21.4% of health seeking behaviour ($B = 0.214$; $P=0.005$).

IV. Discussion

Statistically significant relationship between age and health-seeking behaviour was not found ($p=0.463$). Risk perception motivates attendance to healthcare providers, promotes behavioral and lifestyle changes and influences decisions regarding treatments (Deeks et al., 2009). An understanding of risk perception as it relates to prevention of injuries and management is, therefore, important. Our findings documented that, few youths between the ages of 20 to 29 were getting injured as compared to 30years and above. The fact that the few of the respondents (5.9%) were of youthful age is an issue worth considering. Since decision to engage to a particular medical channel is influenced by a variety of socio-economic variables, including age (Aderibigbe et al., 2013; Salisu and Prinz, 2009).

Statistically significant relationship between gender and health-seeking behaviour was not found ($p=0.806$). Concerning gender (Table 1), it was observed in this study that males (68.9%) were more than twice the number of females (31.1%). This implies that more male patients with traumas visit the Saint Joseph Hospital. Alternatively, the increase in the sex difference could be due to the adventurous nature of males, which influences their rate of getting injured more than females. Also, sensation -seeking is a personality trait that search for experiences and feelings that are "varied, novel, complex and intense" and by the readiness to "take physical, social, legal, and financial risks for the sake of such experiences, even if risks are involved

(Cross et al., 2013). Our findings support the view that men and women differ in their propensity to report sensation-seeking characteristics.

Statistically significant relationship between marital status and health-seeking behaviour was not found (P= 0.104). Regarding marital status (Table 1), it was observed in this study that married class was (64.2%) as compared to their counterpart. Matrimony and wellbeing are closely related *(*Robles et al., 2014*).* Simply being married, as well as the quality of one's marriage, has been linked to diverse measures of health. Research has examined the social-cognitive, emotional, behavioral and biological processes involved in these links. Marital support may increase the psychological resources such as self-efficacy, and self-regulation needed to improve one's health behaviors (Dimatteo, 2004). Furthermore, it has been argued that social support can facilitate or impede help-seeking behaviour and therefore serves as an enabling resource whereas the social structure including family situation influences help-seeking (Magaard et al., 2017).

Statistically significant relationship between religion and health-seeking behaviour was not found (p=0.094). This is in conformity to the greater population of Ghanaians who are Christians. Some Christian sets have a negative attitude towards orthodox health but the above findings indicate that, a lot of Christians have a positive affinity to orthodox health. With regards to religion Siddiqui et al., (2010) explained that individual beliefs offer the link between socialization and behavior; religion however cannot be an exception.

Our findings reported high level of literacy rate among the study participants. However, there was no statistically significant relationship between education and health-seeking behaviour (p=0.369). Several studies have confirmed that, education raises awareness, help people to recognize illnesses and understand the potential benefits of seeking treatment (Rebhan (2009; Arhinful; 2003; WHO 2006)

Statistically significant relationship between employment status and health-seeking behaviour was not found (p=0.005). Unemployed persons were more likely to delay contact with healthcare services due to cost and were less likely to have access to healthcare than their employed counterparts. It is argued that the delay in using health care by laid off persons found in other studies might be related to the fact that as redundancy persists, economic resources decline and less money directly or indirectly worsens the pre-requisites for good health (Macassa et al., 2014).

Statistically significant relationship between income and health-seeking behaviour was not found (p=0.782). Majority of studies reported no association between income and help-seeking behaviour (Magaard et al., 2017). A probable justification for this result might be that income as an indicator is not sensitive enough to detect socioeconomic variations in the use of health care services. Our findings reported majority of the participant been low income earners based on their average monthly household income. Such low-income levels can influence uptake and utilization of health services. Other studies conducted elsewhere have also indicated that cost is often a barrier to seeking health services especially among the poor (Musoke et al., 2014).

Statistically significant relationship between community distance and health-seeking behaviour was not found (p=0.332). Long distances to health facilities were not the main challenges established in this study as indicated by Musoke and colleagues. Although patients who attend Saint Joseph Hospital are referred from other health facilities in the country, majority (91%) of the patients live in the areas where a lot of health facilities are located.

The above findings indicate that; where he or she lives and his employment status will have an impact on the form of treatment choices he or she seeks. These findings are consistent with a wide range of views expressed by different authors on the determinants of health-seeking behaviour. Several studies have reported that people's engagement with healthcare systems depend very much on socio-demographic structures, level of literacy, cultural practices and belief patterns, gender considerations, economic and political systems, environmental conditions, the disease pattern and health care system itself. (Srivastava, Awasthi and Agarwal, 2009); Bloomand and Farragher, 2010; Ruger 2010). However, no significant relationships were established between variables such as gender, marital status, religion, educational level, community distance from health facility of the respondents and their monthly earnings. This is contrary to aspects of the literature which particularly emphasize gender, age, marital status and educational background as strong influences on health-seeking behaviour (Aderibigbe, Agaja & Bamidele, 2013; Grundy & Annear, 2010; Salisu & Prinz, 2009; Nemet, 2009 and Ruger, 2010).

Fractures were more common owning to the numerous accidents been recorded in the country of late which Fessell (2011) describes as a single fracture such as fracture of the tibia. These types of traumas corroborate what earlier researchers Barratt, Rhode & King (2013) found in their study. For example, they mentioned peri-articular traumas, which in this study are simply called 'dislocations', occurring at joints like the ankle, elbow or any other joint. It is also similar to what Ruger (2010) describes as acetabular trauma, which occurs mainly at the hip-joint. Ikpeme and colleagues also describe the femur as the commonest site of pathology after trauma. Fractures, sprains, strains and dislocations are common traumas in the extremities. Also, Ekere and Echem (2011) identified that fractures (86.05%) and dislocations (13.95%) were more common in injuries occurring at the lower extremities.

The most of the fractures reported were of the femur as shown in table 2. Anatomically, the femur turns to receive more impact resulting from traumas and easily get fractured owning to the fact that it is the longest bone in body. The above findings are consistent with Ikpeme et al., 2013; Ekere and Echem, 2011; Fessell, 2011), Barat, Rhode & King., 2013), who found in their study that the most reported fractures were fracture of the femur, tibia/fibula, humerus and radius/ulna. In view of the fact that most of these fractures were common among adults, they could be likened to what Sinha et al. (2011) describe as geriatric fractures.

An aspect of the study which earlier studies had not clearly explored was the causes of the fractures. The study identified that road traffic accidents (RTA) was responsible for 74.3% of the fractures. The fact that road traffic accidents counted for over 74.3% of the fractures is quite alarming, in view of the heated campaigns which the Road Safety Commission and related organizations have mounted on road safety in Ghana. However, it is also not surprising that the hospital accommodates such high number of road accident patients because of its location closer to the Accra-Kumasi highway makes it the most suitable place for dealing with such emergency cases. Again, although the eastern region is predominantly associated with farming and hunting, fractures resulting from gun-shots are not common. This is quite heart-warming. Although Fessell (2011) mentioned 'accident' in his study, it was merely in relation to his description of polytraumatized injuries, which are sustained when a patient suffers a pelvic fracture and femur fracture like the case in a motor vehicle accident.

This study demonstrates that majority of the study participants 243(94.6%) indicated their preference for orthodox healthcare. Our results as indicated in table 3 is inconsistent with the study conducted by Kuubiere et al.,2013, whose findings in the northern parts of Ghana showed that 57% of people preferred to be referred with any form of fracture (whether simple or complicated) to a traditional healer. But the difference could be due to the fact that, our study was hospital-based respondents and that might have influence their choice of health care preference.

V. Conclusion

The study established that, there is relationship between employment status, type of community or residence and health seeking behaviour. Whereas the types of traumas identified were not different from what other studies had described, the study further discovered that the most serious common cause of the trauma was motor traffic accidents. Therefore, traditional medicine be integrated into the hospital setting to allow patients make their informed choice of care and for easy access to ensure proper monitoring and early positive cross referrals to prevent complication making management more effective.

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