

# Health-Seeking Behaviors following Diabetes Mellitus of Various Ethnic Groups in Nkwen Health District of Bamenda III Subdivision, Mezam Division, North West Region of Cameroon

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## ABSTRACT

The research on Health-Seeking Behaviours following Diabetes Mellitus (DM) of various ethnic groups was conducted because different patients within a given ethnic group or cultural group have different options regarding actions to seek health care services. The purpose of this study was to determine the Health-Seeking Behaviours (HSB) following DM patients from various ethnic groups and the roles of the Health Psychologists (HP) on the DM patients in Nkwen Health District of Bamenda III Subdivision within Mezam Division of the North West Region of Cameroon. A descriptive survey research design was conducted among 230 sampled DM patients from various ethnic groups in Nkwen Health District. A non-probability purposive sampling technique was used to set the population under study. The data was collected using both Focus Groups Discussions (FGDs) and questionnaire for a period of two months during the period that the DM patients came to Nkwen Health District either to consult or to refill their drugs. The questionnaire were administered to 230 DM patients from the various ethnic groups which were Bali, Bafut, Bansa, Bamendankwe, Babanki, Santa, Nkwen and Ndu during this period as well.. The data collected was analysed using both descriptive and inferential statistics with SPSS software tool version 20.0, following the objectives of the study. For HSB, 38.3% agreed that they sought health care from traditional medicine whereas 26.1% remained neutral on traditional medicine. On the other hand, 37.7% disagreed that they used traditional medicine. Cultural believes and distance deterred HSB which were statistically significant with  $P = 0.001$  and  $P = 0.001$  respectively. The options taken to seek health care from the hospital were influenced by family relatives with  $P = 0.001$ . Therefore, HSB was found to be statistically significant for the first (traditional medicine) and second line (hospital) among the different ethnic groups with  $P = 0.001$  and  $0.001$  respectively. These results showed that poor HSB following DM among the different ethnic groups was statistically significant in Nkwen Health District.

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**KEYWORDS:** Health seeking behaviours, ethnicity and diabetes mellitus

## INTRODUCTION

Health-seeking behaviour has been defined as a “sequence of remedial actions that individuals or a group undertake to rectify perceived illness” (World Health Organisation, WHO, 2015). Health has been defined as a state of complete physical, mental and social wellbeing and not merely the absence of infirmity” (Zsuzsanna, 2011 p.2). Therefore illness is the poor physical, mental and social conditions of an individual. But (McIntosh, 2013 p.774). From this

definition, it is seen that illness may still allow you go along with some daily activities though not appropriately, for example Diabetes Mellitus (DM).

Research work has shown that, client- based factors, provider based factors, care taker, perceptions, social networks, biological signs and symptoms work in synergy to produce a pattern of health-seeking behaviour which are very important to rectify illness

(Simmi,Ncha and Amahjit, 2016). Therefore health-seeking behaviour is any kind of action that a diabetic patient takes in order to gain health. It is a good health-seeking behaviour when the patient visits the hospital or any professional healthcare provider immediately he/she feels sick, and poor a health-seeking behaviour when the patient delays or carries out unorthodox treatment.

From the work of (Kim, 2013), Non-Communicable Diseases (NCD) such as diabetes and high blood pressure are medical conditions that are non-infectious and non-transmissible among people. Their findings showed that currently, NCD's prevalence rate is high and a leading cause of death and disease burden worldwide where diabetes is common among old age people. Therefore, "the when" and "the where" individuals or ethnic groups seek for means to get rid of diabetes by taking decisions according to their access to treatment encompass a good or poor health-seeking behaviours.

Diabetes mellitus as defined by Arthur, (Chrontine, and Pamela, 2013), represents a group of metabolic disorders of varying etiologies that are all characterized by hyperglycemia (high blood sugar levels or glycated hemoglobinA1c (HbA1c) value >7% for women and > 6.5% for men.).This means that the condition exist when the concentration of glucose in the blood stream is higher than the normal level. The normal range for the hemoglobin A1c level is between 4% and 5.6%.

An ethnic group or ethnicity is a category of people who identify with each other based on similarities such as common ancestry, language, history, society, and culture. Or simply a community or population made up of people who have a common cultural background living in the same geographical location capable of speaking and understanding themselves. From the research work of (Saeed, 2005), less than 25% of physical complaints presented to physicians have known or demonstrated organic or biological signs and that a substantial number of physical or medical symptoms presented by patients are unexplained medically (functional symptoms) that respond well to the psychological interventions. Diabetes patients therefore need the services of health psychologists to improve on their physical, mental health and quality of life.

This research work therefore focused on the health-seeking behaviours following DM of various ethnic groups and how health psychologists can influence the wellbeing of DM patients in Nkwen Health District of Bamenda III Subdivision within Mezam Division, of the North West Region of Cameroon.

**Table 1: Ethnic Groups of Cameroon**

Rank	Ethnic groups	Share of population of Cameroon
1	Bamileke, Bamun, Tikar and other people of the Western highlands	38%
2	Beti, Pahuin, Bulu, Fang, Maka, Njem, Baka and other people of the southern forest	18%
3	Bassa, Douala and other people of the coastal forest	12%
4	Kribi	18%
5	Fulani and Sahelan muslims	14%
6	Others	4%

*Source: World atlas, 2018.*

### STATEMENT OF THE PROBLEM

In the late 20<sup>th</sup> Century Non-Communicable Diseases (NCDs) such as Diabetes and Hypertension were known as western world diseases, probably because of the lifestyles of the people. But recently these diseases especially diabetes have become common in Cameroon. It is very common nowadays to hear people talk of "my high blood" or "my diabetes". In Cameroon about 61% of deaths are accounted for by Communicable diseases while 31% are accounted for by Non-Communicable diseases and the other 8% accounted for by other causes. Cameroon recently had the prevalence of diabetes in adults (type 2) in urban areas, estimated at 6% with 6500 diabetic deaths yearly

The Cameroon Government over the past years has involved in sensitization through free screening of Non-Communicable diseases especially Diabetes and hypertension in order to avoid complications such as, blindness, nerves problem, kidney failure or stroke. Despite all these efforts, different individuals, from different communities still have diverse perceptions about the disease because they are not aware of the symptoms like frequent urination, loss of weight or blurred vision that come with the diabetes. They attribute these symptoms to something else (witchcraft) and go in for different methods of treatment. Some seek healthcare from modern medicine while others seek healthcare from traditional medicine. Therefore some carryout, good health-seeking behaviour by going to hospitals while others resort to poor health-seeking behaviour by using traditional medicine and other unorthodox means of treatment.

The question one asks is whether ethnic groupings or cultural groupings have an influence on “the when” and “the where” these diabetic patients seek care? And what impact would an effective functioning of health psychologists have on the wellbeing of DM patients and health-seeking behaviours of these ethnic groups. Therefore, the research work focused on determining the Health-Seeking Behaviours (HSB) following Diabetes Mellitus (DM) among the various ethnic groups in Nkwen Health District, Bamenda III Sub Division within Mezam Division of the North West Region of Cameroon.

### Specific objectives

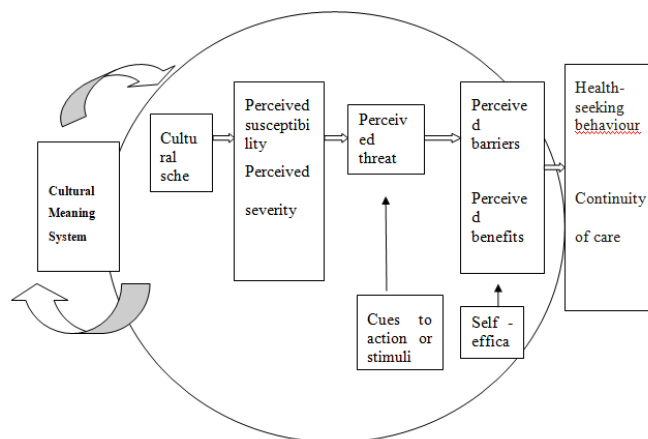
1. To assess the prevalence of DM among different ethnic groups in the Nkwen Health District.
2. To ascertain the ethnic group mostly affected in Nkwen Health District.
3. To examine the first lines and subsequent lines of health-seeking among the different ethnic groups in Nkwen Health District.
4. To assess the factors that influence or deter different ethnic groups in health-seeking for DM in Nkwen Health District.
5. To find out the roles of the health psychologists on DM patients among the different ethnic groups in Nkwen health District.

### LITERATURE REVIEW

According to D' Andrade (1943), the cultural meaning system is made up of shared cultural schemas that inform peoples' perceptions, beliefs, opinions and views about their world and shape their responses and actions as they face familiar or new challenges. The cultural meaning system is passed from one generation to another through socialization and learning (social cognitive theory). This means the cultural meaning system of the wider community (macro level) informs the cultural meaning of individuals (micro level), shaping their perceived susceptibility, perceived severity, perceived threats, perceived barriers, perceived benefits and self-efficacy and thereby motivating their Health-Seeking Behaviour and as well as the continuity of care.

Similarly, individuals in turn update the cultural meaning system through their lived experiences that accumulate over time. Therefore DM patients living in a cultural meaning system will update their cultural meaning system through their lived experiences that accumulate and are handed to the next generation. Therefore the health seeking behaviours of some DM patients are influenced by the cultural meaning system. Thus the relationship between ethnic groups and health-seeking behaviours of DM patients.

Macro level micro level (HBM) outcomes Cultural schemas



**Figure 1: Cultural schema model for understanding of the relation between ethnic group and health-seeking behaviours**

**Source: Adopted from the Theory of cultural model of Roy d'Andrade (1984)**

The conceptual frame work portrays that there is a direct relationship between the ethnic group and health seeking behaviours. The individuals are replica of the cultural meaning system that is handed from generation to generation.

It has been noticed that when an individual fall sick or suffers from any disorder, he/she immediately wants to get rid of the condition as fast as possible. Thus an unpleasant situation or negative condition such as DM obviously pushes the patient to take actions or find out all possible solutions through cognitive and behavioral changes, with expectations for health outcomes. The questions one obviously asks are: what, how, where, and why do these DM patients seek solutions or help to their negative conditions considering that they come from a particular ethnic group?

### Health Belief Model (HBM)

It is worth noting that health-seeking behaviour is a series of actions taken by patients until they finally get good health through cognitive and behavioural changes. Therefore DM patients follow similar routes to achieve good health. That is they either visit traditional healer or hospital or a professional health care provider immediately or after the onset of DM depending on their perception of the disease. The most widely used theory for individual health behaviour in Public health is the Health Belief Model (HBM). According to Mathew (2012) the health belief model originated as far back as 1950 by United States (US) Public service Social Psychologists, Godfrey, Irwin Rosen, Stock and Stephen Kegels, This theory was used because it is a systematic way of understanding a problem, though with its limitation of being an individualistic theory of health behaviour. This theory served as a guide or tool for this research work. It made us to understand the two main

variables; ethnicity and health-seeking behaviour of DM patients. It was also considered that an individual within a community often acts according to the norms of the area, thus the HBM was incorporated in the cultural group to form the cultural schema theory considering that an individual is embedded in a cultural group or ethnicity. The health belief model was developed by Mathew in response to low participation rate in free TB screening in health clinic placed at a neighborhood in the United States. He noticed that low participation rate had to do with motivation or early thoughts such as:

According to Rosen (1988), Health Belief Model, Social Learning Theory by Bandura relabeled Social Cognitive Theory (SCT) and self –efficacy have all been applied with varying success to problems by explaining, predicting and influencing behaviour. This means that the DM patient's behaviour is influenced by the social interactions with the members of his community. Thus his cultural interaction or beliefs affect his health-seeking behaviour. This is usually prompted by his confidence or belief in one's ability to perform a given behaviour. Self – efficacy is proposed as a separate independent variable along with the traditional health belief variable of perceived susceptibility, severity, benefits, and barriers.

Health seeking is a conditional behaviour, so any attempt to encourage people to seek care requires an understanding of their motivations for such behaviours. It will only be through a deep understanding of these motivating factors shaping DM patients behavioural practices that a health promotion program can be introduced in any community or ethnic group successfully. Thus the degree of success of a health promotion program can help shape the health -seeking behaviour of people in any ethnic group.

The risk perceptions of DM were examined when the patient accessed the susceptibility and perceived severity of DM leading to perceived threat. The decision making processes for a behaviour change were accessed through exploring the perceived barriers and perceived benefits to achieve a good health seeking behaviour following Diabetes Mellitus, with the understanding that an individual comes from social group called ethnicity as follows:

**Perceived susceptibility:** Perceived susceptibility also called perceived vulnerability refers to one's perception of the risk or the chances of contracting DM.

**Perceived severity:** Perceived severity is brought to light when DM patient deems that the disease or

condition is serious. Perceived severity include how people perceived the deleterious consequences of a serious health event or outcome from being diagnosed of DM

**Perceived threat:** It is a patient's personal conviction that DM is a life threatening health condition which is serious and has potential negative health consequences.

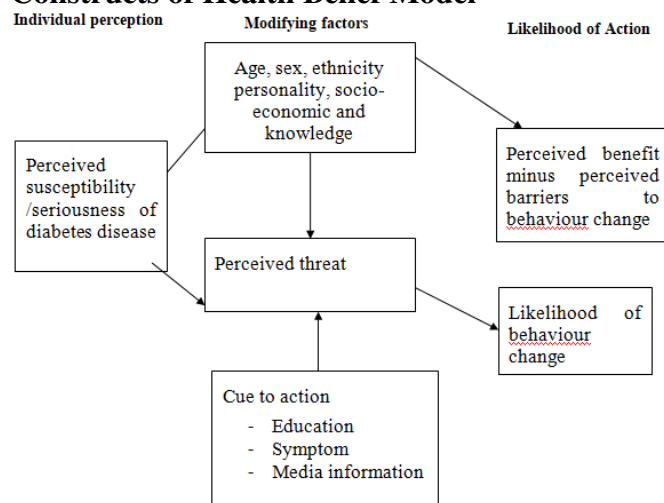
**Perceived benefits:** This is when the DM patient perceives that the advantages or benefits of adopting and continuing with the actions of health- seeking are greater than the barrier.

**Perceived barrier:** Some of the reasons DM patients do not seek for good health behaviour are because of the cost of treatment, distance to health care service, waiting time for consultation or cultural belief. Some believe that the illness they suffer from is a taboo. (Elizabeth& Susan, 2016). **Cues to action or stimulus and self-efficacy:** The researcher recognizes that sometimes the DM patients from an ethnic group actually want to effect health behaviour change but some stimulating factors give a leap to achieve good health behaviour.

**Cues to action (stimuli):** These are external factors or events that prompt the patient to make a desirable health behavioural change. A DM patient may be stimulated by seeing others going for their fasting blood sugar test during a sensitization campaign and decide to go for the FBS- test or seeing a close friend who dies of DM. (Elizabeth & Susan, 2016). These aspects of seeing others go in for their blood sugar test may spur the patient to go in for the test as well.

**Self-efficacy:** This is the ability of the patient to be certain that he can go for a health seeking effectively without any problem or barrier. Or have the confidence that he will make it.

### Constructs of Health Belief Model



**Figure 2: The Health Belief Model**  
Source: Glance et al (2002)

The model above shows operational pattern of the health belief model and the various constructs of perceived susceptibility, perceived severity, perceived benefits and perceived barrier as shown by the arrow on the diagram till the final point of behavioural change.

### Ethnic Groups and Health-Seeking Behaviour

A cross-sectional study was conducted among 104 elderly aged 60 and above of Bharatpur Municipality of Chitwan District, Nepal, United Kingdom using a non-probability convenience sampling technique to collect the data. The data was analyzed using both descriptive and inferential statistics in SPSS software. The results showed that 83.3% sought help from modern medicine and 16.3% sought help from alternative medicine. The health-seeking behaviour was found to be statistically significant with ethnicity  $P=0.007$  (Baral and Sapkota, 2018). This means that ethnicity has significant association with HSB.

### First Lines and Subsequent Lines of Health-Seeking Behaviour among the Different Ethnic Groups

According to Musoke, Boynton and Butler (2014), health-seeking behaviours in a community determine how health services are used and which in turn determines health outcomes of the population. They further mentioned that, the factors that determine health-seeking behaviour may be physical, socio-economic, cultural or political. Thus such factors can affect access to healthcare even when services do exist in a community.

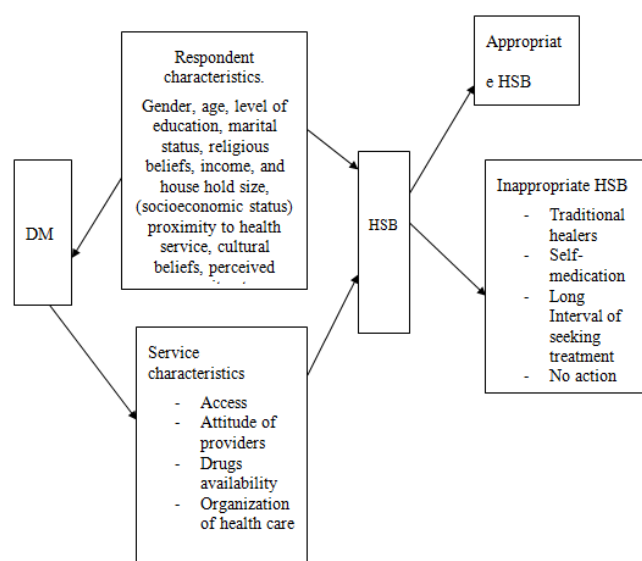
From the findings of Fortunate & Katarina (2016), healthcare was sought from the professional health sector, mainly the public hospitals, before the patients switched to traditional healers. The reasons for seeking help from traditional healers were:

1. Mainly chronic conditions such as diabetes, high blood pressure and perceived failure of western medicine to manage diabetes.
2. The cost at healers' facilities also influenced health care seeking because it was perceived to be affordable, negotiable, accessible and available.
3. Traditional medicine therapies of patients with diabetes were herbal medicine, nutritional products and counseling, but many patients whose conditions were difficult to manage were told to return to the public hospitals in the professional health sector.

From the different researchers, first lines and subsequent lines of health seeking will depend on the perceived threats and the expected outcomes.

### Factors That Influence or Deter Different Ethnic Groups in Health Seeking for Diabetes Mellitus

Research on health-seeking behaviour, in general, for civil servants in Ibadan has shown that level of education, household size, socio economic status, providing good services, affordability of such services and proximity were considered the most important service characteristics in health-seeking behaviour (Latunji & Akinyem, 2011). Their study showed that appropriate health-seeking behaviour was found to be high among civil servants. But lower cadre workers and those with lower levels of education need policy formulation to improve their health-seeking behaviour, such as health insurance scheme. Therefore, access to health care services remains one of the fundamental factors that influence or deter health-seeking behaviours.



**Figure 4: Framework for the factors that influence or deter health seeking behaviours among different ethnic groups**

**Source: Adopted from Katarina and Fortunate (2011)**

From a study on health seeking behaviour of patients with diabetes mellitus in Baguio city, (Rosemarie, (2010), HSB for DM is complex and no one single method may be used to explain or establish any pattern. It is clear from this study that general determinants such as age, gender and socioeconomic status and educational attainment are not the only factors that influence or deter health seeking behaviour. An understanding on how people take decision about their health is equally important.

### Socio-economic and health-seeking for diabetic patients

According to Muhammad (2014), health-seeking behaviour and health care is the association of the health system and health care which do not only represent the health structure but also contains many

other sections which constitute the whole system. These are economic conditions, family system and social support network, cultural forces, environmental conditions, political systems and others. Each affects the health care seeking patterns. Therefore, socio-economic factors play a role in health-seeking behaviours of various ethnic groups

Vega, (2004) on “The search for care and cure: Exploring health seeking behaviour in Mbulo district Tanzania” using a qualitative design found out that the following factors influence the health seeking behaviours for people when they are ill. These factors are structural context: - economy, distance, education as he noticed that these factors emerged clearly when he discussed with the respondents.

### **Accessibility and availability of health care and health-seeking behaviour for DM patients**

Most patients live in areas that are far away from the healthcare service or their point of treatment. These long distances, coupled with bad roads make health service inaccessible. This long distance and remoteness of community also make their treatment not available. Thus a DM patient can be influenced or deterred by the accessibility and availability of health care service.

Vega, (2004) also assessed that distance is a major cause for people to seek informal health care. The access to a local healer or a medicine man was far easier than travelling far away to dispensary or hospital. From Vega, (2004, P. 58) an informant said “people who are not Christian will most likely use healers as their first healing alternative because the healer is most usually accessible due to distance”. This aspect then affected the interest of the research to investigate whether distance has significant influence on the health seeking behaviours of diabetes mellitus patients of various ethnic groups in Nkwen health area.

### **Educational level and health-seeking behaviour**

Education is critical to social and economic development and has a profound impact on population health. The health benefits of education accrue at individual level (for example skill development and access to resources) the community level (for example, the health – related characteristics of the environment in which people live ) and larger social/cultural context (for example social policies, residential segregation, and unequal access to educational resources ). All of these factors may contribute to health outcomes. (Emily, Steven & Amber, 2014). Thus, adult DM patients with higher levels of education are less likely to engage in risk factors behaviours of DM such as smoking and alcohol abuse and are more likely to have healthy

behaviours related to diet and physical activities. This is because they understand some health promotion programs within the community.

### **Cultural belief and health-seeking behaviour**

In a study carried out on the topic, “The Power of Beliefs on Health -Seeking Behaviour: Implication for Therapeutic Relationships for cardiovascular care,” cultural beliefs were found to significantly influence the health-seeking behaviour of people..... This further call for therapist to understand the cultural values and beliefs of the people in order to provide healthcare that would be acceptable. (Isaac, 2015). For example understanding the cultural beliefs of a DM patient will help the health care provider in influencing health-seeking behaviour. It is important to acknowledge the cultural values of the DM patients. It is better to find out how the patient wants to be treated rather than imposing the providers’ value on the patient.

### **Family and social relationships**

Family and friends appear to have substantial impact on care seeking. From the study of Vaga, (2004) the informant explained indirectly how family members influenced them and help them to decide where to seek health care. Therefore, family and social relations influence or deter the health seeking behaviours of patients.

### **Illness etiology on health seeking**

It was noticed that most informants made health-seeking behaviour to hospital if illness etiology was natural from God. But if believed it was from the devil, patients sought healers (Vaga, 2004. P. 64). This was explained by an elderly informant (if people know that the illness is an illness from God they will go to the hospital to get diagnosed and take medications. If people know a particular illness to be caused by “(bad) people” they will seek treatment from a healer. Therefore, the health seeking behaviours of patients would depend on their perceptions of the illness etiology depending on their ethnic grouping.

### **Gender and Health-Seeking Behaviour**

Women tend to engage in less health-seeking behaviour compared to their male counterparts (Curie and Wiesenber, 2003). In their article they highlighted three components in a woman’s decision – making process for seeking health care:

- Women generally are less likely to identify disease symptoms in the first place. Women might shrug from symptoms as normal everyday muscle aches or regular occurrence. To be able to understand, recognize and identify DM, one needs to have some form of knowledge awareness of symptoms and illness.

- Women tend to believe that they are more restricted compared to their male counterparts in terms of health care accessibility. This is due largely to cultural ideas about the social value of women which is lower compared to men.
- Women do not engage in health care treatments even if they recognize that they have health problem. This is partly due to restricted accessibility to health services given the social roles of the women, which might limit their ability to visit healthcare facilities due to their culture of going out alone without their spouses. (Curie & Wiesenberg, 2003)

### Organisation of the health care and health-seeking behaviour

From the work of David *et al.*, (2014), on Health seeking behaviour and challenges of utilizing health facilities in Wakiso District, Uganda, there was potential to increase access to health care in rural areas by increasing the frequency of mobile clinic service and strengthening the community health worker. This means that the manner in which the health care is organized to be accessible to the DM patients, health seeking is improved in addition to the attitudes of the providers in terms of reception. Therefore the organization of the health care in terms of infrastructure and reception has an important role to play in health -seeking behaviour.

### METHODOLOGY

The research design used in the study was a correlation research design. The researcher was solely interested in describing the health-seeking behaviours following diabetes mellitus of the various ethnic groups in Nkwen health district.

This research work was carried out in Bamenda III Subdivision within Mezam Division of the North West Region of Cameroon. is divided into health areas which are made up of health units.

The accessible population is the total number of diabetic patients that visited PMI Nkwen Health District Hospital for healthcare from the period of April to June 2019 at the diabetic clinic. In Mezam Division, there are seven Subdivisions and each of the subdivision has a Public District health hospital at its administrative head quarter. These health districts are: Bafut health district, Bali health district, Bamenda I health district, Bamenda II health district, Bamenda III health district, Santa health district and Tubah health district. Among the 7 Health districts only Bamenda I, Bamenda II, Bamenda III and Tubah were fully functional due to the socio- political crisis in the Region at the time of study.

The selection of the sample health district and the hospital to work with was through a simple random sampling technique. To select the sample hospital, a non-probability purposive sampling technique was used and PMI Nkwen District hospital was selected. This was because it was the only public hospital with a diabetic clinic so as to avoid bias of cost of treatment and religious affiliation. Then all the DM patients attending diabetic clinic in the sample hospital automatically became the accessible population as indicated on the table 5.

**Table 2: Accessible Population of Diabetic Patients**

SN	Sample Hospital	Male	Female	Total
1	PMI Nkwen District Hospital	230	636	866
	Total	230	636	866

Source: Diabetic Clinic PMI Nkwen Hospital (June 2019)

From the accessible population above, the sample for the study was gotten through a simple random.

From the first 250 DM patients, that is of proportion 30% who filled the questionnaire, the identification of their various ethnic groups was done following the name they filled on the questionnaire as village of origin and ethnic group. However, Mankon and Ndup were suppressed because the number of DM patients was only 5 for Mankon and 3 for Ndup which could not form the focus group discussion. Twelve persons did not complete their questionnaire and their ethnic group could not be identified. Therefore 230 DM patients were considered as sample size. A non-probability purposive sampling technique was used to select 6 DM patients from each ethnic group which gave a total of 54 from the nine different ethnic groups identified.

**Table 3: The various ethnic groups with DM in PMI Nkwen health district hospital**

SN	Ethnic groups	Number of DM patients or sample size	Percentage (%)
1	Babanki	20	8.6
2	Bafut	26	11.3
3	Bali	16	7.7
4	Banso	34	14.7
5	Kom	16	6.9
6	Nkwen	48	20.9
7	Bamendakwe	20	8.6
8	Ndu	30	13.0
9	Santa	20	8.6
	<b>total</b>	<b>230</b>	<b>100</b>

Source: Author's field work, 2019

Table 3 shows the various DM patients from the various Ethnic groups receiving treatment in the diabetic clinic of Nkwen health district hospital. This gave a sample size of 230 DM patients.

The instrument used for the collection of data for the survey were a questionnaire and a focus group discussion guide. For data analysis, the data obtained from the survey was entered into Microsoft Excel, and then exported to the Statistical Package for the

Social Sciences (SPSS) for analysis. The data was analyzed primarily through frequency tables, graphs and cross-tabulation to filter the required information. These procedures were for both descriptive statistics and the inferential statistics. The SPSS test procedure helped to determine the correlation between two sets of scores of the variables and statistically significant at alpha level 0.05 or  $p$ -value = 0.05.

## RESULTS

### Socio-Demographic Data from Respondents

The Socio-demographic data of the respondents are presented in tables 7, 8 & 9. This table on socio demographic data was very important for study because it brought out some vital variables from the questionnaire.

**Table 4: Presentation of the Socio- demographic profile of Respondents**

Characteristics		Frequency	Percentage
Gender	Male	70	30%
	Female	160	70%
Ethnic group	Bali	16	7%
	Santa	20	9%
	Nkwen	48	21%
	Kom	16	7%
	Banso	34	15%
	Bafut	26	11%
	Babanki	20	9%
	Ndu	30	13%
	Bamendankwe	20	9%
	Age	31- 39	4
40-50		28	12%
51-55		32	14%
56-60		38	17%
60 and above		128	56%
Marital status	Single	6	3%
	Married	170	74%
	Divorced	2	1%
	Widow	50	22%
	Single with children	2	1%
Occupation	Farmer	84	37%
	Business man	24	10%
	Housewife	40	17%
	Retired	60	26%
	Bike man/taxi man	6	3%
	Civil servant /Lawyer	16	7%
Highest level of education	Primary	106	46%
	Secondary	48	21%
	University	24	10%
	None	52	23%
Average household monthly income	< 20.000	114	50%
	20000 to 40.000	48	21%
	40000 to 100.000	34	15%
	100 000 to 200.000	20	9%
	>=200.000	12	5%
	Don't know	2	1%



Characteristics		Frequency	Percentage
Num of persons per household	One	6	3%
	2- 5	96	42%
	6-10	92	40%
	10 and above	36	16%
Religion	Christian	220	96%
	Muslim	6	3%
	None	4	2%

Source: Author’s field work, 2019

Table 8 shows complications gathered from the patients’ questionnaire showed that poor health- seeking behaviour is significant in Nkwen health district.

**Ethnicity and health seeking behaviours among the various ethnic groups in Nkwen health district**

The 5 items scale were reduced to 3 items scale as disagree, neutral and agree in order to get the exact statement. Here it was found that different ethnic groups have different opinions on healthcare of diabetes mellitus.

**Table 5: Ethnicity and health seeking behaviours of DM patients among the various ethnic groups**

Items	Disagreed		Neutral		Agreed		Total	
	N	%	N	%	N	%	N	%
Diabetes is treated with Traditional medicine	82	36%	60	26%	88	38%	230	100%
Diabetes is treated in the hospital	16	7%	6	3%	208	90%	230	100%
Diabetes is treated through Self-treatment at home	60	26%	96	42%	74	32%	230	100%
Diabetes is treated through Spiritual treatment church.	42	18%	90	39%	98	43%	230	100%
Diabetes is treated with the use herbs	42	18%	60	26%	128	56%	230	100%
Traditional medicine is used when the first treatment fails.	98	43%	56	24%	76	33%	230	100%
Hospital is used when the first treatment.	24	10%	24	10%	182	79%	230	100%
Self-treatment is used when the first treatment fails	72	31%	86	37%	72	31%	230	100%
Spiritual treatment used when the first treatment fails.	52	23%	78	34%	100	43%	230	100%
Use herbs is used when the first treatment fails	52	23%	46	20%	132	57%	230	100%
<b>TOTAL</b>	<b>540</b>	<b>23%</b>	<b>602</b>	<b>26%</b>	<b>1158</b>	<b>50%</b>	<b>2300</b>	<b>100%</b>

Table 5 shows ethnicity and HSB of DM patients indicated as follows: 88 (38%) agreed, 60(26%) remain neutral and 82 (36%) disagreed to have used traditional medicine in the first actions of HSB with P = 0.001. They later took an option to visit the hospital where 208 (90%) agreed, 6 (3%) remain neutral and 60 (26%) disagreed to have visited the hospital P =0.001.

**ETHNICITY AND FIRST LINES OF HEALTH SEEKING BEHAVIOUR AMONG THE VARIOUS ETHNIC GROUPS IN NKWEN HEALTH DISTRICT**

The DM patients immediately visited the alternative method or conventional method of treatment as they realized he or she was sick. Thus table 15 shows agreement or disagreement on the treatment with traditional medicine.

**Table 6: Ethnicity and First Line of Health-Seeking Behaviour (Traditional medicine)**

Crosstab						
Diabetes is treated with Traditional medicine						
	Ethnic group		Disagreed	Neutral	Agreed	Total
	Bali	Count	4	4	8	16
		% within Ethnic group	25.00%	25.00%	50.00%	100.00%
		% of Total	1.70%	1.70%	3.50%	7.00%
		Standardized Residual	-0.7	-0.1	0.8	

Crosstab						
Diabetes is treated with Traditional medicine						
	Ethnic group		Disagreed	Neutral	Agreed	Total
Santa	Count		8	4	8	20
	% within Ethnic group		40.00%	20.00%	40.00%	100.00%
	% of Total		3.50%	1.70%	3.50%	8.70%
	Standardized Residual		0.3	-0.5	0.1	
Nkwen	Count		26	8	14	48
	% within Ethnic group		54.20%	16.70%	29.20%	100.00%
	% of Total		11.30%	3.50%	6.10%	20.90%
	Standardized Residual		2.1	-1.3	-1	
Kom	Count		0	2	14	16
	% within Ethnic group		0.00%	12.50%	87.50%	100.00%
	% of Total		0.00%	0.90%	6.10%	7.00%
	Standardized Residual		-2.4	-1.1	3.2	
Banso	Count		12	18	4	34
	% within Ethnic group		35.30%	52.90%	11.80%	100.00%
	% of Total		5.20%	7.80%	1.70%	14.80%
	Standardized Residual		0	3.1	-2.5	
Bafut	Count		10	2	14	26
	% within Ethnic group		38.50%	7.70%	53.80%	100.00%
	% of Total		4.30%	0.90%	6.10%	11.30%
	Standardized Residual		0.2	-1.8	1.3	
Babanki	Count		6	8	6	20
	% within Ethnic group		30.00%	40.00%	30.00%	100.00%
	% of Total		2.60%	3.50%	2.60%	8.70%
	Standardized Residual		-0.4	1.2	-0.6	
Ndu	Count		10	8	12	30
	% within Ethnic group		33.30%	26.70%	40.00%	100.00%
	% of Total		4.30%	3.50%	5.20%	13.00%
	Standardized Residual		-0.2	0.1	0.2	
Bamendankwe	Count		6	6	8	20
	% within Ethnic group		30.00%	30.00%	40.00%	100.00%
	% of Total		2.60%	2.60%	3.50%	8.70%
	Standardized Residual		-0.4	0.3	0.1	
Total	Count		82	60	88	230
	% within Ethnic group		35.70%	26.10%	38.30%	100.00%
	% of Total		35.70%	26.10%	38.30%	100.00%

Source: Author's fieldwork, 2019

Table 15 shows that 88 (38%) agreed, 60 (26.1%) remain neutral and 82 (35.7) disagreed to have used traditional medicine in the first line of action was significant with  $P = 0.01$ . Therefore, poor HSB was significant in Nkwen Health District among the DM patients from various ethnic groups.

**ETHNICITY AND SUBSEQUENT LINE OF HEALTH-SEEKING BEHAVIOURS AMONG THE VARIOUS ETHNIC GROUPS**

It was noticed that some patients visited the alternative methods of treatment then went to the hospital after they noticed that there was no improvement but other complications such as high blood pressure or eye problems.

**Table 7: Ethnic group and subsequent line of HSB (hospital)**

		Diabetes is treated in the hospital			
	Ethnic group	Disagreed	Neutral	Agreed	Total
Bali	Count	4	0	12	16
	% within Ethnic group	25.00%	0.00%	75.00%	100.00%
	% of Total	1.70%	0.00%	5.20%	7.00%
	Standardized Residual	2.7	-0.6	-0.6	
Santa	Count	0	0	20	20
	% within Ethnic group	0.00%	0.00%	100.00%	100.00%
	% of Total	0.00%	0.00%	8.70%	8.70%
	Standardized Residual	-1.2	-0.7	0.4	
Nkwen	Count	4	2	42	48
	% within Ethnic group	8.30%	4.20%	87.50%	100.00%
	% of Total	1.70%	0.90%	18.30%	20.90%
	Standardized Residual	0.4	0.7	-0.2	
Kom	Count	0	0	16	16
	% within Ethnic group	0.00%	0.00%	100.00%	100.00%
	% of Total	0.00%	0.00%	7.00%	7.00%
	Standardized Residual	-1.1	-0.6	0.4	
Banso	Count	4	2	28	34
	% within Ethnic group	11.80%	5.90%	82.40%	100.00%
	% of Total	1.70%	0.90%	12.20%	14.80%
	Standardized Residual	1.1	1.2	-0.5	
Bafut	Count	0	0	26	26
	% within Ethnic group	0.00%	0.00%	100.00%	100.00%
	% of Total	0.00%	0.00%	11.30%	11.30%
	Standardized Residual	-1.3	-0.8	0.5	
Babanki	Count	0	0	20	20
	% within Ethnic group	0.00%	0.00%	100.00%	100.00%
	% of Total	0.00%	0.00%	8.70%	8.70%
	Standardized Residual	-1.2	-0.7	0.4	
Ndu	Count	2	0	28	30
	% within Ethnic group	6.70%	0.00%	93.30%	100.00%
	% of Total	0.90%	0.00%	12.20%	13.00%
	Standardized Residual	-0.1	-0.9	0.2	
Bamendankwe	Count	2	2	16	20
	% within Ethnic group	10.00%	10.00%	80.00%	100.00%
	% of Total	0.90%	0.90%	7.00%	8.70%
	Standardized Residual	0.5	2	-0.5	
Total	Count	16	208	230	
	% within Ethnic group	7.00%	2.60%	90.40%	100.00%
	% of Total	7.00%	2.60%	90.40%	100.00%

Source: author's fieldwork, 2019

Table 16 shows subsequent line of health seeking where 208 (90.4%) agreed, 6 (2.6%) remain neutral and 16 (7%) disagreed used hospital after their first line of health seeking. this was statistically significant with  $P=0.01$

## FACTORS THAT INFLUENCE/DETER HEALTH-SEEKING BEHAVIOUR AMONG THE VARIOUS ETHNIC GROUPS

It was observed from the results that some factors influence health-seeking behaviours while others deter their health-seeking behaviours.

**Table 8: Factors that influence / deter health-seeking behaviour**

Factors that influence/ deter health seeking behaviour among diabetic patients								
	Disagreed		Neutral		Agreed		Total	
	N	%	N	%	N	%	N	Total
Family relatives influence the visit to hospital	26	11%	8	3%	196	85%	230	100%
Spiritual leader influences the visit to hospital	26	11%	76	33%	128	56%	230	100%
cultural belief about diabetes discourages the visit to hospital	98	43%	50	22%	82	36%	230	100%
Distance to hospital influence the visit to the hospital	78	34%	20	9%	132	57%	230	100%
Good treatment influences the visit to the hospital	6	3%	12	5%	212	92%	230	100%
Distance to hospital discourages the visit to the hospital	98	43%	14	6%	118	51%	230	100%
Cost of treatment discourages the visit to the hospital	28	12%	12	5%	190	83%	230	100%
Altitude of nurses discourages the visit to the hospital	92	40%	26	11%	112	49%	230	100%
Lack of support from relatives discourages the visit to the hospital	74	32%	20	9%	136	59%	230	100%
Reception and waiting time discourage the visit to the hospital	84	37%	20	9%	126	55%	230	100%
<b>TOTAL</b>	<b>610</b>	<b>27%</b>	<b>258</b>	<b>11%</b>	<b>1432</b>	<b>62%</b>	<b>2300</b>	<b>100%</b>

Source: Author's fieldwork, 2019

From table 19, family relatives  $P = 0.01$ , spiritual leaders and good treatment  $P = 0.06$  were influencing factors while cultural believes  $P = 0.001$ , distance to the hospital  $P = 0.001$ , attitude of nurses, cost of treatment; reception and waiting are deterring factors for HSB.

**Table 8: Presentation of corresponding chi square, degree of freedom and p-values from cross tabulation with row and column variables**

SN	ROW VARIABLES	COLUMN VARIABLES	X <sup>2</sup>	DF	P-VALUE	SIGNIFICANCE	
1	Gender						
	Male	First line of HSB	2.392	2	0.303	Not significant	
	Female	Second line of HSB	4.345	2	0.107	Not significant	
2	Ethnic groups	First line of HSB	48.884	16	0.0001**	Significant	
		Second line of HSB	25.905	16	0.001**	significant	
3	Age groups	First of HSB	18.300	8	0.016*	significant	
		Second line of HSB	5.115	8	0.698	Not significant	

SN	ROW VARIABLES	COLUMN VARIABLES	X <sup>2</sup>	DF	P-VALUE	SIGNIFICANCE
4	Family relatives	HSB	46.055	8	0.001**	significant
5	Distance to the hospital	HSB	25.466	8	0.001**	Significant
6	Good treatment	HSB	5.420	8	0.64	Not significant
7	Cultural belief	HSB	29.958	10	0.001**	Significant
8	Distance	HSB	60.095	10	0.001**	Significant
9	Factor that influence	HSB	15.171	229	0.001**	Significant
10	Factors that deter	HSB	7.043	229	0.001**	Significant
11	Role of health psychologist	HSB	41.264	229	0.001**	Significant

### Factors that influence HSB

From the investigations it is notice that family relatives or support group influence their HSB; p-value =0.001. This was seen where most the respondents were accompany by a family relatives or friend to the hospital due to some complications from DM. From the focus groups discussions some made it clear that when they felt seriously sick they were brought to the hospital by family relation and was diagnosed of DM which they did not know it was such an illness. Some said they were advised to go to the hospital for proper diagnosis and proper treatment since the traditional medicine taken did not yielded any result. Therefore social support influence good HSB.

### Distance and HSB

From the cross tabulations it is seen that the p-value =0.001 for distance to the hospital and HSB. This means that distance significantly influence the HSB among the different ethnic groups. This could be seen for the result of Babanki ethnic group where most of them (90%) respondent agreed that distance has an influence on their visit to the hospital and for the various ethnic groups its shows 57.4% that distance influence their HSB.

### Factors that deter Health-seeking behaviours

#### Cultural belief and HSB

It was noticed that from the cross tabulation between cultural belief and HSB p-value =0.0001. This means that cultural belief have a significant effect on HSB. This is seen from the result of the first line of HSB with P-value =0.001. From FGDs some respondents said, "I took herbs, garlic, bitter leave juice but still felt sick. But when encouraged by a relative to go to the hospital, I felt relief". Therefore cultural belief about DM symptoms deters immediate action to the hospital.

### FOCUS GROUP DISCUSSIONS

The focus group discussions were carried out with 6 members from each of the 9 ethnic groups observed at Nkwen health district hospital who came to either

consult or refill their drugs. The observations and data collected are presented per ethnic group and conclusion of HSB following DM among the different ethnic groups is discussed on prevalence, first line of health-seeking behaviours and second line of health-seeking behaviours and other treatment methods.

#### Nkwen:

The respondent admitted that DM is present among the Nkwen people as far back as early 19<sup>th</sup> century. They said, "it was called "sugar" and the illness was common among old age people of about 60 years and above". They attested that there was no difference between male and female. They recognized that, though this illness existed among some of them, their parents used herbs for treatment which they could not remember and do rarely use that again. According to them hospital has come to help them in the management of the disease with the drugs they collected from the hospitals. As one said, "many people died of the illness without knowing since they did not know the cause and attribute it to something else." This falls in line with the responses from the questionnaire where 26 (54%) disagreed on the use of traditional medicine, 8 (16.7%) remained neutral and 14 (29.2%) agreed on the use of traditional medicines. Most of them favour the use of health facilities which are now close to the population. Some said, "hospital has come to reduce the amount of death from diabetes since drugs are always available for treatment." They did not give much attachment to traditional treatment. All the respondents 100% recognized the importance of health psychologists, for treatment and management of DM.

#### Bali:

The respondents recognized the presence of DM with the community as the illness. Majority said, "the disease is known as too much sugar in the blood. It is common among old people from 50 years of age. "At first it was common to very old people especially men with urine dropping as some move on the way" as a respondent explained. They explained that "when it

appeared their parents used “Goh-mungwi” (widow’s leave), that is leaves from a common tree in the village were boiled and drank as tea. They believed that cost of treatment, distance to the hospital; served as hindrance to the visit to hospital. That was the reason why most of them embarked on traditional treatment before going to hospitals due to complications such as frequent urination, tiredness and visual problems. They recognized that health psychologists will be of great relieve to DM patients.

#### **Santa:**

They recognised the presence of DM which was known as “sugar” and common among old age for both males and females. They said, “frequent urination was common with the illness” One of them explained, “if the urine is visited by ants it signifies the urine is sweet”. That is sweet urine. To combat this, they usually eat garlic, onion or leaves of black jack (boiled). According to one respondent (2019) “I took all these plants and saw no change in my health situation so I moved immediately to the hospital for diagnosis. I was told I have Diabetes and High blood pressure and I was hospitalized for some days”. She added that: “though the cost of treatment was high she got better” They recognized the importance of health psychologists for the prevention, treatment and management of DM.

#### **Banso:**

They said, the community recognized the illness and called it “sugar I blood”. “I felt my mouth and throat was dry and I drank much water but it could not solve the problem. My eyes were red. I was told to drink boiled herbs like black jack and garlic by one grandpa in the village. This was done and I got relieve for a short period. When I felt such symptoms again, I rushed to the hospital and I was diagnosed of DM and high blood pressure” one respondent explained. They felt that the cost of treatment is high and usually make them to use both tradition and modern medicines for treatment. They recognized that the presence of health psychologists shall be of great importance in carrying out counseling services such as dieting and physical activities and psychological interventions.

#### **Bafut:**

They admitted that DM is common among people within the community. A respondent said, “we knew it was a rich man’s sickness but nowadays it affects everybody especially old people” Another respondent said, “It is believed that if you eat much food, you will have DM. The disease was common among old age people”. One said, “I took bitter leaves, “aloe vera” leaves for treatment. I was told to eat only things that are bitter” said one of the respondents. They

admitted that after using the herbs, it couldn’t help so they moved to the hospital for proper diagnosis. They told the researcher that hospital was the best choice. They recognized the role of health psychologists as very important for counseling the patients on disease prevention, treatment and management.

#### **Babanki:**

They recognized that the disease DM exist among the people of the community. They said, “such disease was common among old age people about 40 years and above and rarely seen in children.” They felt they have the disease due to dry mouth and frequent urination. They said, “We were told to eat garlic and ginger when we felt such signs”. One said, “I came to the hospital because I think after my first trial with traditional medicine which I thought could help me, I still remained sick.” According to the respondents, cost and distance are of hindrances for some people to visit the hospital, so some still embarked on traditional treatment. They recognized the importance of health psychologists in the hospital.

#### **Kom**

Some admitted that DM exists in their community. They said, “this disease is common among old age people and “fat” persons. They believed it is a rich man sick”. The symptoms for the disease are frequent urination and blur vision, dry mouth and throat. They usually take some herbs or leaves to remedy the situation. They felt the cost of treatment and drugs are high and discourage some people to continue using modern medicine. But they felt the hospital is good for proper management of DM. They recognized the importance of health psychologist.

#### **Bamendankwe:**

They recognized that DM is present within the community and they called “it sugar in blood. It is common among old age people. It is illness for the rich people”, said one respondent. “The symptoms are dry mouth and frequent urination.” They usually take bitter leaves juice. One said, “I took the juice which couldn’t help I moved to the hospital for better treatment.” They recognized the importance of the health psychologists in the hospital for DM treatment and management.

Summarily, from the socio-demography characteristics of respondents, the females (70%) were more than the males (30%) from the total of 230 respondents. This may have been probably because the population of females is more than that of males in Cameroon. It was also observed statistically that there was significant difference on gender and HSB for first and not significant for subsequent lines of HSB, with  $P=0.107$  and respectively  $p=0.303$ . This means that both male and female carried out HSB

depending on their social interactions within their ethnic groups or cultural systems. Most of the respondents were Christians except one Muslim by faith. The low prevalent of DM among the Muslims could be probably because of their nomadic lifestyle, since they are always on transit with their cattle or on horse backs. Therefore they have little sedentary life style. Therefore, they are void of risk factors.

The age group mostly affected was 40 years and above and the most significant age was 60 and above (56%). This means that the disease is that which comes with age and sedentary life style. This is probable since type 2 diabetes comes with age, especially 40 years and above as portrayed by the research. There was statistical significance in first line and no statistical significance in subsequent lines of HSB with  $P=0.016$  and  $P=0.698$  respectively. This is because most of the respondents were around the same age group of old people. That is, skewed.

Ethnicity and HSB showed that both first lines and subsequent line were statistically significant with  $P=0.0001$  and  $P=0.0001$  respectively. This means that though the patients recognized the importance of the hospital, the various ethnic groups still remain attached to their cultural believes that were handed to them ( $P=0.0001$ ). From the findings, the first lines of health-seeking behaviour among the various ethnic groups was poor while their subsequent line of health-seeking behaviour was good. That was the reason why most of the DM patients came to the hospital with complications like high blood pressure and eye problems.

It was also noticed that occupation and level of education influenced prevalence of Diabetes. Low level of education and farming portrayed higher prevalence than the rest of the occupations of the various respondents. This is probably because of low knowledge about the disease. It was the same story for low income respondents as they also lack knowledge on diet, lifestyle and management of the disease.

Family relatives of DM patients and distance to the hospital had a significant association with HSB,  $P=0.001$  and  $P=0.001$  respectively. Contrary to what could be expected, good treatment was not statistically significant,  $P=0.664$ . This was because when the patients came to the hospital, they were treated or given drugs but yet they still felt sick. This was because treatment was not whole. The physician concentrated on the biological issues and paid little interest on the psychological issues such as stress, anxiety and depression due to the disease.

Cultural believes and distances were deterring factors of HSB as different ethnic groups still believed on their cultural inheritance. The further the distance to the hospital, the less accessible it was to the DM patients and thus portrayed a poor HSB. This was because poor accessibility entailed increased cost of treatment, which affected their HSB.

The roles of the health psychologists were recognized significant by the patients,  $P=0.001$ . This is because health psychologists are involved in carrying out holistic treatments of the patient in the hospital which were absent in PMI Nkwen Health District hospital.

## DISCUSIONS

### Ethnicity and health-seeking among the various ethnic groups

First line and subsequent line of HSB among the various ethnic groups

The results showed that the first line of HSB and subsequent line for gender showed P-values,  $P=0.306$  and  $P=0.107$  respectively. Considering the various ethnic groups, first line of HSB with traditional medicine was statistically significant  $p=0.001$  and subsequent line of HSB in hospital  $P=0.001$ . Therefore the ethnic groups still paid importance on their cultural belief about the illness. The DM patients first visited the traditional medicine before the switched to modern medicine. This was in line with Baral and Sapkota (2018) on HSB among the elderly in Chitwant District, Nepal This because lots of complications such eye problems, foot problems and stroke some developed. This was testified during focus group discussion (FGD) with the various ethnic groups where a respondent said, *I was rushed to the hospital unconsciously and could not see far.*

Considering age and HSB, there was statistical significance of first lines of seeking, traditional medicine and not statistical significant for subsequent lines of seeking hospital,  $p=0.016$  and  $P=0.698$  respectively. This was because the age group for DM (type 2) was skewed, that is old age of 40 and above.

This research work falls in line with Vaga (2004) in Tanzania where the patients first stayed at home tried traditional medicine or some painkillers and found not fruitful and subsequent treatment was in the hospital for proper diagnosis.

The finding showed that the various ethnic groups sought health care from both traditional and modern medicine,  $P=0.0001$  (Baral and Sapkota, 2018)

It is consistent with the work of Fortunate and Katerina (2016), who revealed that patients sought

health care from professionals or hospital before switched to traditional healers or vice versa.

The research is also in consistent with the finding of Rojina, Baral, Pramila and Sapkota (2018) who revealed that ethnicity has significant association on HSB,  $P=0.007$

### Factors that influence health-seeking behavior among the various ethnic groups

The findings showed that the following factors influenced or deterred HSB: Family relations  $P=0.04$ , distance to hospital  $P = 0.001$ , good treatment  $P=0.001$ , cost of treatment  $P=0.001$ , cultural beliefs  $P=0.009$ . This research work falls in line with the work of Bharf and Khma (2017) in their findings which showed that among the elderly, gender, socio economic status and level of income significantly associated with HSB. Also Baban and Juanita (2004) identify some leading causes of poor utilization of primary health care services such as poor socio economic status, lack of accessibility and cultural beliefs which were still line with the present study. This means that culture influenced significantly HSB. This was because of their social interaction within their cultural groups.

### CONCLUSION

It was determined from the research that there was prevalence of DM among the various ethnic groups and the females was most affected. The age group most affected was 60 and above. The diabetes mellitus was type 2 which came as the result of old age. The ethnic group mostly affected was Nkwen.

The study revealed that HSB was statistically significant among the different ethnic groups for first line and subsequent line of HSB in Nkwen Health District signifying a poor health- seeking behaviour. Therefore, poor health-seeking behaviour among the various ethnic groups was statistically significant. This was seen from the switch from alternative medicine to modern medicine. This behaviour brought in complications such as high blood which was common among the DM patients. It was noticed that more than 50% of respondents were of age groups 60 and above which signified prevalence of type 2 diabetes. There was no association between female and male in HSB among the various ethnic groups.

The research revealed that ethnicity has an association with HSB. And the health psychologists have moderate association on treatment of DM patients in the Nkwen primary health care service. It was observed that lack of knowledge on DM by most of the patients led to the poor health-seeking behaviour. This is because most of the patients fell

among those with low level of education who were farmers. Therefore they need to be targeted during policy formulation to improve health-seeking behaviour.

It was recommended that the state should ensure constant availability of drugs such as “metformin” at affordable rates to meet the needs of the various ethnic groups at subsidize prices. The hospital should improve on the opening and waiting time for the out patients in order to avoid anxiety. Therefore the Director of the hospital should ensure that the staff are punctual. Also, attitudes of the provider at the diabetic clinic should be warm and receptive so as to motivate the patients. Therefore, ethnics on patient care need to be revised to the staff of the hospital. Data should be collected on prevalence of DM among the various ethnic groups. The data on prevalence of DM will ensure proper sensitization and disease prevention in order to avoid complications such as hypertension and eye problems within the health district. This can be done in the various cultural group meetings, radio talks and morning devotion meetings with patients. In addition, the health district should include DM as one of the vital signs for all adults from 30 years and above during consultation. This will reduce the percentage of undiagnosed persons living with diabetes. There should be an aggressive sensitization for physical activities, dietary and against alcohol consumption and smoking in the health district. It was suggested that an investigation on HSB following DM among various ethnic groups could be carried out in different health districts among the various ethnic groups to better appreciate the prevalence of DM, ethnicity and factors that influence HSB and the role of health psychologists on DM patients. Post-traumatic stress disorder (PTSD) as a consequence on prevalence of DM in the population Nkwen health district could also be carried out.

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