Factors Influencing the Practice of Self-Medication among Traders of Techiman Central Market

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Abstract: Medicines play an integral part of the health system; they are not only needed to save lives and promote health, but also in preventing disease and other disasters like outbreaks. Medicines are one of the greatest weapons of humankind to fight against disease. The study sought to access the factors influencing the practice of self-medication among traders at Techiman Central Market. This study utilized a cross-sectional study design. Stratified and simple random sampling methods were used to select 403 respondents for the study. Data collected were analyzed using SPSS, version 23. Descriptive statistical analysis was carried out to obtain summary tables and graphs containing the demographic characteristics of the study participants. Odds ratios, reported with their 95% confidence intervals (C.Is) with the level of statistical significance set at p<0.05 for all tests. Pearson's chi-square test and multivariate logistic regression were used to examine associations at a 5% significance level. The study found that the prevalence of self-medication was 92.6%. Most of the respondents (69.2%) used herbal medicine because it is effective. There was significant association between time spent at the hospital, busy schedule, distance and the practice of self-medication among the traders (p-value=0.000). The study concludes that if challenges facing traders as mentioned above were addressed self-medication would be minimized among traders at Techiman Central Market.

1. INTRODUCTION

Economic, political, and cultural factors have contributed to the ongoing rise in self-medication across the world, and the practice is now posing a serious public health risk (Loyola Filho, Lima-Costa, & Uchôa, 2014). However, there is a difference in the prevalence of self-medication practices between developing and developed countries due to variations in cultural and socioeconomic factors, differences in health care systems such as compensation rules, access to health care, and medication dispensing policies, and differences in these factors' effects on these countries' socioeconomic and cultural environments (Osemene, & Lamikanra, 2012).

The International Pharmaceutical Federation (2015) defines self-medication (SM) as the self-administration of a medication in the absence of a

current prescription and/or without consulting a healthcare professional. The World Health Organization (WHO) defines self-medication as what people do on their own to maintain their health, prevent and treat illness (WHO, 2020). Self-medication (SM), sometimes including prescription or over-the-counter drugs like antibiotics, is widespread in impoverished nations and to some extent in industrialized nations (Shaghaghi, Asadi, & Allahverdipour, 2014).

In economically disadvantaged countries, most events of illness are treated by self-medication, imposing much public and professional concern about the irrational use of medicines (Gelayee, 2017). It has been noted that, a relatively higher percentage of medicines are being dispensed without a medical prescription or proper monitoring. Additionally, the prevalence of self-medication with herbal medicines has increased across the globe with about 65–80% of the world's population who use some form of herbal medicinal products (John, & Shantakumari, 2015; WHO, 2019; Ekor, 2014).

Consequently, self-medication is becoming a noticeable option of health care services. For instance according to a study by Kayalvizhi and Senapathi (2010) self-medication can facilitate access to medicine and reduce healthcare costs and waiting time. However, there are major problems associated with self-medication practice such as wastage of resources, increased resistances of pathogens and serious health risks like adverse drug reactions and prolonged suffering, which outweighs the benefits it, is noted to provide (Darshana, 2014).

Herbal medicines are substances one can eat or drink and may be vitamins, minerals, or herbs or parts of these substances. They can be defined as 'plants or plant parts used for their scent, flavor, or therapeutic properties' (Darshana, 2014). Herbal medicines are distinct from drugs wherein they are exempted from needing to meet premarketing safety and efficacy standards required for conventional drugs to adhere to (Gelayee, 2017).

The use of herbal medicines has increased remarkably throughout the world, with many people now using these products for the treatment of many health problems in health care practice across different countries (Ghasemyani et al., 2022). People report using herbal medicine to meet a variety of health care needs, including disease prevention and to cure chronic illnesses such as dyslipidemia, hypertension, diabetes, cancer, and inflammatory bowel diseases (Ghasemyani et al., 2022).

The usage of herbal medicines in the world varies depending on location and the prevalence has increased recently. In the Arab world, similar rates have been found. About 80% of the population in Arab societies relies on herbal medicines for the prevention and treatment of illness (Ghasemyani et al., 2022). For instance, in Egypt, 37% of the population reported using herbal medicines (Gelayee, 2017), while, in Saudi Arabia, a higher proportion of the population (73%) have used herbal medicines (Osemene, & Lamikanra, 2012). In Jordan, herbal medicine has maintained popularity because of historical, cultural, and psychosocial factors (Gelayee, 2017). The most common reasons for using traditional herbal medicine are that it is inexpensive, more closely corresponds with the patient's beliefs, avoids concerns about the adverse effects of chemical (synthetic) medicines, satisfies a need for more personalised health care, and allows for a greater public approach to health information (Osemene, & Lamikanra, 2012). It is hypothesised that as the use of herbal medicine increases among Jordanian adult populations so too do the occurrence of adverse effects and herbal drug interactions. Knowledge of the predictors of herbal use may help health care providers to identify patients at high risk who would be candidates for receiving additional guidance on the safe use of herbal medicines (Gelayee, 2017). Such could further provide pathways for facilitating positive social changes by developing stricter governmental policies to ensure consumer safety and promote high quality products and by driving the

development of public awareness interventions about herbal use and related health risks.

Self-medication has expanded recently due to the accessibility of medications and the population's growing awareness of medical sciences, which has created a difficult problem for the healthcare system. For instance, a systematic review and meta-analysis research found that 67% of people worldwide had used self-medication at least once. Europe (Eastern) has the highest incidence rate of self-medication (74%) among the continents (Ghasemyani et al., 2022). In the context of Africa, a current published study presents that, 50% of the African population in one way or the other engage in self-medication (Ghasemyani et al., 2022). Similarly, according to a study conducted in Slovenia, 94.9% of the 410 subjects evaluated experienced self-medication (Klemenc-Ketiš, & Kersnik, 2011). Another research on 500 people in Bangladesh showed that self-medication had a 100% incidence rate among the respondents (Alam, Saffoon, & Uddin, 2015).

In Ghana, among traders in the Central Business district in Accra, the prevalence of antibiotic self-medication has been reported by one study to be 66.7% (Ofori, Akowuah, Babatunde, Amankwa, & Baiden, 2021). Additionally, among the significant four health seeking behaviors among immigrant retail traders in an urban setting in North-Western Ghana, self-medication was inclusive. Respondents indicated that, they self-medicated because of easy accessibility of over-the-counter medicine shops. Some also consulted family members who would be in a position to take them home when their ailment worsens (Yendaw, & Tampah-Naah, 2021). Adding on, among a sample 350 adult (18years and above) residents of Abokobi in the Greater Accra region, an overall prevalence of self-medication with antibiotics was 36% (Kretchy, Adase, & Gyansa-Lutterodt, 2021).

An increase in antimicrobial resistance is one of the awful concerns of the irrational use of antibiotics. According to a recent study by Murray et al. (2022),

on the basis of predictive statistical models, there were an estimated 4.95 million deaths associated with bacterial AMR in 2019, including 1.27 million deaths attributable to bacterial AMR. At the regional level, it was estimated that the all-age death rate attributable to resistance is highest in western sub-Saharan Africa, at 27.3 deaths per 100 000 people.

Increase in resistance to any drug due to its inappropriate usage is the cause of life-threatening infections, prolonged admission in the hospital, increased cost of health care and a restricted spectrum of antibiotics, which can be used in treatment hence increasing morbidity and mortality. Currently, there is no scientific data available capturing self-medication among traders in Techiman municipality of Ghana. This knowledge gab could however be a threat to stakeholders in ensuring high health facility attendance and increased in treatment success rate among inhabitants of Techiman municipality. As a practicing physician assistant in the Ghana health service, I noticed the practice of self-medication is no different among clients who appear before me during consultation at various health institutions I have worked and is currently working with. I therefore found it (self-medication) to be problematic in the Techiman municipality hence the need to conduct this survey to empirically prove derived notions attained with regards to it and how best I can help to reduce or eradicate it from our health care practices in the municipality since there is no scientific data available to that.

2. MATERIAL AND METHODS

Background of the Study Area

The Techiman Municipal is one of the 261 Metropolitans, Municipals and Districts (MMDAs) in Ghana, and forms part of the 11 of Municipalities and Districts in the Bono East Region. Its capital is Techiman. The Municipality is situated in the central part of the Bono East Region and lies between longitudes 10 49` to the east, 20 30` to the west, latitude to the 80 00` north and 70 35` to the south. The Municipal Assembly was established by

Legislative Instrument (L.I) 1996 and has a land surface area of 639 sq. km. It shares common boundaries with four districts namely, Techiman North District, and Nkronza South Municipalities in the Bono East region, Wenchi in the Bono Region and Offinso North District in the Ashanti Region. The population of the Municipality according to the 2021 Population and Housing Census is 243,335 citizens representing 0.77% of Ghana's total population. Among the population, 118,699 are males representing 48.78% and 124,636 are females representing 51.22% (GSS, 2021).

In terms of health facilities, there are 55 health facilities within the municipality of which 40 of these facilities are government owned, 11 are private owned, and 4 are CHAG owned (DHIMS 2). Skilled agricultural forestry and fishery workers dominate in the municipality accounting for 36.3percent of occupation followed closely by Service and sales workers (28.2%). Craft and related trades workers ranks third with13.9 percent of the occupations. Professional, Plant and machine operators and assemblers and those involved in elementary occupations take up about 7.2% each of the occupational stature of the municipal (GSS, 2021).

Figure 2: Map of Techiman municipality
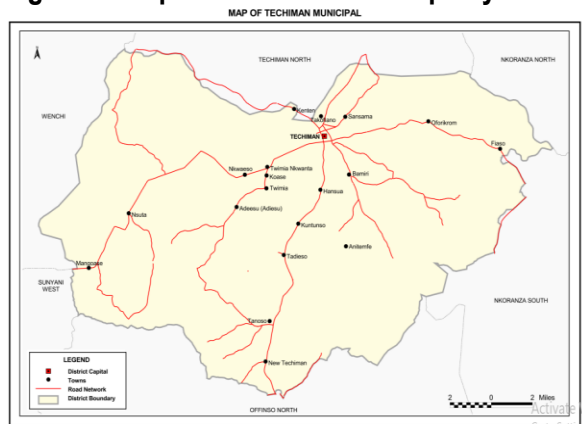
Source: GSS, 2021

Study Design and Type

This study employed cross sectional survey design, using quantitative data collection and analysis methods. Cross-sectional studies provide a 'snapshot' of the outcome and the characteristics associated with it, at a specific point in time (Levin, 2006). Because this study aimed at identifying factors influencing self-medication, a cross-sectional study design was appropriate as the design enabled data to be collected on individual characteristics at the time of the study alongside information about the outcome, and association between individual characteristics and the outcome of interest.

Study Population
This study was done among traders in the Techiman municipality who had stayed not less than one year in the municipality and aged 18 years and above.

During the data collection, traders who came in from different district to trade in Techiman central market were included in the study. Additionally, traders who had stayed within Techiman municipality less than a year were not included in the study. All traders (sellers) who had stayed within Techiman municipality more than a year were included in the study. Traders of all categories of goods were sampled.

Sample size calculation
The sample size of a study is a section of the population that is drawn to make inference or projections to the general population. The sample size for this study was calculated using the Cochran's (1977) formula:

Sampling method
Stratified and simple random sampling techniques were used. The level of responses from each Leasable Commercial Space (Counter Stores, Food Counts and restaurants) was established using a stratified sampling procedure. The number of respondents from each stratum was proportionately calculated based on the required sample size (403) using the formula: A/B * C, where A' was the total number of traders in each leasable commercial space, B' was the total number of traders in the three (3) selected each leasable commercial space, and C' was the sample size determined. As

demonstrated in Table 3.3 below, the approach was used for all strata. After collecting lists from the Techiman Metropolitan Assembly, the sampling frame was built by listing all of the traders. The respondents from each stratum were chosen using the lottery method. This was accomplished by writing the element's allocated numbers on slips of paper. The papers were folded and shuffled in a bowl and thereafter, the papers were selected at random using a non-replacement technique until the sample size of 403 was reached.

Data Collection Tool and Technique

A well-structured questionnaire comprising of both close ended and open ended questions were used to collect data from the study respondents. The questionnaire was designed in English language, but the questions were asked and explained in both English and the local dialects (i.e. *Bonu* and *Twi).* This was to ensure better understanding for respondents who have challenges with speaking the English language. Four trained data collectors together with the researcher collected the data. The overall aim of the study was explained vividly to the data collectors during the training session. The questionnaires were pretested at the Sunyani central market with respondents of the same characteristics to evaluate the validity of the data collection tool.

Data Analysis

Data from the field were edited, and checked for completeness by the researcher before data entry was done. Data were entered into Statistical Package for Social Sciences (SPSS) software version 23 for analysis. Results were displayed in tables and graphs according to the study variables. Bivariate analysis was done to test for association using Pearson's correlation coefficient. P-value of less than 0.05 (i.e. $p < 0.05$) was set as the significance level for the analysis.

Logistic regression model was applied to variables, which were significant at the bivariate analysis level to find out the strength of the association. Both simple and multiple logistic regression analysis were performed in order to get the crude and adjusted odd ratios respectively. The strength of the association for each independent variable was based on the odd ratios and the 95% confidence interval, while holding other factors constant. However, only the variables found to be significant for multiple logistics (adjusted odds ratios) were discussed in the study.

3. RESULTS

Table1 Age Brackets of Respondents

Variables	Frequency	Percentage (%)
Years:		
18-30	168	41.7
31-50	175	43.4
51-60	36	8.9
Above 61	24	6.0
Total	**403**	**100.0**

The table above *(1.)* indicates the age brackets of respondents. 168 of the respondents were within the ages of 18 years to 30years. This represents 41.7% of the total targeted population of 403. In addition, 175 of respondents were within the ages of 31years to 50years and they represent 43.4% of the total population.

8.9% of the total population numbering 36 respondents was also within the ages of 51years to 60years whilst only 24 respondents representing 6% of the total population were 61 years and above.

Table 2. Marital Status of Respondents

Variables	Frequency	Percentage (%)
Married	224	55.6
Single	112	27.8
Widows	67	16.6
Total	**403**	**100**

The table above **(2)** also indicates the marital position of respondents to the survey. 224 of respondents, which represent 55.6% of the total population, were married. 112 of respondents representing 27.8% of the total population were single whiles 67 respondents with the rate of 16.6% of the total population were widows.

Table 2. Educational Background of Respondents

Variables	Frequency	Percentage (%)
Primary	129	32
J.H.S/Middle school	176	43.7
Tertiary	74	18.4
None	24	6
Total	**403**	**100**

The table above **(1)** represents the summary of the level of education of respondents during the survey. From the table, 129 respondents among the total population had primary education. This represents 32% of the total population. 176 of the respondents had completed J.H.S/Middle school education and they represent 43.7%. 18.4% of the total population, which numbers 74 respondents level of education, was up to Tertiary. Whiles only 24 of respondents who also represented 6% had no formal education.

Table 3. Trade (Types of Goods Sold by Respondents)

Variables	Frequency	Percentage (%)
Non-perishable goods	337	83.6
Perishable goods	14	3.5
Cloths and dresses	24	6
Shoes	19	4.7
Agro chemicals	9	2.2
Total	**403**	**100**

The table **(3.)** shows the type of goods sold by the respondents. More than half of the respondents totaling 337 (83.6%) were into the sales of non-perishable goods. 14 respondents were trading in perishable goods representing 3.5% of respondents. 24 among the total respondents were into the sales of cloths and dresses

and the also represent 6% of the total population. 4.7% in a number of 19 of total respondents were also trading in shoes. Whiles only 9 respondents representing 2.2% were into the sales of Agro chemicals.

Table 4. Insurance Status (NHIS status of respondents)

| Variables	Frequency	Percentage (%)
Insured	366	90.8
Non insured	37	9.2
Total	**403**	**100**

As the table above **(4)** indicates, the research revealed that majority of respondents had registered to patronize the national health insurance scheme. Their number was 366 out of the total population of 403 and this represents 90.8% of the total rate. Meanwhile 37 (9.2%) of respondents had no or invalid status under the health insurance scheme.

Table 5. Respondents Period of Residency in the Municipality

Variables (Period)	Frequency	Percentage (%)
Less than 2 years	66	16.4
More than 2 years	337	83.4
Total	**403**	**100**

Table 5. Above shows, the number of years of which respondents have resided in the Techiman municipality at the time of this survey. It indicates that only 66 (16.4%) of respondents have resided in the municipality in less than 2years while the majority in total of 337 representing 83.4% said they have resided in the municipality for 2 or more years.

Figure 1: Whether Respondents Have Taken Un-Prescribed Medication Before
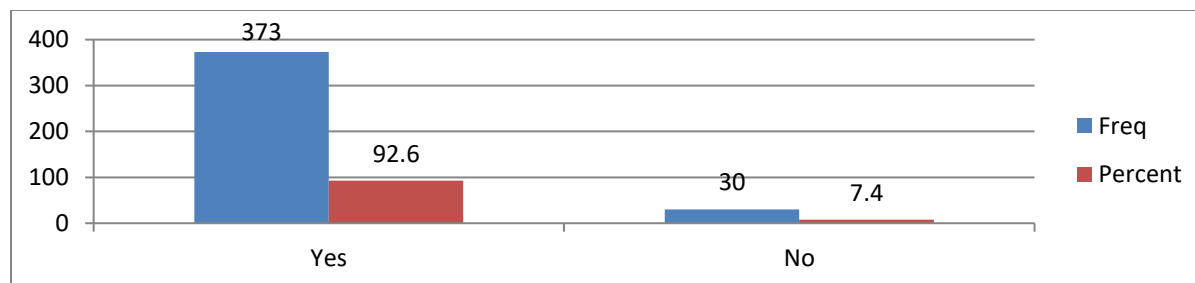
The figure **1** above shows the result of respondents in relation to whether they have taken any medication without it been prescribed by an authorized health practitioner before. The responds of 373 respondents representing 92.6% of total population was in the affirmative whiles 30 (7.4%) responded that no; they do not take any medication unless it is prescribed by doctor or an authorized health personnel.

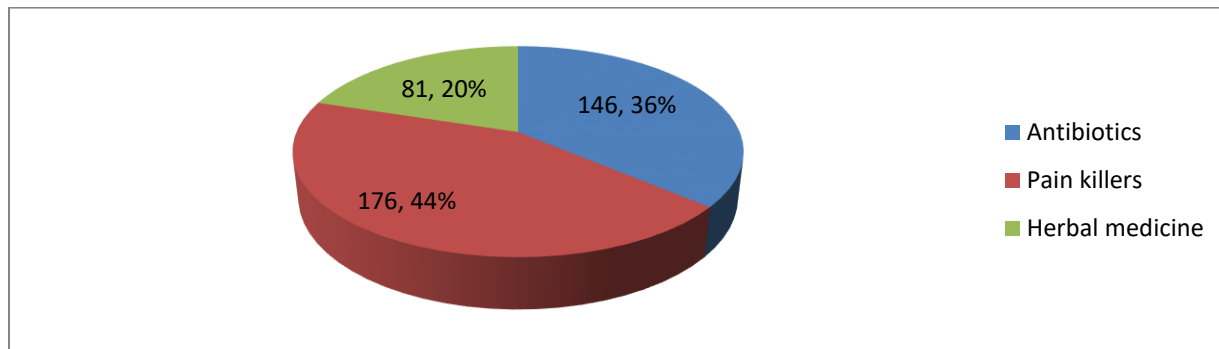**Figure 2: Types drug usually taken by Respondents during Self-medication**

Figure 2 shows the type of medicines that are usually taken by respondents .the chat above indicates that 176 of respondents representing 47% usually take painkillers. 146 (39%) usually take antibiotics whiles 81 (20%) said they usually take herbal medicine to cure their ailments.

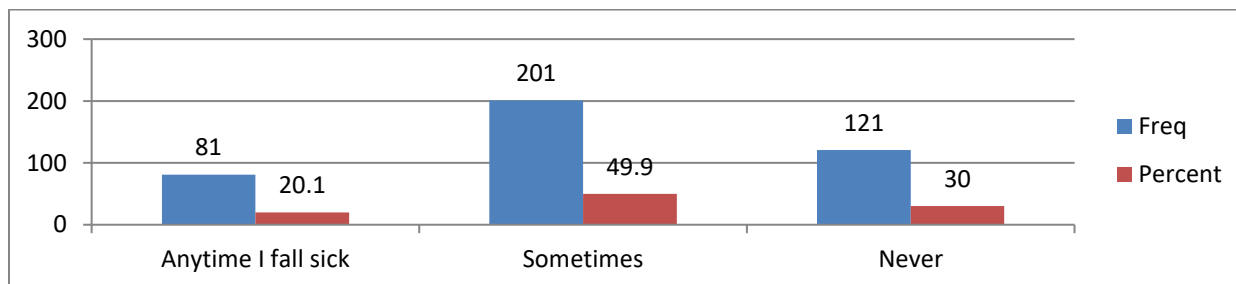**Figure 3: *How Often Respondents take Herbal Medicine***

Figure 3 depicts how often respondents took herbal medicine. 81respondents out of the total population representing only 20.1% said they took herbal medicine any time they fell sick. 201(49.9%) said they sometimes take herbal medicine when they fall sick whiles 121 of respondents said they do not opt for herbal medicine at all when they fall sick. This section of respondents represents 30% of the total population of 403.

Figure 4: Whether Herbal Medicine is more effective than Orthodox Medicines.
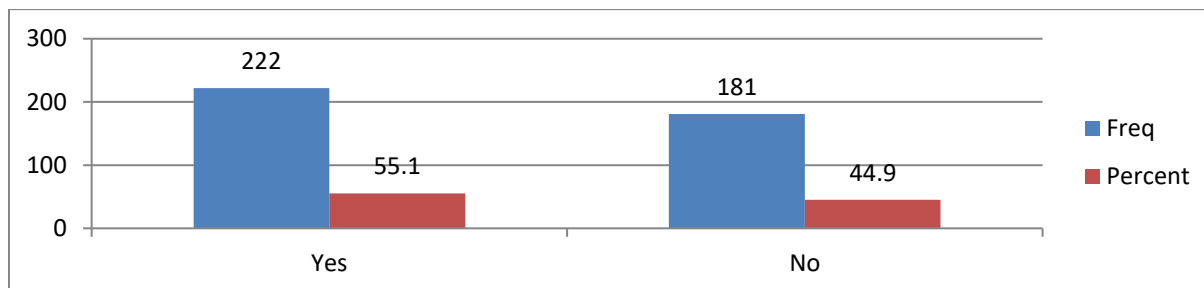
Source: Author's fieldwork, 2022

Figure 4 presents respondents opinions on the effectiveness of herbal medicines and orthodox medicines. Majority of the respondents 222 (55.1%) said yes; in that they believe orthodox medicines are more effective to herbal medicine while 181 (44.9%) said no herbal medicines are more effective to orthodox form of medications.

Table 6: Factors Influencing Self-Medication

Variables	Responds to factors that influence self-medication		Total	χ(p-value)
	Yes	**No**		
	F (%)	**F (%)**		
I self-medicate because I spend long hours at the hospital				
Yes	238(59.1)	-	238(59.1)	22.471(*0.000*)
No	-	165(40.9)	165(40.9)	
Total	**238(59.1)**	**165(40.9)**	**403(100.0)**	
If yes, how long do you spend				
Less than 1 hour	83(34.9)	-	83(34.9)	
1-2 hours	26(10.9)	-	26(10.9)	93.905(*0.000*)
3-4 hours	109(45.8)	-	109(45.8)	
More than 4 hours	20(8.4)	-	20(8.4)	
Total	**238(100)**	-	**238(100)**	
I self-medicate due to my busy schedule at work				
Yes	203(50.4)	-	165(50.4)	
No	-	200(49.6)	238(49.6)	46.753(*0.000*)*
Total	**203(50.4)**	**200(49.6)**	**403(100.0)**	
I self-medicate because of the distance to the hospital				
Yes	224(55.6)	-	224(55.6)	
No	-	179(44.4)	179(44.4)	40.561(*0.000*)*
Total	**224(55.6)**	**179(44.4)**	**403(100.0)**	
I self-medicate because of high cost of consultation at hospital				
Yes				

No	267(66.3)	-	267(66.3)	11.568(*0.000*)*
Total	-	136(33.7)	136(33.7)	
	267(66.3)	**136(33.7)**	**403(100.0)**	

I self-medicate because I have used it before and it cured me				
Yes	238(59.1)	-	238(59.1)	
No	-	165(40.9)	165(40.9)	22.471(*0.000*)
Total	**238(59.1)**	**165(40.9)**	**403(100.0)**	

It was a recommendation from a trusted relative/friend				
Yes	269(66.7)	-	269(66.7)	
No	-	134(33.3)	134(33.3)	14.406(*0.000*)
Total	**269(66.7)**	**134(33.3)**	**403(100.0)**	

Table 6. Shows the bivariate analysis of the factors that influence self-medication. All the variables proved statistically significant as the factors that could influence self-medication. From the table above one may come to the notice that majority of respondents accepted that all the variables as indicated are factors that influence them to self-medicate. Considering the bivariate analysis of the variables that were reposed to respondents, an average rate of **59.5%** of respondents accepted that, all the variables influence their decision to self-medication. Meanwhile only **40.5%** as an average rate of respondents disagreed and said the variables do not influence them to self-medicate.

Table 7: Multivariate Analysis of Factors that Influence Self-Medication

Variables	Responds to factors that influence self-medication		AOR (95% CI)	χ(p-value)
	Yes **f(%)**	**No** **f(%)**		
I self-medicate because I spend long hours at the hospital				
Yes	238(59.1)	30(7.4)	1.633(0.43-1.44)	84.589(*0.000*)
No	135(33.5)	0(0.0)	0.824(0.34-1.55)	

If yes, how long do you spend				
Less than 1 hour	83(34.9)	18(4.4)	0.230(0.25-1.35)	
1-2 hours	26(10.9)	12(2.9)	0.910(0.5-1.32)	412.942(*0.000*)
3-4 hours	109(45.8)	0(0.0)	0.734(0.21-1.46)	
More than 4 hours	20(8.4)	0(0.0)	3.866(1.8-7.9)	
I self-medicate due to my busy schedule at work				
Yes	203(50.4)	30(7.4)	0.334(0.33-1.46)	
No	170(42.2)	0(0.0)	0.334(0.61-1.48)	18.753(*0.002*)*
I self-medicate because of the distance to the hospital				
Yes	224(55.6)	30(7.4)	0.433(0.25-1.55)	
No	149(37)	0(0.0)	3.054(1.6-5.57)	67.551(*0.000*)*
I self-medicate because of high cost of consultation at hospital				
Yes	267(66.3)	30(7.4)	0.435(0.54-1.56)	10.564(*0.001*)*
No	106(26.3)	0(0.0)	0.624(0.24-1.53)	
I self-medicate because I have used it before and cured me				
Yes	238(59.1)	30(7.4)	0.722(0.81-1.73)	
No	135(33.5)	0(0.0)	0.853(0.52-1.82)	198.471(*0.000*)
It was a recommendation by a relative/friend				
Yes	269(66.8)	30(7.4)	0.834(0.54-1.97)	
No	104(25.8)	0(0.0)	2.036(1.7-5.32)	5.406(*0.024*)

Table 7 presents the multivariate analysis of factors influencing self-medication among traders. Time spent at the hospital was significant with adjusted odds ratio (1.633) for those who said yes while 0.824 for those who said no. *(P-value= 0.000)*. Number of hours spent at the hospital was also significant with (*p-*

value=0.000) and AOR =0.230. Likewise, busy schedule of the traders made them to self-medicate which was significant (*p-value= 0.002*) and (AOR = 0.334) as detailed in table 7.

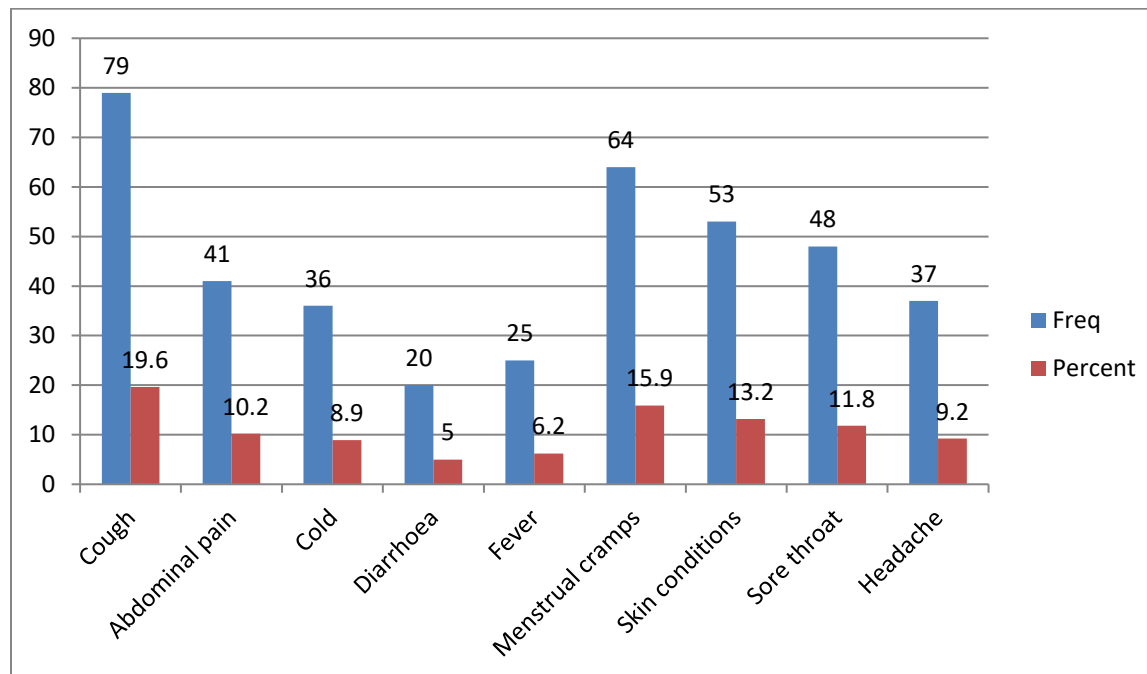**Figure 5: Conditions Treated by Self-Medication**

Figure 5 depicts some ailments that respondents admit they usually treat by self-medication. From the chat above, cough was the top most condition of which respondents treated by self-medication. 79 respondents admitted to this and they form 19.6% of the total population. 41(10.2%) of respondents also said they treat abdominal pain by self-medication. Cold is also one of the conditions they mentioned they treat by self – medication. This represents 8.9% of total population. Diarrhea, fever, menstrual cramps and skin conditions were also mentioned as being treated by self- medication. They represent 5%, 6.2%, 15.9% and 13.2% respectively of the total population. 48(11.8%) and 37(9.2%) of respondents also said sore throat and headache are some conditions they treat by self-medication.

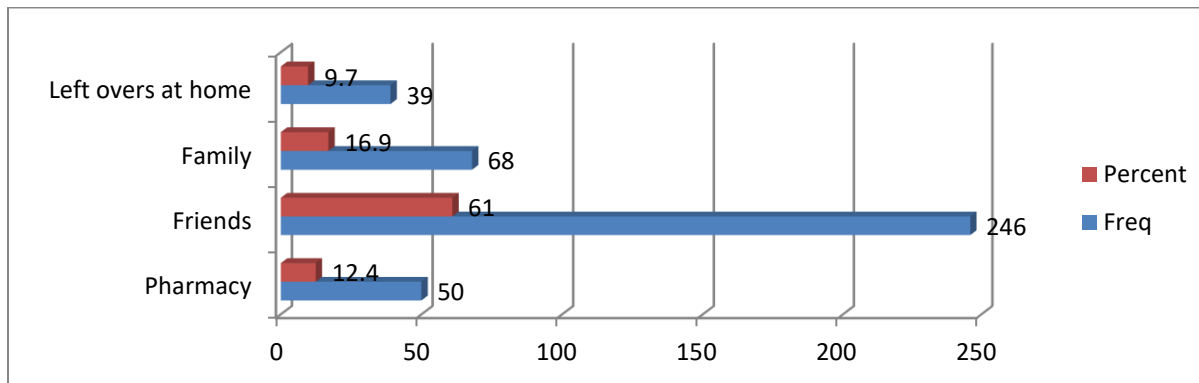*Table 6: Where do you obtain the Drugs?*

Figure 6 shows where the respondents obtained their medications. 246 respondents representing 61% said they obtain drugs that are usually self-taken from friends. 68(16.9%) of respondents also said they obtain drugs from family members whiles 39(9.7%) and 50(12.4%) of respondents also said they obtain drugs that are self-taken from left overs at home and pharmacy shops respectively.
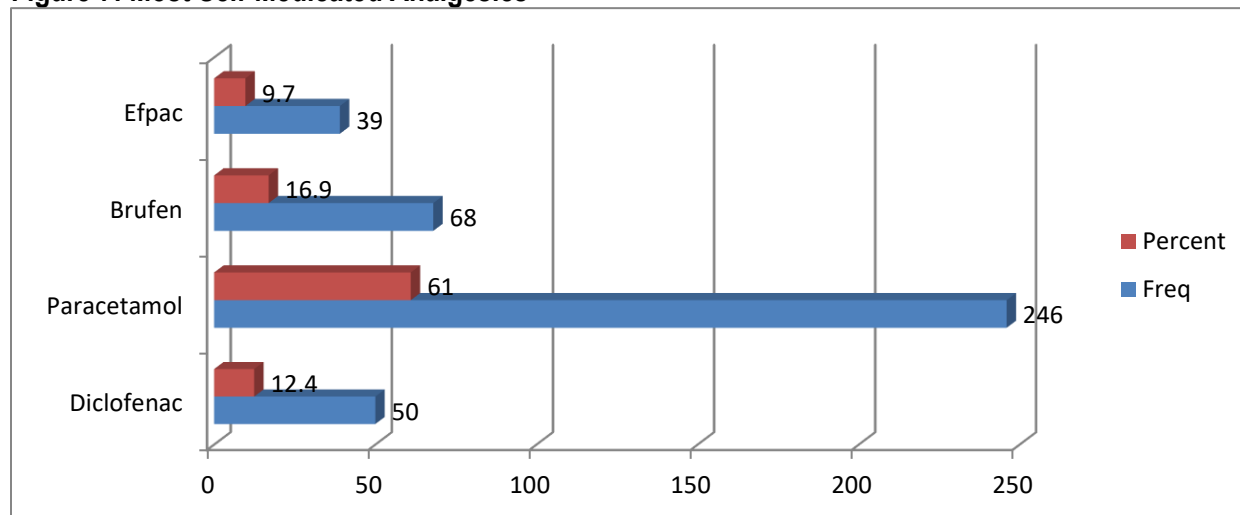
Figure 7: Most Self-Medicated Analgesics

Figure 7 shows some analgesics that are self-medicated by respondents. From the figure above majority of the respondents 246(61%) said they take Paracetamol as painkiller to cure their ailments. 68(16.9%) also adhere to Ibuprofen as self – medication. 50(12.4%) of respondents also said they usually take Diclofenac whiles 39(9.7%) of respondents said they usually take Efpac as self-medication.
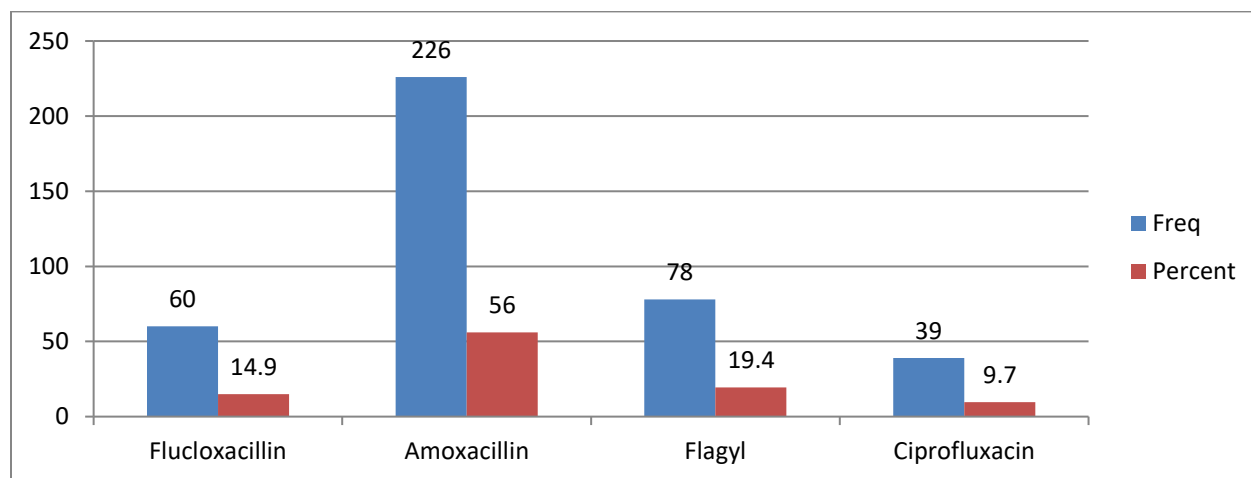
Figure 8: Most Self-Medicated Antibiotics

Figure 8 shows some antibiotics that are self-medicated by respondents. From the figure above majority of the respondents 226(56%) said they take Amoxicillin as an antibiotic to cure their ailments. 78(19.4%) also said they adhere to flagyl as self – medication. 60(14.9%) of respondents also said they usually take Flucloxacillin whiles 39(9.7%) of respondents said they usually take Ciprofloxacin as self-medication.

4. DISCUSSION

Proportion of self-medication among traders in Techiman central market

An overwhelming majority of the respondents had practiced self-medication before whilst few of the respondents reiterated that they had not practiced self-medication before giving a prevalence rate of 92.6% among the traders. This prevalence rate is an indication that self-medication is indeed a problematic situation in the Techiman municipality. The high prevalence of self-medication in this study is in line with several studies including Arikpo et al. 2010; Jain et al. 2011; Abasiubong et al. 2012). Rahman et al. (2008) which disclosed that nearly 80% of the people globally depend on the use of alternative medicines as the foundation of wellbeing.

Again, self-medication has been stated to be a common wellbeing character in many coutries including Zambia, Nigeria and other countries in Asia continent like India and Vietnam (Afolabi, 2008; Banda et al., 2007; Fakeye, Adisa, & Musa, 2009; Malan & Neuba, 2011; Okumura, Wakai, & Umenai, 2002; Rahman et al., 2008; Yusuff & Omarusehe, 2011). The similarities in the prevalence rates of self-medications in these developing countries could be due to inter-cultural marriages, globalization and oneness in socio-cultural practices. In African communities, people cherish social relationship hence friends and relatives more often than not give their left over medications to their ill friend or relative as well as directing patients to treatment. They assume that is effective without considering the signs and symptoms that are attached to them. Again, the increase prevalence of self-medication across developing countries could also arise due to poverty and difficulty to assess health care delivery because of the cost that comes with it.

It was also revealed in this study that most people do not attend hospital when sick. Their first point of contact has always been the chemical shops. This is supported by a study conducted by Van Den Boom et al (2008) which states that one out of two Ghanaian patients will practice self-medication first before visiting health facility and they only visit the health facility when there are complications or the condition becomes severe and may have no option than to go to the hospital for treatment.

Self-medication remains a general public health problem across the globe with variations among countries. However, it is higher in developing countries than the developed. According to available literature the overall global prevalence of self -medication is 67%. Among the continents, Eastern part of Europe had the highest (74%) incidence rate of self-medication (Ghasemyani et al., 2022). Same study reported that, in Africa, about 50% of all persons in Africa have at least practiced self-medication before. Almost 50% of college students in the northwestern part of Nigeria had taken antibiotics without prescription (Ajibola et al., 2018). Similar studies done among students in China showed a prevalence of 65%, with more than 75% of them using more than 2 antibiotics (Zhu et al., 2015). According to Ngu et al. (2018), as much as 41.9% of OPD patients who go to the hospital with respiratory tract infection symptoms in Cameroon, had taken a drug by self before they reporte their symptoms. A community study in Tanzania revealed that 58.3% of respondents were involved in this practice of self-medication (Kumburu et al., 2018).

The is again in support of a study conducted in Kumasi in the Ashanti region, which reported that close to one third of patients have ever taken one type of antibiotic without prescription before reporting to the laboratory for microbiologic investigations (Donkor, Dontoh and Owusu-Ofori, 2019). Additionally, in the Cape Coast metropolis of Ghana, 71.5% of individuals had purchased antibiotics without seeking advice from a doctor or pharmacist (Tagoe & Attah, 2012). Research done by Donkor et al (2012) a university student in Ghana showed a prevalence of 70% non-prescription usage of drugs.

The factors associated with self-medication among Traders in Techiman Central Market

Self-medication is global phenomenon, which needs to be tackled to prevent indiscriminate use of drugs. Several factors are identified as the cause of self-medication by numerous authors, however this study revealed the following causes; long waiting time, busy schedule of work, long distance to health facilities among others. Patients in Ghana day in day out complain of long waiting time at the various health facilities especially after the introduction of the National Health Insurance Scheme. Few health facilities have been established to meet the growing demand of the population because those existing ones have limited resources to reduce the waiting time of patients. This findings correlate with Afolabi, 2008; Donkor et al., 2012; Figueiras et al., (2000). Their studies revealed that self-medication in developing countries may be because of a variation of factors comprising long distance and time spent in seeking professional care in hospitals. It is also in line with Van den Boom et al. (2008), examining self-medication in Ghana. They contended that health care access is unfair and oriented towards health care provision in the urban areas to the disadvantage of the rural communities. The uneven distribution of health facilities in the country prolong the waiting time for patients hence they end up buying their own drugs for treatment. Every person needs greater control over matters regarding to their wellbeing and that is why individuals are progressively resorting to self-medication rather than to undergo the inconveniences that are commonly associated with attending the hospital to see a professional health care provider.

Distance is also a factor that cannot be exempted from reasons why citizens resort to self-medication. In Cameroun and Tanzania for example, the distance to health facilities accounted for 13% of the reasons why respondents had involved themselves in the practice of self-medication (Ebongue et al., 2019; Kumburu et al., 2018). Additionally, a community study done in Nigeria discovered that 36% of those who engage themselves in self-medication do so because of the distance it takes for them to reach the health care providers (Ajibola et al., 2018).

Cost of consultation was also noted in this study. Cost of health care of late has generated talking point among the vulnerable groups in the society (Jain et al, 2011). The way and manner health care workers talk to their patients in the course of treatment, education on condition, their reactions in case where a patient goes astray and their general attitude leaves much to desired. This poor attitude from some of the health care workers coupled with high cost of health care might be a reason of patients taking alternative means of health care like traditional medicines.

Commonly known health care related factors that urge people to self-medicate includes time spent at the hospital, costs, distance and staff attitude. For example, students who were found to practice self-medication reported the long waiting times and the delays at hospitals and clinics as reasons why they prefer to self-medicate (Donkor et al., 2012; Zhu et al., 2015). In Nigeria, 36% of the respondents in the Northwestern, part of the country who had self-medicated reported that they spend much time when they visited the hospitals and this was the outstanding reason among all others for taking drugs when they have not been prescribed (Ajibola et al., 2018). In a study done in Cairo, about 11% of the people who had self-medicated also reported that they had gets frustrated and angry after spending so much time in the hospital before eventually gets to see a health provider (Elmasry et al., 2013). Additionally, nearly one fifths of respondents in Saudi Arabia reported that they did not have the luxury of time to spend away from their places of work (Alghadeer et al., 2018).

Moreover on the health care related factors, financial constraints accounted for more than half (57.7%) of the reason for self-medication according to results from a study by Elmasry et al. (2013). According to Awad and Aboud (2015), the motive that just walking into the pharmacy to purchase drugs, especially when they have a prior experience

with them provides a more pocket friendly alternative to persons, living in LMICs compared to going to the hospital where one will have to pay for consultation fees, laboratory fees before finally paying for the drug.

Proportion of traders in the Techiman Central Market who self-medicate with herbal Drugs
Herbal medication also plays a major role in the self-medication phenomenon. Most patients rely on herbs for treatment with the view that herbs are natural and cure diseases forever and more effective unlike the orthodox medicines. This supports a study by Abasiubong et al (2012) which showed that patients have the perception that herbal medicine comes from the gods and that they prefer to treat themselves with herbs to seeking normal medical care from the hospitals. Similar findings were seen in studies conducted in Canada and Italy, which revealed some pregnant women, liked herbal products because they argued that herbal preparations were safer than the orthodox medications (Tabatabaee, 2011). In addition, herbal medicines are relatively cheaper compared to other conventional medical treatments found in the various countries including the developed ones (Fakeye et al, 2009). This supports the current study where respondents stated that the cost of seeking care at the hospitals was expensive hence the practice of self-medication by using herbal medicines in order to reduce cost and time wasting at the health facilities.

Over the years, the utilization of herbal products for the management of diseases is gaining root in many countries. The findings are in sharp contrast with a study done among adults in the Unites States, more than one-third of respondents reported using herbal supplements. Factors, which were found to be associated with herbal supplement use, included ages more than 70, having a higher educational level, using prescription medications or over-the-counter (OTC) medications, and using a mail-order pharmacy. Approximately thirty-eight percent of those who used herbals used prescription medications as well. The most frequent conditions

associated with herbal supplement according to (Rashrash, Schommer, & Brown, 2017) stroke, cancer and arthritis.

In addition, a community survey done in Saudi Arabia, majority of the respondents (94 %) used herbal medicines for therapeutic purposes with most of the respondents using them based on traditional beliefs or family recommendations. However, the most reported reasons for the use of herbal medicine are the belief that they are safer, more effective and cheaper to buy than the standard medicines (Alkhamaiseh, & Aljofan, 2020). In Ghana, a survey found that the use of traditional medicines alongside conventional medicines was pervasive with prevalence rate of 86.1% (Gyasi, Siaw, & Mensah, 2015). Additionally, according to Gyasi (2015), results from his study indicate that traditional medicine (TRM) use was high among the Ghanaian population with prevalence of over 86%. The study found no statistically significant association between national health insurance status and TRM utilization.

Diseases usually treated through self-medication and the commonly used drugs among traders
Majority of the respondents knew painkillers and knew the use of the painkillers which most of them stated that painkillers are used to treat pains; inflammations and helps control elevated body temperature. The conditions mostly treated with painkillers headache followed by body pain, joint pain, back pain and menstrual pain. Painkillers used to treat those conditions may be because the conditions were considered minor which needed no professional care. This assumption may be wrong because the conditions mentioned could be symptoms of an underlying disease, which might be serious. Patients did not see the need to waste time at the hospital with these minor conditions when they could treat with available painkillers.

On the other hand, respondent used antibiotics to treat cough, skin infection, urinary tract infections, cold/ catarrh, ear infection, diarrhea and burns. Similar to painkillers, the accessibility and easy

prescription influence the use of the antibiotics. For a patient to choose an antibiotic to treat infection without knowing the actual causative organism for that infection could lead to antibiotic resistance. The result of this study corroborate with that of Gaurav and Bhatta (2018) establishing the common diseases that antibiotics and painkillers are used to treat to include cold, sore throat, fever, gastrointestinal tract diseases and respiratory diseases. Reasons behind this could be prior knowledge of treating a similar illness, ignorance regarding the severity of the sickness, low cost and influence from others members in the community.

Comparison finding was seen in Zenawi et al (2019) listing headache, fever, common cold, pain and chills as major conditions for which people tend to use antibiotics and painkillers for self-medication. The findings of self-medication are comparable and may suggest why the prevalence rate for self-medication seems to be the same in most countries. The health care processes especially in the low-income countries are similar with parallel patients. To this end factors that influence self-medication in one country is likely to also influence self-medication in other countries. The availability of both painkillers and antibiotics cost of health care coupled with long waiting time and poor attitude of health workers made respondents engaged in self-medications two days of vomiting, diarrhea, fever, toothache, frequent urination, vaginal/penile infection etc rather than visiting the hospital for specialized care. This attitude of self-medication might be the cause of increase morbidity and mortality rates in our health facilities because patients usually go to hospitals when their conditions deteriorate making health professionals unable to salvage the situation.

The mostly used analgesic for self-medication was Paracetamol and others including Diclofenac, Ibuprofen, Tramadol, Cafalgin, Efpac, Panadol and Ladynax. On the other hand, the most common antibiotic used for self-medication was Amoxacillin and others like Flucloxacillin Flagyl, Ciprofluxacin, Cefuroxime and Tetracycline.

Across diverse regions and among diverse beliefs of the world, different variations of medicines are self-medicated and sometimes misused. Some drugs are common as self-medicated drugs. Antibiotic and analgesic abuse is quite common worldwide which supports the findings of Okumura et al. (2002). One may ask, how do people get some of these controlled analgesics and antibiotics for self-medication? Almost all the antibiotics and some painkillers are to be sold on prescription yet the proliferation of small chemical shops all over the communities conceal these drugs and sell to the general public for consumption.

The types of antibiotics used for self-medication in this study correlate with Bhatta et al, (2018) where they also identified the following antibiotics for self-medication; penicillin mostly amoxicillin, followed by macrolides, fluoroquinolones, cephalosporins and metronidazole. Among them macrolides azithromycin use was the most common followed by erythromycin and among the fluoroquinolones, ciprofloxacin was the most common. However, these behaviors have been scientifically proven to ultimately influence the microorganism to grow resistance to the antibiotics thereby making them unproductive.

In addition to antibiotics, other studies have found that some of the most commonly self-medicated medicines are those drugs for the management of cough and colds, flu, allergies, and throat infections. These drugs are analgesics like paracetamol, cough syrups, vitamins, and steroids (Segall, 1990; Figueiras et al. 2000; Shanker et al. 2002; Okumura et al. 2002; Jain et al. 2011). Maximum side effects of antibiotics are not severe. Usual side effects include soft stools, diarrhoea, or mild stomach upset such as feeling sick. Rarely, some persons have a hypersensitive effect to an antibiotic and some have perished from a serious allergic reaction.

5. CONCLUSION

The prevalence of self- medication use among the traders at the Techiman Central Market was proportionally higher. Predictors of herbal

medicines use included the effectiveness of the medicine. Given the high prevalence of self-medication including herbs, an attention needs to be given to the role of herbal medicine to health policy formulation. Clinical trials should be conducted to assess the effect of concurrent use of herbal medicine and orthodox medicine on patient outcomes. Patients' characteristics have an important bearing on the use of herbal medicine and maybe an important entry point for discussions on matters of herbal medicine usage. Herbal medicine has the potential to meet health coverage needs in rural communities subject to thorough evaluation. The most common diseases treated with analgesics were headache, body pain, joint pain, back pain, menstrual pain and toothache. In the same vain, the usual conditions treated with antibiotics were cough, skin infection, urinary tract infection, ear infection, cold/catarrh, diarrhea and burns respectively. The specific analgesic used for self-medication was Paracetamol. In the case of antibiotics, Amoxicillin was wildly used for self-medication.

Since most traders were busy and stayed far away from the health facilities, they engaged in self-medication. Long waiting time, busy schedule, distance to hospital, cost of health care, experience in self-medication and recommendation from friends and relatives were discovered in the study to have a significant relationship with the practice of self-medication. The study concludes that if challenges facing traders as mentioned above were addressed self-medication would be minimized among traders.

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