THE CONCEPT AND PRACTICE OF SELF-MEDICATION AMONG PREGNANT WOMEN IN THE JASIKAN DISTRICT OF GHANA

ABSTRACT

Introduction: Reducing maternal mortality is a key to achieving sustainable development. However, self-medication is one of several health-seeking behaviours that threaten the life of pregnant women and undermine the achievement of improved maternal health.

Aim: This research aimed at exploring the phenomenon of self-medication and its effects on pregnant women in the Jasikan District in the Oti Region of Ghana.

Methodology: The study employed a cross-sectional survey approach to collect data from 50 randomly selected pregnant women in the Jasikan District in the Oti Region of Ghana. Data were analysed using SPSS and presented using quantitative metrics.

Results: The research found out that self-medication was high among respondents thus 68% of the study respondents were found already engaged in self-medication. Even though almost half of the respondents (46%) remained informed of the effects on the mother and the foetus. Severity of disease condition, age, marital status, women getting pregnant many times, level of education, occupation, were some of the main factors informing the practice of self-medication among respondents. The research also found that lower abdominal pain, malaria, headaches, stomach problems, colds and flu, and sexual transmited infections were the most commonly self-medicated treated disease conditions, often treated with herbal drugs, analgesics, antibiotics, and antacids.a.

Conclusion: A significant number of pregnant women still involved in self-medication despite its adverse effects on the health of the mother and the child and inspite of the various efforts government. The researchers recommend that government intervention programmes should target family members and relatives, together with a mobile health delivery system for pregnant women, community engagement, community sensitisation, effective healthcare provider relationship, frequent health education.

Key words: self-medication, herbal drugs, disease conditions, pregnant women, community engagement

Comment [Editor1]: Typo eror

Comment [Editor2]: Mising word-grammar

Comment [Editor3]: Missing word.

Comment [Editor4]: Indicate in a few words the government efforts to link the findings to the first sentence under the "conclusion". Also link this first sentnence to the role of releatives.

Formatted: Highlight

INTRODUCTION

Self-medication among pregnant women is defined as the use of drugs by pregnant women to treat self-diagnosed disorders and symptoms, or the intermittent or continued use of a prescribed drug for chronic or recurrent disease or symptoms (Donkor et al., 2012). As a phenomenon, self-medication is when people use to resolve usually perceived minor health challenges without the prescribtion of a qualified medical professional (Afolabi, 2008; Figueiras, Caamaño, & Gestal-Otero, 2000).

Self-medication among pregnant women is a global problem, common in developed, developing, and underdeveloped countries. In the 1990s, it was estimated that between 70% and 90% of all illness episodes were handled by some form of self-treatment before they came to the attention of health professionals (Segall, 1990). Afolabi (2008) estimated that in the United Kingdom, approximately 50% of all drug administration among people occured as some form of self-medication. Self-medication has also been reported as a dominant health-seeking behaviour among people in Spain (Figueiras et al., 2000). The preceding information implies that as a health-seeking behaviour, self-medication is not limited to a particular group of people but rather transcends race, age, occupational status, gender, culture, and other such categorisations (Afolabi, 2008).

Comment [Editor5]: Consider quoting receny literature in these two paragraphs.

This notwithstanding, self-medication has been argued to be prevalent among people living in areas with a high incidence of malaria (Akanbi, Odaibo, Afolabi, & Ademowo, 2005). Self-medication with particular medications such as anti-infectious agents has appeared to be very common in the developing countries, except for a couple of developed nations (Donkor et al., 2012). Figueiras et al. (2000) in a study of socio-demographic factors associated with self-medication in Spain also associated self-medication with women, people living in large cities, and people who live alone.

The prevalence of self-medication among pregnant women is informed by a variety of factors that may differ from country to country. On the whole, however, self-medication among pregnant women in more developed countries may be a result of the increasing de-regulation of previously restricted drugs. This is because a wide variety of drugs are now available over the counter for the treatment of a variety of health conditions (Blenkinsopp & Bradley, 1996). On the other hand, self-medication among pregnant women in developing countries may be a result of a variety of factors including the higher cost involved in seeking professional care in hospitals; poverty; long waiting time in hospitals; cultural beliefs in the efficacy of other traditional methods; as well as poor regulation and easy availability of drugs outside formal and regulated environments (Afolabi, 2008; Donkor et al., 2012; Figueiras et al., 2000; Oluwakemi et al, 2016).

In most illness episodes, self-medication is the first option which makes it a common practice worldwide. Responsible self- medication which requires a certain level of knowledge and health orientation has some advantages. Self-medication is thought to reduce the load on the medical services, decrease the time spent in waiting to see the physician and save cost especially in economically deprived countries with limited health resources. However, responsible self- medication is not free of risk and this can increase the burden of out-of-pocket expenses since it may result in adverse health effects that require medical intervention (Adama, 2017). Anecdotal evidence is suggestive of a surge in self-medication among pregnant women in the Jasikan District in the Oti Region of Ghana (Ghana News Agency, 2015). However, research in resource deprived districts of Ghana on self-medication among pregnant women is limited. Studies have not looked at the concept of self-medication from the perspective of pregnant women. This study therefore investigated the practice of self-medication among pregnant women in the Jasikan District of the Oti Region, Ghana. Also the study investigated the factors influencing self-medication practice among pregnant women and the incidence of associated complications or adverse effects.

METHODOLOGY

Research Design: Considering the nature of the research problem and the purpose of this study, a quantitative descriptive with cross-sectional survey design was used to study the concept and practice of self-medication on pregnant women. Creswell (2009) recommends a cross-sectional survey design to be used for this kind of research because it provide a quick and easy data gathering methods regardless of the limited time for the study.

Study Population: The target population was made up of twenty-three (23) pregnant women from the Bodada Community, seventeen (17) pregnant women from the Teteman community, nine (9) pregnant women from the Awoma community and eight (8) pregnant women from the Amenyo-Yaw community. All these four (4) communities mentioned are located in the Jasikan District in the southern part of Oti Region in Ghana. From above, it can be observed that the total number of pregnant women ideally to be used in the study is fifty-seven (57).

Sampling and Sample size: Health facilities in the Jasikan District namely: Bodada health centre, Teteman CHPS, and Awoma health centre were purposively selected for inclusion in the study. Fifty (50) out of the fifty-seven (57) pregnant women agreed to take part of the study when approached.

Inclusion and Exclusion Criteria: Pregnant women considered in the study included pregnant women who consented to participate in the study, pregnant women above 15 years, attending antenatal care, visited the facilities within the data collection period, and pregnant women who were not in labour or with obstetric emergency. Pregnant women in Jasikan District who were below 15 years and those who refused to consent to participate in the study were excluded from the study.

Data Collection tools and analysis: Structured questionnaires were used as the main data collection instrument in collecting data. Questionnaires were developed in English Language and administered in the local dialects of the people of Jasikan. Consent of the respondents as well as other ethical considerations of the University of Education and Jasikan district assembly were strictly adhered to. The data collected were entered into into SPSS version 20. Descriptive statistics were used to analyse the data. The results were presented as tables and charts. The interpretation and analysis of the data collected were made from the tables and charts.

RESULTS

Socio-Demographic Characteristics of Respondents

Respondents from the ages of 13 to 19, 20 to 29, 30 to 39, and 40 to 49 constituted 46%, 24%, 22%, and 8% respectively indicating that majority of the respondents were teenagers with the minority being adults. This also indicated why most of the respondents were students (30% of the respondents) and unemployed (38% of the respondents) and hence their lower economic status which probably compelled them to use herbal medications in the Jasikan District. Their responses to the religion they were affiliated to showed that all of them were affiliated to one religion or the other thus, the majority of the respondents (50%) were Christians, while 40% were in the Islamic religion with the least being Traditionalists constituting 10% of the total respondents. The result of the study also shows that the majority (38%) of the respondents had completed basic school, while the minority (4%) did not go to school. The summary of the demographic characteristics of the respondents is depicted in **Table 1**

Comment [Editor6]: The target population should claelry indicate the following:
1.What makes up this group of pregenant to be the target population e.g. when were they accessed ,time of booking? Return contacts?2.Why are they so few from the respective facilities?
2.Why are they so few and yet the studyis quantitative in nature?
3.The rationale for this target population.

Comment [Editor7]: How did the reaserchers reach the number of 57 pregnant women?

Comment [Editor8]: Above 15 years of age can be 151/2 .The researchers should indicate the age of consent as determined or defined by authorities.

Formatted: Highlight

Comment [Editor9]: Use of " main" may also indicate/suggest that there were other data collection tools that were used.

Formatted: Highlight

Table 1: Demographic information of respondents (N=50)

Background information of respondents	**Frequency(n)**	**Percentages (%)**	**Valid percentage (%)**	**Cumulative percentage** (%)
Ages of respondents				
13-19	23	46.0	46.0	46.0
20-29	12	24.0	24.0	70.0
30-39	11	22.0	22.0	92.0
40-49	4	8.0	8.0	100.0
Total	**50**	**100.0**	**100.0**	100.0
Religion of respondents				
Christian	25	50.0	50.0	50.0
Muslim	20	40.0	40.0	90.0
Traditionalist	5	10.0	10.0	100.0
Total	**50**	**100.0**	**100.0**	100.0
Education of respondents				
Tertiary	6	12.0	12.0	12.0
Secondary	11	22.0	22.0	34.0
JHS	12	24.0	24.0	58.0
Basic	19	38.0	38.0	96.0
No education	2	4.0	4.0	100.0
Total	**50**	**100.0**	**100.0**	100.0
Marital status				
Married	34	68.0	68.0	68.0
Single	16	32.0	32.0	100.0
Total	50	100.0	100.0	100.0
Occupations of respondents				
Student	15	30.0	30.0	30.0
Self-employment	9	18.0	18.0	48.0
Paid employment	7	14.0	14.0	62.0

Unemployed	19	38.0	38.0	100.0
Total	50	100.0	100.0	100.0
Ages of pregnancy				
First trimester	9	18.0	18.0	18.0
Second trimester	18	36.0	36.0	54.0
Third trimester	23	46.0	46.0	100.0
Total	50	100.0	100.0	100.0
Residence				
Rented apartment	17	34.0	34.0	34.0
Owned apartment	9	18.0	18.0	52.0
Living with parents	24	48.0	48.0	100.0
Total	50	100.0	100.0	100.0
Parity of respondents				
None	7.0	14.0	14.0	14.0
One	3.0	6.0	6.0	20.0
Two	7.0	14.0	14.0	34.0
Three	10.0	20.0	20.0	54.0
Four	9.0	18.0	18.0	73.0
Five+	14.0	28.0	28.0	100.0
Total	50.0	100.0	100.0	100.0

Source: Field Survey, 2021.

Understanding of the Concept of Self-Medication among Pregnant Women in the Jasikan District (N=50).

Five categories of the Likert scale; strongly agree, agree, disagree, strongly disagree and no idea with values 1, 2,3,4,5 respectively were provided. However, respondents checked against four categories. Only (strongly agree, agree, disagree, and strongly disagree) hence as shown in **Table 2**. The study showed that the majority (58%) of the respondents strongly agreed to the fact that buying and using over- the- counter medicines is self-medication with the minority (6%) of the respondents strongly disagreeing that buying and using over the counter medicines is self-medication. Meanwhile, 28% of the respondents agreed to the fact that buying and using over-the-counter medicines is self-medication and 8% of the respondents disagreed that buying and using over-the-counter medicines is self-medication. This implies that respondents had an adequate understanding of the concept and practice of self-medication.

Comment [Editor10]: Remove this from all the results including Tables because the sourse are the study/research results.

Formatted: Highlight

Formatted: Highlight

Again, the majority 50% of the respondents agreed that buying and using medicines that are being advertised is self-medication whilst a minority (12%) of the respondents strongly disagreed that buying and using medicines that are being advertised is self-medication. 20% of the respondents strongly agreed that buying and using medicines that are being advertised is self-medication and 18% of the respondents disagreed that buying and using medicines that are being advertised is self-medication. This also implies that respondents had some level of understanding of the concept and practice of self-medication.

Moreover, 38% of the respondents strongly disagreed that buying and using medicines upon the advice of a relative or friend who has used them before is self-medication with 26% of the respondents disagreeing that buying and using medicines upon the advice of a relative or friend who has used it before is self-medication. 22% of the respondents strongly agreed that buying and using medicines upon the advice of a relative or friend who has used them before is self-medication and 14% of the respondents agreed that buying and using medicines upon the advice of a relative or friend who has used it before is self-medication.

The majority (44%) of the respondents also strongly disagreed that taking leftover medicines given to you at a hospital when the same symptoms pop up is self-medication with the minority (6%) of the respondents disagreeing that taking leftover medicines given to you at a hospital when the same symptoms pop up is self-medication. Meanwhile, 38% of the respondents strongly agreed that taking leftover medicines given to you at a hospital when the same symptoms pop up is self-medication and 12% of the respondents agreed that taking leftover medicines given to you at a hospital when the same symptoms pop up is self-medication.

Finally, the majority (48%) of the respondents agreed that taking herbal medicines someone recommended to you is self-medication with the minority (6%) of the respondents disagreeing that taking herbal medicines someone recommended to you is self-medication. However, 46% of the respondents strongly agreed that taking herbal medicines someone recommended to you is self-medication.

Table 2: Concept and Practice of self-medication among pregnant women in the Jasikan District (N=50).

ITEMS		Frequency (n) and percentage (%)					
		STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE	NO IDEA	TOTAL
1.	Buying and using over-the- counter medicines is self-medication	29 (58.0)	14 (28.0)	4 (8.0)	3 (6.0)		50 (100)
2.	Buying and using medicines that are being advertised is self-medication.	10 (20.0)	25 (50.0)	9 (18.0)	6 (12.0)	-	50 (100.0)
3.	Buying and using medicines upon the advice of a relative or friend who has used it	11(22.0)	7 (14.0)	13 (26.0)	19 (38.0)	-	50 (100.0)

	before is self-medication						
4.	Taking left over medicines given to you at a hospital when the same symptoms pop up is self-medication	19 (38.0)	6 (12.0)	3 (6.0)	22 (44.0)	-	50 (100.0)
5.	Taking herbal medicines someone recommended to you is self-medication.	23 (46.0)	24 (48.0)	3 (6.0)	0 (0.0)	-	50

Source: Field Survey, 2021.

Comment [Editor11]: Comment as above.

***Pregnant Women Who Practise Self-Medication in the District* (N=50).**

The result of the study showed that, of the 50 respondents sampled for the study, the majority of the respondents (68%) indicated that they had ever self-medicated during pregnancy while 32% said they have not self-medicated during pregnancy. Also, the highest representing 44.1% of the respondents self-medicated during their third trimester, whereas the least number of the respondents representing 26.5% self-medicated during the first trimester. Moreover, 29.4% of the respondents self-medicated during the second trimester. **Table 3** shows the summary of respondents' responses on the practice of self-medication during pregnancy.

Table 3: Self-medication among pregnant women in the district (N=50).

Responses	Frequency (n)	Valid percentage (%)	Cumulative percentage (%)
Have you ever taken any drug which has not been given to you at the healthcare centre or prescribed by a medical officer?			
Yes	34	68.0	68.0
No	16	32.0	100.0
Don't Know	0	0.0	0.0
Stage of pregnancy pregnant at which pregnant women self-medicated (N=34)			
First trimester	10	29.4	29.4
Second trimester	9	26.5	55.9
Third Trimester	15	44.1	100.0

Source: Field Survey, 2021.

Disease Conditions Treated Through Self-Medication by Pregnant Women (N=34).

The result of the study revealed that majority (35.3%) of the respondents self-medicated because of lower abdominal pain, whereas the least number of respondents representing 2.9% self-medicated because of other conditions. However, 23.5% of the respondents self-medicated due to malaria. 17.6% of the respondents self-medicated because of headaches. 8.8% of the respondents self-medicated because of

stomach problems. Furthermore, 5.9% of the respondents self-medicated because of cold and flu. 5.9% of the respondents self-medicated due to sexually transmitted diseases. Thus, the greater number of respondents, self-medicated to relieve pain. This implies that most pregnant women self-medicate due to pain conditions. **Table 4** shows the detail of respondents' responses on diseases conditions treated through self-medication.

Table 4: Disease conditions treated through self-medication by pregnant women in the Jasikan District (N=34)

Disease conditions	Frequency (n)	Valid percentage (%)	Cumulative percentage (%)
Headache	6	17.6	17.6
Cold and flu	2	5.9	23.5
Stomach problems	3	8.8	32.3
Sexually transmitted infections	2	5.9	38.2
Malaria	8	23.5	61.7
Lower abdominal pains	12	35.3	97.0
Others	1	2.9	100.0
Total	34	100.0	100.0

Source: Field Survey, 2021.

Comment [Editor12]: Comment as above.

Medicines That Were Commonly Used In Self-Medication Among Pregnant Women In The Jasikan District (N=34).

The study revealed that the types of medicines that were self-medicated by the majority of the respondents were herbal drugs, representing 38.2% of the respondents who have ever practiced self-medication followed by analgesics (26.5%) and Antacids (20.6) with "other drugs" being the least (8.8%) out of the thirty-four respondents who have ever practice self . **Figure 1** shows the detail of respondents' responses.

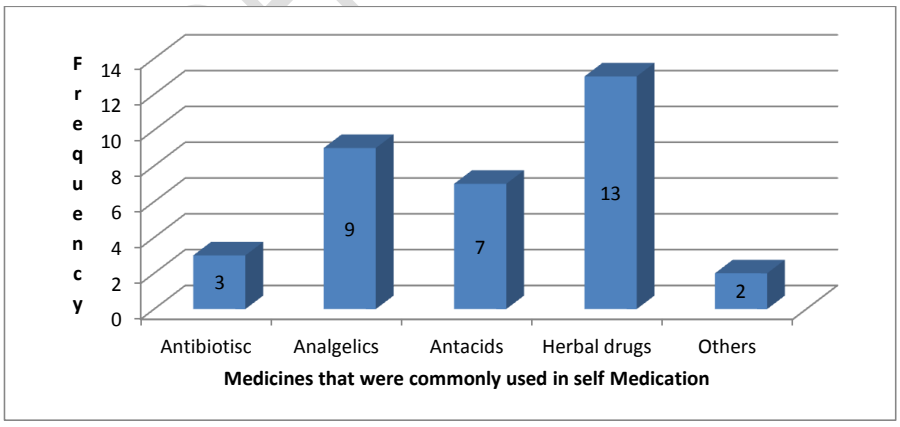

Figure 1: ***Medicines that were commonly used in self-medication among pregnant women in the Jasikan District***
Source: Field Survey, 2021.

Comment [Editor13]: Comment as above.

Factors Influencing Self-Medication in the Jasikan District.
Why Pregnant Women in the Jasikan District Self-Medicated (N=34).

As **table 5** depict, the results of the study also revealed that the majority (41.2%) of the respondents self-medicated because the disease condition was not serious. But, a minority (14.7%) of the respondents showed the fact that they self-medicated during pregnancy because of their previous experience with the drug. Furthermore, 26.5% of the respondents indicated that they self-medicated during pregnancy because the drugs were not expensive. 17.6% of the respondents indicated that they self-medicated during pregnancy because of long waiting times and poor provider-patient treatment at the health facility.

Table 5: Reasons why pregnant women in the Jasikan District self-medicated during pregnancy (N=34).

Responses	Frequency (n)	Valid percentage (%)	Cumulative frequency (%)
Less expensive of drugs	9	26.5	26.5
Disease was not serious	14	41.2	67.7
Previous experience with the drug	5	14.7	82.4
Long waiting time and poor provider-patient treatment at the health facility	6	17.6	100.0
Total	`34	100.0	100.0

Source: Field Survey, 2021

Effects of Self-Medication on Pregnant Women in Jasikan District (N=50).

The study showed that the majority thus 23 representing 46% of the respondents admit that, self-medication during pregnancy can harm the pregnant mother and the foetus while 20% of the respondents said self-medication during pregnancy cannot harm the pregnant mother and the foetus. As shown in **Figure 2**, a significant number (17) of study respondents (34%) also indicated the fact that they do not know wether self-medication during pregnancy can harm the pregnant mother and the foetus or not.Meanwhile when those who responded yes were asked to outline some of the effects, they outline a wide array of effects on both the mother and the foetus including death of the mother and the foetus, deformities to the foetus, miscarriage, bleeding by the mother, and failure of future conception.

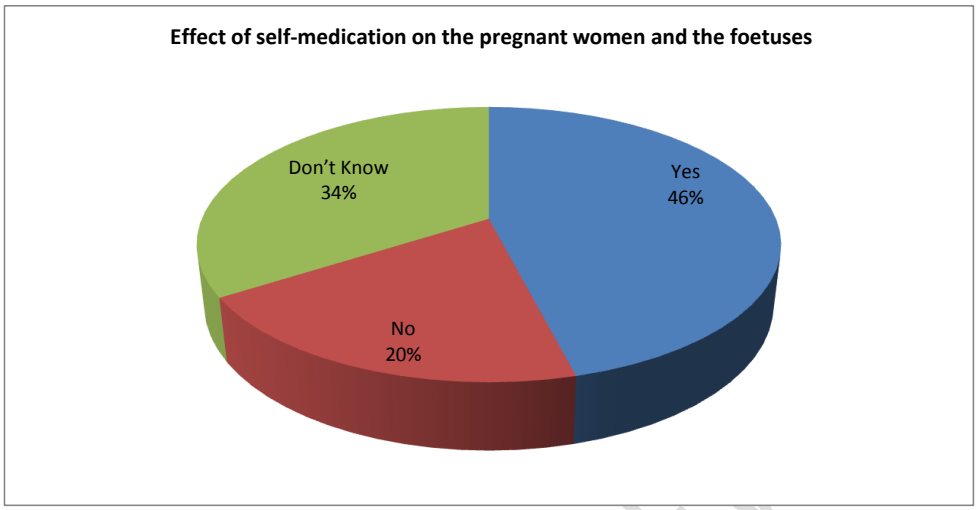

Figure 2 *: Effects of self-medication on pregnant women and the foetuses.*

Pregnant Women Experiences ***After Taking Medicines That Were Not Given to Them at the Hospital. (N=34).***

The majority (47.06%) of the respondents said they did not experience any effect after taking the medicine that was not given to them at the hospital, while a minority (8.82%) of the respondents said they did not know whether they experienced any effect or not after taking the medicine that was not given to pregnant women at the hospital. Moreover, 44.12% of the respondents said they experienced effects after taking the medicine that was not given to pregnant women at the hospital (see **table 6**).

Table 6: Pregnant women experienced complications after taking medicines that were not given to them at the hospital (N=34).

Responses	Frequency	Valid percentage (%)	Cumulative percentage (%)
Yes	15	44.12	30.0
No	16	47.06	64.0
Don't Know	3	8.82	100.0
Total	34	100.0	100.0

Source: Field Survey, 2021.

DISCUSSION

Concept and Practice of Self-Medication among Pregnant Women in the Jasikan District

According to WHO "self-medication involves the use of medicinal products by the consumer to treat self-diagnosed disorders or symptoms, or the intermittent or continued use of medication prescribed by a physician for chronic or recurrent diseases or symptoms".This definition indicate that the respondents knowledge on self-medication was fairly poor.For instance, 26% and 38% of the respondents respectfully disagree and strongly disagree that buying and using medicines upon the advice of a relative or friend who is not a physician but has used the medicine before is self-medication.Again, 44% of the respondents also strongly disagree to the fact that taking left over medicines given to them at the hospital when the same symptoms pop up is self-medication. It was also observed in the study that most of the respondents saw nothing wrong with them going to buy medicines from over-the-counter shops or using herbs to treat ailments, especially when they have used it before and are aware of their efficacy.This finding was to an extent in line with the findings of Abasiubong et al. (2012) where the knowledge and awareness of self-medication and its effects on both the pregnant mother and the foetus appeared to be considerably low.This inadequate knowledge posses by the respondents may be as a result of their low educational status. For example only six of the respondents have had tertiary education.

Again, lower abdominal pains, malaria, stomach problems, headache, cold and flu, and STIs were found to be the main disease conditions that pregnant women often treated by self-medicating from the results. This is in consisitence to the research findings by Tabatabaee (2011) who, in research of pregnant women in South Iran found that a high percentage of the women self-medicated or used drugs to prevent disease conditions such as common colds, nausea, and stomach problems. In addition to these common disease conditions, sexually transmitted infections (STIs) were other diseases that pregnant women treated without professional advice. The stigma attached to STIs in Ghana as evidenced in the studies of Koka, Ahorlu, & Agyeman, 2013 and Amo-Adjei & Darteh, 2013 may explain why respondents even married ones are reluctant to present their conditions at health facilities but rather opts to self-medicate in treating STIs. Even though Chipwazai et al. (2014) has argued that malaria is one of the main disease conditions for which pregnant women self-medicate, quiet a number (23%) of the respondents in this study also indicated that they used drugs to treat malaria without professional advice.

As in consistence with Segall, 1990, Figueiras et al. 1999, and Jain et al. 2011 studies, Herbal medicines (see **Figure 1**) was highly used and abused in treating pain through self-medication perhaps because of it availability and affordability. It is also common because "anybody" especially in our part of the world (Ghana) can wake up and prepare any item and market it in the name of herbal product.These life threatening activity is possible because the appropriate authorities such as the food and drugs authority (FDA) in Ghana is mostly interested in testing and authenticating foreign products to local products.Herbal product is also highly used because of the formal recognition of faith-based and traditional healing or healthcare by the Ghanaian health system with no defined boundaries.

Comment [Editor14]: Unbold all tables that are like this in text under presentation of results and sicussion.Also add recent literature to support the findings or vice versa.

Factors Influencing Self-Medication Practice

According to the respondents, main reasons complleing them to engage in self medication is the fact that disease conditons were not serious,followed by affordability of the self-medicated drugs and long waiting time and poor provider-patient treatment at the health facility as well as previous experienced with the drug being self medicated (see **Table 5**).The issue of poor provider-patient relationship may partly stem from the fact that most of the respondents were teenagers (46%) and so where stigmatized in their attempt to seek care because of culture and societal values concerning teenage pregnancy.This is in line with the findings of Emmanuel et al. (2014) who found self-medication to occur more in younger people than adults. Low level of education and religious beliefs plays a major role in respondents self medication because peoples behaviour are mostly influenced by the knowledge they possed as well as their belief system. The level of education mostly also determines ones economic status. For, example if they were

knowledgeable enough and financially sound they will not consider any disease condition in pregnancy as not serious. If people can not feed themselves three square meal a day and also believes their health and life is solely in the hands of their creator in this case, then they are likey to take into their system whatever is available without considering its health implication.

Respondents married (68%) were also likely to self medicate. This is largely true because most married women in this study were multiparous (have more than five children). This implies that perhaps their prior experience with previous pregnancies may have compelled them to self-medicate in subsequent pregnancies. Those in the third trimester were practicing self-medication more compared to their counterparts in the first and second trimester partly because of the many health challenges (disease conditions) associated with the third trimester as evidenced in a similar study by Agyei-Boateng, (2015) where majorities (74.3%) of the respondents self medicating were married and in their third trimester. Such findings were also revealed by Yusuff & Omarusehe (2011).

Place of residence is also likely to play a role in self medication because of the nature of culture of most ethnics groups in Ghana including the Ewes the area of study.Those who live with their families were more likely to self medication because of a reflection of their family ties where the problem of one person is the problem of the entire family. This bond among the family invites most family members to intervene and contribute their quota to address the pertaining problem. In this case, most respondents living with their parents and those living in rented houses were more likely to be influenced by relatives and neigbours to self-medicate by either recommending a particular medicine that has worked for them in the past with similar conditions or giving out leftover medications.

Effects of Self-Medication on Pregnant Women

Almost half of the respondents in this research acknowledged the potential negative effects of self-medication on the pregnant mother and the foetus (see **figure 2**). This is contrary to the finding and argument made by Abasiubong et al. (2012) that among pregnant women, awareness of the effects of self-medication on the mother and foetus is usually low. Rather, it confirms the findings in Okumura et al. (2002) research that showed that mothers were knowledgeable in the effects of self-medication on them and their unborn children, even though such knowledge had very little effect on their actions. Those respondents who indicated awareness of the potential effects of self-medication provided a wide array of effects on both the mother and the foetus, from the death of the mother and the foetus, to deformities of the foetus and miscarriage, bleeding by the mother, and negatively affect future chances of conception perhaps because of their experiences and what they have heard.

CONCLUSION

High prevalence of self-medication practise has been observed among pregnant women in the Jasikan District in the Oti Region of Ghana despite its potential negative effects on these expectant mothers and the unborn child. Self-medication was particularly highest among pregnant women in their third trimester. It is thefeore recomended that government intervention programmes aimed at addressing self-medicatioin issues among pregnant women go beyond addressing only the medical needs associated with pregnancy. These programmes must consider the social environment of pregnant women by targeting family members and relatives, since they are influential as trusted sources of drugs, and drug information. In addition, the government of Ghana and other stakeholders should initiate and implement a mobile health delivery system which will target pregnant women at the comfort of their workplaces and through that reduce the reluctance and inconvenience that these pregnant women experience in seeking professional health services. Finally, there should also be community engagement, community sensitisation, effective healthcare provider relationship, frequent health education and stakeholders' involvement in curbing the practice of self-medication among pregnant women. Further studies should also be carried out to assess the practice in other districts in the region.

Comment [Editor15]: Consider the majority of the respondents.

Comment [Editor16]: This literature is now ten years ago.Consider recent literature for this discussion.

Comment [Editor17]: Add imitations of the study considering the sample size for quantitative studies, the sampling technique etc...

COMPETING INTERESTS:

Authors have declared that no competing interests exist.

Comment [Editor18]: How was the study funded?Funders

REFERENCES

Abasiubong, F., Bassey, E. A., & John Akpan Udobang, Oluyinka Samuel Akinbami, Sunday

Adama, S. (2017). Self-medication perception and practice among pregnant women in Wa municipality (Doctoral dissertation). University of Ghana. Retrieved from http://ugspace.ug.edu.gh/handle/123456789/23536

Bassey Udoh, A. U. I. (2012). Self-Medication: Potential Risks and Hazards Among Pregnant Women in Uyo, Nigeria. *Pan African Medical Journal, 8688, 1–8.*

Afolabi, A.O. (2008). Factors Influencing the Pattern of Self-Medication in an Adult Nigerian population. *Annals of African Medicine*, 7(3), pp.120–127.

Agyei-Boateng, R. (2015). *Self-Medication Practices Among Pregnant Women in Ejisu-Juaben Municipality in Partial Fulfillments for the Award of Master of Public Health Degree.* Kwame Nkrumah University of Science and Technology.

Akanbi, O.M., Odaibo, A. B., Afolabi, K. A., & Ademowo, O. G (2005). Effect of Self-Medication with Antimalarial Drugs on Malaria Infection in Pregnant Women in South Western Nigeria. *Medical Principles and Practice: International Journal of the Kuwait University, Health Science Centre, 14(1),* pp.6–9. Available at: http://www.ncbi.nlm.nih.gov/pubmed/15608474 [Accessed April 15, 2013].

Amo-Adjei, J., & Darteh, E. M. (2013). Drivers of young people's attitudes towards HIV/AIDS stigma and discrimination: Evidence from Ghana. *African Journal of Reproductive Health, Special Edition*, 17 (4) 51-59.

Arikpo, G. E., Eja, M. E., Enyi-Idoh, K. H. (2010). Self-medication in rural Africa: The Nigerian experience" *The Internet Journal of Health*, *11* (1). DOI: 10.5580/7d5.

Blenkinsopp, A., & Bradley, C. (1996). Patients Society and the Increase in Self-Medication. *BMJ*, 629-632.

Chipwaza, B., Mugasa, J. P., Mayumana, I., Amuri, M., Makungu, C., & Gwakisa, P. S. (2014). Self-medication with anti-malarials is a common practice in rural communities of Kilosa district in Tanzania despite the reported decline of malaria. *Malaria journal*, *13*(1), 1-11.

Creswell, J.W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approach* third edit., Los Angeles: Sage.

Donkor, E. S., Tetteh-Quarcoo, P. B., Nartey, P., & Agyeman, I. O (2012). Self-Medication Practices with Antibiotics Among Tertiary Level Students in Accra, Ghana: a Cross-Sectional Study. *International Journal of Environmental Research and Public Health*, *9*(10), pp.3519– 3529.

Emmanuel, A., Achema, G., Afoi, B. B., & Maroof, R. (2014). Self-Medication Practice Among Pregnant Women Attending Antenatal Clinic in Selected Hospitals in Jos, Nigeria. *International Journal of Nursing and Health Science, 1*(6), 55–59.

Figueiras, A., Caamaño, F. & Gestal-Otero, J.J. (2000). Socio Demographic Factors Related to Self-Medication in Spain. *European Journal of Epidemiology*, 16(1), pp.19–26.

Figueiras, A., Tato, F., Fontaiñas, J., & Gestal-Otero, J. J. (1999). Influence of physicians' attitudes on reporting adverse drug events: a case-control study. *Medical care*, 809-814.

Ghana News Agency. (2015). Act of self-medication in Ghana on the increase. Retrieved from https://www.newsghana.com.gh/act-self-medication-ghana-increase/

Jain, S., Malvi, R., & Purviya, J. K (2011). Concept of Self-Medication: A Review. *International Journal of Pharmaceutical and Biological Archives*, *2*(3), 831-836

Koka, E., Ahorlu, C. K., & Agyeman, D. K. (2013). Social Death Through HIV and AIDS Stigmatisation and Discrimination in Ghana: A Case Study of the Central Regional hospital, Cape Coast, Ghana. *Advances in Applied Sociology*, 3 (6) 231-236.

Okumura, J., Wakai, S. & Umenai, T., (2002). Drug Utilisation and Self-Medication in Rural Communities in Vietnam. *Social Science & Medicine 1982, 54*(12), pp.1875–1886.

Oluwakemi, K. A., Tijani, A. W., & Adeniran, D. A. (2016). Self-medication practices among pregnant women attending the state hospital, Osogbo, Nigeria. International Journal of Community &Mental Health Nursing, 2(1), 1–8.

Oreagba, I. A., Oshikoya, K. A., & Amachree, M. (2011). Herbal Medicine Use Among Residents in Lagos, Nigeria. *BMC Complementary and Alternative Medicine*, 11 (117), 1-8.

Rahman, A., Sulaiman, S. A., Ahmad, Z., Daud, W. N., & Hamid, A. M (2008). Prevalence and Pattern Use of Herbal Medicines During Pregnancy in Tumpat District, Kelantan, *Malaysian Journal of Medical Sciences*, *15* (3), 40-48

Segall, A, (1990). A Community Survey of Self-Medication Activities. *Medical Care*, 28(4), pp.301–310.

Tabatabaee, M. (2011). Use of Herbal Medicine Among Pregnant Women Referring to Valais Hospital in Kazeroon, Fars, South of Iran. *Journal of Medicinal Plants*, *10*(37), 96-108.

Togoobaatar, G., Ikeda, N., Ali, M., Sonomjamts, M., Dashdemb and, S., Mori, R., & Shibuya, K. (2010). Survey of non-prescribed drug use of antibiotics for children in an urban community in Mongolia. *Bulletin of the World Health Organization*, 930-936.

Van Den Boom, G. J. M., Nsowah-Nuamah, N. N. N., & Overbosch, G. B. (2008). Health Care Provision and Self-Medication in Ghana. In G. J. M. Van Den Boom, N. N. N. Nsowah-Nuamah, & G. B. Overbosch (Eds.), *The Economy of Ghana: Analytical Perspectives on Stability, Growth, and Poverty* (pp. 392–416). Cambridge: Cambridge University Press.

World Health Organization. (2000). *Guidelines for the regulatory assessment of medicinal products for use in self-medication* (No. WHO/EDM/QSM/00.1). World Health Organization.

Yusuff, K. B. & Omarusehe, L.-D., (2011). Determinants of Self-Medication Practices Among Pregnant Women in Ibadan, Nigeria. *International Journal of Clinical Pharmacy*, 33(5), pp.868–875.