Drug prescription misuse among pregnant women attending antenatal care at a health facility in Ghana: A cross-sectional study

Abstract

Background: Misuse of prescription drugs by pregnant women has become a major public health challenge in developing and developed countries due to its detrimental effects on the health of the mother and unborn child. This study aimed to identify prescription drug misuse among pregnant women seeking antenatal care at Presbyterian Hospital, Dormaa Ahenkro, in the Dormaa Central Municipality of Ghana.

Methods: This study used a healthcare facility-based cross-sectional descriptive design to recruit 235 pregnant women using a simple random sampling technique and by administering a structured questionnaire face-to-face with respondents to solicit data. The data were analyzed with SPSS version 26, the results were presented descriptively and inferentially using tables and graphs and a P-value < 0.05 was considered statistically significant.

Results: The study found that the prevalence of prescription drug misuse among pregnant women in the municipality was 32.8% and the most commonly misused drugs were acetaminophen (52.8%), antimalarial (21.4%) and antibiotics (9.4%). Factors such as trimester of pregnancy (X^2=12.9, p=0.002), and history of urinary tract infection (X^2=6.11, p=0.013) were associated with drug prescription abuse. In addition, employment status (X^2= 13.1, p = <0.001) produced a strong association with prescription drug misuse.

Conclusion: The study concluded that pregnant women in the municipality misused prescribed drugs, which has serious health implications for the mother and the unborn child.

Key words: Pregnancy, Prescription, Misuse, Antenatal, pregnant women

Introduction

Drug prescription misuse among pregnant women has become a major public health concern for global health communities (1). Drug prescription misuse is defined as the drug used in larger quantities, higher frequency, longer durations, or for a different purpose than that directed by a clinician or a healthcare provider (2). Alternatively, it is the use of prescribed drugs in doses that do not meet pregnant women's clinical needs or for an extended period of experience or feelings derived from the medication(3). Some common factors that influence pregnant women to misuse prescribed drugs include self-efficiency and internal stressors, social factors such as identity and structural factors such as insufficient knowledge and inability to understand risk because of how it is communicated (4). In addition, the availability of prescription medication is attributed to a greater risk of drug prescription misuse among pregnant women (3).

It has been established in the literature that, globally, one in every five pregnant women misuse prescribed medications (1) For example, in Iran, it is found that about 15% of pregnant women were reported misusing prescribed drugs by healthcare professionals (5). The available body of knowledge indicated that drug prescription misuse was rising among pregnant women in Africa (4). It is also found that the illicit use of drugs by pregnant women is far advancing in developed nations, and sooner or later, pregnant women in low and middle-income countries would be affected (6). This will increase neonates' exposure to a 90% risk of developing neonatal abstinence syndrome and the adverse effects on the mother and the infants which significantly contributes to the high prevalence of antimicrobial resistance (7).

In the southern part of Ghana, a cross-sectional study indicated that self-medication was high among pregnant women thus 68% of the participants were found already engaged in self-medication (8). Again, in Ghana it is established that the prevalence of self-medication practice was 74.1% (9). Moreover, about 65% of pregnant women attending the antenatal clinic misused prescribed antibiotics (10). Therefore, to protect and safeguard the health and well-being of pregnant women and their unborn babies, the rate at which pregnant women misuse prescribed drugs should be determined so that education and awareness programs can be initiated to reduce the risk of exposure to drug misuse. As such understanding the reasons why pregnant women misuse prescribed drugs is pertinent to designing strategies and interventions to improve maternal, neonatal and child health (4).

Though Ghana has recorded significant variations of drug prescription misuse among pregnant women, there is a paucity of information regarding pregnant women's misuse of prescribed drugs in the Presbyterian Hospital. Therefore this study sought to determine drug prescription misuse among pregnant women attending antenatal care at Presbyterian Hospital, Dormaa Ahenkro, Ghana.

Methods

Study design

The study was quantitative and employed a health facility-based descriptive cross-sectional design to determine prescribed drug misuse among pregnant women attending antenatal care at the Presbyterian Hospital.

Study setting

The study was conducted at the Presbyterian Hospital in the Dormaa Central Municipality in the Bono Region of Ghana. The eligible participants were recruited from the hospital's antenatal clinic during antenatal visits. These participants were pregnant women who had been prescribed medication since conception by a clinician and also attended the antenatal clinic at the hospital. Pregnant women who live within the municipality and voluntarily consent to participate in the study were recruited. However, pregnant women on medication who were severely sick and term for delivery were excluded from the study.

Sampling and data collection procedures

The study recruited 235 pregnant women who voluntarily consented to participate. A simple random sampling technique was employed in selecting eligible respondents for the study with the help of a structured questionnaire developed for the study. The questionnaire was categorized into sections. Section A. provided information on respondents' sociodemographic factors; Section B. provided information on prescription drug misuse among respondents and section C. on the factors associated with prescription drug misuse among respondents. Respondents were made to pick from a bowl of papers written "YES" and "NO" to ensure transparency and reduce selection bias. The respondents who pick "YES" were selected and included in the study while those who pick "NO" were appreciated and excluded from the study. The questionnaire was administered face to face with respondents until the required sample size was obtained for the study.

Data analysis

Data were analyzed with the help of Statistical Package of Social Sciences (SPSS) version 26. The categorical variables were coded and entered into SPSS. Descriptive statistics were conducted on categorical variables and presented in frequencies and percentages. Mean and standard deviation was calculated for continuous variables from the data collected. Pearson Chi-square test was used to measure the association between the dependent and the independent variables and a PV less than 0.05 indicated a statistically significant association.

Results

Sociodemographic characteristics of respondents

The study recruited 235 respondents and there was a 100% response rate. The mean age of respondent were 28 ±5 (23-33) years. About 85 (37.0%) of them were between the ages 26-30

years, 73 (31.1%) fell between the ages 31-36 years, 67 (29.4%) were 18-25 years and 8 (3.4%) were between the ages 37-42 years. Most 131 (55.7%) of the respondents were married, 63 (26.8%) cohabited, whilst 41 (17.4%) were single. The majority of 165 (70.2%) of the respondents were Akans, whilst 70 (29.8%) were non-Akans. Most, 162 (68.9%) of them, were Christians, 72 (30.6%) were Moslems, and 1 (0.4%) was Traditionalist. About 128 (54.5%) of them were employed, whilst 107 (45.5%) were unemployed. Concerning their residency, most 148 (63.0%) resided in rural areas, whilst about 87 (37.0%) lived in peri-urban areas. About 97 (41.3%) of respondents had tertiary education, 83 (35.7%) had secondary education, and 54 (23.0%) had basic education. With regards to the number of children of respondents, about 71 (30.2%) of them had no child, 71 (30.2%) had one child, 63 (26.8%) had two children, and 30 (12.8%) had three children (Table 1.1).

Table 1.1: Socio-demographic characters of respondents

Variable	Category	Frequency(n)=235	Percentage (%)
Mean age of respondents = 28±5 years			
Age (years)	18-25	67	29.4
	26-30	87	37.0
	31-36	73	31.2
	37-42	8	3.4
Marital Status			
	Married	131	55.7
	Single	41	17.5
	Co-habiting	63	26.8
Ethnicity			
	Akan	165	70.2
	Non-Akan	70	29.8
Religion			
	Christian	162	68.9
	Moslem	72	30.7
	Traditional	1	0.4
Employment Status			
	Employed	128	54.5
	Unemployed	107	45.5
Residency			
	Rural	87	37.0
	Peri-Urban	148	63.0
Education			
	Basic education	54	23.0
	Secondary education	84	35.7
	Tertiary education	97	41.3
Number of children			
	No child	71	30.2
	One child	71	30.2
	Two children	63	26.8
	three or more	30	12.8

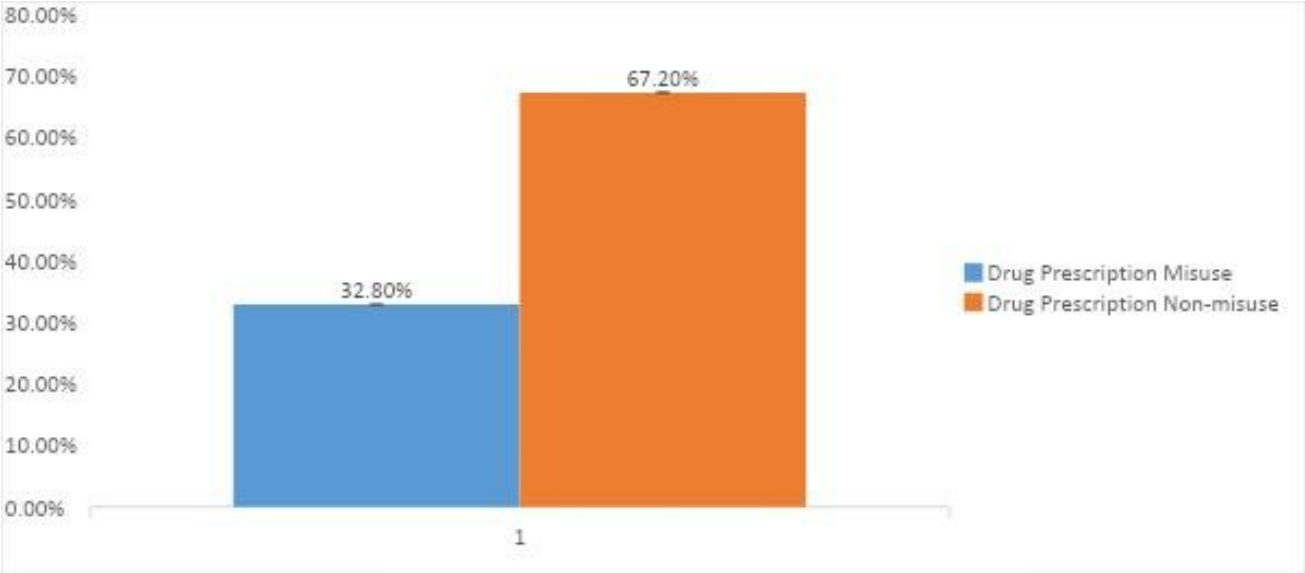

Figure 1.1: Prescription drug misuse

Figure 1.1 shows the prevalence of drug prescription misuse among the respondents. Most

158(67.2) of them did not misuse prescribed drugs whilst about 77(32.8%) of the respondents misused prescribed drugs during pregnancy.

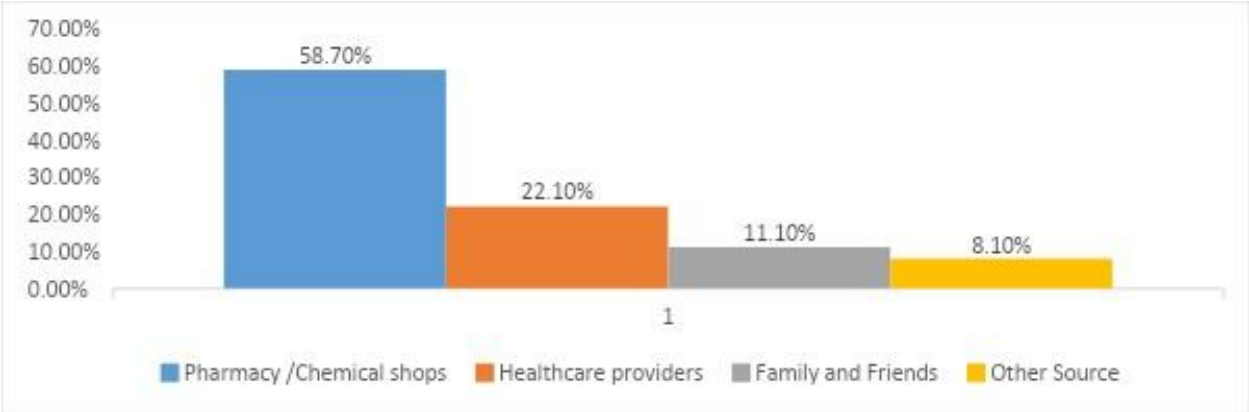

Figure 1.2 Sources of prescribed drugs misuse

Majority of the respondents (58.70%) who misused prescribed drugs sourced them from pharmacies or chemical shops, 22.10% from healthcare providers, 11.10% from family or friends and 8.10% from other sources (Fig.1.2).

Table 1.2: Distribution of obstetric factors of respondents

Variable	Category	Frequency=235	Percentage (%)
Trimester of Pregnancy			
	First	25	10.6
	Second	112	47.7
	Third	98	41.7
Gravidity			
	Palligravid	74	31.5
	Multigravida	161	68.5
Parity (number of births)			
	1-2 births	161	68.5
	3-4birth	72	30.6
	>=5birth	2	0.9
Medical Insurance			
	Insured	223	94.9
	Non-Insured	12	5.1
Closeness to a health facility	Near (<5km)	100	42.6
	Distant (>5km)	135	57.4
ANC visitations			
	1-2 times	54	23.0
	3-4 times	146	62.1
	5-6 times	22	9.4
	7-10 times	13	5.5
History of UTI			

	Yes	20	8.5
	No	215	91.5
History of miscarriage			
	Yes	43	18.3
	No	192	81.7

About 112 (47.7%) of respondents were in their second trimester of pregnancy, 98 (41.7%) third trimester and 25 (10.6%) first trimester. Most 161 (68.5%) had multiple pregnancies whilst 74 (30.6%) had one. On the number of children of respondents, about 161 (68.5%) had one or two children, 72 (30.6%) had three or four children, whilst 2 (0.9%) had five or more children. The majority, 223 (94.9%), had medical insurance whilst 12 (5.1%) had no medical insurance. With regards to respondents' proximity to a health facility, about 135 (57.4%) were far (greater than five kilometres) from a health facility, whilst 100 (42.6%) were near (travel distance of fewer than five kilometres to a health facility. Concerning ANC visitation, most 146 (62.1%) of them had visited the hospital three or four times, 54 (23.0%) had one or two visitations, 22 (9.4%) had five or six visitations, and 13 (5.5%) had more than seven visitations.

The majority 215 (91.5%) had no history of urinary tract infection, while 20 (8.5%) had a history of urinary tract infection. In addition, 192 (81.7%) of the respondents had no history of miscarriage, whilst 43 (18.3%) had a previous history of miscarriage (Table 1.2).

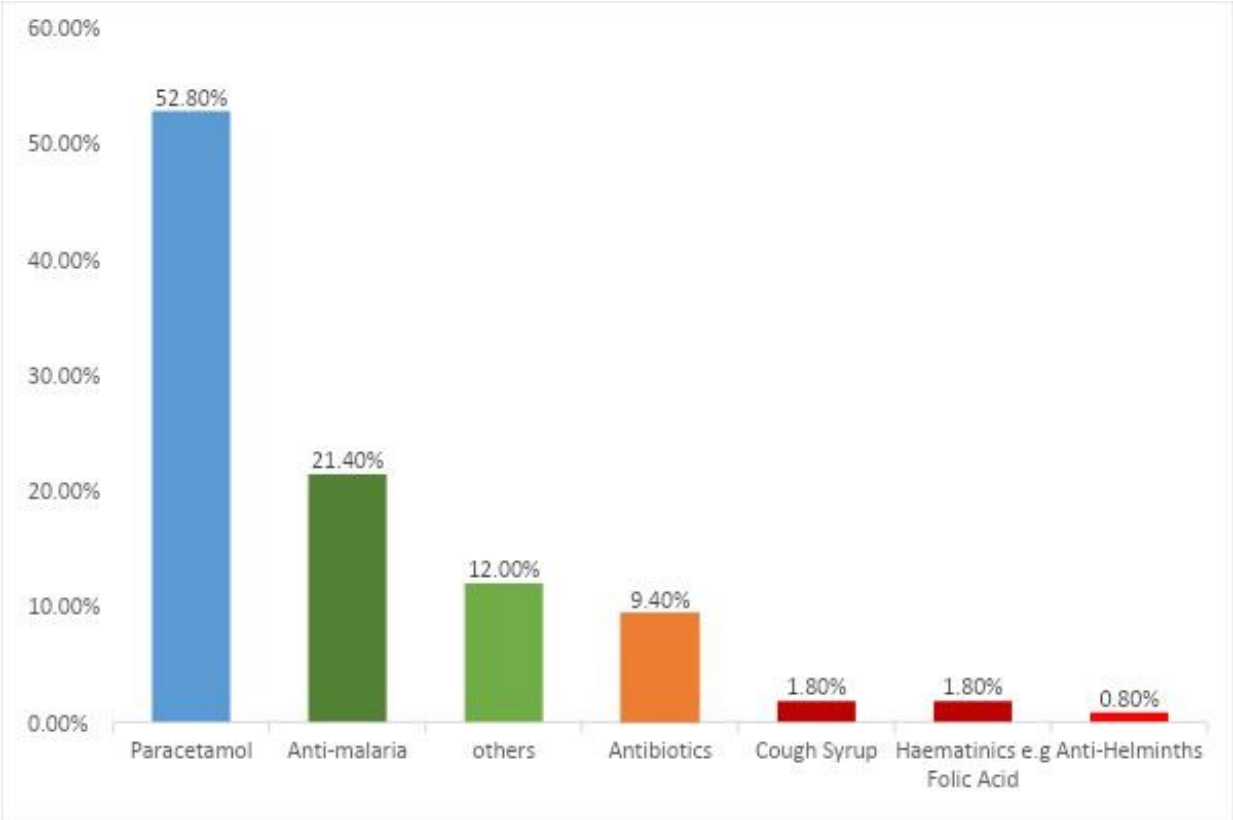

Figure 1.3: Commonly prescribed drugs misused

Most (52.8%) of them misused paracetamol, 21.40% anti-malarial drugs, 12.0% misused other drugs, 9.40% anti-biotics. In addition, about (1.80%) misused cough syrup and haematinics while 0.80% also misused anti-helminths during pregnancy.

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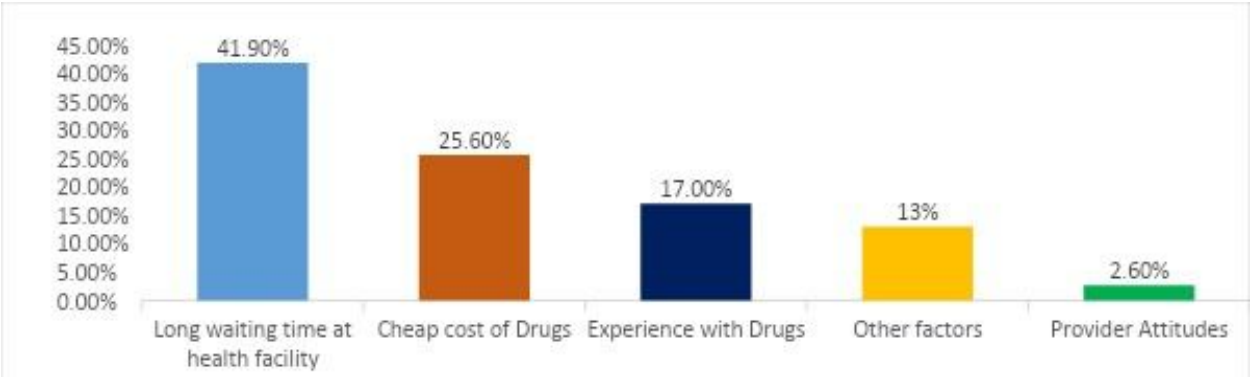

Figure 1.4 Motivation for prescribed drugs misuse

About 41.9% of respondents misused prescribed drugs due to long waiting times at health facilities, about (25.6%) indicated a cheap cost of drugs, and 17.0% had previous experience with drugs. In addition, about (13.0%) of them indicated other factors motivate them to misuse drugs, whilst 2.60% indicated poor attitudes toward service providers motivate them to misuse prescribed drugs.

Table 1.3: Association between socio-demographic factors and drug prescription misuse

Variable	Drug Prescription		X^2 (p-value)
	Drug misuse n(%)	**Drug Non-misuse n(%)**	
Age (years)			2.213(0.53)
18-25	19(24.0)	52(32.7)	
26-30	28(36.0)	56(35.3)	
31-36	27(36.0)	45(28.8)	
37-42	3(4.0)	5(3.5)	
Marital Status			1.31(0.52)
Married	47(35.9)	84(64.1)	
Single	12(29.3)	29(70.7)	
Co-habiting	18(28.6)	45(71.4)	
Ethnicity			0.41(0.75)
Akan	53(32.1)	112(67.9)	
Non-Akan	24(34.3)	46(65.7)	
Religion			2.95(0.35)
Christian	52(32.1)	110(67.9)	
Moslems	24(33.3)	48(66.7)	
Traditional	1(100)	0(0.0)	
Employment Status			13.2(0.001)*
Employed	55(43.0)	73(57.0)	
Unemployed	22(20.6)	85(79.4)	
Residency			2.50(0.14)
Rural	34(39.1)	53(60.9)	
Peri-Urban	43(29.1)	105(70.9)	
Education			1.29(0.52)
Basic education	21(38.9)	33(61.1)	
Secondary education	25(29.8)	59(70.2)	
Tertiary Education	31(32.0)	66(68.0)	
Number of children			0.37(0.95)
No child	22(31.6)	49(69.0)	
One child	24(33.8)	47(66.2)	
Two children	22(34.9)	41(65.1)	
Three or more children	9(30.0)	21(70.0)	

Pearson chi-square set at a 95% confidence interval was used to determine the association between socio-demographic factors and drug prescription misuse among the respondents. The

The association between respondents' employment status and drug prescription misuse was 13.1 times, and the relationship was statistically significant [X^2 =13.2, p=<0.001] (Table 1.4).

Table 1.4: Association between obstetric factors and drug prescription misuse

Variable	Drug Prescription		X^2 (P-Value)
	Drug misuse n(%)	**Drug Non-misuse n(%)**	
Trimester of pregnancy			11.7(0.003)*
First trimester	11(44.0)	14(56.0)	
Second trimester	46(41.1)	66(58.9)	
Third trimester	20(20.4)	78(79.6)	
Gravidity			0.28(0.6)
Palligravid	26(35.1)	48(64.9)	
Multigravida	51(31.7)	110(68.3)	
Parity			0.99(0.61)
1-2 births	53(32.9)	108(67.1)	
3- 4 births	24(33.3)	48(66.7)	
5 or more births	0 (0.0)	2 (100.0)	
Medical insurance			0.46(0.50)
Insured	72(32.3)	151(67.7)	
Non-insured	5(41.7)	7(58.3)	
Closeness to facility			0.004(0.95)
Near	33(33.0)	67(67.0)	
Distant	44(32.6)	91(67.4)	
ANC visitations			5.43 (0.14)
1-2 times	16(29.6)	38(70.4)	
3-4 times	54(37.0)	92(63.0)	
5-6 Times	6(27.3)	16(72.7)	
>6 times	1 (7.7)	12(92.3)	
History of UTI			7.36(0.007)*
Yes	12(60.0)	8(40.0)	
No	65(30.2)	150(69.8)	
History of Miscarriage			0.56(0.45)
Yes	12(27.9)	31(72.1)	
No	65(33.9)	127 (66.1)	

X^2: Chi-square, *, statistically significant

Pearson Chi-square set at a 95% confidence interval was used to determine the association between socio-demographic factors and drug prescription misuse among pregnant women. The strength of association between the trimester of pregnancy and drug prescription misuse was 11.7 times and the association was statistically significant [X^2 =11.7, P=0.003]. In addition, the strength of association between respondents' history of urinary tract infection was 7.36 times and the relationship was statistically significant [X^2=7.36, P=0.007] (Table 1.4).

Discussion

This current study found that the prevalence of drug prescription misuse among pregnant women attending antenatal care at the hospital was 32.8%. This means that, a significant proportion of pregnant women who reported to the hospital to access healthcare misuse prescribed medications provided to them to manage a condition. A cross-sectional study conducted in the United States found that drug prescription misuse among pregnant women was 5.1%, which does not support the outcome of this study (11). Similarly, a study conducted to determine the appropriate use of drugs among pregnant women has demonstrated that, about 53% of pregnant women misused prescribed medication (12). This is higher than the outcome of this current study and the findings do not relate well.

Moreover, a study by (13) in the United States revealed that drug prescription misuse among pregnant women was19.8%. This is lower than the prevalence established for this recent study. In addition, it was reported in a cross-sectional survey conducted in the United State by (11) indicated that a significant number (27.0%) of pregnant women misused illicit drugs. In addition, opioid medication misuse among pregnant women was found to be 31.8% (14), similar to this study's outcome. Another cross-sectional study conducted in Iran found that about 15% of pregnant women misuse prescribed drugs to manage pregnancy-related health conditions (5).

Additionally, a health facility-based cross-sectional study conducted in Ethiopia found that, among pregnant women who attended an antenatal clinic in Ethiopia, about 16.1% misused prescribed medications (15). Comparatively, this outcome is lower than the outcome of this recent study. In Ghana, (9) indicated that most (74.1%) pregnant women self-medicate after visiting the clinic. This is also not consistent with the outcome of the current study. Furthermore, a related study found that most (68.1%) of pregnant women accessing antenatal care misused prescribed drugs (8). What would have accounted for the differences in the findings of studies conducted in Ghana could be due to the geographical locations of pregnant women attending healthcare services and the conditions with which they report to the hospital. Moreover, the availability and accessibility of misused drugs could also account for the dissimilarities of these findings.

Appropriately using prescribed drugs affect the health of the mother and the child. Abused drugs can cross the maternal placenta and present adverse consequences for foetal development whilst in the mother's womb (13). The misuse of prescribed drugs by pregnant women results in low birth weight for children and poor neuropsychological functioning of the unborn child (14,16,17). Similarly, excessive use of prescribed drugs, irrespective of the type and nature, affects the child's major body organs, which may cause or lead to multiple brain structure damage resulting in lifelong disabilities and social problems for the child and the mother(15,18). Moreover, the continued misuse of prescribed drugs for pregnant women can result in most stillbirths and prematurity(15). The complications associated with pregnant women misusing prescribed drugs are enormous, such as the child's low birth weight and neuropsychological functioning (14,16).

This current study found that among the common drugs mostly prescribed and misused by pregnant women at the facility were analgesics such as paracetamol accounting for 52.8%, followed by anti-malaria and anti-biotics. A study conducted in the USA indicated that most pregnant women misuse stimulants(19). Another study by (4) revealed that most medications misused by pregnant women included opiates and methamphetamine. Moreover, (20) reported that most women who become pregnant subscribe to the daily use of opioids. The differences in respondents' locations and ease of accessibility of the common drugs could have accounted for the dissimilarities in these findings. In addition, the differences

in conditions upon which a clinician will prescribe medication may be a possible cause for the differences in these findings.

In Ghana, a descriptive cross-sectional survey has revealed that most pregnant women misuse prescribed drugs including analgesics (paracetamol), anti-biotics and anti-malarial (8). These findings agree well with the outcome of the recent study. Another descriptive-analytical cross-sectional survey indicated that the most frequently prescribed and misused drugs by pregnant women attending antenatal care in Northern Ghana were analgesics, anti-biotics and anti-malarial (9). This finding is also in line with the outcome of this current survey. What could have accounted for the similarities of these findings might be the ease of accessibility and availability of these common drugs in most licensed chemical shops in Ghana (21). Most pregnant women misuse prescribed drugs such as antibiotics to treat urinary tract infections(7).

Socio-demographic factors play a pertinent role in determining the rate at which pregnant women misuse prescribed drugs. This recent study established that the employment status of pregnant women was associated with their misuse of prescribed medications (22) and found that the employment status of pregnant women was related to their misuse of prescribed drugs. This finding is in line with the outcome of this current study. Moreover, (23) established that pregnant women who are employed are less likely to use misused prescribed drugs and this also supports the outcome of the recent survey. In addition, (16) Eisenberg indicated that pregnant women's unemployment leading to low income increased the risk of prescription drug misuse. Similarly, in Tanzania, a cross-sectional study unearthed that the employment status of pregnant women was associated with drug prescription misuse (24), which agrees well with the outcome of the current study. However, (18) found that socio-demographic factors of pregnant women such unemployment had no association with drug prescription misuse, which does not support the findings of this current study.

This study found that factors such as the trimester of pregnancy are associated with pregnant women's increased risk of misuse of prescribed drugs. This means that, when a woman becomes pregnant, her probability of misusing prescribed drugs increases and this is ascribed to the multiple stress most pregnant women encounter that pushes them to cope with such stress by misusing prescribed drugs. For example, some pregnant women may resort to alcohol use, cannabis, and cocaine while others may also misuse prescribed drugs to manage such pregnancy-related stress(25).

However, a systematic scoping review found that the trimester of pregnancy has no relation to drug prescription misuse(16). A cross-sectional study by (26) also revealed that pregnant women are exposed to an increased risk of misuse of prescribed drugs during their first trimester of pregnancy. In African settings, apart from the misuse of prescribed drugs for pregnant women, most pregnant women subscribe to herbal medicine due to their local beliefs and perceptions of such drugs to the mother and the developing babies (27) In addition, a cross-sectional study conducted in the United States revealed that there was a gradual increase in the misuse of prescribed drugs during the various trimester of pregnancy and this could be attributed to the gradual increase in pregnancy pains from the first trimester through the second trimester and to the third trimester (13). Moreover, a similar study conducted in the United States found that pregnancy is accompanied by physiological alterations that can lead to the misuse of prescribed drugs to handle such changes in mechanisms that, result in pains and disorders. The study indicated that,

during these stages of pregnancy, the pregnant woman is at an increased risk of pregnancy-related disorders, therefore they may resort to medication use to cope with such disorders (28). These findings are consistent with the outcome of this current study. The complication that could arise from misusing prescribed drugs due to physiological alterations would be the interference of the growth of the foetus with subsequent birth abnormalities and organ malfunctions (29).

What could have accounted for the similarities of findings might be the anxiety and depression that some pregnant women may encounter during the start of their pregnancy(15). In addition, the series of pregnancy-related pains and disorders may also increase their chance of being exposed to opioids and analgesics which they may inturn be addicted to such drugs (20).

With regards to the history of urinary tract infections and a pregnant woman's misuse of prescribed drugs, this current study found that pregnant women with a history of urinary tract infections had a strong association with the misuse of prescribed drugs. This is because pregnancy accompanied by misuse of prescribed drugs decreases maternal immunity and as such exposes most pregnant women to acquiring infections such as urinary tract infections and respiratory tract infections. Urinary tract infections are common during pregnancy, which explains why pregnant women with previous exposure subscribe to antibiotics during pregnancy (30). This compromises their immune system, which is consistent with this study's outcome.

In Saudi Arabia, a cross-sectional study demonstrated that pregnant women who have experienced urinary tract infections have an increased risk of being exposed to antimicrobials due to their previous infections encountered (31). This finding also supports the outcome of this current study Similarly, a study conducted by (32) indicated that anti-biotic prescription misuse remains important during conception as it is second to iron and food supplements.

Misusing prescribed drugs among pregnant women has a long-term effect on the neonate and the mother. This is because even after the successful delivery of the baby, antibiotics can remain in the breast milk of the woman which has a consequence of exposing the neonate to drug resistance when the baby starts sucking the breast milk of the mother(33). The complications that could arise when pregnant women misuse these common drugs during pregnancy are enormous. The misuse of these common drugs disrupts the intake of nutrients in neonates, leading to potential teratogenic effects on the developing fetus(34). Moreover, neonates have a higher risk of being exposed to neonatal abstinence syndrome in addition to de-regulation of the developing fetus's innate adaptive immune system, leading to the reduced immune system and increased susceptibility to viral, bacterial, parasitic and fungal infections (35).
Furthermore, misuse of prescribed drugs significantly contributes to anti-microbial resistance which has become a global concern for public health intervention (7). Another complication that arises when pregnant women misuse prescribed drugs is the significant economic burden on the mother (36). In addition, pregnant women may have a long stay at the hospital with subsequent economic loss(5). There is also a complication that arises from the stimulation of the brain by interfering with the cells and the central nervous system, thereby decreasing a pregnant woman's awareness of the immediate environment(11).

Conclusion and Recommendation

This study sought to determine drug prescription misuse among pregnant women attending antenatal care at the Presbyterian Hospital in the Dormaa Central Municipality. The study concluded that some of the pregnant women between the ages of 26 to 30 years who report to the facility antenatal care service misused prescribed drugs. This is the most fertile period for pregnant women and should they continue to misuse prescribed drugs, they are at an increased risk of harming their health and that of the developing baby of which some suffer from birth defects.

The study also concluded that about 31% of pregnant women in the municipality who attended antenatal services misused prescribed medications. This implies that, in every ten pregnant women who attended antenatal care, three are more likely to misuse prescribed drugs. This practice exposes pregnant women to multiple medication side effects on the maternal mother and the child. Children of such mothers sometimes suffer from low birth weight, mental retardations, and poor formation of baby body organs such as the brain.

Moreover, the study concluded that, among the common drugs prescribed to pregnant women, the most frequently misused medications were analgesics (paracetamol), anti-malarial and antibiotics. This means that a significant number of pregnant women who misused drugs frequently relied on these medications. Aside from the medication side effects posed on the pregnant mother and the unborn child, there is also a loss of income as most of these drugs are bought over the counter or in chemical shops, therefore is a possibility of an occurrence of economic deprivation of the mother. Also, the misuse of antibiotics exposes the unborn or the breastfeeding child to multiple drug resistance when exposed to disease-causing organisms such as bacteria and viruses during childhood.

Conception is a risk factor for drug prescription misuse aside from past exposure and experience with urinary tract infections. This implies that, at the start of pregnancy, pregnant women have an increased susceptibility to abusing prescribed drugs to cater for the onset of pregnancy-related disorders such as loss of appetite, mild cough, and tiredness among others. However, this can contribute to detrimental health effects on the pregnancy and the developing foetus.

Another conclusion the study made was that socio-demographic factors of pregnant women such as their status of employment determined their misuse of prescribed drugs. The state of employment of pregnant women is ascribed to their medication misuse. Therefore, the ability of a pregnant woman to spend most of her income purchasing medications may suffer from economic challenges which could make her unable to cater for the born child, thereby the possibility of the child suffering from poor nutritional requirements leading to a poor growth rate and well-being.

The Ministry of Health through its agencies such as the Ghana Health Service and the Christian Association of Ghana among others should intensify and sustain health education programmes targeted at pregnant women and medication use, and their effects through the mass media and local radio stations and at antenatal meetings.

The health stakeholders in the municipality should embark on continuous health education on a sustainable basis to create awareness of the harmful effects of misusing analgesics and antibiotics among pregnant women through social gatherings such as community durbar and organisational associations in the municipality.

Future studies should be conducted to explore qualitatively the determinants of prescribed medication abuse so that a fair and comprehensive idea of drug prescription misuse among pregnant women in the municipality can be realised.

Availability of data and materials

Data and materials for the study are available upon request from the corresponding authors

Consent for publication

Not applicable

Ethical considerations and consent

Ethical clearance for the study was sought from the Ethics Review Committee Board of the Christian Health Association of Ghana (CHAG) with protocol approval number (CHAG-IRB05042022). Informed consent was obtained from the respondents. The respondents were informed that participation in the study was strictly voluntary. That if a respondent decided not to participate, it would not in any way affect their access to services. Also, they were informed that they had the right to withdraw from the study at any point after their initial acceptance to participate in the study. If a respondent withdrew from the study, any information provided was discarded.

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