 DOI: https://doi.org/10.82351/wajp.vol37no2.495

Assessment of risk awareness, beliefs and medicine use behaviour among women receiving antenatal care at a Nigerian tertiary hospital

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ABSTRACT

Background: Drug use during pregnancy presents a special concern due to the threat of potential teratogenic effects and physiologic adjustments in the mother.

Objectives: To assess the risk awareness, beliefs and medicine use behaviour among pregnant women.

Methods: A descriptive cross-sectional study carried out among women receiving antenatal care at the University of Uyo Teaching Hospital (UUTH). A systematic sampling technique was used in recruiting eligible participants into the study. Data on the clinical characteristics of the respondents was obtained from their respective case notes. Participants' awareness of the risks associated with the use of medicines in pregnancy; their beliefs and medicine use behaviour was obtained using a suitably designed questionnaire. Quantitative data was analysed using the SPSS computer package. Descriptive statistics and inferential statistics were used where applicable with statistical significance set at $p < 0.05$.

Results: One hundred and eighty-seven women participated in this study. The mean risk awareness score was 5.74 (SD = ± 1.64; Max. = 8), while the mean beliefs score and medicine use behaviour score were 4.16 (SD = ± 1.12; Max. = 5) and 5.43 (SD = ± 1.45; Max. = 7) respectively. The respondents' risk awareness score was a predictor of their beliefs score (B = 0.227; p = 0.002); and medicine use behaviour score (B = 0.168; p = 0.022).

Conclusion: We identified gaps in the risk awareness, beliefs and medicine use behaviour among the women studied. The awareness of the risks associated with the use of medicines in pregnancy was significantly associated with the beliefs regarding the use of medicines in pregnancy as well as medicine use behaviour among the women. There is need for targeted educational initiatives and enhanced communication from healthcare providers to promote safer medication practices during pregnancy.

Keywords: Pregnancy, Risk Awareness, Beliefs, Medicine Use Behaviour.

 DOI: https://doi.org/10.82351/wajp.vol37no2.495

Évaluation de la perception des risques, des croyances et des comportements liés à l'utilisation des médicaments chez les femmes bénéficiant de soins prénataux dans un centre hospitalier universitaire nigérian

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RÉSUMÉ

Contexte : La prise de médicaments pendant la grossesse suscite une préoccupation particulière en raison du risque d'effets tératogènes potentiels et des adaptations physiologiques chez la mère.

Objectifs : Évaluer la perception des risques, les croyances et les comportements liés à l'utilisation des médicaments chez les femmes enceintes.

Méthodes : Une étude descriptive transversale a été menée auprès de femmes bénéficiant de soins prénataux au Centre hospitalier universitaire d'Uyo (UUTH). Un échantillonnage systématique a été utilisé pour recruter les participantes éligibles. Les données relatives aux caractéristiques cliniques des participantes ont été extraites de leurs dossiers médicaux. La perception des risques associés à l'utilisation des médicaments pendant la grossesse chez les participantes, leurs croyances et leur comportement d'utilisation des médicaments ont été recueillis à l'aide d'un questionnaire conçu à cet effet. Les données quantitatives ont été analysées à l'aide du logiciel SPSS. Des statistiques descriptives et inférentielles ont été utilisées le cas échéant, le seuil de signification statistique étant fixé à $p < 0,05$.

Résultats: Cent quatre-vingt-sept femmes ont participé à cette étude. Le score moyen de de perception des risques était de 5,74 (écart-type = ± 1,64 ; score maximal = 8), tandis que les scores moyens de croyances et de comportements liés à l'utilisation des médicaments étaient respectivement de 4,16 (écart-type = ± 1,12 ; score maximal = 5) et de 5,43 (écart-type = ± 1,45 ; score maximal = 7). Le score de perception des risques des participantes était un prédicteur de leur score de croyances ($B = 0,227$; $p = 0,002$) et de leur score de comportements liés à l'utilisation des médicaments ($B = 0,168$; $p = 0,022$).

Conclusion : Nous avons constaté des lacunes dans la perception des risques, les croyances et les comportements liés à l'utilisation des médicaments chez les femmes étudiées. La perception des risques associés à l'utilisation de médicaments pendant la grossesse était significativement corrélée aux croyances concernant cette utilisation, ainsi qu'au comportement d'utilisation des médicaments chez les femmes. Il est nécessaire de mettre en place des initiatives éducatives ciblées et d'améliorer la communication de la part des professionnels de la santé afin de promouvoir des pratiques plus sûres en matière de prise de médicaments pendant la grossesse.

Mots-clés : Grossesse, perception des risques, croyances, comportement lié à l'utilisation des médicaments.

INTRODUCTION

Women's understanding and perception of health risks are crucial determinants of their medication-related behaviours. This comprehension is shaped by various factors, including personal health literacy, previous health experiences of themselves or their families, and broader cultural narratives surrounding health and illness.[1] An enhanced awareness of risks often leads to increased engagement in preventive health measures, adherence to prescribed medication regimens, and timely pursuit of healthcare services.[2] Conversely, inadequate or distorted perceptions of risk can result in detrimental behaviours, such as self-medicating without professional guidance, neglecting treatment protocols, or relying excessively on unverified remedies. Furthermore, the sources from which women obtain health information-ranging from healthcare professionals to social media, are pivotal in shaping their understanding and attitudes toward medication risk.[1-3]

Health belief models provide significant insights into how women's perceptions of their susceptibility to illness, the severity of health conditions, anticipated benefits of treatment, and perceived barriers influence their medication usage. Cultural and social norms also inform these beliefs, as societal expectations and gender roles can affect how women perceive symptoms, prioritize health concerns, and make decisions regarding medication use. Additionally, apprehensions about potential side effects, the stigma associated with certain treatments, and scepticism towards pharmaceutical interventions may also impede optimal medication adherence.[4-6]

Women's medication behaviours encompass a range of practices, including strict adherence to prescribed therapies, selective medication use based on symptom evaluation, self-medication, and the utilization of complementary and alternative medicines (CAM).[7,8] These behaviours are not homogeneous and vary according to demographic and socioeconomic factors such as age, educational background, income level, and access to healthcare resources. For example, younger women may exhibit different patterns of medication use, influenced by lifestyle factors and health priorities distinct from those of older women.[8,9] The interaction between chronic health conditions, reproductive health needs, and medication regimens further contributes to the complexity of women's medication use behaviour.[9]

A previous study among women receiving antenatal care services in Umuahia, eastern Nigeria found that the level of knowledge of medication use and restriction/ contraindication during pregnancy among the women who participated in the study was poor.[10] Understanding the complex interplay between risk awareness, health beliefs, psychological factors, and medication use behaviour is essential for developing targeted interventions that enhance medication safety and adherence among women.[11,12] Such interventions include educational programs that are culturally sensitive and tailored to address the specific needs and circumstances of the women to enhance health literacy and risk comprehension among them.[13,14] This study was thus undertaken to assess the beliefs, risk awareness and use of medications among pregnant women assessing antenatal care in a selected tertiary healthcare facility in southern Nigeria.

METHODS

Study design/setting

This was a cross-sectional descriptive study carried out in the ante-natal clinic of the University of Uyo Teaching Hospital (UUTH). UUTH is a tertiary healthcare facility with medical residents located in Uyo, southern Nigeria. UUTH also provides primary and secondary healthcare services. It is an affiliate of the University of Uyo, and a major referral centre for tertiary healthcare services within the region. Uyo, where the study site is located is a city and a capital of Akwa Ibom State, Nigeria. Uyo has an estimated population of 1,393,000 people of varying backgrounds and ethnicities as at 2024.[15]

The ante- natal clinic where the study was carried out, is domiciled in the Department of Obstetrics and Gynaecology of the hospital and runs a daily outpatient clinic. It is manned by specialist physicians, pharmacists, nurses and community health workers.

Study population/Eligibility criteria

The study population was pregnant women who assessed antenatal care service at UUTH. Eligible participants who were recruited into the study were pregnant women accessing care at the antenatal clinic during the data collection period, who were aged 18 years and above and expressed willingness to participate in the study by providing a written informed consent. Those who were unable to communicate effectively, as well as those with active psychiatric illnesses were excluded from the study.

The study sample size was determined with the aid of the Raosoft Online Sample Size Calculator wherein the

margin of error, confidence interval and response distribution was set at 5 %, 95 % and 50 % respectively. The calculated minimum sample size [with an estimated number of women assessing care at the ante-natal clinic of the hospital within the period of the study (8 weeks) placed at approximately 300], was 169. One-hundred and ninety-eight pregnant women assessing ante-natal care in the hospital were recruited.

Data collection instrument

A structured questionnaire was developed by the researchers after a review of relevant literature.[10,16] The developed questionnaire was subjected to review by a team comprising of clinical pharmacists and health psychologists. The revised questionnaire was then tested among 23 pregnant women who were not part of the final study. This was to assess readability and comprehension of the questionnaire items by the target study population. Cronbach alpha was used to assess the instrument's reliability and internal consistency.

The instrument consisted of four sections. The first section was used to obtain data on the demographic details of the respondents. The second section consisted of 8 structured questions that assessed the respondents' awareness of the risks associated with the use of medicines in pregnancy, the third section consisted of 5 structured questions with responses categorized and scored on a 5-point Likert scale. The last section consisted of 7 structured questions that assessed the women's medication use behaviour. Scoring of participants' responses was done, with each appropriate response provided in sections 2, 3, and 4 attracting one point.

Data collection procedure

Data from the study participants was collected via the self-administered data collection instrument described above. A systematic sampling technique was used in the recruitment of participants. Study participants were recruited as they presented themselves at the ante-natal clinic of the hospital. The pregnant women were assigned numbers upon presentation and those with even numbers were consulted for possible recruitment into the study. Only those who provided consent to participate were eventually recruited. Recruited women were interviewed while they waited to consult their physician at the ante-natal clinic in the hospital. An average of about 14 respondents were interviewed each day.

Statistical analysis

Analysis of the collected data was conducted using the IBM Statistical Products and Services Solution (SPSS) version-25.0 software. The obtained data were summarized using descriptive statistics as appropriate. Prior to conducting regression analyses, assumptions including linearity, independence of errors, homoscedasticity, normality of residuals, and absence of multicollinearity were verified. Bivariate correlation analysis and multivariate regression analysis were then performed to assess relationships between assessment variables. Regression coefficients (β) with their corresponding 95 % confidence intervals (CIs) are reported to indicate the strength and precision of associations. Model fit was evaluated using adjusted R^2 values to account for the number of predictors included. For all inferential statistical analyses, p-values less than 0.05 were considered statistically significant.

Ethical considerations

Ethical approval for the study was obtained from the Health Research Ethics Committee of University of Uyo Teaching Hospital. (REFERENCE NUMBER: UUTH/AD/S/96/VOL.XXL/883). In addition, informed consent was obtained from each participant before recruitment.

RESULTS

Reliability and internal consistency of the data collection instrument

The overall Cronbach alpha of the instrument used in assessing the participants' risk awareness, beliefs and medicine use behaviour during pregnancy was 0.708.

Sociodemographic details of respondents

One-hundred and ninety-eight pregnant women assessing ante-natal care in the hospital were recruited. However, only 187 persons completed the interview, yielding a response rate of 94.4 %. Majority (70; 37.4 %) of the participants were aged between 18 - 25 years, and majority (135; 72.2 %) had attained tertiary level of education. Fifty-six (29.9 %) of the women were in the third trimester of pregnancy, while about 18.2 % of the respondents were also receiving care for a chronic medical condition. The sociodemographic characteristics of the participants is presented in Table 1.

Table 1: Sociodemographic details of respondents

Variables	Frequency	Percentage
Age (years)		
<18	2	1.10
18-25	70	37.4
26-30	39	20.9
31-35	46	24.6
36-40	18	9.6
41-45	9	4.8
46-50	3	1.6
Religion		
Christian	166	88.8
Islam	18	9.6
Traditional worshipper	2	1.1
Atheist	1	0.5
Educational Level		
Informal	2	1.1
Primary	10	5.3
Secondary	33	17.6
Tertiary	135	72.2
Vocational	7	3.7
Employment Status		
Unemployed	56	29.9
Self employed	69	36.9
Employed: Government/Private	62	33.2
Trimester (Duration of Pregnancy)		
1st	74	39.6
2nd	57	30.5
3rd	56	29.9
Number of Pregnancy		
1st Pregnancy	71	37.9
2nd Pregnancy	54	28.9
3rd Pregnancy	42	22.5
4th Pregnancy	18	9.6
>4 Pregnancy	2	1.1
Number of Children		
0	64	34.2
1	51	27.3
2	35	18.7
3	29	15.5
4	6	3.2
5	2	1.1
Presence of chronic medical conditions		
Yes	34	18.2
No	152	81.8
Taking Prescription medications for chronic illness		
Yes	31	16.6
No	158	83.4

Respondents' awareness of the risks associated with medication use in pregnancy

We assessed the women's awareness of the risks associated with medication use in pregnancy. Only 87 (46.5 %) of the participants were aware that some medications may be more suitable to be used during some stage of pregnancy than in other stages, and only about 66.8 % (125) of the women were aware that it is unsafe to take medications, including common medications and over the counter drugs during pregnancy without the advice of a physician or pharmacist. The repondents' awareness of the risks associated with medication use in pregnancy is presented in Table 2.

Table 2: Respondents' awareness of the risks associated with medication use in pregnancy

Sn	Questions	Responses		
		True (n/%)	False (n/%)	Not sure (n/%)
1.	Any medication can be used at any stage of pregnancy.	8 (4.3%)	115 (61.5%)	64 (34.2%)
2.	Some medications may be more suitable to be used during some stage of pregnancy than in other stages.	87 (46.5%)	19 (10.2%)	81 (43.3%)
3.	Wrong drug choice during pregnancy can affect the formation of the fetus (baby) and the health of the mother.	182 (97.3%)	4 (2.1%)	1 (0.5%)
4.	The pharmacist should provide all necessary information and advice regarding the medication before dispensing it to a pregnant woman.	180 (96.3%)	3 (1.6%)	4 (2.1%)
5.	It is safe to take common medications and over the counter drugs during pregncy without the advice of a doctor or pharmacist.	21 (11.2%)	125 (66.8%)	41 (21.9%)
6.	There are some medications that should never be used in pregnancy regardless of the condition.	152 (81.3%)	12 (6.4%)	23(12.3%)
7.	All herbal remedies and supplements are better and safe for use during pregnancy.	16 (8.6%)	128 (68.4%)	43(23.0%)
8.	All medications are the same and can be used by pregnant women.	5 (2.7%)	107 (57.2%)	75(40.1%)

Mean risk awareness score = 5.74 ± 1.64

Respondents' beliefs regarding the use of medicines in pregnancy

Although majority (177; 94.7 %) believed that it was necessary to verify the safety of medications during pregnancy with the physician or pharmacist before taking them and majority (177; 94.7 %) agreed that it was necessary to immediately notify their healthcare provider if they experienced any adverse drug reaction, more than a third of the respondents were uncertain about the appropriateness of taking unnecessary over the counter medicines during pregnancy. The respondents' beliefs regarding the use of medicines in pregnancy is presented in Table 3.

Table 3: Respondents' beliefs regarding the use of medicines in pregnancy

Sn.	Questions	Responses				
		Strongly Agree (n/%)	Agree (n/%)	Uncertain (n/%)	Disagree (n/%)	Strongly Disagree (n/%)
1.	I should verify the safety of medications during pregnancy with my doctor or pharmacist before taking them.	146(78.1%)	31(16.6%)	10(5.3%)	-	-
2.	I should immediately notify my doctor, pharmacist or nurse if I experience any adverse drug reaction.	97(51.9%)	80(42.8%)	10(5.3%)	-	-
3.	I should stop taking unnecessary over the counter medicines during pregnancy.	75(40.1%)	28(15.0%)	85(34.8%)	18(9.6%)	1(0.5%)
4.	Asking about the safety of medicines can help me prevent unwanted risks.	88(47.1%)	85(45.5%)	14(7.5%)	-	-
5.	I should avoid all medications, including recommended medicines by my doctor or pharmacist, because of the risk to my baby.	5(2.7%)	5(2.7%)	32(17.1%)	106(56.7)	39(20.9%)

Mean beliefs score = 4.16 ± 1.12

Respondents' medication use behaviour during pregnancy

About 36.4 % (68) of the respondents admitted that their pregnancy status had not changed their medication taking behaviour, while 41.2 % (77) of the participants did not always check the leaflet of the drugs to confirm its safety in pregnancy before administration. Table 4 shows respondents' medication taking behaviour during pregnancy.

Table 4: Respondents' medication use behaviour during pregnancy

Sn.	Questions	Responses	
		YES (n/%)	NO (n /%)
1.	I always see my doctor to obtain a prescription before taking any drug.	156(83.4%)	31(16.5%)
2.	I take routine and over the counter medications (OTCs) quite frequently without consulting my doctor or pharmacist.	67 (35.8%)	120 (64.2%)
3.	My medicine taking habit has changed after knowing that I am pregnant.	119(63.5%)	68(36.4%)
4.	For any medicine I am taking (OTCs or prescribed), I try to find out whether it is safe during pregnancy or not.	162(86.6%)	25(13.4%)
5.	I always check the leaflet of the drugs I take to know if pregnant women can take it.	110(58.8%)	77(41.2%)
6.	I always follow the instructions provided by pharmacists regarding proper medicine use.	177(94.7%)	10(5.3%)

Mean behaviour score = 5.43 ± 1.45

Relationship between respondent sociodemographic variables and their medication risk awareness, beliefs, and medication use behaviour

The relationship between respondents' sociodemographic variables and their medication risk awareness, beliefs, and medication use behaviour is presented in Table 5. Our analysis showed a significant association between the participants' age and their risk awareness and medication use behaviour. The stage of pregnancy (trimester) was also significantly associated with respondents' risk awareness, beliefs and medication use behaviour.

Table 5: Relationship between respondents' sociodemographic variables and their knowledge, beliefs, and medication use behaviour

Sn	Demographic variable	Test Variable	Chi-square	Df	p-value
1.	Age	Risk awareness score	96.458	49	.0001*
		Belief score	40.576	35	.177
		Behaviour score	115.178	49	.0001*
2.	Religion	Risk awareness score	15.336	21	.805
		Belief score	15.103	15	.444
		Behaviour score	11.188	21	.959
3.	Educational level	Risk awareness score	28.965	28	.414
		Belief score	17.146	20	.643
		Behaviour score	38.317	28	.078
4.	Employment status	Risk awareness score	33.617	21	.040*
		Belief score	21.072	15	.135
		Behaviour score	20.748	21	.474
5.	Duration of pre gnancy (Trimester)	Risk awareness score	23.752	14	.048*
		Belief score	25.809	10	.004*
		Behaviour score	25.281	13	.032*
6.	Presence of chronic medical condition	Risk awareness score	19.463	14	.148
		Belief score	13.225	10	.211
		Behaviour score	34.885	14	.002*
7.	Taking prescription medication for chronic illness	Risk awareness score	13.402	7	.063
		Belief score	9.163	5	.103
		Behaviour score	3.829	7	.799
			Pearson's correlation		Risk awareness score
8.	Number of pregnancies	Risk awareness score	-0.081		0.272
		Belief score	0.031		0.675
		Behaviour score	-0.245		.0001*
9.	Number of children/successful deliveries	Risk awareness score	-0.122		0.097
		Belief score	0.033		0.656
		Behaviour score	-0.301		.0001*

***** Statistically significant association

Relationship between assessment variables

Correlation analysis was conducted among the assessment variables (respondents' medication risk awareness, their belief and medication use behaviour) to observe the relationship which exists between the variables. In this bivariate analysis, results showed that there was a statistically significant positive correlation between respondents' risk awareness and their beliefs regarding medication use in pregnancy (r = 0.276; p = 0.0001).

Our results also showed a statistically significant relationship between respondents' risk awareness, and their medication use behaviour (r = 0.234; p = 0.001). Furthermore, our results showed a statistically significant relationship between respondents' beliefs and medication use behaviour (r = 0.289; p = 0.0001).

Multivariate linear regression revealed that the respondents' medication risk awareness score was a predictor of their beliefs score (B = 0.227; p = 0.002); and a predictor of their medication use behaviour score (B = 0.168; p = 0.022). This shows that every unit increase in risk awareness score increases respondents' belief and medication use behaviour scores by 0.227 and 0.168 units respectively.

Table 6: Relationship between medication risk awareness and beliefs regarding medicine/medicine use behaviour

Variables	Correlation (r)	Significance (p)	Standardized coefficients Beta	Significance (p)	95% Confidence interval	
					Lower bound	Upper bound
Beliefs score	0.276	0.0001	0.227	0.002	0.122	0.542
Behaviour score	0.234	0.001	0.168	0.022	0.028	0.353

DISCUSSION

Risk awareness, beliefs, and medicine use behaviour among women represent a multifaceted domain within public health, shaped by a complex interplay of physiological, psychological, and sociocultural determinants. A comprehensive understanding of these factors is essential for developing effective health interventions and policies aimed at optimizing medication adherence and safety among women. Almost all our respondents were aware that a wrong drug choice during pregnancy can affect the formation of the fetus and the health of the mother. The administration of medications during pregnancy requires meticulous consideration, as inappropriate drug selections can result in substantial adverse effects on both the foetus and the mother's health. It is crucial for pregnant women to be cognizant of these risks, as such awareness influences their adherence to medication regimens and their propensity to seek guidance from healthcare professionals. The objective of selecting appropriate medication is to attain therapeutic benefits for the mother while minimizing foetal exposure to harmful substances. This entails avoiding teratogenic drugs, initiating therapy with the lowest effective dose, and selecting safer alternatives whenever possible. Providing adequate counseling and education on drug safety during pregnancy supports informed decision-making and promotes improved outcomes for both mother and child.[17-23]

Majority of the respondents were also aware that the pharmacist should provide all necessary information and advice regarding medications before dispensing it to a pregnant woman. This observation is consistent with existing research, which underscores the pivotal role pharmacists play in ensuring the safe use of medications during pregnancy.[18,24-26] Studies show that pregnant women expect pharmacists to deliver thorough counseling, encompassing details about drug safety, potential risks to both the mother and the unborn child, and instructions for proper medication usage.[18,20,27] This awareness reflects a broader recognition that effective communication with healthcare providers, particularly pharmacists, is essential for making informed decisions and mitigating adverse outcomes during pregnancy. However, despite many pregnant women acknowledging the advisory role of pharmacists, some literature indicates a discrepancy between patient expectations and actual pharmacist practices. Studies reveal that pharmacists may not consistently take the initiative to counsel pregnant women, resulting in missed opportunities to address concerns and provide comprehensive advice.[26,28-31] These gaps underscore the need for enhanced pharmacist training and a greater emphasis on patient-centered communication to ensure pregnant women receive all necessary information. Improving pharmacist engagement could enhance trust, adherence, and ultimately, health outcomes for both mothers and their infants.[32-35]

More than one-tenth of the women believed it is safe to take common medications and OTCs during pregnancy without the advice of a physician or pharmacist. Research consistently indicates that a substantial proportion of expectant mothers presume that common medications and OTCs are safe for use without professional consultation, underscoring a lack of awareness regarding potential risks to fetal development.[36-38] Studies also suggest that this belief is influenced by demographic factors such as educational attainment, access to healthcare information, and cultural background.[39,40] Some research attributes this misconception to inadequate counseling during prenatal visits, while other studies highlight the influence of self-medication practices shaped by past experiences or peer advice.[40-44] In comparison, our finding aligns with a broader trend where pregnant women frequently underestimate the teratogenic risks or adverse effects of

unsupervised medication use. For instance, a previous study in Nigeria among pregnant women by Obi and Anosike found a poor level of knowledge of medication use and restrictions during pregnancy.[10] This underscores the ongoing need for targeted educational initiatives and enhanced communication from healthcare providers to promote safer medication practices during pregnancy.[23,45,46]

More than a third of the respondents admitted that their pregnancy status has not changed their medication taking behaviour, while many of them admitted that they do not always check the leaflet of the drugs to confirm its safety in pregnancy before administration. Identifying that a significant proportion of the respondents did not modify their medication habits during pregnancy is consistent with previous reports which suggests that a substantial proportion of pregnant women persist in their medication routines despite potential risks to fetal health.[18,27,47] This reluctance or failure to adjust medication practices may be influenced by factors such as limited understanding of drug safety during pregnancy, perceived severity of underlying health conditions, or insufficient guidance from healthcare providers.[48] Furthermore, the observation that many of the participants do not routinely review drug leaflets before taking medication aligns with previous research findings highlighting deficiencies in patient education and risk communication.[49] Drug leaflets serve as a crucial source of safety information, yet their technical language and complexity can hinder comprehension, leading to inconsistent use by patients. This gap in verifying drug safety information prior to use during pregnancy raises concerns about unintentional exposure to potentially teratogenic or harmful substances, which could adversely affect both mother and fetus.[49-52]

Although the respondents' level of education was not significantly associated with risk awareness, beliefs, and medicine use behaviour, we found a significant association between their age and risk awareness and medication use behaviour. Research indicates that age significantly influences health literacy, risk perception, and medication practices during pregnancy.[53-55] Older pregnant women generally possess a more comprehensive understanding of medication risks and are more inclined to modify their medication habits accordingly. Conversely, younger women may exhibit less awareness of these risks and demonstrate less caution in their medication use.[56,57] Additional factors, such as educational attainment, socioeconomic status, and cultural background, have also been reported to affect health-related knowledge and practices during pregnancy. For instance, previous studies have consistently demonstrated that higher education and improved socioeconomic conditions correlate with greater awareness of medication risks and more cautious medication use. In contrast, lower educational levels and limited access to healthcare information are associated with poorer risk perception and potentially unsafe medication behaviors.[58-62] Research has further highlighted the impact of demographic variables on attitudes toward medication adherence and self-medication during pregnancy, underscoring the importance of targeted educational interventions tailored to specific demographic groups. This underscores the necessity of considering demographic diversity when developing public health strategies to enhance medication safety awareness among pregnant women.[47,57,63,64]

The trimester of pregnancy of the participants was also significantly associated with respondents' risk awareness, beliefs and medication use behaviour. During the first trimester, women frequently experience increased anxiety concerning the risks associated with medications due to the critical phase of fetal development, leading to more cautious behavior or even avoidance of medication. As pregnancy progresses into subsequent trimesters, some women may perceive a diminished risk or gain confidence in using medications, which can influence their adherence to prescribed treatments or result in self-medication.[65-67] The impact of the trimester is intertwined with other demographic factors; for instance, older or more educated women might consistently exercise caution throughout all trimesters, whereas younger or less informed women could exhibit varying levels of awareness depending on the stage of pregnancy.[68,69] The implementation of trimester-specific counseling and educational interventions to address evolving perceptions and behaviors as pregnancy progresses may enhance medication safety during pregnancy.[70,71]

Our results suggest that medication risk awareness is a determinant of beliefs and medication use behaviour among pregnant women. When pregnant women are well-informed about potential risks associated with medication, they tend to adopt more cautious attitudes, often preferring to avoid or limit medication unless clearly necessary. Conversely, inadequate risk awareness or misinformation can lead to either unnecessary medication avoidance, potentially compromising

maternal or fetal health, or inappropriate medication use due to underestimation of risks.[72-75]

Limitations of the study

The findings of this study is limited in generalizability because respondents were recruited from only one facility offering antenatal services. Also, the study relied on self-reported data from participants, which may be subject to recall and social desirability bias. Furthermore, there may be a risk of selection bias in the sampling as patients who were willing to participate in the study may differ from those who choose not to participate in the study. Nevertheless, our findings provide valuable insights and trends to inform future efforts aimed at providing adequate counselling and education on drug safety during pregnancy to support informed decision-making and promote improved outcomes for both mother and child.

CONCLUSION

We identified gaps in the risk awareness, beliefs and medicine use behaviour among the women studied. The awareness of the risks associated with the use of medicines in pregnancy was significantly associated with the beliefs regarding the use of medicines in pregnancy as well as medicine use behaviour among the women. There is need for targeted educational initiatives and enhanced communication from healthcare providers to promote safer medication practices during pregnancy.

ACKNOWLEDGEMENTS

The authors appreciate the management of the University of Uyo Teaching Hospital, the facility used in this study, and the members of staff of the obstetrics and gynaecology Department for the assistance offered during the data collection period.

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