

Study of knowledge, attitudes and practices of self-medication among pregnant women in the town of Mokolo in Northern Cameroon

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Abstract

Self-medication is a major public health problem worldwide, given the consequences it can have. However, its consequences seem to be poorly understood by the general public. The aim of this study was to investigate the knowledge, attitudes and practices of self-medication among pregnant women, by identifying the reasons for this practice, the most commonly consumed drugs and their origin. This was an analytical cross-sectional study using a structured questionnaire among women in the town of Mokolo in northern Cameroon. Data were collected and analyzed using SPSS 25. A total of 300 pregnant women were included in the study, 189 of whom were self-medicating, representing a prevalence of 63.00%. The reasons given by these women were: economic difficulties (55.56%), previous experience of treating a similar illness (20.11%), difficulties in accessing a healthcare professional (15.34%) and the feeling that the condition/illness was benign and therefore did not require a medical consultation (8.99%). The drugs most concerned were paracetamol (47.7%), amoxicillin (7.67%), diclofenac (5.67%) and aluminum hydroxide (5.67%). In addition to these pharmaceutical products, some pregnant women also used herbal preparations for treatment.

Self-medication was highest in the first trimester of pregnancy (79.89%). Pregnant women who were most likely to self-medicate were those who were unaware of the dangers of self-medication and those with non-formal, primary education. Patient knowledge of self-medication during pregnancy was poor in 224 women (74.67%). More than three-quarters of patients (75.33%) had negative attitudes to self-medication during pregnancy. More than half (52.33%) had inadequate practices.

Keywords: Self-medication; Medicines; Pregnant women; Mokolo

1 Introduction

In 2020, the World Health Organization announced that more than half of all medicines worldwide were prescribed, distributed or sold inappropriately [1]. In Africa, several studies have been carried out on self-medication: a study carried out on 764 patients with sexually transmitted infections in Kumasi (Ghana) showed that 74.5% of these patients had practised self-medication before going to hospital [2], while another study carried out in Togo by Almeida Ayi in 2003 reported 93% self-medication [3]. In Cameroon, a study published by Angouan'D S.A.N. in 1970 estimated this practice at 87.5% among urban patients [4].

Self-medication is a social phenomenon with a growing trend. The reasons for self-medication are many and varied. In pregnant women, changes in the body as a result of pregnancy can lead to a number of minor complaints, often of a transitory nature: nausea, vomiting, gastro-oesophageal reflux, constipation and back pain. Even if these symptoms are transient and not serious, they are unpleasant. They are often the reason for self-medication. The THALIDOMIDE

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tragedy of the 60s and the DISTILBENE tragedy of the 70s have shown that serious mutagenic effects sometimes only manifest themselves several decades after exposure to the risk [5]. In spite of this, some women self-medicate with drugs during pregnancy. But even “commonly used” drugs can be toxic; this toxicity depends essentially on the degree of maturity of the fetus.

It is therefore important that healthcare professionals involved in pregnancy care are made aware of the need to inform pregnant women of the dangers of self-medication during pregnancy. Pregnant women need to be informed of the risks they may be exposing their child to when self-medicating [6]. It is essential to warn pregnant women that self-medication should be avoided during pregnancy, and to encourage them to seek advice from healthcare personnel before taking any medication. It therefore seems necessary to understand the motivations that lead pregnant women to take medicines without a doctor's prescription.

The literature on self-medication in Cameroon is not very abundant, especially that concerning pregnant women. With the aim of providing information to combat this growing scourge, which is harmful to the health of the population, this study set out to assess the knowledge, attitudes and practices of self-medication among pregnant women in the town of Mokolo in Northern Cameroon, in the department of Mayo Tsanaga.

2 Methodology

The study was of a cross-sectional analytical type and focused on the community of Mokolo, the maternity ward of the Mokolo Regional Annex Hospital, the maternity ward of the Auro-Tada Integrated Health Centre, and the maternity ward of the Mokolo 1 Integrated Health Centre.

Pregnant women encountered in the community and in the above-mentioned health facilities between January and June 2020 who agreed to sign the informed consent form were included in the study.

After obtaining ethical clearance from the Comité Institutionnel d'Ethique de l'Université des Montagnes, research authorizations from the management of the recruiting health facilities, and informed consent from each patient, the process was as follows:

- Contact with patients.
- Presentation of the study and its benefits.
- Distribution of the survey form.
- Signature of consent form and completion of survey form by each participant.
- Registration of each participant, with assignment of an anonymous code number.
- Return of questionnaires either by hand or by delivery to the department's midwives, depending on the patient's wishes.

2.1 Data analysis

SPSS 25 was used to analyze the data, while Microsoft Office Excel 2016 was used to construct the graphs. CsPro 7 and Microsoft Office Word 2016 were used to design the input mask and write the report. Quantitative data were represented by means, standard deviation, minimum and median.

3 Results

3.1 Sociological and socio-demographic characteristics

Table1 shows the sociological and socio-demographic characteristics of the 300 respondents.

At the end of the count, 300 women were included in the sample, their ages ranging from 16 to 42, with an average of 26.24 ± 6.55 and a median of 26.

The 20-24 age group was the most represented (28.33%). 80% of the women were married. More than three quarters of women were housewives (75.67%) and only 6% were salaried employees (6%). Most of the pregnant women interviewed had no schooling.

Average gestational age was 3.14 ± 1.97 , with extremes of 1 and 9.

Table 1 Sociological and sociodemographic characteristics of the study population

		Frequency	Percentage
Age	< 20 years	51	17.00
	20 à 24 years	85	28.33
	25 à 30 years	63	21.00
	31 à 34 years	61	20.33
	>35 years	40	13.33
Marital Status	Married	240	80.00
	Single	22	7.33
	Widow	11	3.67
	Divorced	7	2.33
	Cohabitation	20	6.67
Profession	Housekeeping profession	227	75.67
	pupil	19	6.33
	Student	8	2.67
	Informal Sector	27	9.00
	Employee	18	6.00
	Others	1	0.33
Level of Schooling	Illiterate	101	33.67
	Primary	94	31.33
	Secondary	87	29.00
	Superior	18	6.00
Gesture	1	68	22.67
	2	71	23.67
	3	62	20.67
	4	32	10.67
	5	21	7.00
	>5	46	15.33

3.2 Self-medication by pregnant women prior to pregnancy

The number of pregnant women who practised self-medication before pregnancy was high: 248 (82.67%). Table II shows the socio-demographic characteristics of the 248 women who self-medicated before pregnancy.

Of the 248 women self-medicating before pregnancy, 30% were aged between 20 and 25. Self-medication before pregnancy was mainly practised by married women (81%).

190 out of 248 women (76.61%) who self-medicated before pregnancy were housewives. The proportion of self-medication among women with a primary school education and those with a secondary school education was identical (29.84%).

Among the women surveyed, 148 (49.33%) had used information sources to find out about self-medication. Table III shows their main sources of information.

Table 2 Socio-demographic characteristics of the 248 women who self-medicated before pregnancy

		Frequency	Percentage
Age	<20 years	33	13.31
	20 à 24 years	75	30.24
	25 à 30 years	50	20.16
	31 à 35 years	47	19.95
	>35 years	43	17.34
Marital Status	Married	202	81.45
	Single	17	6.86
	Widow	7	2.82
	Divorced	4	1.61
	Cohabitation	18	7.26
Profession	Housewife	190	76.61
	pupil	17	6.86
	Student	13	5.24
	Informal Sector	3	1.21
	Employee	24	9.68
	Others	1	0.40
Level of Schooling	Illiterate	87	35.08
	Primary	74	29.84
	Secondary	74	29.84
	Superior	13	5.24

Table 3 Women's sources of information on self-medication

	Frequency	Percentage
Doctor	42	28.38
Advertising	22	14.86
Internet	19	12.83
Pharmacist	15	10.14
Community relay	21	14.19
Nurse / Carer	20	13.52
Pharmacy clerk	3	2.03
Others	19	12.83

Some pregnant women had several sources of information

3.3 Self-medication during pregnancy

Of the 300 women surveyed, 82.67% had practised self-medication before their pregnancy; but only 63% said they practised self-medication during their pregnancy.

Table 4 presents the essential data on self-medication during pregnancy.

Table 4 Self-medication during pregnancy in Mokolo

		Frequency	Percentage
Age	< 20 years	30	15.87
	20 à 24 years	49	25.93
	25 à 29 years	40	21.16
	30 à 34 years	45	23.81
	>34 years	25	13.23
Marital status	Married	148	78.31
	Single	13	6.88
	Cohabitation	17	6.89
	Widows	6	3.17
	Divorced	5	2.65
Profession	Housewives	144	76.19
	pupils	9	4.76
	Students	5	2.65
	Informal Sector	18	9.52
	Employee	12	6.35
	Others	1	0.53
Level of Education	Illiterate	55	29.10
	Primary	67	35.46
	Secondary	59	31.22
	Superior	8	4.23
Term of pregnancy	1st Trimester	151	79.89
	2nd Trimester	107	56.61
	3rd Trimester	60	31.75
Complaints	Headaches	137	72.49
	Nausea / Vomiting	70	37.04
	Heartburn	58	30.69
	Back pain	52	27.51
	Constipation	19	10.05
	Heavy legs	17	8.99
	tiredness	12	6.35
	Cold	11	5.82

	Hemorrhoids	7	3.70
	Abdominal pains	6	3.17
	Others	35	18.51
Commonly used molecules (some women took several medications)	Paracetamol	143	47.67
	Amoxicillin	23	7.67
	Diclofenac	17	5.67
	Aluminium Hydroxyd	17	5.67
	Metronidazole	15	5.00
	Ibuprofen	13	4.33
	Omeprazole	11	3.67
	Artemether injection	10	3.33
	Medicinal Plants and traditionnal medicine	16	5.33
	Others	32	
Motivation for self-medication	Need for relief and experience of treating a similar case	38	20.11
	Symptoms considered well known	17	8.89
	Economic difficulties	105	55.56
	Difficulties accessing a health professional	29	15.34
Place of acquisition of medicines (some women obtained their supplies from several types of sites)	Market	125	66.14
	Pharmacy	66	34.92
	With a relative	57	30.16
	Others	6	3.17
Origin of the dosage	Proper Choice	81	42.86
	Advice from a loved one	47	24.87
	Old ordinance	46	24.34
	Others	15	7.94

Those under 20 and over 34 were the least likely to self-medicate.

Of the 189 pregnant women who reported self-medication during pregnancy, 78.31% were married, while 76.19% were homemakers.

Self-medication during pregnancy was 35.45% among pregnant women with a primary school education, 31.2% among those with a secondary school education, and 29.10% among illiterate women.

Self-medication is most common in early pregnancy (first trimester).

Among complaints, headaches were the most recurrent (72.49%), followed by vomiting and heartburn. Paracetamol and amoxicillin were the molecules most consumed by pregnant women (47.33%). Herbal formulas also popular

Economic difficulties were the main reason for self-medication among pregnant women.

The main place of purchase for self-medication was the market.

Moreover, 42% of women determined their own dosage.

3.4 Level of knowledge, attitudes and practices of pregnant women

3.4.1. Evaluation scale

In the absence of an official reference system, pregnant women's knowledge, attitudes and practices were assessed on the basis of the items in Table 5.

Table 5 Scale for assessing the level of knowledge, attitudes and practices of self-medication among pregnant women

Knowledge (in %)	
Less than 50,00	Bad
From 50,00 to 64,99	Insufficient
From 65,00 to 85,00	Average
Over 85,00	Good
Attitudes(in %)	
Less than 50,00	Harmful
From 50,00 to 64,99	Inadequate
From 65,00 to 85,00	Approximate
More than 85,00	Righteous
Practices (in %)	
Less than 50,00	Harmful
From 50,00 to 85,00	Inadequate
More than 85,00	Adequate
Overall knowledge (in%)	
Less than 50,00	Insufficient
From 50,00 to 75,00	Average
Over 75,00	Good

3.4.2. Knowledge

To assess knowledge, respondents were asked the 11 questions in Table 6, each worth 1 point. The scores obtained were converted into percentages to enable scoring according to the scale in Table 5.

Table 6 Area explored for knowledge of self-medication

1.	Do you use information to inform yourself about self-medication?
	If yes from what source?
2.	Your doctor
3.	Your pharmacist
4.	Advertising
5.	Internet
6.	Do you think these sources can influence your self-medication habits?

7.	Do you think you know the dangers of self-medication?
8.	Had you received information and advice on common pregnancy-related ailments?
9.	Have you been made aware of the dangers of medications during pregnancy?
10.	In your opinion, are there medications prohibited during pregnancy?

Scores ranged from 0 to 11, with a mean of 4.04 ± 2.29 and a median of 4.00. Figure 1 shows women's overall knowledge of self-medication.

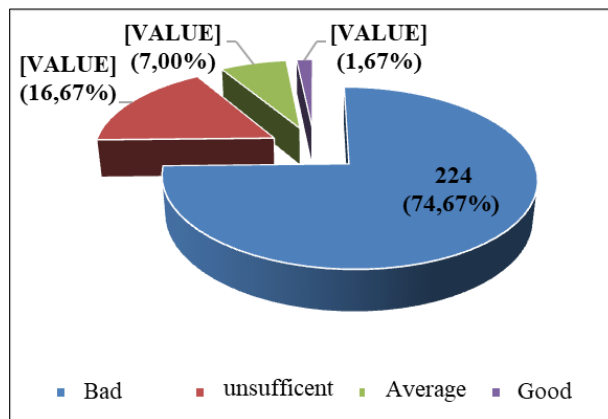


Figure 1 Distribution of pregnant women by level of knowledge

The 300 patients' knowledge of self-medication during pregnancy was poor in 74.67% of women (224), and good in only 1.67%.

3.4.3. Attitudes

Table 7 shows the questions proposed to assess pregnant women's attitudes.

Table 7 Questions on women's attitudes to self-medication

1.	Have you resorted to using medications outside of pregnancy without consulting a health care worker?
2.	Do you read the medication leaflet before using it?
3.	Before taking a medicine, do you pay attention to the expiration date?
4.	What do you do with the medicine box when you don't finish it?
5.	If you fail, what do you do?
6.	Have you ever recommended medication to those around you?

Scores ranged from 0 to 5, with a mean of 1.56 ± 1.32 and a median of 1.00. Figure 2 provides information on the quality of women's overall attitudes to self-medication.

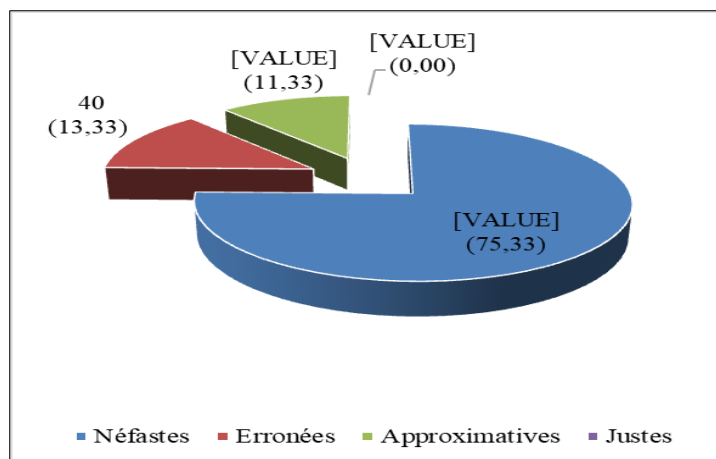


Figure 2 Distribution of 300 pregnant women according to their level of attitudes

Overall, more than 75.33% of women had negative attitudes towards self-medication during pregnancy.

3.4.4. Practices

With regard to practices, only the following 2 questions, each worth 1 point, were asked.

- Did you resort to the use of medication during your pregnancy without consulting a health worker (current or previous pregnancies)?
- How do you take these products?

Scores ranged from 0 to 1, with a mean of 0.52 ± 0.50 and a median of 1.00. Figure 3 provides information on the nature of women's overall self-medication practices.

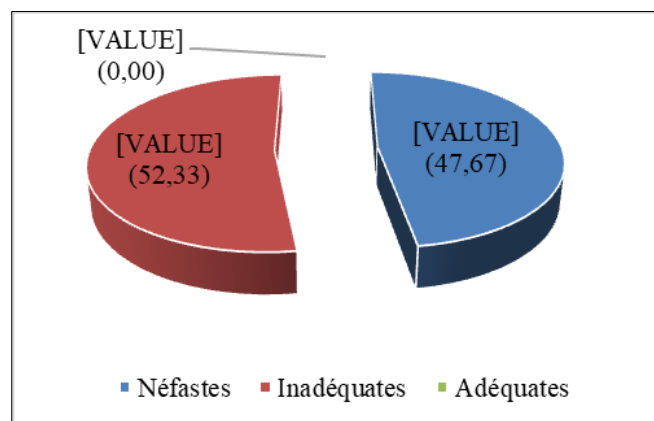


Figure 3 Distribution of patients according to practices

More than half the women (52.33%) had inadequate practices

4 Discussion

Among the 300 pregnant women surveyed, 63.00% had used medication at least once during pregnancy without a medical prescription. This prevalence is equivalent to that found by Mulongo in Bukavu, Democratic Republic of Congo, in 2015 [7] and by Joseph et al. in Jos, Nigeria, in 2017 [8]. Self-medication during pregnancy is therefore common in Cameroon. The practice is even more widespread in other countries such as Egypt (86.0%) [9], the USA (88 to 82%) [10,11], Tanzania 46.26% [12], Canada 27% [13]. The disparity in prevalence could be explained by the geographical, socio-demographic, socio-economic, socio-cultural situations, level of education and/or development of awareness of the population in different countries.

Paracetamol and amoxicillin were the most widely used drugs. This finding is identical to that observed in the DRC [7], but is also in line with other studies carried out on the same type of subject [14]. A plausible explanation for these results could lie in the complaints for which pregnant women self-medicate (headaches, colds and coughs) and the fact that these drugs are available over the counter. It should be noted that self-medication with antibiotics presents an overall risk of spreading antibiotic resistance, as reported in the literature [15].

Economic difficulties (55.56%), previous experience of treating a similar illness (20.11%) and difficulties accessing a healthcare professional (15.34%) were the main reasons for self-medication. This finding had already been made in many similar studies [14,16,17]. The mention of self-medication with medicinal plants by pregnant women is not surprising, as medication with traditional plants is part of the culture in Africa due to their availability, affordability and ease of access, and also due to certain false beliefs that plants, being natural products, present no risk [18]. This has been observed in other African countries, in particular the Republic of South Africa, where self-medication with medicinal plants during pregnancy is common [19].

The greater practice of self-medication during the first trimester of pregnancy may be attributed to the occurrence of many symptoms, discomforts such as nausea or vomiting, headaches, dizziness and fever in this period compared to other trimesters of pregnancy.

Among sources of drug supply, the market came in 1st place (66.14%); other studies [20,21] have placed this source ahead of the pharmacy. This discrepancy is due to the absence of a private dispensary in the town of Mokolo (at the time of our survey) and to the proximity of this locality to Nigeria. The dispensary was cited as the second place of supply (34.99%); direct purchase from the dispensary and the use of medicines from the personal or family pharmacy are found in most European studies [22-23]. The acquisition of medicines at the market or in the street is a specific feature of developing countries. In Cameroon, as in other developing countries, there is no social security system. Only civil servants and employees of private companies benefit from a system of partial coverage of medical care and pharmacy costs. Medicines sold on the street or in the market are exposed to the elements. Expiration dates are often illegible or missing from the packaging. The vendor acts as both prescriber and pharmacist. Dosages are also taken haphazardly. The efficacy and safety of drugs purchased in this way are not guaranteed. Lovers of these products are exposed to real dangers (hepatotoxicity, kidney damage) [21].

Eighty-one pregnant women (42.86%) took their medication on their own initiative, using, among other things, an old prescription from an authorized health professional, their instinct, and also a prescription from another patient with the same symptoms to determine drug doses. In this respect, Vicat asserted that the use of drugs from the family medicine cabinet, previously prescribed by a doctor and consumed on the patient's own initiative, is defined as "wild" or "irresponsible" self-medication [24].

Pregnant women who were most likely to self-medicate were those unaware of the dangers of self-medication and those with a non-formal, primary education. This result is similar to those documented in other developing countries such as Sudan, Sri Lanka, Mexico, Ghana and Nigeria [25,26], but different from those in developed European countries, where it is the most developed levels of education that are associated with self-medication [27-28]. Educated patients in developing countries may have high incomes, as most have jobs and can therefore afford healthcare services, and would therefore not prefer self-medication. Low income is a predictor of self-medication in poor/developing countries [26, 29, 30], while a high level of education is associated with promptness in seeking care from healthcare providers [31] and going to the clinic [32]. Conversely, in developed countries, people with a high level of education opt for self-medication because there are even "online pharmacies"; these patients can easily understand drug brochures and believe they can treat benign illnesses without consulting a doctor, whereas illiterate patients may not understand drug brochures.

5 Conclusion

In today's society, medicines are becoming increasingly commonplace. In Mokolo, and probably in other towns in Cameroon, self-medication is commonplace, including among pregnant women.

In Mokolo, knowledge of self-medication was good for only 1.67% of pregnant women. Pregnant women's attitudes to self-medication were not good; their attitudes were predominantly negative (>75%). The self-medication practices of pregnant women in Mokolo were mostly inadequate; ignorance of the dangers of self-medication and low levels of schooling predispose pregnant women to self-medication.

The health and administrative authorities are therefore called to account for the inadequacy or inappropriateness of the information provided.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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