

Herbal Medicine Use and Contributing Factors among Pregnant Women at Shiek Hassan Yabare Referral Hospital in Jigjiga Town, Eastern Ethiopia

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RESEARCH

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ABSTRACT

Background

Herbal medications incorporate herbs, home remedies, herbal preparations, and finished home-grown items that contain portions of plants or other plant materials as active ingredients and consumed by the entire population including pregnant women

Aims

To assess the use of herbal medicine and predictors among pregnant women attending ANC clinic at Shiek Hassan Yabare Referral Hospital in Jigjiga, Eastern Ethiopia

Methods

A cross-sectional study design was conducted From February to July, 2021. A total of 332 pregnant women were drawn using systematic random sampling technique. Structured interviewer administered questionnaire was used to collect data. Data was analysed by using SPSS version 21 software. Frequencies of variables were generated; tabulation and percentages were used to illustrate study findings. Bivariate and multivariable logistic regression was used to analyse the association between the dependent and independent variables. P-value less than 0.05 considered as a statistically significant

Results

One hundred forty one (42.5per cent) used herbal remedies during current pregnancy. Age group of 25-34 years [AOR=4.11, 95 per cent CI: (1.47, 11.52)], being rural resident [AOR=2.9, 95 per cent CI: (1.15, 7.31)], income ≤

4957 [AOR=3.36, 95 per cent CI: (1.27, 8.9)], good knowledge [AOR=0.39, 95 per cent CI: (0.17, 0.92)] and favorable attitude [AOR=3.74, 95 per cent CI: (2.2, 6.2)] were significantly associated with herbal medicine use during pregnancy

Conclusion

Herbal medicine consumption during pregnancy was common in the study area. Age, residence, average monthly income, knowledge and attitude on herbal remedies were significantly associated with herbal medicine use during pregnancy. Community based health education campaign recommended to change women's perception and intentions towards herbal medicine utilization during pregnancy

Key Words

Pregnancy, Herbs, Hospital, Jigjiga, Ethiopia

What this study adds:

1. What is known about this subject?

Several studies were done in various parts of the world revealing that herbal medicines consumption was high prevalent during pregnancy. The contributing factors of this may be many and various.

2. What new information is offered in this study?

The study revealed that herbal medicine use was common during pregnancy. The enabling factors should be focused to cease the indiscriminate use of herbs during pregnancy.

3. What are the implications for research, policy, or practice?

There is a need of strong community based health education intervention to alter women's perception and intentions towards herbal medicine consumption.

Background

Herbal medicines defined as part of traditional medicines, are characterized as plant-determined material or preparations noticed to have remedial advantages; they often contain crude or processed ingredients from at least one plant". Herbal medications incorporate herbs, domestic

remedies, herbal preparations, and completed domestic-grown materials that incorporate portions of plants or different plant materials as active ingredients and used by the entire population including pregnant women¹.

Pregnancy is a condition that involves major physiological changes that lead to many pregnancy-related problems including; nausea, vomiting, constipation and heartburn, and induce labor². The main reasons that pregnant women prefer herbal medicine includes; being more effective than conventional medicine, safety during pregnancy (as it is a natural product), belief in heritage culture of herbal medicine. Herbal medicines used by pregnant women are mainly made by mixing different parts of the plant, while some use herbal medicines that are already formulated and packaged^{3,4}.

Globally, 65-80per cent of the world's population consumes herbal medicine as the primary form of health care⁵. In Africa, including Ethiopia, an increasing number of pregnant women are using herbal medicine to treat pregnancy-related problems because of its effectiveness and accessibility. In total, 80per cent of the Ethiopian population uses traditional medicine. The reasons for traditional medicines uses in Ethiopia are the cultural acceptability, relatively low cost of traditional medicine and difficult access to modern health facilities and herbs were used during in all trimesters⁶. The policies and standards governing traditional medicine are still too weak. Traditional medicine is an integral part of a community's identity and values, which so difficult to regulate it through a national framework for its safety and effectiveness using different classifications and descriptions of medicines⁷.

Studies in southern Ethiopia found that (73.1per cent) of pregnant women used herbal medicine and the most commonly used herbs were ginger (55.8per cent), garlic (69.8per cent) and tenaadam (26.4per cent) while in western Ethiopia, pregnant women use ginger (44.4per cent) and garlic (37.3per cent). Nausea (23.9per cent) and morning sickness (21per cent) are the most common reasons for using herbs during pregnancy^{5,8}.

Herbal medicines utilization in Somali women is not only common but also culturally acknowledged. However, the use of herbs during pregnancy may be among the contributing factors to mothers and fetal illness and death. In fact, there are no studies and reports on the use of herbal medicines in pregnant women in the Somali region. Therefore, the aim of this study was to evaluate the prevalence of herbal medicine use and associated factors among pregnant women attending antenatal care clinic at Jigjiga University Shiek Hassan Yabare Referral Hospital, eastern Ethiopia.

Methods

Study design and participants

A facility based cross-sectional study design was conducted to assess the prevalence and associated factors of herbal medicine use. Jigjiga University Shiek Hassan Yabare Referral Hospital (SHYRH) is the only teaching and referral hospital in the Somali region, starting to provide services in 2017 and serving the surrounding areas and Somali region. The hospital provides a wide range of services to more than 38,523 outpatients, 7,690 inpatients, 3,434 delivery services and 9,270 emergency cases each year. It provides services at the general and specialist levels, including internal medicine, pediatrics and child health, neonatal intensive care unit (NICU), surgery, obstetrics and gynecology, ENT, neurology, psychiatry, ophthalmology, dermatology, dentistry, radiology, pathology, laboratory and pharmacy. Each year, more than 11,000 pregnant women visit the hospital for prenatal care.

Sampling techniques

A single population proportion formula was employed by using (73.1per cent) of prevalence of herbal medicine use from previous study⁵, $1.96 = Z$ (standard normal distribution), 95per cent confidence level, 5per cent margin of error and adding 10per cent of non-response rate and accordingly 332 study participants were involved. To get the calculated sample size participants were approached systematic random sampling technique during the study period.

Inclusion criteria

All pregnant women attending antenatal care clinic at Jigjiga University Shiek Hassan Yabare Referral Hospital during the study period and give informed consent were included in the study.

Exclusion criteria

Those who were unable to hear, uncooperative and mentally abnormal mothers were excluded from the study.

Outcome variable

Herbal medicine use during pregnancy

Explanatory variable

Socio-demographic characteristics, obstetric related factors, health facility service and knowledge and attitude factors on herbal medicine use.

Data collection instruments

The data collection questionnaire was developed after reviewing different relevant studies and literatures. The questionnaire developed in English language then translated to Af-soomaali (local language). Pre-test was done on 5per cent of the total sample size at Karamarda hospital. After the pre-test, necessary modifications and correction performed to ensure validity. Pregnant women who answered above mean from knowledge assessing items were considered as "having good knowledge". Attitude was

measured by using Likert scale ranged from strongly disagree to strongly agree. Pregnant women who scored above mean from attitude assessing items considered as "having favorable attitude".

Data processing and analysis

The data was cleaned, entered and analysed using SPSS version 21 software. Frequency and percentage was done and the statistical analysis was performed using logistic regression to determine association between variables. Data was analysed and presented by tables. Association was considered to be statistically significant when P-value less than 0.05.

Ethical committee approval

Prior to conduction of the study, permission was obtained from the referral hospital authorities and ethical clearance from the institutional ethics committee of Jigjiga Health Science College. Informed consent was taken from each participant in the study after assuring confidentiality and anonymity of the information.

Results

Socio-demographic and health related characteristics

A total of 332 pregnant women involved in this study with a response rate of 100per cent. Two hundred fifty eight (77.7per cent) of the pregnant women were in the age group of 25-34 years. The mean age of participants was 28 ± 4.4 (SD). Two hundred twenty two (66.9per cent) of the participants were residing in the urban area. Two hundred forty five (73.8per cent) of participants were married. Regarding their religion, majority (80.1per cent) of the participants were Muslim. Two hundred sixty three (79.2per cent) of the respondents were housewife. One hundred forty three (53.6per cent) of the participants had a household income of ≥ 4957 ETB per month. Concerning their educational level, 115(34.6per cent) of respondents were secondary level and 76(22.9per cent) of respondents had diploma and above education level. Two hundred seventy seven (83.4per cent) reported that their current pregnancy were planned.

Two hundred twenty three (67.2per cent) of the respondents had ANC follow up. Among those who had ANC follow up, 150(68.3per cent) visited an antenatal care less than two times. Above half 180(54.2per cent) of respondents were multipara mothers and the remaining (45.8per cent) were primipara. Most of respondents 281(84.6per cent) had 1-2 children. Two hundred sixteen (65.1per cent) of the respondents reported the nearest health care facility were less than 1km. Two hundred forty one (61.2per cent) of respondents reported Bajaj was their mode of transportation as shown in Table 1.

Prevalence of herbal medicine use during pregnancy

One hundred forty one (42.5per cent) with 95 per cent CI :(37.1–48) of participants utilized herbal medicines during current pregnancy (Figure 1). Among those who used herbal remedies during current pregnancy, 70 (49.6 per cent) took in the third trimester of their pregnancy, 91(63.6per cent) experienced side effects. Among those who experienced side effects on post administration, 40(44.4per cent) developed vomiting on post administration. Majority of respondents 55(38.7per cent) were received information from their family/relatives and herbalist 38(27per cent). The most common reason for using herbal medicine during pregnancy, 70(49.3per cent) of respondents claimed that herbal medicines were cheaper than modern medicine.

Types of herbal medicine used and indications

The most common herbal medicines used by pregnant women during pregnancy were Ginger 101 (71.6per cent), Garlic 67 (47.5per cent), Flex seed 38(26.9per cent), Eucalyptus 35(24.8per cent), Rutachalepensis 23(16.3per cent), Lepidium 13(9.2per cent) Ocimumlamiifolium 11(7.8per cent) and others 10(7per cent). Regarding, indications for herbal medicine during current pregnancy, were to manage vomiting 55(39.7per cent), nausea 51(36.1per cent), cough 29(20.5per cent), fever 31(21.9per cent), constipation 39(27.6per cent), back pain 32(22.7per cent) and others 17(12per cent) as shown in Table 2. Ninety (63.8per cent) of respondents used herbal remedies orally. Among those who took herbal medicine during current pregnancy, 70(49.3per cent) took herbal remedies per day. Above half 77(54.2per cent) of respondents prepared herbal remedies by themselves whereas, the rest from herbalists, traditional healers.

Knowledge and attitude on herbal medicine use

Two hundred ninety nine 90.1per cent of the respondents heard about herbal medicine. One hundred ten (33.1per cent) of respondents were used herbal medicine before. Regarding, knowledge towards herbal medicine, 221(66.5per cent) had good knowledge on herbal medicines. The majority 102(30.7per cent) believed that herbal medicine were safer than modern medicines, 117(35.2per cent) perceived that herbal medicine were more effective than conventional medicine, 118(35.5per cent) reported that herbal medicine were more easily accessible than conventional medicine and 119(35.8per cent) reported that they prefer the use of herbal medicine as first line treatment. Regarding the overall attitude towards herbal use, 180(54.2per cent) had favorable attitude towards herbal medicine use.

Predictors of herbal medicine use during pregnancy

In multivariable logistic regression analysis model, age, residence, income, attitude and knowledge on herbal medicine were significantly associated with herbal medicine

use during pregnancy. Pregnant women whose age group 25 -34 years were 4.11 times more likely to use herbal medicine than younger age [AOR=4.11, 95 per cent CI: (1.47, 11.52)]. The odd herbal medicine use during pregnancy was 2.9 times higher among rural residents compared to urban counterparts [AOR=2.9, 95 per cent CI: (1.15, 7.31)]. Pregnant women whose average monthly income \leq 4957ETB were 3.36 times more likely to use herbal medicine compared to their counterparts [AOR=3.36, 95 per cent CI: (1.27, 8.9)]. Pregnant women who had good knowledge were 61per cent times less likely to use herbal medicine than those who had low knowledge [AOR=0.39, 95 per cent CI: (0.17, 0.92)]. Pregnant women who had favorable attitude towards herbal medicine were 3.74 times more likely to use herbal medicine than their counterparts [AOR=3.74, 95 per cent CI: (2.2, 6.2)].

Discussion

The use of herbal medicine during pregnancy in this research was 42.5per cent (95per cent CI: 37.1, 48). This finding is in line with a study done in Gondar, Ethiopia⁹. This might be due to similarity of some socio-demographic characteristics. The prevalence of herbal medicine utilization in the current study was lower than studies done in Hossana, Nekemete, Malawi, Bangladesh and Nigeria^{5, 8, 10-13}. The discrepancy could be due the presence of some cultural variation, demographic and health care service set up among study participants.

The common herbal medicine used by pregnant women during pregnancy were; ginger (71.6per cent), garlic (47.5per cent), Flex seed (26.9per cent), eucalyptus (24.8per cent), Rutachalepensis (16.3per cent), Lepidium (9.2per cent), Ocimumlamiifolium (7.8per cent). The pattern of herbs used varied greatly from locations and population to another due to their type of vegetation and culture, whereas, ginger and garlic have been consistently reported as the commonest herbal medicine used during pregnancy in several studies^{14, 15}.

The current study revealed that, age of the study participants had an association with herbal medicine use during pregnancy, those whose age group 25-34 years were more likely to use herbal remedies than >34 years. The prevalence of herbal medicine use during pregnancy decreases as age increases. Moreover, Age has significance influencing on herbal medicine use during pregnancy in several studies.^[15]

Pregnant women resident in rural area was more likely to use herbal medicine than those who were residing in urban. This finding is similar with a study done in northern Ethiopia¹⁶. This might be due to the difficulty of accessing the health care facilities in rural area.

The current study revealed that average monthly income was found to significantly affect the use of herbal drugs during pregnancy. Those with average monthly incomes \leq 4957ETB were more likely to use herbal medicine during pregnancy than those whose income was greater than 4957ETB. Similarly, the influence of socio-economic status on herbal medicine use during pregnancy has been observed in several studies. However, the finding was inconsistency with a study done in Nigeria.^[12, 17] This is might be due to those relatively who had better income can seek and cover the cost of better health care services.

Regarding the effects of pregnant women's knowledge towards herbal medicine use, those pregnant women who had good knowledge were less likely to use herbal medicine compared to those who were less knowledgeable. These findings were supported by the studies done in Ethiopia^{5, 18}. This is might be due to the fact that knowledge for specific activities is the key factors to start behaving and maintaining it continuously.

Furthermore, this study findings have shown that pregnant women who had favorable attitude toward herbal medicines were more likely to use herbal remedies as compared with those had unfavorable attitude. This finding was consistent with studies done in Kenya and Zambia^{19, 20}. This indicates similarity of common cultural belief on causation of disease and effectiveness of herbal medicines. This influence also increases the use of herbal medicine as their first-line treatment for any illness. This requires high attention and immediate intervention to cease the indiscriminate use of herbal medicines during pregnancy.

The limitations of this study, the data were collected by using interviewer-administered questionnaire, mothers might not felt free and the reported prevalence might be overestimated or underestimated. Only quantitative methods were used during data collection and hospital setting study might introduce selection bias.

Conclusion

Herbal medicine use during pregnancy is prevalent in the study area. However, many herbal medicines could potentially lead to serious toxic effects. Study participants' age, residence, average monthly income, attitude and knowledge on herbal medicine were significantly associated with herbal medicine use during pregnancy. Community based health education and promotion campaign is recommended to change women's perception and intentions towards utilization of herbal medicine during pregnancy. Moreover, interventions focusing on reducing the indiscriminate use of herbal medicines should be implemented at regional and local level to prevent maternal and fetal risks.

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PEER REVIEW

Not commissioned. Externally peer reviewed.

CONFLICTS OF INTEREST

The authors declare that they have no competing interests.

ETHICS COMMITTEE APPROVAL

Jigjiga Health Science College research ethics committee REC/05/14

Figures and Tables

Figure 1: Prevalence of herbal medicine Use during pregnancy, Jigjiga, 2021

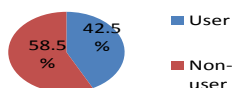


Table 1: Socio-demographic and health related characteristics of respondents, Jigjiga, 2021

Characteristics	N	per cent
Age	≤24	69 20.8
	25-34	258 77.7
	>34	4 1.2
Marital status	Single	19 5.7
	Married	245 73.8
	Divorced	45 13.6
	Widowed	13 6.9
Ethnicity	Somali	265 79.8
	Amhara	45 13.6
	Oromo	22 6.6
Religion	Muslim	268 80.1
	Orthodox	44 13.3
	Protestant	22 6.6
Education	Unable to read & write	36 10.8

	Read & write	38	11.4
	Primary	67	20.2
	Secondary	115	34.6
	Diploma & above	76	22.9
Residence	Urban	222	66.9
	Rural	110	33.1
Occupation	Housewife	263	79.2
	Government Employee	46	13.9
	Self-employee	23	6.9
Income(monthly)	≤4957	154	46.4
	>4657	178	53.6
Gravidity	Primi	152	45.8
	Multi	180	54.2
Parity	≤2 children	281	84.6
	>2 children	51	15.4
ANC	Yes	223	67.2
	No	109	32.8
Often ANC visit (n=223)	≤2times	97	43.2
	>2times	126	56.8
Pregnancy status	Planned	277	83.4
	Unplanned	55	16.6
Previous use of herbal medicines	Yes	110	33.1
	No	222	66.9
Distance of HFfs	≥1KM	216	65.1
	>1KM	116	34.9
Mode of transportation	Foot	63	19
	Bajaj	203	61.2
	Ambulance	34	10
	Taxi	33	9.8

Table 2: Types of herbal medicine used and indications during pregnancy among respondents, Jigjiga, 2021

Herbs name	Indications
Ginger (Zingiber officinale)	Nausea, vomiting, cough, common cold and UTI
Garlic (Allium sativum)	Cough, common cold, fever, toothache, pre-eclampsia, UTI and increase immunity n
Flax seed	UTI, breast pain, Pre-eclampsia, lower blood sugar, increase kidney function
Eucalyptus	Cough, fever, common cold, sore throat, toothache, backache, joint pain, sinusitis, malaria and increase immunity

Rutachale pensis	Fever, common cold, headache, diarrheal, toothache, earache, typhoid, liver problems, stomach ache and anthelmintic
Lepidium sativum	Cough, fever, common cold, sore throat, toothache, constipation, lower blood pressure and sugar and increase immunity
Ocimumla miifolium	Cough, fever, pain relief, malaria and UTI
Europhea	Nausea, constipation, diarrheal, stomach ache and lower blood sugar
Pomegran ace	Cough, respiratory problems, digestive problems and anthelmintic
Cloves	Cough, respiratory illness, digestive problems and muscle pain
Aloe vera	Heartburn, constipation, skin and hair treatment and lower blood sugar
Coriandru m	Nausea, constipation, diarrheal, stomach ache and lower blood sugar
Capsicum annum	Fever, digestive disorder, toothache, joint pain and pain relief