Original Research Article

FACTORS ASSOCIATED WITH FEBRILE TREATMENT-SEEKING BEHAVIOUR AMONG EXPECTANT MOTHERS IN SSEKANYONYI, UGANDA

ABSTRACT

Background: Malaria manifested in febrile illnesses is a serious health problem that contributes greatly to morbidity and mortality in Uganda. This is no different from the situation In Mityana District where 45% of pregnant mothers still do not seek treatment in health facilities when they experience febrile illnesses. while 4 in 10 pregnancy deaths are malaria-related. Therefore, against this background, a study was undertaken to identify factors associated with treatment-seeking behavior among pregnant women suffering from febrile illnesses assumed to be malaria in Ssekanyonyi Sub-County in Mityana District, Uganda.

Methods: A cross-sectional study design in which questionnaires and key informant guides were administered to study subjects as part of the data collection process. SPSS software version 20.0 was used for data analysis and a Logistic Regression model was fitted to identify factors that independently influenced their health-seeking behavior. of pregnant mothers.

Results: 198 expectant mothers were enrolled in the study. Out of these, 42.9% were aged 15-25 years, 73.7% had achieved Secondary education, and 46.5% were married. The treatment-seeking behavior was found to be standing at only 56.6%. Among the different factors studied, health education on malaria (AOR = 3.68, P = 0.000), the attitude of midwives (AOR = 1.45, P = 0.003), patient care (AOR = 0.33, P = 0.030), and attitude of the pregnant mother (AOR = 5.38, P = 0.000) were found to be statistically significantly associated with treatment-seeking behavior among pregnant mothers with febrile illnesses.

Conclusion: From the above results, it was concluded that the following factors: Health education on malaria, the attitude of midwives, patient care and attitude of the pregnant mothers need to be given attention in a bid to reduce febrile illnesses. The Ministry of Health and other responsible stakeholders need to reinforce awareness programs on health education among women of reproductive age about the danger of febrile illnesses during pregnancy and also help midwives address issues related to their attitude towards pregnant mothers.

Keywords: Health Based and Personal Factors on Treatment Seeking Behaviour, pregnant women, febrile illnesses.

INTRODUCTION

Treatment-seeking behavior for febrile illnesses assumed to be malaria among pregnant women is a great concern than other population groups (other women, men, and children) (UNICEF, 2009 and WHO, 2016). Febrile illnesses can lead to abortion, intrauterine fetal death, premature delivery, and even maternal death in case pregnant mothers do not seek treatment in time (Mvondo, James & Cambell, 2012; WHO, 2016).

Previous studies (Chepkemoi & Mutulei, 2014) indicate that factors such as insufficient health education, the attitude of midwives, and myths about sickness during pregnancy are the major hindrances to seeking treatment among pregnant mothers even though they are exposed to febrile illnesses. The majority of the mothers depend financially on their husbands for health support, yet the majority of the vulnerable mothers are found in poverty-stricken countries and families

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where many use herbal medication before seeking conventional treatment (Chepkemoi & Mutulei, 2014; UNICEF, 2009; WHO, 2016). According to UNICEF (2009) and Chepkemoi & Mutulei (2014), health education in rural areas is said to be unconvincing yet mothers are aided to shun health units due to the bad attitude of the midwives during the antenatal visits. Most mothers in rural areas cover long distances to health centers, there are several other factors that seem to influence treatment-seeking behavior among pregnant mothers when they experience febrile illnesses (Chepkemoi & Mutulei 2014).

WHO (2007) estimates that globally, 70% of women access antenatal care at least once in pregnancy. This presents an opportunity for pregnant women to access several health care services including treatment of febrile illnesses assumed to be malaria. According to UNICEF (2009), in East Asia and the Pacific, only 90% of expectant mothers seek necessary health treatment from a skilled provider while others seek help from herbalists and drug shops. Available epidemiologic studies of malaria and febrile illnesses in pregnancy (MIP) in India by Sholapurkar *et al.* (2015) found that many mothers were not seeking treatment due to low income and distance, yet malaria was associated with adverse maternal and neonatal outcomes including maternal anemia, preterm labor, stillbirths, and low birth weight. In Ethiopia, more than three-quarters of the landmass (altitude <2000 m) of the country is malarious, and pregnant women and under-five years old children are the most vulnerable groups (Musa, Salaudeen & Jimoh, 2009).

According to UNICEF (2009), the overall burden of febrile illnesses assumed to be malaria among pregnant mothers is high and its adverse outcomes to the pregnant mother and the unborn child are widespread. Despite the growing awareness about the pregnancy-associated febrile illness and the need for treatment, research has revealed that community members still attribute malaria to bed bags, mangoes, maize, and poor nutrition yet many mothers seem to think febrile illnesses among pregnant women is normal and may not require medical treatment (MoH, 2013).

Malaria manifested in febrile illnesses is a serious health problem that contributes greatly to morbidity and mortality in Uganda (MoH, 2014). This is no different from the situation in Mityana District where 45% of pregnant mothers still do not seek treatment in health facilities when they experience febrile illnesses while 4 in 10 pregnancy deaths are malaria-related (Mityana District 2018).

METHODOLOGY

Study area

The study was carried out in Ssekanyonyi Sub County in Mityana District. Ssekanyonyi is located 20 kilometers by road after Mityana Municipality and Busunju Town council.

Study design

The study adopted descriptive survey design with A cross sectional study was designed to collect behavioral reactions from different respondents when they experience febrile illnesses. Both qualitative and quantitative research approaches were used. The descriptive study was descriptive to allowed the researcher to discover patterns in the respondents thinking and also to describe issues from their own point of view. Quantitative approach was used to analyze primary data from the field using descriptive statistics while qualitative approach was used to describe the state of reactions to febrile illnesses assumed to be malaria in Ssekanyonyi Sub County and discussion in relationship to interview results. The correlations design was used to establish relation between variables.

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Study population and Sample size determination

Sample size of was 321 pregnant women was used, as derived from the study population (9532) who were estimated to be visiting the health units in the study area……. Proportionate allocation sampling formula by Kothari (2004) was used to obtain the sample size from each health unit, based on the formula derived by Krejcie and Morgan (1970). However, only 198 respondents who turned up were interviewed.

Table 1: Target Population and Sample Size

Health Center	Target Pp	Sample Size
Ssekanyonyi HC IV	4396	162
St Padre Pio HV III	2066	70
Bussunju HC III	1086	32
Bussunju Police HC II	998	29
Kassikombe HC II	986	28
Total	**9532**	**321**

Sampling procedure

A simple random sampling procedure was employed to select 198 pregnant women suffering from febrile illnesses, while purposive sampling was used to select 20 health workers at Health Center II, three (3) VHTs, and the District Health officer who acted as key informants in Ssekanyonyi Sub County Mityana District, Uganda.

Data collection

The study used both a questionnaire and key informant interview guide as a supplementary tool for this study such that additional information was obtained from the opinion leaders and relevant people within the locality in relation to the subject of study. The key informant included; two (2) health workers at Health Center II, three (3) VHTs, and the District Health officer.

Data analysis

Data collected were collated and edited for completeness and accuracy. The data was then analyzed using the statistical package for social scientists (SPSS) version 17.0. Data was analyzed and interpreted in line with the objectives of the study. Descriptive and inferential analyses were made using SPSS v.17.0. The descriptive analyses were made, and results were presented using information of frequencies and percentages. While for the case of inferential statistics, the Chi-squared test and Logistic Regression analyses were appropriate for testing for association between the outcome variable and categorical factors, establishing the factors associated with treatment-seeking behavior among pregnant women suffering from febrile illnesses assumed to be malaria in Ssekanyonyi Sub-county, with the level of statistical significance set at $p \leq 0.05$; as this would help to compare the observed values in the data to the expected values that we would see if the null hypothesis is true (Ugoni & Walker, 1995). All factors with a p-value of ≤ 0.05 were considered as significantly associated with treatment-seeking behaviour, and the Null hypothesis was rejected. Factors with a P- value of >0.05 were considered not to be associated with alcohol over consumption, and the Null hypothesis was accepted.

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Ethical considerations

Informed consent was obtained from the respondents prior to data collection then the researcher established rapport and proceeded with the interview in a private quiet room. The anonymity and privacy of the participants was observed. The participants remained anonymous during the whole process of the study. The participants' information was kept confidential and only used for the purpose of the research, the local Research Ethics Committee (REC) and Uganda National Council for Science and Technology (UNCST) as entities which may have access to private information that identifies the research participants by name.

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RESULTS

Study population and sample size of pregnant women studied at various health centers are shown in Table 1.

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Table 1: Study population and sample size of pregnant women studied

Health Center	Study population	Sample Size	
	(No.)	Total (No.)	Relative percentage (%)
Ssekanyonyi HC IV	4396	162	50.5
St Padre Pio HV III	2066	70	21.8
Bussunju HC III	1086	32	10.0
Bussunju Police HC II	998	29	9.0
Kassikombe HC II	986	28	8.7
Total	**9532**	**321**	**100**

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A total of 189 pregnant women suffering from febrile illnesses were sampled, which showed that a higher proportion (42.9%) of them were in the age bracket of 15 – 25 years, majority (73.7%) were secondary level graduates, and a higher proportion (46.5%) were married (Table 2).

Table 2: Social demographics of pregnant women studied

Demographics	Variables	Frequency (No.)	Frequency percentage (%)
Age (years)	15-25	85	42.9
	26-35	71	35.9
	36-45	42	21.2
Level of education	Non formal	18	9.1
	Primary	34	17.2
	Secondary	146	73.7
Marital Status	Single	12	6.1
	Married	92	46.5
	Divorced/Separated	10	5.0
	Widowed	8	4.0
	Cohabiting	76	38.4
Total		**198**	**100**

Source: Primary Data (2020)

Factors associated with treatment-seeking behaviour among the pregnant women are shown in Table 3. lt was observed from Table 3 that the majority (77.8%) of the expectant women had never attended any village seminar on health and malaria, while most of the respondents (93.9%) had never had health workers visiting their homes to talk about malaria issues. Majority (86.9%) reported positive attitude of midwives towards expectant mothers, majority (86.9%) reported receiving warm welcome from health workers, while majority (84.8%) reported feeling like they should be coming back to the health centre whenever they get malaria. Also, most of the respondents (63.6%) reported that the medical workers usually test malaria with a kit. Slightly above average (56.6%) reported that they had ever been told that the health unit has no malaria medicine. A higher proportion (37.9%) reported traveling less than one kilometer to the health unit to receive malaria treatment, followed by those who reported travelling 1 – 2 kilometers (36.9%), while those traveling more than 2 kilometers to the health unit were the minority (25.3%). Majority (62.6%) reported having a monthly income level of less than Uganda shillings 49,000; while most of the mothers (85.9%) reported that malaria has adverse effects on pregnancy.

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Table 3: Factors associated with treatment-seeking behaviour among pregnant women studied

Factors	Questions to expectant women	Responses	Frequency (No.)	Percentage (%)
Health Education on Malaria	Have you ever attended village seminars on health and malaria?	Yes	44	22.2
		No	154	77.8
	Have health workers ever visited your home and spoke about malaria issues?	Yes	12	6.1
		No	186	93.9
Attitude of midwives	Do midwives have positive attitude towards expectant mothers?	Yes	172	86.9
		No	26	13.1
Patient Care	Do you get warm welcome from the health workers?	Yes	172	86.9
		No	26	13.1
	Do you feel you should always come back to the heath center whenever you get malaria?	Yes	168	84.8
		No	30	15.2
Medical Supplies and Equipments	Do medical workers test malaria with a kit?	Yes	126	63.6
		No	72	36.4
	Have you been told that there were no malaria medicines in the health unit?	Yes	112	56.6
		No	86	43.4
Distance to health unit	Distance travelled (km)	< 1 km	75	37.9
		1-2 km	73	36.9
		2-5 km	50	25.3
Income Level	Monthly income in Uganda Shilling (USh)	< 49,000	124	62.6
		50,000 - 99,000	74	37.4
Attitude of Pregnant Mother	Adverse effects on pregnancy	Yes	170	85.9
		No	28	14.1

Source: Primary Data (2020)

Treatment-seeking behaviour among pregnant women (Table 4) showed that the majority (60.6%) of them reported having ever had malaria symptoms when pregnant, while, among these, slightly above average (56.6%) reported that they went for medical treatment immediately they felt feverish. Majority (74.2%) reported that they had never missed to find health workers at the health center when they go for medication; whereas a higher proportion (44.4%) reported that all the time they observe the dosage as prescribed by the medical worker for malaria treatment.

Table 4: Treatment-seeking behaviour among pregnant women studied

Behaviour	**Questions**	**Responses**	**Frequency** (No.)	**Percentage** (%)
Seeking Treatment	Have you had malaria symptoms when pregnant?	Yes	120	60.6
		No	78	39.4
	If yes, did you go for medical treatment immediately you felt feverish?	Yes	112	56.6
		No	8	4.0
Health care service provider	Have you ever found no health workers at the health center?	Yes	51	25.8
		No	147	74.2
Adherence	I observe the dosage as prescribed by the medical worker for malaria treatment.	All the time	88	44.4
		Most of the time	66	33.3
		Some time	40	20.2
		Never	4	2.0

Source: Primary Data (2020)

Summary of factors associated with treatment-seeking behaviour among the pregnant women have been indicated in Table 5. It was revealed that health-based factors had a significant association to treatment seeking-behaviour among pregnant women suffering from febrile illnesses assumed to be malaria. Health education on malaria, attitude of midwives and patient care had a significant association with treatment seeking-behaviour among pregnant women suffering from febrile illnesses assumed to be malaria. The adjusted odds ratio of health education on malaria [AOR = 3.68, (CI 95% = 2.91 – 4.39), p=0.000] implies that the odds of treatment seeking-behaviour among pregnant women who had attended training on malaria were about 4 times higher compared to those who did not attend trainings on malaria. While the adjusted odds ratio of attitude of midwives [AOR = 1.45, (CI 95% = 0.93 – 2.05), p=0.003] implies that the odds of the odds of treatment seeking-behaviour among pregnant expectant mothers who reported positive attitude of midwives were 1.45 times higher as compared to those who reported negative attitude of midwives. On the other hand, the adjusted odds ratio of patient care [AOR = 8.22, (CI 95% = 6.45 – 10.96), p=0.030] implies that the odds of treatment seeking-behaviour among pregnant expectant mothers who they were given good care by the medical workers at the health units were 8 times higher compared to those who were not given good care by the medical workers at the health units. Other health-based factors such as medical supplies

and equipment and distance to health unit had no significant association to treatment-seeking behaviour among pregnant expectant mothers.

Table 5: Summary of factors associated with treatment seeking-behaviour

Factors	Variables	Treatment-seeking YES No. (%)	NO No. (%)	UOR (95% CI)	p-value	AOR (95% CI)	p-value
Attendance training on Malaria	YES	104 (86.6)	16 (13.4)	3.46 (2.56 – 3.98)	0.000	3.68 (2.91 – 4.39)	0.000
	NO	50 (64.1)	28 (35.9)	1		1	
Attitude of midwives	Positive	110 (91.7)	10 (8.3)	2.57 (1.88 – 3.01)	0.000	1.45 (0.93 – 2.05)	0.003
	Negative	74 (94.9)	4 (5.1)	1		1	
Patient-Care	Good	115 (95.8)	5 (4.2)	2.55 (1.75 – 3.23)	0.000	8.22 (6.45 –10.96)	0.030
	Not good	70 (89.7)	8 (10.3)	1		1	
Medical Supplies and Equipment	Available	94 (78.4)	26 (21.6)	2.52 (1.67 – 3.42)	0.000	0.79 (0.26 – 1.31)	0.650
	None	32 (41)	46 (59)	1		1	
Distance from health center	Short	113 (76.3)	35 (23.6)	0.314 (0.112 – 0.754)	0.052		
	Long	36 (72)	14 (28)	1			
Income level pregnant women	High	14 (21.8)	50 (78.1)	0.047 (0.013 – 0.101)	0.828		
	Low	113 (84.3)	21 (15.6)	1			
Attitude of pregnant women	Positive	100 (83.3)	20 (16.7)	5.53 (4.87 – 5.97)	0.000	5.38 (4.87 – 6.17)	0.000
	Negative	50 (64.1)	28 (35.9)	1		1	

UOR= ....., **AOR**=Adjusted odds ratio, **CI**=Confidence intervals, **RC**=1

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Personal factors also had a significant association with treatment-seeking behaviour among expectant mothers. Attitude of pregnant mother was the only personal factor that had a significant association with treatment-seeking behaviour among pregnant expectant mothers. The adjusted odds ratio malaria [AOR = 5.38, (CI 95% = 4.87 – 6.17), p=0.000] imply that the odds of treatment-seeking behaviour among pregnant expectant mothers who had had positive attitude towards the midwives were about 5 times higher compared to those who had negative attitudes. Other personal factors such as income level had no significant association to treatment-seeking behaviour among pregnant expectant mothers. These quantitative results were consistent with the qualitative results.

DISCUSSION

The study found that health education on malaria is significantly associated with treatment-seeking behavior for febrile illnesses. This implies that when pregnant mothers are given varied sessions of training to acquire knowledge about malaria, they are more likely to seek treatment immediately after they experience changes in their body temperate. This can contribute to fighting deaths among mothers caused by other febrile illnesses. These findings are consistent with Tyagi, Roy, and Malhotra (2005) who reported that the failure to establish the level of knowledge of community members regarding malaria appeared to be responsible for the inability of intervention programs to achieve sustainable control.

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Findings show that the attitude of midwives is significantly associated with treatment-seeking behavior for febrile illnesses assumed to be malaria among pregnant mothers in the area of study. This implies that when pregnant mothers are handled well, they will always seek treatment for febrile sicknesses assumed to be malaria. These findings are supported by Adeyemo (2013) and Relatedly *et al*. (2012) who stressed that nurses should be good to their patients and in case they are rude, shout at their clients, refuse to offer assistance, and sometimes threaten pregnant women during ANC and labour. It is thought that such bad customer-handling may be a big factor to scare mothers away, even though they fall seek of malaria.

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As observed from the findings, patent-care was significantly associated with treatment-seeking behavior among respondents. The findings suggested that the health workers in the research area were still aware of the obligations to their clients. Conrad *et al*. (2012) noted that it is important that expectant mothers are given enough patient care that can propel them to always seek hospital treatment whenever they are seeking it. According to Mgawadere (2009), if mothers have changed considerably their normal moods, the health workers should be in a position to give comfort and contain their emotions.

Also, the attitude of pregnant mothers was found to be significantly associated with treatment-seeking behavior for pregnant mothers having febrile illnesses assumed to be malaria. This was a very contributing factor in health promotion aspects of the community that health workers should try to be diligent when serving special populations. In support of the findings Mubyazi *et al.* (2014); Sholapurkar *et al*. (2015) inform that expectant mothers are simply negligent about seeking health treatment when they are sick of malaria but they are actually aware of the challenges caused by the delayed treatment of malaria. Sholapurkar *et al*. (2015) inform that it is not certain whether mood swings alone can deter mothers from seeking malaria treatment but what is known is that mother's attitude towards the treatment of malaria is undesirable for health outcomes.

Limitations

The study was largely cross sectional in nature and data was collected at a single point in time which may not allow changes in behavior to surface, the qualitative longitudinal studies with in-depth interviews could have provided more insights after passage of few months about how the expectant mothers change in treatment-seeking with changes in various situations.

Conclusion

From the study, health education on malaria, the attitude of midwives, patient care, and the attitude of the pregnant mothers were found to be significantly associated with treatment-seeking behaviors among pregnant women suffering from febrile illnesses assumed to be malaria. This calls for more attention by the Ministry of Health and other responsible stakeholders to reinforce awareness programs on health education among women of reproductive age about the danger of febrile illnesses during pregnancy and help midwives address issues affecting their attitude towards pregnant mothers.

Abbreviations

CI: Confidence Interval; HBM: Health Belief Model; MoH: Ministry of Health; SYAHD: Society for Youth Awareness and Health Development; TPB: Theory of Planned Behavior; WHO: World Health Organisation.

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Ethics approval and consent to participate

Before the study was conducted, the protocol was reviewed and approved by the local Research Ethics Committee (REC) and Uganda National Council for Science and Technology (UNCST) as entities that may have access to private information that identifies the research participants by name. Verbal informed consent was obtained from the pregnant others who participated in the study.

Consent for publication

Not applicable.

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