



Original Research Article

Individual Characteristics Associated with Health Services Utilisation by Women in Rural Kenya

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ABSTRACT

Background: The government of Kenya has engaged several actions aimed at improving maternal health and reducing maternal mortality by increasing the accessibility of health services in rural and remote areas in the country. It was assumed that these actions will lead to increase utilisation of health services by women, especially in rural area. This study used Andersen health services utilisation model as a framework to determine individual factors that influence women's health services utilisation.

Objectives: The objectives of this study were to (1) describe the individual characteristics associated with health services utilisation and (2) determine the individual predictors of health services utilisation by women.

Methods: The study used a descriptive quantitative survey design. 3,337 questionnaires were completed by women and analysed using SAS™ for Windows version 8.0. Odds ratios were used to test the strength of associations of dependent and independent categorical (Bivariate analyses) variables. Multiple logistic regressions analyses were carried out to establish the predictive strengths of variables associated with health services utilisation.

Results: Five individual characteristics: being (1) employed, (2) Muslim, (3) married; having (4) no medical cover and (5) poor personal health status were identified as the individual predictors of health services utilisation by women.

Conclusion: While measures to increase access to quality health services are commendable, they should be supported by client-centred approach to care and policies that reinforce women socio-economic empowerment.

Key words: Enabling resources, individual predictors, health service utilization, need for care, predisposing characteristics, North Eastern Province of Kenya, woman.

INTRODUCTION

The study was conducted in four districts of the North Eastern Province of Kenya. The province is situated in the semi-arid part of the country and covers an area of 1 37, 207 km² with a population of nearly 2 million. More than 70.0% of this population is rural.^[1] It is known that the utilisation of

health services by women increases their likelihood of hospital delivery and the prevention of pregnancy related complications.^[2] The government of Kenya engaged several actions aimed at increasing the accessibility of health services in rural and remote areas.^[3] These efforts did not lead to increase in the utilisation of health

services by women in the North Eastern Province. For examples, 99.0% of the deliveries in the province take place at home compared to 59.0% countrywide; only 6.0% of 1,600 mothers who attend antenatal clinics (ANC) per month deliver in the hospital; and only 46.0% of children under-five are immunized. Under-five mortality rate is estimated at 163/1,000 compared to the national rate of 115/1,000. Maternal mortality rate stands at 1,000 – 1,300 per 100,000 live births against the national rate of 414/100,000 live births.^[4]

Evidence suggests that health services utilisation is influenced by several factors. These factors may be related to the service-users, the service-providers or policies. Several studies have associated the utilisation of health services by women with demographic and socio-economic characteristics, health beliefs, morbidity profiles, and perceived health needs.^[5-7] However, it is argued that the effect and relative importance of these factors depend on the culture, the health policy and the health systems to which the person belongs.^[8]

This study used Andersen health services utilisation model as a framework to determine individual factors that influence women' health services utilisation. Andersen model argues that the utilisation of health services depends on individuals' predisposition to use the services (predisposing characteristics); factors that enable or hinder them to use services (enabling resources); and their need for care. It is further assumed that each of these components has the potential to independently contribute to predicting utilisation of health services.^[9] The researcher assumed that health services utilisation by women in the province is influenced by (1) certain predisposing factors, (2) enabling resources, and (3) need for care.

The objectives of this study were to (1) describe the individual characteristics (predisposing, enabling resources, and need for care) associated with health services utilisation and (2) determine the individual predictors of health services utilisation by women.

MATERIALS AND METHODS

Design: The study used a descriptive quantitative survey design with self-completion questionnaire. These questionnaires were distributed by forty fieldworkers.

Sample and sampling: The final sample consisted of 3, 415 women drawn from 3,200 households of the four districts. Multi-stage sampling method was used to identify the divisions, villages, and households. This sampling was designed to provide for the differences in the population's estimate at the district level. Three districts had more or less equal population, and thus each was allocated 30% of the total sample while one was allocated 10%. The inclusion of participant at the household level was based on the length of stay in the area (a minimum of six months from the date of data collection).

Data collection methods and instrument: Data collection was carried out over three weeks by forty fieldworkers. They followed five-day research training with a focus on research methods and the use of the questionnaire. Andersen health services utilization model was used as a framework to guide the design of the questionnaire.

Health services utilisation, the dependent variable in this study was operationalised as the reported use of any or all health services in the previous six months from the date of data collection. Age, marital status and religious affiliation were used as measurement variables for the predisposing factors. The enabling factors were described in terms of (1) level of

education, (2) employment status and (3) medical cover. History of chronic disease diagnosed by a medical practitioner and perceived health status were used to measure the needs for care. The questionnaire was reviewed by three health experts from the Somali communities for cultural sensitivity. They were all satisfied with the way the different questions were formulated.

Ethical considerations: All ethical issues related to human research were observed. The proposal was approved by the ethics committees of the university and the National Ministry of Health. Participants were informed about the study (aim, objectives, significance, data collection process, and implications of the results), their rights to free participation, confidentiality, privacy, and to withdraw from the study at any time. Consent form was read and explained in the vernacular language when needed. The instrument did not include personal data that could be used to personally identify the participants. Data collected were treated with confidentiality and anonymity throughout the management and analysis processes.

Data analysis: Data analysis was done using SAS™ for Windows version 8.0. The dependent variable (health services utilisation) was dichotomised before analysis as user (Yes) versus non-user (No). Odds ratios were used to test the strength of associations of dependent and independent categorical (Bivariate analyses) variables. For analyses, a significant level of 0.05 was used to check whether the predicted value for the users' population falls within the Confidence Interval (CI). Where the *p* value is < 0.05, it means that the difference between the proportion of users and non-users is real and not by chance.

RESULTS

Of the 3,394 returned questionnaires, 3,337 were considered for analyses, and 57

(1.7%) were discarded because the respondents did not answer the question related to the dependent variable. Of the 3,337 respondents, 2,132 (64.0%) used the health services during our period of interest, and 1,205 (36.0%) did not use; 2,901 (87.0%) stayed in their current areas for at least 12 months, and 436 (13.0%) for a period of 7 to 11 months.

Table 1 provides the frequency distribution of the individual characteristics of the respondents.

Table 1: Individual characteristics of the respondents (N=3,337).

Variables	Frequency	Percentage (%)
Age (in years):		
15-19	147	4.4
20-24	542	16.2
25-29	833	25.0
30-34	724	21.7
35-39	518	15.5
40-44	402	12.0
45-49	171	5.1
Marital status:		
Never married	77	2.3
Married	2,649	79.4
Divorced/ Separated/widow	611	18.3
Religious affiliation:		
Muslim	3,285	98.4
Christian	39	1.2
Others	13	0.4
Highest level of education:		
Less than primary level	2,707	81.1
Primary level	480	14.4
Secondary level	104	3.1
College/ University	46	1.4
Employment status:		
Unemployed	3,033	91.0
Employed	304	9.0
Medical cover:		
Yes	77	2.3
No	3,260	97.7
History of chronic disease:		
Yes	1,170	35.0
No	2,167	65.0
Perceived health status:		
Excellent	307	9.2
Good	2,314	69.3
Poor	716	21.5

Bivariate analyses of individual characteristics and health services

utilisation in the past six months Seven individual characteristics showed positive associations with health services utilization after bivariate analyses. Age as a predisposing characteristic did not show significant associations with health services utilization. Table 2 provides a summary of the bivariate analyses of individual characteristics and health services utilisation.

The results of the predisposing factors showed that the odds ratios of the health services utilisation were 3.0 times higher among Muslims women than non-Muslims (OR =3.0; 95% CI: 2.0-2.5; p <0.0001); 1.6 times higher among married women than unmarried (OR =1.6; 95% CI: 1.3-1.8; p<0.0001). Age as a predisposing characteristic did not show any association with health services utilisation.

Table 2: Bivariate analyses of health services utilisation in the past six months.

Variables	OR (Odd Ratio)	95% CI (Confidence Interval)	P value
Predisposing factors:			
Married woman	1.6	1.3-1.8	<0.0001
Muslim woman	3.0	2.0-4.5	<0.0001
Enabling resources:			
Less than secondary education	1.4	1.1-1.9	0.02
Employed	2.8	1.9-4.1	<0.0001
No medical cover	2.7	2.1- 3.6	<0.0001
Needs for care:			
History of chronic medical condition	2.2	1.9-2.6	<0.0001
Poor personal health status	1.6	1.3-1.9	<0.0001

With regard to enabling resources and need for care variables, the odds ratios of the health services utilization were 1.4 times higher among educated women than uneducated (OR =1.4; 95% CI: 1.1-1.9; p =0.02); 2.8 times higher among employed women than unemployed (OR =2.8; 95% CI: 1.9-4.1; p <0.0001); 2.7 times higher among women without medical cover than those with medical cover (OR =2.7; 95% CI: 2.1-3.6; p <0.0001); 1.8 times higher among women with a history of chronic medical

diseases than those without history of chronic medical diseases (OR =1.8; 95% CI: 1.9-2.6; p 0.001); and 1.5 times higher among women with poor personal health status rating than those with excellent or good personal health rating (OR=1.6; 95% CI: 1.3-1.9; p <0.0001).

Logistic regression analyses of health services utilisation in the past six months

Five individual characteristics (being employed, Muslim and married; having no medical cover, and poor personal health status rating) showed strong associations with health services utilization after logistic regression analyses. Table 3 provides a summary of the logistic regression analyses of health services utilisation.

The chances of women to use health services irrespective of enabling and need for care characteristics were 3.2 times higher if they were employed (OR =3.2; 95% CI: 2.1-4.8); 1.8 times higher if they were Muslims (OR= 1.8; 95% CI: 1.1 – 3.1); and 1.3 times higher if they were married(OR =1.3; 95% CI: 1.1-1.6). The chances of women with no medical cover to use health services were 1.8 times higher irrespective of predisposing and need for care characteristics (OR =1.8; 95% CI: 1.3-2.5). The chances of women to use health services irrespective of enabling resources and predisposing characteristics were 1.7 times higher if they perceive their personal health as poor (OR =1.7, 95% CI: 1.4 – 2.1).

Table 3: Logistic regression analyses of health services utilisation in the past six months.

Variables	OR (Odd Ratio)	95% CI (Confidence Interval)
Predisposing + enabling resources and need for care:		
Being married	1.3	1.1-1.6
Being Muslim	1.8	1.1- 3.1
Enabling resources + predisposing and need for care:		
Being employed	3.2	2.1-4.8
No medical cover	1.8	1.3-2.5
Needs for care+ predisposing and enabling resources:		
Poor personal health rating	1.7	1.4-2.1

DISCUSSION

As indicated in Table 2, seven individual characteristics: being (1) Muslims, (2) married, (3) employed, (4) less educated; and having (5) no medical covers, (6) history of chronic medical condition, and (7) poor personal health status are positively associated with the health services utilisation by women in the North Eastern Province of Kenya. This positive association is supported by previous studies conducted among women of similar communities in Bangladesh,^[7] Nigeria,^[9] India,^[10] and Tanzania.^[11] It was shown that these individual characteristics increase the likelihood of health services utilisation by women. Furthermore, negative perception about one's health status or chronic illness increase the likelihood of health services utilisation.^[5]

Although previous studies associated health services users with high level of education and medical cover, this study reveals that health services users were more likely to be less educated and without medical cover. The difference between previous studies and the results of this study may be attributed to the socio-economic and cultural background of the respondents. The country's Demographic Health Survey ^[1] indicates that the province has the lowest Human Development Index estimated at 0.413 against 0.783 for the highest province in the country. Culturally, girls in the North Eastern Province are engaged in early marriages and this early marriage may deprive them of opportunities to access formal education. The impact of this cultural practice is reflected with the high proportion of uneducated women among the respondents (81.5%).

Five individual predictors are identified from the logistic regression analyses of health services utilisation by women. From the odds ratio, being employed is the strongest individual

predictor (OR=3.2). Being Muslim is as strong as being without medical cover (OR=1.8). Having poor personal health status followed with the odds ratio of 1.7. Being married was the least powerful predictor with the odd ratio of 1.3.

The potential predictive strength of the five mentioned individual characteristics is documented in the literature. Employment is believed to increase woman autonomy and socio-economic status, thereby increasing utilisation of health services. It is argued that working women are able to save money or enjoy medical cover as part of a fringe benefit which will increase their likelihood of using health services.^[12,13] In view of the high proportion of the respondents without employment (91.0%), the predictive strength of employment may explain the underutilisation of maternal health services by women in the province.

Religious affiliation may have negative and positive influences on women's motivation to seek health care. Religious beliefs, norms and values are known to influence health-seeking behaviour or attract discrimination from health professionals, reducing the likelihood of women to use health care services.^[14] The importance of the predictive power of marriage in the province where girls are engaged in early marriage cannot be overemphasized.

Marriage has an influence on women health seeking behaviour. Single/divorced women seem to have more autonomy in decision-making power than married women. The lack of autonomy in decision-making may cause delay in utilisation of health services or limitation in accessing quality care. On the other, marriage may increase utilisation when it is associated with increased income.^[15] It is argued that household income facilitates the economic access to service by providing the household power to secure health services when needed

and the decision to choose the best available care.^[16]

Limitations: This paper looks at health services utilisation from the individual behavioural perspective focusing on predisposing-enabling-need for care triad. However, health services utilisation may also be influenced by other individual factors such as the perceived quality of care and the experiences of care. These aspects need to be explored in order to provide a comprehensive understanding of women's behaviour towards health services utilisation in the province.

CONCLUSION

The utilisation of health services by women in the North Eastern Province of Kenya occurs in a sequence of predisposing-enabling-need for care triad described by Andersen. While measures to increase access to quality health services are commendable, they should be supported by client-centred approach to care and policies that reinforce women socio-economic empowerment.

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