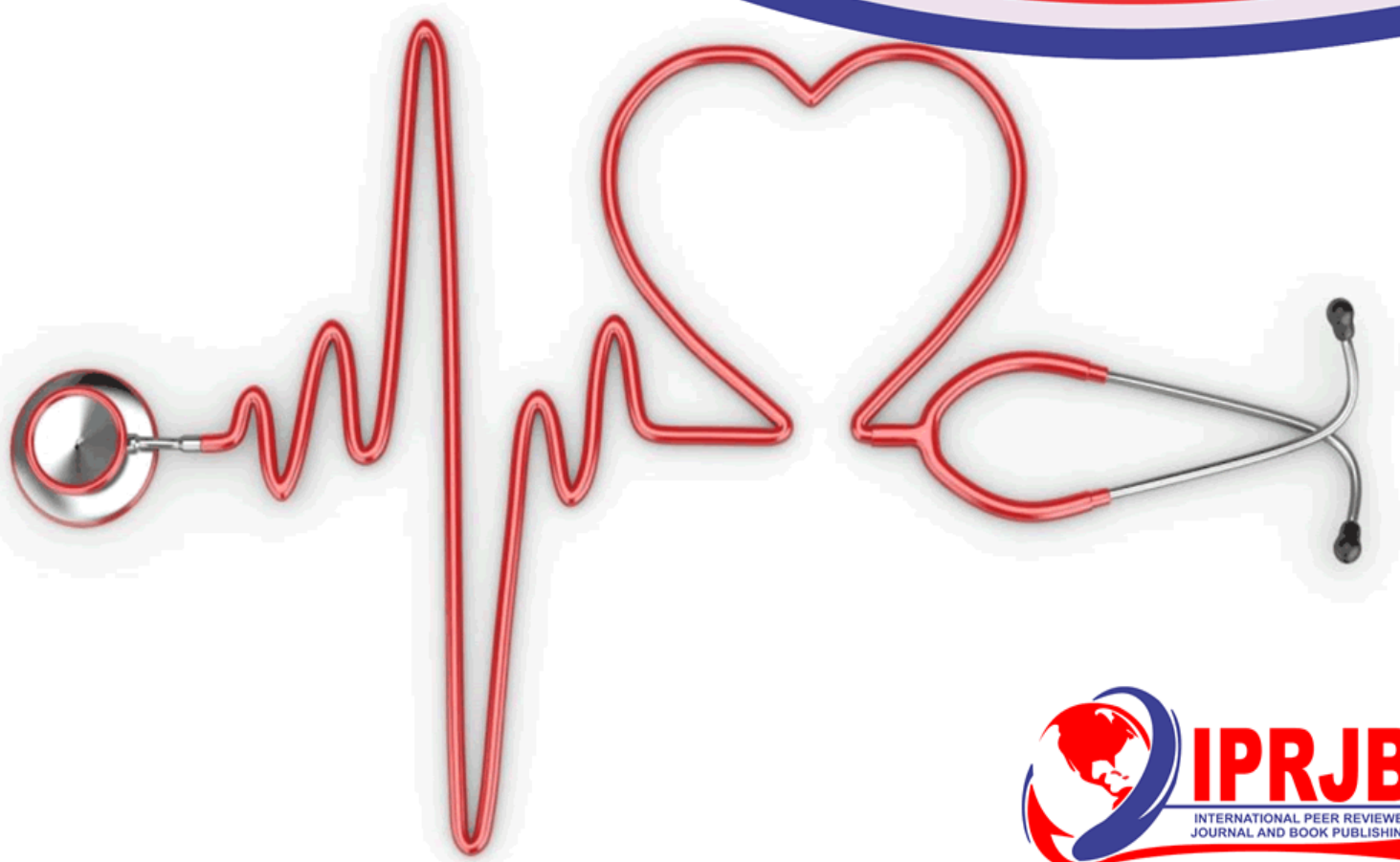


Journal of Health, Medicine and Nursing (JHMN)

CULTURAL COMPETENCE OF HEALTH CARE WORKERS ON MATERNAL HEALTH CARE SERVICE UTILIZATION AMONG MOTHERS OF MOUNT ELGON CONSTITUENCY BUNGOMA, KENYA

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Abstract

Purpose: To determine cultural competence of health care workers on maternal health care service utilization among mothers of Mt. Elgon Constituency in Bungoma County.

Methodology: A descriptive-analytical cross-sectional study design was adopted using mixed methods for data collection. Cultural competence tool was used to assess health care workers cultural competence. Qualitative data was collected using key informant interviews (KII) and focus group discussion (FGD). Data entry and analysis was done using SPSS Version 25 software. Descriptive and inferential statistical analyses were used. Bivariate and multivariate logistic regressions were applied and odds ratio used to determine the strength of association. A p-value of ≤ 0.05 was considered as statistical significance threshold.

Findings: Unemployment (OR: 0.6; 95% CI: 0.4 – 0.9; p = 0.02); lack of mobile clinic (OR: 0.7; 95% CI: 0.4 – 1.0; p = 0.06); use of interpreter (OR: 0.2; 95% CI: 0.01 – 0.81; p = 0.02); service provided in public facilities (OR: 0.5; 95% CI: 0.3 – 0.8; p = 0.004); being too busy (OR: 0.5; 95% CI: 0.3 – 0.9; p = 0.02); consulting health care workers (OR: 0.5; 95% CI: 0.2 – 0.9; p = 0.03); not consulting elders (OR: 0.7; 95% CI: 0.4 – 1.0; p = 0.08) and culturally incompetent (100%) were significantly associated with utilization of maternal and child health services. The determinants of maternal health care service utilization in Mt. Elgon Sub-County are women who are employed (OR: 2.8; 95% CI: 1.1 – 7.3; p=0.03) and cultural incompetence of health care workers (100%).

A unique contribution to theory, practice, and policy: The study findings have identified cultural competence gaps among health care workers which need to be addressed by policy makers to increase utilization in the study area and other similar environment.

Keywords: *Mt. Elgon, Health services utilization, Mother, cultural competence.*

1.0 INTRODUCTION

Globally, addressing cultural competency for health care workers to increase uptake of maternal health care services has proved to be a core requirement in multicultural society. Worldwide, most researches unearth issues affecting demand and availability of maternal health services. These has not always granted increased uptake of these services (Aragaw, A., Yigzaw, T., & Tetemke, D. 2015). The emphasis on shared norms, behavioral customs and spoken language, beliefs and expectations were some of the cultural attributes that were key and therefore cultural insensitivity or incompetence of health providers to them could lead to perceptions of poor quality of care by users (Coast, Eleri & Lattof, 2016). Worldwide, every minute at least one woman dies from complications due to preventable causes related to pregnancy and childbirth i.e. 529,000 women in a year. Every woman dying during childbirth, around 30 more women suffer injury, infection or disease, which are approximately 10 million women each year (Achia & Mageto, 2015). The more remote or marginalized a woman is the higher the risk (WHO, 2011). Globally, half of all maternal deaths occur in Sub-Saharan Africa where the risk of a woman dying during pregnancy or childbirth is 1 in 39 compared to 1 in 3,800 in developed countries (Tey, 2013). Leading causes of maternal deaths are related to obstetric complications around the time of childbirth. Three-quarters of these deaths can be prevented by utilizing culturally competent skilled birth attendants (Kinney, 2010). Maternal mortality rates in Kenya were at 488 per 100,000 live births in 2011 against a target of 147 while deliveries by skilled health personnel were 43.8% against a target of 90% in 2015 (KDHS, 2008/9). A most recent report shows a further decline from 488/100,000 (KDHS, 2008/9) to 362/100,000 live births (KDHS, 2014). However, the situation could be worse in counties with marginalized vulnerable communities (Wachira & Martin, 2011; Saad-Haddad et al., 2016). The more economically challenged and marginalized a mother is, the higher the risk of death. The rates of maternal mortality also reflect economic challenges between counties, nationally (WHO, 2018).

The Tadesse's model (Tadesse, Mulat, & Gashaw, 2014) is a behavioral model modified from Andersen model. It provides a picture to analyze a number of individual, environmental and health care worker related variables associated with client decision to seek health care. It is purported that the use of services in health is determined by three players. These include: the predisposing, enabling and the need characteristics. The predisposing characteristics mainly explain the association of client characteristics which in the study were the independent variables namely: Age, Marital status, Educational level, Occupation, Religion, Village, Parity (Obstetric data), Knowledge, Gestation age at 1st ANC, Cultural values, Attitude towards MCH/FP Provider on Maternal health care services utilization. Enabling characteristics also referred to as intervening variables in this study; explain cultural sensitivity or incompetence of health care workers during service provision. Need characteristics explore the perceptions for the need for culturally competent health service delivery and the benefits expected from the culturally competent health care providers. These factors included acceptability and use of services based on cultural competence of health care providers like language, traditions, customs, and client priorities. The assumption was that the availability of maternal health services was a guarantee that the services will be utilized.

Studies have shown that the more economically challenged and marginalized a mother is, the higher the social cultural norms and gender stereotyping of culture on health issues (WHO, 2018). Therefore, the rates of maternal mortality also reflect economic challenges between countries more than other measures of survival or health (UNFPA, 2010). UNFPA, (2010) report shows a comparison, the United States of America had a maternal death rate of 9.1 per 100000 live births while Kenya was at 14% in 2010.

According to Bharti, *et al.*, (2016) some of the client's socio-demographic factors that play a major role in determining maternal health care services utilization include: age, marital status, level of education, parity, religion, occupational status, and even residence. In the South east of Nigeria, younger mothers were found to be more likely not to seek medical help compared to older mothers due to fear of being called promiscuous (Emelumadu, et al., 2014). Worldwide, research shows that the education status of a mother was highly associated with utilization of health services (Pandey, Pandey & Singh, 2015). In families with many dependents where regular income was from a household head, utilization of services was lower compared to families with few dependents or where both partners were employed/ were earning some income (WHO, 2017). In Bangladesh, contraceptive use was higher among employed women of every level of education (Islam, et al., 2015). Transport is identified as a key constraint on achieving the maternal goals in many developing countries in Africa (Zelalem, Belayihun, Teji & Admassu, 2014). In Tanzania, the delay was caused by a distance of over five kilometers away from mother resident area (Kassile, Lokina, Mujinja & Mmbando, 2014). According to Coast, E., et al., (2016) active dialogue and inter- disciplinary approach with members of the communities was required to understand cultural systems, health beliefs, health practices and preferences to better serve the needs of communities with culturally diverse populations.

1.2 Statement of the problem

Globally, Cultural competence in health care describes the ability of systems to provide care to clients with diverse values, beliefs and behaviors, including tailoring delivery to meet their social, cultural, and linguistic needs. Cultural competence of healthcare providers is an educative process involving developing self-awareness, appreciating difference, valuing cultural practices other than one's own, and acting flexibly in ways that accommodate these values. The world demographic composition of our population is rapidly changing. As a result, health care workers increasingly face challenges on the need to interact effectively with and provide care to clients whose ethnic or cultural background differs from their own.

Culturally discordant care arises from unaddressed cultural differences between healthcare providers and patients. Studies have explored the impact of elements of culture, such as health beliefs, healing traditions, and language, on health care. For example, in the absence of interpreter services, non- English speaking has been shown to be an increased risk for medication errors in the US. Other research has revealed significant disparities in health status, treatment, and medical outcomes between groups of patients who differ on the basis of gender, race, and/or ethnicity. The reasons for such disparities remain unclear Research to date suggests that a provider's unconscious bias about a particular race, ethnicity, or culture and/or lack of effective cross-cultural communication skills may contribute to discordant medical care and some of the observed health

disparities between different patient populations. Kenya has twelve marginalized communities that have been identified using the criteria set by World Bank Operational Policy (OP) 4:10 and the Kenya Constitution 2010 article 260 definitions. The Ogiek community of Mt. Elgon in Bungoma County is among the twelve marginalized communities (Fanslow, 2017). The government of Kenya and Non-Governmental Organizations (NGOs) has struggled to improve access to maternal health services to Ogiek community through medical camps and integrated outreaches with little success. According to (DHIS, 2015), while skilled birth deliveries at the national level were 60% and 41% at the county level, the proportion of such deliveries was 28% in Mt. Elgon Constituency. Bungoma County quarterly Maternal Perinatal Death Surveillance and Response (MPDSR) review meetings of 2017/2018 fourth quarter showed that 50% to 80% of maternal deaths were referrals from Mt. Elgon constituency. The Ogiek community has unique health cultural beliefs/ practices and has experienced a number of conflicts that resulted in Internally Displaced Persons (IDPs), the majority being women and children (Chelimo, 2016 and Assemi, Cullander, & Hudmon, 2004). (Assemi, Cullander, & Hudman, Implementation and evaluation of cultural competency training for pharmacy students, 2004)

There is a dearth of information on determinants of maternal health care service utilization that could guide decision-makers on specific interventions that would help improve utilization of such services which are vital in the prevention of maternal morbidity and mortality. Therefore, this study sought to determine cultural competence of health care workers on maternal health care service utilization among mothers of Mount Elgon constituency Bungoma, Kenya.

1.3 Objectives

1.3.1 Broad Objective

To determine cultural competence of health care workers on maternal health care service utilization among mothers of Mount Elgon constituency Bungoma, Kenya.

1.3.2 Specific Objectives

1. To determine client characteristics influencing utilization of maternal and child health care services among mothers of Mt. Elgon constituency in Bungoma County.
2. To assess the cultural competency of health care workers on maternal health care service utilization among mothers of Mt. Elgon constituency in Bungoma County.

2.0 METHODOLOGY

Study Design. A descriptive-analytical cross-sectional study where a quantitative method of data collection was used.

Study Setting. The study was carried out in Mt. Elgon Constituency. The indigenous community living in the forested Mt. Elgon Constituency are the Ogiek which is globally and nationally categorized as a vulnerable and marginalized community (MOH, 2016). The Constituency covers approximately 944 square kilometers (km²). It is bordered by Uganda to the West and North, Trans Nzoia County to the East and Kimilili, Kabuchai and Sirisia Sub Counties to the South (MOH, 2016). The Ogiek community being hunter-gatherer was displaced to the forest and beyond the

forest where they graze their animals in government-owned land. Mt. Elgon constituency has thirty-two health facilities that offer maternal health care services (DHIS, 2015).

Study of Population: The population was mothers who are residents of Mt. Elgon Constituency who delivered in the last year preceding the study and health care workers who serve them.

Sampling technique. A multistage sampling method was used. First, the two sub-counties in the constituency were purposively selected. Four wards were randomly selected where the ten sub-locations were drawn using a simple random sampling method. Thirteen villages were randomly selected and 38 households with mothers who met the inclusion criteria systematically selected. Health care workers were randomly selected in each facility.

Sample size. The desired sample size was arrived at using “Modified EPI” formula MOH, (2016). The final sample size being 510 after adding a 10% loading population to cater for non-response. Twenty out of seventy health care workers participated in the study.

Inclusion criteria. Mothers with children who delivered in the last twelve months prior to the study and who were residents of Mt. Elgon Constituency. Health care workers in study area.

Exclusion Criteria. Mothers who were mentally ill or who had stayed for less than 6 months in the study area. Health care workers who do not work on Mt. Elgon Constituency.

Research Instruments. The researcher adopted and modified structured questionnaires used in similar study settings (Achia & Mageto, 2015) in the North-Eastern part of Kenya and (Mason, 1995) in Portland’s State University, respectively.

Quantitative data collection tool. Structured questionnaires which captured client characteristic and cultural competence of health care workers were used. The questionnaires were divided into three sections: section 1 captured the client characteristics data that included gender, age, marital status, level of education, religion, occupational status, employment, residence, among others; section 2 covered community health needs identification while section 3 assessed cultural competence of health care workers. Data collection instruments were in English and translation did in two languages, Swahili and Sabaot which are commonly used in the study area. Back translation was done to detect discrepancies and mistranslations and to show the inevitable differences between the source and a “well translated” target text. The instruments were pre-tested in Kimilili Sub County neighboring the study area.

Data collection procedures: The survey teams comprise four nurses who were selected from a vigorous and highly competitive interview. Experience, skills and geographical representation from the study area were among the qualities considered during the interview process. The survey team which included the researcher managed the overall survey. The team was trained on collection methodologies. The training took 4 days. The training had a standardization of the tool exercise which was used to establish the accuracy and precision of the enumerators with respect to the researcher’s values. After the training, a pre-test was conducted in the neighboring Kimilili Sub-County to facilitate deeper understanding of the structure and outlook of the questionnaire. The exercise was carried out to ensure the enumerators were sufficiently confident to take the survey. Enumerators identified the households with a target population with the help of community

health volunteers who regularly collect household data on health issues from the assigned community units. The data collection process lasted for three months from January to March 2019.

Data Analysis. All collected data were checked for quality, completeness, cleaned, coded and analyzed using the SPSS statistics version 25. The bivariate analysis was done followed by logistic regression. The relationship between independent and dependent variables was tested using the odds ratio and a p-value of <0.05 used to reject the null hypothesis. The analyzed results were presented in tables.

3.0 FINDINGS AND DISCUSSIONS

3.1 Findings

Table 1 illustrates the background characteristics of respondents by the Sub-County of residence. A total of 510 respondents took part in the study with the majority ($n=372$; 72.9%) being from Mt. Elgon sub-county while 27% ($n=138$) were from Cheptais Sub-county due to curfew which obstructed movement in the large part of Cheptais and Chepyuk/Kopsiro wards. The mean age of respondents from Mt. Elgon Sub County (25.8 ± 7.3) was comparable with that of respondents from Cheptais Sub County (26.3 ± 7.2) through the youngest respondent aged 10 years was from Mt. Elgon Sub County. The difference in mean age between the two sub-counties was not statistically significant ($t=0.6$; $df=508$; $p = 0.6$). Likewise, there was no significant difference in the respondents' age groups ($p= 0.7$). This shows that the populations in both sub-counties have similar attributes.

Table 1: Background characteristics of respondents by sub-county of residence

| Variable | Response | Mt. Elgon | | Cheptais | | p-value |
|---|-------------|------------------------|-------|------------------------|-------|---------|
| | | n | % | n | % | |
| Age group in years | 10 – 19 | 86 | 23.12 | 36 | 26.1 | 0.7 |
| | 20 – 29 | 191 | 51.34 | 67 | 48.6 | |
| | 30 – 39 | 79 | 21.24 | 27 | 19.6 | |
| | ≥40 | 16 | 4.30 | 8 | 5.8 | |
| | Total | 372 | 100.0 | 138 | 100.0 | |
| Mean age±SD (Range) in years | | 25.8±7.3 (10.0 – 47.0) | | 26.3±7.2 (16.0 – 47.0) | | 0.5 |
| Marital status | Single | 67 | 18.0 | 25 | 18.1 | 0.4 |
| | Married | 279 | 75.0 | 102 | 73.9 | |
| | Divorced | 0 | 0.0 | 1 | 0.2 | |
| | Widowed | 26 | 7.0 | 10 | 7.3 | |
| | Total | 372 | 100.0 | 138 | 100.0 | |
| Level of education | None | 73 | 19.7 | 29 | 21.0 | 0.6 |
| | Primary | 205 | 55.4 | 81 | 58.7 | |
| | Secondary | 92 | 24.9 | 28 | 20.3 | |
| | Total | 370 | 100.0 | 138 | 100.0 | |
| Religion | Christians | 348 | 93.6 | 134 | 97.1 | 0.1 |
| | Traditional | 24 | 6.5 | 4 | 2.9 | |
| | Total | 372 | 100.0 | 138 | 100.0 | |
| Occupation | Housewife | 229 | 61.6 | 91 | 65.9 | 0.5 |
| | Farmer | 2 | 0.5 | 0 | 0.0 | |
| | Pastoralist | 24 | 6.5 | 4 | 2.9 | |
| | Teacher | 29 | 7.8 | 10 | 7.3 | |
| | Other | 88 | 23.7 | 23 | 9.1 | |
| | Total | 372 | 100.0 | 138 | 100.0 | |
| No. of under five children in the house | 1 | 260 | 69.9 | 109 | 79.0 | 0.2 |
| | 2 | 86 | 23.1 | 25 | 18.1 | |
| | > 2 | 26 | 7.0 | 4 | 2.9 | |
| | Total | 372 | 100.0 | 138 | 100.0 | |

Socio-demographic characteristics associated with the utilization of MCH services

Table 2 shows the socio-demographic characteristics associated with the utilization of maternal health services. Sub-county was used as the explanatory variables while the utilization of health services was used as the response variable. The results show that among the respondents aged less than 30 years, being mothers from Mt. Elgon sub-county is statistically significantly associated with utilization of health care services (OR: 0.5; 95% CI: 0.3 – 0.9; $p = 0.01$) while this was not the case with those aged 30 years and above (OR: 1.4; 95% CI: 0.7 – 3.0; $p = 0.35$). A significantly lower proportion of respondents from Mt. Elgon Sub County (64.7%) compared to those from the Cheptais sub-county (77.6%) were able to use MCH services. There was a marginal statistically significant association between respondents who were married and utilization of MCH services (OR: 0.6; 95% CI: 0.4 – 1.1; $p = 0.08$). A smaller proportion of married respondents from Mt. Elgon Sub County (66.7%) were able to use the services unlike their counterparts from Cheptais Sub County (75.4%). Among the unmarried who are residents from the two Sub Counties, the difference was not statistically significant. Further analysis shows statistically significant relationship between those with none or primary education and use of the services as depicted by lower proportion of respondents (66.3%) from Mt. Elgon Sub County as opposed to those from Cheptais Sub County (77%) from the same education category (OR: 0.6; 95% CI: 0.4 – 0.9; $p = 0.03$). Among the socio-demographic variables that produce significant results, albeit marginal, was having been employed (OR: 3.7; 95% CI: 0.9 – 15.3; $p = 0.06$). The results suggest that those who were employed and were residents of Mt. Elgon Sub County were almost four times more likely to use MCH services unlike those from Cheptais Sub County. In contrast, respondents from Mt. Elgon Sub County who were not employed were less likely to use services in comparison to their colleagues from Cheptais Sub County (OR: 0.6; 95% CI: 0.4 – 0.9; $p = 0.02$).

Similar findings were noted with regard to the length of stay in the respective Sub-Counties. Having stayed for at most 6 months or less in the Mt. Elgon Sub-County was marginally statistically associated with utilization of MCH services (OR: 3.7; 95% CI: 0.9 – 15.3; $p = 0.06$) in contrast to those from Cheptais Sub County in the same category. Those who had stayed for at least 6 months from Mt. Elgon Sub County were about four times more likely to have utilized the services. On the other hand, respondents who had stayed for more than 6 months and residents of Mt. Elgon sub-county were 40% less likely to have used the services (OR: 0.6; 95% CI: 0.4 – 0.9; $p = 0.02$).

Table 2: Socio-demographic characteristics influencing utilization of maternal and child health services

| Variables | Explanatory variable | Utilized health facility | | Total (n) | OR | 95% CI | p-value |
|---------------------------|----------------------|--------------------------|--------|-----------|-----|------------|---------|
| | | Yes (%) | No (%) | | | | |
| <30 years age group | Mt. Elgon | 64.7 | 35.3 | 255 | 0.5 | 0.3 – 0.9 | 0.01 |
| | Cheptais | 77.6 | 22.4 | 125 | | | |
| ≥30 years age group | Mt. Elgon | 67.4 | 32.6 | 86 | 1.4 | 0.7 – 3.0 | 0.35 |
| | Cheptais | 59.1 | 40.9 | 44 | | | |
| Married | Mt. Elgon | 66.7 | 33.3 | 255 | 0.6 | 0.4 – 1.1 | 0.08 |
| | Cheptais | 75.4 | 24.6 | 126 | | | |
| Not married | Mt. Elgon | 61.6 | 38.4 | 86 | 0.9 | 0.4 – 1.8 | 0.7 |
| | Cheptais | 65.1 | 34.9 | 43 | | | |
| None or primary education | Mt. Elgon | 66.3 | 33.7 | 255 | 0.6 | 0.4 – 0.9 | 0.03 |
| | Cheptais | 77.0 | 23.0 | 135 | | | |
| Secondary and above | Mt. Elgon | 62.8 | 37.2 | 86 | 1.3 | 0.6 – 3.0 | 0.5 |
| | Cheptais | 55.9 | 44.1 | 34 | | | |
| Works | Mt. Elgon | 60.0 | 40.0 | 25 | 3.7 | 0.9 – 15.3 | 0.06 |
| | Cheptais | 28.6 | 71.4 | 14 | | | |
| Does not work | Mt. Elgon | 65.8 | 34.2 | 316 | 0.6 | 0.4 – 0.9 | 0.02 |
| | Cheptais | 76.8 | 23.2 | 155 | | | |
| ≤6 months stay | Mt. Elgon | 60.0 | 40.0 | 25 | 3.7 | 0.9 – 15.3 | 0.06 |
| | Cheptais | 28.6 | 71.4 | 14 | | | |
| >6 months stay | Mt. Elgon | 65.8 | 34.2 | 316 | 0.6 | 0.4 – 0.9 | 0.02 |
| | Cheptais | 76.8 | 23.2 | 155 | | | |

Time taken to reach the nearest health facility and utilization of maternal and child health services

Table 3 illustrates the time taken to the nearest health facility and its relationship with the utilization of maternal and child health services. Respondents from Mt. Elgon who would take more than one hour to reach the nearest health facility by foot (OR: 0.5; 95% CI: 0.3 – 0.8; $p = 0.007$), or take less than 30 minutes by boda-boda (OR: 0.6; 95% CI: 0.4 – 1.0; $p = 0.05$) or less than 30 minutes by vehicle (OR: 0.6; 95% CI: 0.4 – 1.0; $p = 0.05$) or less than one hour by donkey (OR: 0.6; 95% CI: 0.4 – 1.0; $p = 0.05$) were less likely to utilize maternal and child health services. The association between these factors and the utilization of MCH services was statistically significant. Results show a statistically significant association between working days not being suitable for the respondent and the community and utilization of MCH services (OR: 0.5; 95% CI: 0.3 – 1.0; $p = 0.04$). Half (50%) of the respondents from Mt. Elgon who complained about unsuitable working days were less likely to utilize MCH services in comparison with their

colleagues from Cheptais. There was a marginal statistically significant relationship between mobile/outreach clinic not being available every week in the study area and utilization of MCH services (OR: 0.7; 95% CI: 0.4 – 1.0; $p = 0.06$).

Table 3: Association between the time taken to the nearest health facility, working days and utilization of maternal and child health services

| Variables | Explanatory variable | Utilized health facility | | Total (n) | OR | 95% CI | P-value |
|---|----------------------|--------------------------|--------|-----------|-----|-----------|---------|
| | | Yes (%) | No (%) | | | | |
| Time to facility by foot less than 1 hour | Mt. Elgon | 68.8 | 31.2 | 141 | 0.2 | 0.6 – 2.1 | 0.6 |
| | Cheptais | 65.3 | 34.7 | 75 | | | |
| Time to facility by foot more than 1 hour | Mt. Elgon | 63.0 | 37.0 | 200 | 0.5 | 0.3 – 0.8 | 0.007 |
| | Cheptais | 78.7 | 21.3 | 94 | | | |
| Time to facility by boda boda less than 30 min | Mt. Elgon | 53.7 | 46.3 | 203 | 0.6 | 0.4 – 1.0 | 0.05 |
| | Cheptais | 65.4 | 34.6 | 107 | | | |
| Time to facility by donkey less than 1 hour | Mt. Elgon | 53.7 | 46.3 | 203 | 0.6 | 0.4 – 1.0 | 0.05 |
| | Cheptais | 65.4 | 34.6 | 107 | | | |
| Time to facility by vehicle less than 30 min | Mt. Elgon | 53.7 | 46.3 | 203 | 0.6 | 0.4 – 1.0 | 0.05 |
| | Cheptais | 65.4 | 34.6 | 107 | | | |
| Mobile/Outreach Clinic not available every week in the area | Mt. Elgon | 65.4 | 34.7 | 329 | 0.7 | 0.4 – 1.0 | 0.06 |
| | Cheptais | 73.8 | 26.2 | 164 | | | |
| Working days not suitable for respondent and the community | Mt. Elgon | 62.5 | 37.5 | 168 | 0.5 | 0.3 – 1.0 | 0.04 |
| | Cheptais | 76.4 | 23.6 | 72 | | | |

Cultural competence by socio-demographic characteristics by sub-county

The result of cultural competence assessment shows that over three-quarters of male and female staffs in the two sub-counties are culturally incompetent. The situation was the same for the different age categories, marital status, and religion and to some extent, by the tribe. Overall, all the respondents scored less than 75% of the questions suggesting that they are culturally incompetent as shown in table below

Table 4 Cultural competence by socio-demographic characteristics by sub-county

| Variable | Response | Mt. Elgon | | Cheptais | |
|--------------------|------------|----------------------|-----------------|----------------------|-----------------|
| | | Culturally aware (%) | Incompetent (%) | Culturally aware (%) | Incompetent (%) |
| Gender | Male | 1 (12.5) | 7 (87.5) | 1 (20.0) | 4 (80.0) |
| | Female | 1 (20.0) | 4 (80.0) | 0 (0.0) | 2 (100.0) |
| Age group in years | 20 - 29 | 1 (14.3) | 6 (85.7) | 0 (0.0) | 1 (100.0) |
| | 30 - 39 | 1 (50.0) | 1 (50.0) | 1 (25.0) | 3 (75.0) |
| | 40 - 49 | 0 (0.0) | 4 (100.0) | 0 (0.0) | 1 (100.0) |
| | ≥ 50 | 0 (0.0) | 0 (0.0) | 0 (0.0) | 1 (100.0) |
| Marital status | Single | 1 (25.0) | 3 (75.0) | 0 (0.0) | 0 (0.0) |
| | Married | 1 (12.5) | 7 (87.5) | 1 (14.3) | 6 (85.7) |
| | Divorced | 0 (0.0) | 1 (100.0) | 0 (0.0) | 0 (0.0) |
| Religion | Christians | 2 (18.2) | 9 (81.8) | 1 (14.3) | 6 (85.7) |
| | Islam | 0 (0.0) | 1 (100.0) | 0 (0.0) | 0 (0.0) |
| | Other | 0 (0.0) | 1 (100.0) | 0 (0.0) | 0 (0.0) |
| Tribe | Sabaot | 1 (10.0) | 9 (90.0) | 0 (0.0) | 0 (0.0) |
| | Ogiek | 1 (100.0) | 1 (100.0) | 0 (0.0) | 0 (0.0) |
| | Luhya | 0 (0.0) | 0 (0.0) | 2 (100.0) | 1 (100.0) |
| | Kony | 0 (0.0) | 1 (100.0) | 0 (0.0) | 0 (0.0) |
| | Teso | 0 (0.0) | 0 (0.0) | 1 (100.0) | 0 (0.0) |
| | Kalenjin | 0 (0.0) | 0 (0.0) | 0 (0.0) | 2 (100.0) |
| | Kisii | 0 (0.0) | 0 (0.0) | 0 (0.0) | 1 (100.0) |

Relationship between cultural competence and utilization of maternal health services

Table 5 shows the relationship between cultural competence and utilization of maternal and child health services. The results show a statistically significant association between respondents consulting health professionals for advice when respondents or family experience small health

problems with a comparatively smaller proportion of respondents from Mt. Elgon utilizing MCH services (OR: 0.5; 95% CI: 0.2 – 0.9; $p = 0.03$). surprisingly, even where respondents from Mt. Elgon were sometimes treated with appropriate cultural respect by facility staff (OR: 0.6; 95% CI: 0.4 – 0.9; $p = 0.03$) or where health professionals sometimes take respondent's culture and religion into account when interacting with them (OR: 0.6; 95% CI: 0.4 – 0.9; $p = 0.03$), still a statistically significantly smaller proportion were able to utilize MCH services. Respondents from Mt. Elgon who did not consult elders for advice when respondents or family experienced small health problems were also less likely to utilize MCH services through the association was marginally statistically significant (OR: 0.7; 95% CI: 0.4 – 1.0; $p = 0.08$).

Table 5: Relationship between cultural competence and utilization of maternal health services

| Variables | Explanatory variable | Utilized health facility | | Total (n) | OR | 95% CI | p-value |
|---|----------------------|--------------------------|--------|-----------|-----|-----------|---------|
| | | Yes (%) | No (%) | | | | |
| Consults health professionals for advice when respondent or family experience small health problems | Mt. Elgon | 70.3 | 29.7 | 155 | 0.5 | 0.2 – 0.9 | 0.03 |
| | Cheptais | 83.3 | 16.7 | 84 | | | |
| Sometimes treated with appropriate cultural respect by facility staff | Mt. Elgon | 48.0 | 52.0 | 227 | 0.6 | 0.4 – 0.9 | 0.03 |
| | Cheptais | 60.3 | 39.7 | 116 | | | |
| Health professionals always take my culture and religion into account when interacting with me | Mt. Elgon | 53.7 | 46.3 | 203 | 0.7 | 0.4 – 1.1 | 0.1 |
| | Cheptais | 62.7 | 37.3 | 110 | | | |
| Health professionals sometimes take my culture and religion into account when interacting with me | Mt. Elgon | 48.0 | 52.0 | 227 | 0.6 | 0.4 – 0.9 | 0.03 |
| | Cheptais | 60.3 | 39.7 | 116 | | | |

Multivariate logistic regression of determinants of utilization of maternal health services

This study examined the determinants of utilization of maternal and child health services in the study area. Multivariate logistic regression of determinants was performed by putting all the factors that had a marginal or significant association ($p \leq 0.08$) with the outcome to determine the recommended model. Results of multivariate logistic regression identified only two factors as determinants that are independently associated with the utilization of maternal and child health services in Mt. Elgon Sub-County. These included women who are employed (OR: 2.8; 95% CI: 1.1 – 7.3; $p=0.03$) and having visited facility as a patient (OR: 0.5; 95% CI: 0.3 – 0.9; $p=0.03$). In addition, there is a tendency for perception on respondent's health status being excellent or good ($p = 0.5$), use of interpreter ($p = 0.2$), all MCH services being available ($p = 0.3$), services being available once a week ($p = 0.4$) and paying for ANC services ($p = 0.1$) to be associated with utilization of MCH services. Although these factors are not statistically significant, their confidence intervals include higher value odds ratio upper limits of between 2.1 and 4.2.

Table 6: Multivariate logistic regression of determinants of utilization of maternal health services

| Risk factor | Overall a | 95% CI | P-value |
|--|-----------|-----------|---------|
| Working | 2.8 | 1.1– 7.3 | 0.03 |
| Has visited the nearest health facility as a patient | 0.5 | 0.3 – 0.9 | 0.03 |
| Less than 30 years | 0.7 | 0.5 – 1.2 | 0.2 |
| Married | 0.9 | 0.5 – 1.4 | 0.6 |
| None or primary school level | 1.0 | 0.5 – 1.7 | 0.9 |
| Health status excellent or good | 1.2 | 0.7 – 2.1 | 0.5 |
| Use of interpreter | 1.5 | 0.8 – 3.1 | 0.2 |
| All MCH services available | 1.3 | 0.8 – 2.4 | 0.3 |
| Services available once a week | 1.5 | 0.5 – 4.2 | 0.4 |
| Services available once/twice a week | 1.0 | 0.6 – 1.8 | 0.9 |
| Work days are suitable | 0.9 | 0.6 – 1.4 | 0.5 |
| Pays for FP | 1.3 | 0.8 – 2.0 | 0.2 |
| Pays for ANC | 1.6 | 0.9 – 2.7 | 0.1 |

4.0 DISCUSSIONS, CONCLUSION AND RECOMMENDATION

Generally, the predictors that were identified by participants which played a major role in maternal health care utilization included socio-demographic characteristics of clients and the cultural competence of health care workers. The study revealed a statistically significant relationship between age and use of maternal health care services ($p = 0.01$). Among those aged below 30 years and residents of Mt. Elgon, a significantly smaller proportion of respondents in this age group utilized the services. Similar findings were reported by Vilder, *et al.*, (2016) who found out that a significantly smaller number of mothers of less than thirty years of age were utilizing maternal health services in India. In the study area, underutilization of maternal health services could be attributed to the harsh terrain which is characteristic of Mt. Elgon which is located on the border of eastern Uganda and western Kenya. Its vast form, 80 kilometers (50 mi) in diameter, rises 3,070 meters above the surrounding plains.

Access to health facilities in this area requires the use of motorized transport and one spends at least Ksh. 500 (USD 5) which most of the young women may not have, unlike the older age group that are more economically independent. The harsh mountainous terrain cannot allow women, more so the younger women seeking services to reach the health facilities unaccompanied as they have to go through the forest with the elephants. Another explanation that was advanced on the possible reason why the younger age groups do not utilize the services is basically cultural. A study conducted by Ngari (2010) among the Ogiek community revealed elders have negative influence on the younger mothers and encourage to use herbs for treatment before visiting the health facilities. The older women, on the other hand, know the herbs and can decide whether to use them or go to the hospital.

In this study, there was a statistically significant relationship between those with none or primary education in Mt. Elgon with reference to the utilization of maternal health care services. Forty percent of respondents in this category were less likely to have used the health facilities compared to those who had attained at least secondary education who were 1.3 times more likely to have utilized the MCH services. It appears that education plays a major role in the utilization of maternal and child health care services. The chances of getting employment are higher which improve access to health facilities. However, after controlling for other factors, education was not significantly associated with the outcome. Our results are contrary to the findings of a study conducted by Sakeah *et al* (2014) and Makapi *et al* (2011). Indeed, the socio-economic standing of mothers improves with literacy levels of mothers. The extent to which a mother is educated determines autonomy in decision-making regarding the use of maternal and child health care services.

Bivariate analysis results show that a higher proportion of women in Mt. Elgon (60%) who are working were more likely to utilize the services unlike those in Cheptais with a marginal statistically significant results ($p=0.06$). These results concur with the study done in Eastern Nepal, where women who were not formally working were less likely to use maternal and child health care services (Lama & Krishna, 2014). After controlling for other confounders, employment was statistically significantly associated with the utilization of maternal health care services ($p=0.03$). Women who were employed in Mt. Elgon were almost three times more likely to use these

services. This then implies that employment after controlling for education and other factors is one of the determinants of service utilization. Employment gives one socioeconomic power and autonomy to access health care services amongst other services. Most of those who are employed work outside their places of residence which are located close health facilities. Results also show a statistically significant relationship between mothers who had stayed in Mt. Elgon for less than 6 months compared to those who had been residents for a longer period. Respondents who had stayed in Mt. Elgon Sub- County for at least 6 months or less were almost four-fold more likely to have utilized the services compared to their counterparts in Cheptais ($p= 0.02$). On the other hand, respondents who had stayed in Mt. Elgon Sub- County for more than 6 months were 40% less likely to have used maternal and child health care services with marginally significant results ($p= 0.06$). Mothers who are new in the study area are not familiar with culture/traditional groups offering care and use of local herbs and therefore are more likely to seek health services in the nearby health facilities while mothers who have been residents for a longer time and who are familiar with the indigenous groups rely on the use of local herbs for management of maternal and child illnesses before seeking hospital care. It is also likely that those who are new in the area are have been used to utilizing health facilities.

The study shows a statistically significant association on working days not being suitable for the respondent and the community on the utilization of MCH services ($p = 0.04$). Respondents from Mt. Elgon who felt that the working days were not suitable were 50% less likely to have sought services in the health facilities compared to those from Cheptais. Most dispensaries are open from Monday to Friday from 8.00 am to 5.00 pm while some of the obstetric emergencies occur outside normal working hours or days.

Where mothers claimed the non-availability of mobile/outreach clinics, a significantly smaller proportion of mothers utilized the services in Mt. Elgon ($p = 0.06$). This could have been contributed by the rough terrain and distance to health facilities. The results are corroborated by similar findings in our study where a smaller proportion (63%) of respondents from Mt. Elgon compared with 78.7% from Cheptais were able to use the services where the time taken to reach the facility by foot is more 1 hour ($p = 0.007$). This was true even in cases where FP services were free or where they were to pay for ANC services. Whereas 36% of the mothers from this area were less likely to use the FP services, almost 50% did not utilize the ANC services. The results are in line with a study conducted by (Kassile, Lokina, Mujinja, & Mmbando, 2014) in Tanzania where distance influenced the mother's access to the services. The result is also supported by the study by (Zelalem, Belayihun, Teji, & Admassu, 2014) who found out that the cost of a single trip per person from home to hospital influences the utilization. The study by (UNFPA, 2010) had shown that 90% of children often die at home without the utilization of services due to long distance.

The use of interpreters during respondent's or relative's visits to the health facility was negatively associated with the use of MCH services ($p= 0.02$). Where such interpreters were used in Mt. Elgon, 80% of the respondents were less likely to have utilized MCH services. According to Ogiek culture, one should not tell somebody your problem other than the health worker. By going through an interpreter the client would have laid open their problem and hence lack of confidentiality. This is different from report of a study conducted in the USA where use of interpreters positively influences utilization of MCH services (Kaufert & Putsch, 2006).

Further evidence shows a statistically significantly smaller proportion of respondents from Mt. Elgon who were less likely to have utilized MCH/FP services because of being too busy ($p=0.02$). The reason could be the cultural gender roles of women. In the study area, women are responsible for taking care of their children, farming, milking of cows, selling farm products and household chores. Culturally, a man takes care of animals and the security of the family and community. Overall, a woman's day to day activities is much more engaging leaving them with little time to utilize health facilities for MCH/FP services.

There was a statistically significant association between respondents consulting health professionals for advice when respondents or family members experienced small health problems with a comparatively smaller proportion of respondents from Mt. Elgon utilizing MCH services ($p=0.03$). Even where respondents from Mt. Elgon were sometimes treated with appropriate cultural respect by facility staff ($p=0.03$) or where health professionals sometimes take respondent's culture and religion into account when interacting with them ($p=0.03$), still a statistically significantly smaller proportion were able to utilize MCH services. Respondents from Mt. Elgon who did not consult elders for advice when respondents or family experienced small health problems were also less likely to utilize MCH services though the association was marginally statistically significant ($p=0.08$). Surprisingly, unlike the study conducted by (Schyve, 2007) were those who consulted health workers were more likely to utilize MCH services. Ogiek communities are users of herbs (Ngari, 2010).

The study revealed that competence of health workers was very low and the mean competence level falls in incompetent stage in the continuum of culturally incompetent, culturally aware, culturally competent, and culturally proficient which indicated that the providers were not able to answer all questions on culture ($<75\%$ of the questions were answered). Dissatisfaction from mothers who utilize services was evident. Surprisingly none of the respondents (Health care workers) in Mt. Elgon was aware of the health programs and services offered.

Conclusion

The study gives very useful information on the utilization of maternal and child health care services in the area of high rates of maternal and child mortality and morbidity on predisposing, enabling and the need characteristics. The study informs us on the considerations for future decision-making in cultural competence education, policy and practice. These include the need for better alignment between policy frameworks, practice and research activities, need for cultural competence education programs that specify and describe their conceptual rationale, actual content, delivery, organizational support and approach of evaluation and need for evaluation assessment on impact of cultural competence (on patient, health professionals and health organization) and evaluation outcomes (patients experience, potential impact on health professionals and potential impact on organizations).

Recommendation

These data contribute more knowledge about the unique group of mothers (vulnerable and marginalized) and health care workers which intern may be used by policymakers to plan strategies that can improve the cultural competence of health care workers, adopt harmless culturally preferred position of delivery in maternity, culturally accepted language to be used in maternity and delivery room and client option on where (Home or Hospital) the placenta has to be deposited to increase utilization in the study area and other similar environment.

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