



Research Article

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# Proportion of Mothers Enrolled into Mutual Health Organizations and its Influence on the Effective Use of Maternal Healthcare Services in the Kumbo East and West Health Districts of the North West Region of Cameroon



Fortune Wainachi Ndim<sup>1,2</sup>, Okalla Abodo Raphael Therese<sup>1</sup>, Claude Ngwayu Nkfusai<sup>3,4\*</sup>, Nsoh Marius<sup>1,4</sup>, Terrence Beteck Epie<sup>3,5</sup>, Fala Bede<sup>3,5</sup> and Samuel Nambile Cumber<sup>6,7,8</sup>

<sup>1</sup>Department of Public Health, Catholic University of Central Africa, Cameroon

<sup>2</sup>Limona Foundation International, Cameroon

<sup>3</sup>Cameroon Baptist Convention Health Services (CBCHS), Cameroon

<sup>4</sup>Department of Microbiology and Parasitology, University of Buea, Cameroon

<sup>5</sup>Department of Medicine, University of Oxford, United Kingdom

<sup>6</sup>School of Health Systems and Public Health, University of Pretoria Private Bag X323, South Africa

<sup>7</sup>Department of Public Health and Community Medicine (EPSO), University of Gothenburg, Sweden

<sup>8</sup>Faculty of Health Sciences, University of the Free State, South Africa

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**\*Corresponding author:** Ngwayu Claude Nkfusai, Cameroon Baptist Convention Health Services (CBCHS), Cameroon

## Abstract

**Background:** The role of a mother as a life giver and a home manager has been very important and is still very important through the generations. Women put themselves through a lot of danger during the whole process of conception, and delivery even post-delivery such that as observed over the past so many years, women have been observed to lose their lives in the process. This work therefore had as main objective to find out the influence of existing mutual health schemes on the use of maternal health care services in Kumbo East and West Health Districts of the North West Region of Cameroon

**Methods:** A quantitative and qualitative cross sectional analytical study was carried out with a prospective and retrospective aspect. A non-probabilistic sampling technique was applied in which a questionnaire was administered to 385 women from the ages of 16-49 who were either pregnant or had at least a child <5years. Epi info, Stata, Excel were used for data entry and analysis. Chi 2 test and the Fisher's exact test were used in bivariate analysis. The cut off value for significance was considered at  $p < 0.05$

**Results:** A total of 385 women of child bearing age either pregnant or having at least a child under five years old were included in the study both for the quantitative and the qualitative aspect of the study. The proportion of women enrolled into at least a mutual health scheme to those not enrolled is 29.06 is to 70.94. 90.48% of the population said 75% of their health care bills were covered by the MHO unlike 1.9% of the population which says that only 25% of their Bills were been covered by the MHO

**Conclusion:** The study had as general hypothesis "Mutual health organizations have an impact on the maternal health care utilization amongst women in Kumbo East and West Health District". From the findings made from this study, we cannot say convincingly that being registered into the mutual health organization influences the use of maternal healthcare services. In conclusion, we reject the general hypothesis (Ho), hence, mutual health organizations do not have an impact on the use of maternal healthcare services in Kumbo.

**Keywords:** Proportion; Mothers; Mutual health organizations; Kumbo East and West Health Districts

**Abbreviations:** ANC: Antenatal Care; MMR: Maternal mortality rate; MHO: Mutual Health organization; WHO: World Health organization; CDC: Center of Disease Control; UNFPA: United Nations Population Fund; KE: Kumbo East; KW: Kumbo West; KEHD: Kumbo East Health District; KWHD: Kumbo West Health District; DMO: District Medical Officer; RDPH: Regional Delegate for Public Health; GIZ: German International Cooperation; Org: Organization

## Introduction

The role of a mother as a life giver and a home manager has been very important and is still very important through the generations. Women put themselves through a lot of danger during the whole process of conception, and delivery even post-delivery such that as observed over the past so many years, women have been observed to loss their lives in the process. A lot of women have lost their lives in the process of child birth and many others are still doing so. This has through a series of research works been proven. This is in line with what was stipulated in the article Africa in progress [1].

Most of these deaths have been observed to be caused by poorly handled complications probably resulting from deliveries assisted by unskilled personnel as have been observed in most of the rural communities. This view is related to work that was done by (McTavish and Moore.2015) who said that "Every day approximately 1500 women worldwide die due to pregnancy childbirth related complications. Maternal health care use is critical in reducing maternal mortality worldwide "

Globally, there was an estimated 287,000 maternal deaths in 2010 with 99% of those occurring in developing countries (WHO.2010). Sub-Saharan Africa had the highest maternal mortality ratio (MMR) in 2008 with 640 deaths per 100,000 live births (WHO 2013).

The United Nations report on Trends in Maternal Mortality 2005-2010 categorizes the countries based on their progress towards MDG 5 targets from 1900 to 2010 [2]. One important feature of this report is that it demonstrates progress by providing the average annual percentage change in maternal mortality ratio (MMR) between 1990 and 2010, and categorizes the countries as being 'on track', 'making progress', 'insufficient progress', or 'on progress' made over time. Six countries viz. Ethiopia, Madagascar, and Uganda had <350 MMR in 2010, made sufficient progress towards achieving their MDG 5 targets, maintained an average annual reduction rate of >4.5, and had available Demographic and HEALTH Surveys (DHS) data for 2010 or 2011. The other three countries viz. Cameroon, Zambia and Zimbabwe had >550 MMR in 2010, made insufficient or no progress towards achieving their MDG 5 targets, maintained an average annual reduction rate of < 1.5, and DHS data available for 2010 or 2011.

Another piece of work done by Abeje G [3] laid emphasis on the fact that « Pregnancy and childbirth related morbidity and mortality are serious problems worldwide especially in the less developed world. Globally about 287000 maternal deaths occurred in 2010 and the less developed countries accounted for 99% of the global maternal death [4]. Cameroon has been observed as well to have a high rate of maternal mortality in Africa as compared to other African countries with a death ratio of 782 deaths per 100000 live births. (EDS MICS 2011) accessibility to the various facilities for maternal healthcare that have been put at the disposal of the community has been observed to be a big

problem. So many women especially women in the rural areas have the facilities but cannot utilize them due to some constraints one of which is financial (Gaston Sorgho 2016). Countries such as Cameroon with the out of pocket system of healthcare purchase has posed a very heavy financial burden on its population making it difficult for the poor to access the available healthcare hence most women who are pregnant decide either to use the traditional unskilled method of delivery or come to purchase healthcare only at term hence making it difficult for any underlying complications which could probably show up to be identified on time.

This work therefore had as main objective to find out the influence of existing mutual health schemes on the use of maternal health care services in Kumbo East and West Health Districts of the North West Region of Cameroon. The study population was pregnant women and women with children less than 5 years who were registered into a mutual health scheme as well as those who were not enrolled.

## Methods

### Study design, Sitting and Population

A quantitative cross sectional analytical study was carried out with a prospective aspect in the Kumbo East and West Health Districts of the North West Region. This study was carried out in the Kumbo East and West Health Districts which both consist of urban and rural areas. Kumbo East Health District (KEHD) is one of the 19 health districts in the North West Region same like Kumbo West Health District (KWHD). KEHD covers a total population of 179932 inhabitants and a surface area of 1087km<sup>2</sup>. KWHD covers a population of 99125 inhabitants and a surface area of 1025km<sup>2</sup>.

### Selection Criteria

#### Inclusion criteria

- Women of childbearing age 16-49 years having a child below 5years presently.
- Women currently pregnant during the time of the study
- Women who accepted to participate in the study

#### Exclusion criteria

- Those who refused to participate in the study
- Women who were not resident in the health area of study during the time of the study.

### Sample size and sampling

The sample size was calculated using Fisher's formula;

$$\text{Sample size} = \frac{z^2xp(1-p)}{e^2}$$

Where

P = Prevalence of the outcome (taken as 50% given that conventionally was not known.)

E = margin of error at 95% giving as 0.05

Z score = 1.96

n = Sample population

$$\text{Sample size} = \frac{1.962 \times 0.5(1 - 0.5)}{0.052} = 0.0025$$

N = 385

From the calculation, a sample size of 385 participants was to be administered in the kumbo East and West Health Districts.

### Data Collection

Data was collected using a self-administered well-structured questionnaire which was filled by the respondents and returned. Prior to use in the study participants, pre-testing was done at the Biyem Assi Health District Yaoundé so as to ensure that the questionnaire would be correctly understood by women in the field. About twenty pregnant women and women with at least a child less than five years were interviewed using the questionnaire that had been designed for this study. After the pre-test, adequate modifications were made on the questionnaires where necessary. These corrections were made to ensure that instrument was ready for use. It was estimated that; each questionnaire could be administered for 30-45 minutes after the pretest.

A total of 385 questionnaires were administered to pregnant women between the ages of 16-49 years of age and mothers with children under five years of age. Both those who were registered in a mutual health scheme and those not registered in any mutual health scheme were enrolled in this study.

### Data Analyses

Computing the socio-demographic characteristics of women of child-bearing age 16-49 such as age, level of education, occupation and marital status, using categorical variable frequencies. For the bivariate analysis, the dependent variable was maternal healthcare utilization and the independent variable mutual health. Other independent variables include ANCI, ANC4, Tetanus injection in pregnancy, Delivery, General healthcare utilization were computed each with the dependent variable. Cross tables were done, Chi square test and the Fisher's test was used to test for statistical significance and association. The Software that was used to analysis the data Epi info version 3.0 and version7.0 as well as STATA and Microsoft Excel.

### Ethical Consideration

Ethical clearance was obtained from the school of health science Ethical Review Board, UCAC. An authorization letter was collected as well from both from the Director of the catholic university of central Africa and the Regional delegate of Northwest region to conduct the study at the Kumbo East and West Health Districts. Authorization forms were obtained as well from the District chiefs of service for both Kumbo East and Kumbo West. Consent and the information forms were also being made available for the respondents and information gotten during the study was be kept

confidential and use for the purpose of research only. Names of respondents were not taken for the purpose of confidentiality. Rather codes were used in order to ensure their confidentiality. At the end of the study, the questionnaire was burned to ensure that there is no disclosure of the information that obtained from the respondents.

### Result

#### Socio- Demographic characteristics of the population

Table 1: Socio- Demographic characteristics of the population.

Variable	Category	Frequency	%
Age	16-20	36	9.73
	21-25	87	23.51
	26-30	113	30.54
	31-35	67	18.11
	36-40	49	13.24
	>40	18	4.86
Marital status	Married	283	73.51
	Single	92	23.9
	Divorced	10	2.6
Religion	Catholic	227	59.11
	Baptist	30	7.81
	Presbyterian	59	15.36
	Muslim	57	14.84
	Others	6	1.56
	None	5	1.3
Educational status	First school	213	56.2
	Secondary school	92	24.27
	High school	59	15.57
	University	15	3.96
Professional status	Worker	67	18.41
	House wife	164	45.05
	Farmer	131	35.99
	others	2	0.55

A total of 385 women of child bearing age either pregnant or having at least a child under five years old were included in the study both for the quantitative and the qualitative aspect of the study. The main results of the study are presented in two main sections which are; quantitative results and qualitative results presentation (Table 1).

#### Proportion of women enrolled into at least into a mutual health scheme

The proportion of women enrolled into at least a mutual health scheme to those not enrolled is 29.06 is to 70.94 (Table 2).

**Table 2:** Proportion of women enrolled into at least into a mutual health scheme.

Enrolled Into a MHO Scheme	Frequency	Percent (%)	Cum. Percent (%)
Enrolled	111	29.06	29.06
Not enrolled	271	70.94	100
Total	382	100	100

**The percentage of bills covered by the MHO**

The percentage of the health care service bills that are covered by MHO From the findings gotten, 90.48% of the population said 75% of their health care bills were covered by the MHO un like 1.9% of the population which says that only 25% of their Bills were been covered by the MHO (Table 3).

**Table 3:** The percentage of bills covered by the MHO.

Percentage Covered	Frequency	Percent(%)	Cum. Percent (%)
75%	95	90.48	90.48
50%	8	7.62	98.1
25%	2	1.9	100
Total	105	100	100

**Displays the level of health service use amongst mothers who are not enrolled to those enrolled in a scheme**

This indicates that health service use is more effective amongst those enrolled into a scheme as its seen that out of 88.39% who effectively use the healthcare service, only about 8.03% do not effectively use it. While on the other hand for those who are not

enrolled, out of 87.91% that use the health service effectively, up to about 12.09% of these women do not use the healthcare service effectively which is a little elevated compared to the former (Table 4).

**Table 4:** Displays the level of health service use amongst mothers who are not enrolled to those enrolled in a scheme.

	Enrolled in Mutual Health (112 Women)	Percentage Use (%)	NOT Enrolled in Mutual Health (273 Women)	Percentage Use (%)
Maternal health care utilization	99	88.39	240	87.91
No Maternal health care utilization	9	8.03	33	12.09

**The Influence of being registered in a MHO on the utilization of ANC services**

The influence of being registered into a mutual health scheme on the use of ANC services.

P-value (Fisher's exact test) = 0.683

With the above P-value, it shows that there is no association between being enrolled in the mutual health scheme and the use of ANC services. Hence being enrolled into a Mutual health scheme cannot be pointed out as so much of an encouraging factor for the use of ANC services given that not many mothers on the other hand are even enrolled (Table 5).

**Table 5:** The Influence of being registered in a MHO on the utilization of ANC services.

Utilisation of ANC Service							
Enrolled in a Scheme	ANC 1	ANC 2	ANC 3	ANC 4	More	None	Total
Enrolled	11	8	11	3	3	5	41
Frequency (%)	26.83	19.51	26.83	7.32	7.32	12.2	100
Not enrolled	27	20	29	16	18	22	132
Frequency (%)	20.45	15.15	21.97	12.12	13.64	16.67	100
TOTAL	38	28	40	19	21	27	173
Frequency (%)	21.97	16.18	23.12	10.98	12.14	15.61	100

**The influence of being registered in a MHO on the utilization of assisted delivery services**

**Table 6:** The influence of being registered in a MHO on the utilization of assisted delivery services.

Enrolled in a Scheme	Assisted Delivery		Total
	Assisted Delivery	Not Assisted	
Enrolled	60	3	63
Frequency (%)	95.24	4.76	100
Not enrolled	127	6	133
Frequency (%)	95.49	4.51	100
TOTAL	187	9	196
Frequency (%)	95.41	4.59	100

The influence of being registered in a MHO on the utilization of assisted delivery services P- Value (Fisher exact test) =0.5968608087. With the above P-value, it shows that there is not association between been enrolled in a mutual health scheme and the use of assisted delivery given that majority of the women are not enrolled into the mutual health and they still use the services well as out of 100% of those who responded to the question that were not enrolled,95.49% were gave birth assisted by health personnel and only 4.51% of the population did not (Table 6).

**The influence of being registered in a MHO on the utilization of hospital consultation services**

The influence of being registered in an MHO on the utilization of hospital consultation services

P-value (Fisher exact test) = 0.1685715030

There is therefore no association between being registered into a Mutual health scheme and health care service consultation (Table 7).

**Table 7 :** The influence of being registered in a MHO on the utilization of hospital consultation services.

General Consultation			
Enrolled in a Scheme	Consulted	Did not Consult	Total
Enrolled	49	12	61
Frequency (%)	80.33	19.67	100
Not enrolled	93	35	128
Frequency (%)	72.66	27.34	100
TOTAL	142	47	189
Frequency (%)	75.13	24.87	100

**Discussion**

One of the objectives was to find out the proportion of women that are enrolled into mutual health organization to those who are not registered. From the findings gotten from the field, 29.06% of the women were enrolled into at least a mutual health scheme while a greater population of the women was not enrolled like about 70.94%. A lot of factors contributed to their reason for not being enrolled into any mutual health scheme. Out of the 70.94% of the women who were not enrolled into any mutual health scheme, 41.61% of them said the reason to which they were not enrolled was because they hadn't money to register, 36.13% of them said that they were still to consider getting enrolled while 16.42% of the women said they hadn't the slightest knowledge on the existence of the mutual health organization and 2.55% said they didn't see the importance of being enrolled. From the above results, the main reason to which the respondents were poverty which has contributed greatly to their inability to get enrolled into any scheme. This is given that a huge sum of money is needed in order to be part of a MHO and this therefore in a way excludes the poor community who have farming as their main source of income and hence have very little left in their pockets for the upkeep of their families. This finding are contradictory to the findings made by Ranson et al. [5]. Their findings stated that MHOs are inclusive of the poorest. On the other hand, the findings are in line with those made by Bennett et al. [6]; Jütting [7]; De Allegri et al. [8]. They found out that MHOs tend to exclude the poor.

This exclusion is through the fact that enrollment into these schemes needs at least from the number of four to 10 people for a start requiring a minimum amount of 20000frs for registration and most of the time, all of the people that make up this group are usually from the same family, making it very heavy to remove

that amount of money needed to register hence, they decide not to register and hence it becomes harder on them when they finally get sick and are expected to pay heavy bills.

Another factor is associated to the educational level. A P-value of 0.044 was obtained using the Fisher exact test which indicated that there was an association between the educational level of the population and their enrollment into the mutual health scheme. These findings are in line with those made by (Slaveva G chankova, Sara Sulzbach (2006) who stated that Education of household head is also positively associated with MHO enrolment.

Given that 54,5% of the sample population was made up of first school leavers, and 23.9% secondary school leavers this made 78.4% of the sample population people who had no valid educational backing that could in turn help them secure a good job that will in turn give them a good financial state, it made them limited to peasant farming and other menial jobs. which gave them just enough money to put food on their table.

16.42% of the population that was not enrolled into any scheme was made up of these women who hadn't any idea about the existence of the organization. This probably could be associated to poor sensitization on the part of the technical team.

Given that GIZ withdrew their support from the HIV program in Cameroon, their support to the Mutual health scheme was withdrawn as well. In kumbo, it made the contributions that came from the public the only source of revenue that they used to run the organization. This generally made the running of the organization very difficult as some of the members of the community started withdrawing especially those who were on HIV treatment being supported by GIZ, and those who felt that the organization was not respecting the % that had been promised for the payment

of bills. With the limited finance available for the running of the organization due to no external support, payment of the field staff became difficult so very little community mobilization was done and the population develop cold feet.

The respondents as well said that some of them left the organization because they felt that they gave their money and never used it. Some of the respondents in their words said that "it feels like each time one registers into the mutual health scheme, he stops being sick" this actually served as a discouraging factor to a number of them considering the fact that they hadn't been well oriented from the start.

Additionally, a good number of the respondents 2.55% said they did not see the importance of being enrolled. They were positive about the fact that they will rather go straight to the hospital and use money from their pockets to pay for their health care bills rather than go put the money in some organization in the name of "securing for your future". They will as well prefer to invest in a business rather than waste their money. This is in line with the theory of planned behaviour Ajzen and Fishbein (1980) which says that The best predictor of behaviour is intention. Intention is the cognitive representation of a person's readiness to perform a given behaviour; and it is considered to be the immediate antecedent of behaviour.

Another group of people were the Muslims who make up 14.84% of the sample population. This group of people were not enrolled because they said it was against their religion to save up money for future sickness. It was actually considered a sin and hence their faithful's did not get enrolled and for the few that got enrolled, ended backing out up out of fear.

### Conclusion

In most African countries, including the low-income, poor and rural populations have low utilization and coverage rates for key preventive and primary curative interventions. Because of their poverty, these populations tend to suffer more health problems; because of their health problems, they tend to be poorer [9]. There are many reasons for low utilization of priority health services in Africa, including poor physical and financial access to care, socioeconomic factors, cultural factors and perceptions about the quality of care [10]. With respect to the existence of Mutual health organizations in the community, which are out to help in risk sharing and help in the increase of access of the community to quality health care service, the researcher decided therefore to find out if the existing mutual health organizations do have any impact on the use of maternal health care services [11-15]. A univariate and bivariate analysis was done and all the p-values gotten but for one which was the influence of educational status on the enrolment into mutual health was significant. There was no clear association found between being enrolled in a mutual health scheme and using either the ANC service, assisted delivery, General consultation services effectively [16-20]. This is because, it was clearly seen that regardless of the fact that very few people

were enrolled in the scheme, the fact that the others were not enrolled did not affect the level of their healthcare service use. The level of healthcare service use was almost the same amongst those who were enrolled as well [21-25].

The study had as general hypothesis "Mutual health organizations have an impact on the maternal health care utilization amongst women in Kumbo East and West Health District". From the findings made from this study, we cannot say convincingly that being registered into the mutual health organization influences the use of maternal healthcare services. In conclusion, we reject the general hypothesis (H<sub>0</sub>), hence, mutual health organizations do not have an impact on the use of maternal healthcare services in Kumbo [26-30].

### What is Already Known About the Topic

- a) Community-based health insurance schemes in developing countries: facts, problems, and perspectives [31-35].
- b) Predicting Health Behavior: Search and Practice with Social Cognition Models
- c) Determinants of financial stability of mutual health organizations in the Thies Regions of Senegal: household survey component House hold survey component [36-40].

### What this Study Adds

- a) There are many reasons for low utilization of priority health services in Africa, including poor physical and financial access to care, socioeconomic factors, cultural factors and perceptions about the quality of care [41-45].
- b) The level of healthcare service use was almost the same amongst those who were enrolled as well
- c) Mutual health organizations have an impact on the maternal health care utilization amongst women in Kumbo East and West Health District [46-49].

### Authors contribution

WFN, OART, CNN, NM, TBE, FB and SNC designed the study and were involved in all aspects of the study. WFN, OART, CNN, NM, TBE, FB and SNC contributed to scientifically reviewing the manuscript for intellectual inputs and review. All authors reviewed the final manuscript and agreed for submission.

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