Acceptability and Utilization of Community Health Workers after the Adoption of the Integrated Community Case Management Policy in Kabarole District in Uganda

G Muhumuza[1], **C Mutesi**[2], **F Mutamba**[3], **P Ampuriire**[4], and **C Nangai**[5]

[1]Makerere University College of Health Sciences, School of Public Health [2]BNUR, Makerere University College of Health Sciences, School of Nursing, Uganda [3]MBCHB, Makerere University College of Health Sciences, School of Medicine, Uganda [4]BEHS, Makerere University College of Health Sciences, School of Public Health, Uganda [5]BSB, Makerere University College of Health Sciences, School of Biomedical Sciences, Uganda

Abstract

Background—Malaria, pneumonia and diarrhea remains to be the major causes of morbidity and mortality among children in Uganda. To address such challenges, the government adopted a national policy on Integrated Community Case Management (ICCM) for malaria, pneumonia and diarrhea in 2010. The aim of this study was to assess household access, utilization and acceptability of ICCM services in Kabarole District.

Methods—The study was carried out between 22nd November to 4th December, 2014 in Rwimi sub-county, Kabarole district. A cross sectional household survey was conducted amongst caretakers of children below 5 years of age and a total of 384 respondents were interviewed about distance from nearest health facility and community health worker, socio-demographic characteristics, type of housing, history of fever, health-seeking behavior, perceptions of quality and utilization of ICCM services. Data was cleaned, coded and analysed using STATA 14.0 to produce results.

Results—Most 53.1% of the studied children were males and their age ranged from 1–52 months. Nearly all the care takers, 97.1% (373/384) had utilized health services for their children in the three proceeding months to the study and of those, 0.5% (2/373) sought from a traditional healer, 8.6% (32/373) sought treatment at home, 27.3% (102/373) from community health worker, 27.3% (102/373) from government health unit and 36.2% (133/373) from non-government health units. The caretakers who stay near CHWs are more likely to utilize ICCM services than those staying near health facilities (P=0.001). The majority 65.6% of the caretakers stay near CHWs and use only 10 minutes to reach the CHWs. Trust in CHWs [AOR 0.85, 95%CI [0.641–1.135]], level of awareness [AOR 0.73, 95%CI [0.538–0.979]] and distance (1 km) to CHWs [AOR 1.65, 95%CI [1.075–2.522]] are positively associated with the utilisation of ICCM services.

Corresponding author: Muhumuza et al., 2015, PostNet Suite 427, Private Bag X37, Lynwoodridge, 0018, South Africa, gkmuhumuza@gmail.com.

Conclusion—The implementation of ICCM policy in kabarole has been an effective approach in increasing the utilization of malaria, diarrhea and pneumonia treatment services and hence increasing access to health services at community level. Trust in the CHWs, level of community awareness and distance to the CHWs are positively associated with the utilisation of ICCM services.

Keywords

Community health worker; Village health teams; Integrated community case management

Introduction

Malaria, diarrhea and pneumonia have remained leading causes of childhood mobility and mortality in sub Saharan Africa [1]. In Uganda, 33 million cases of malaria; Diarrhea and pneumonia go undetected each year in Uganda and this causes a treatment gap most especially in highly endemic areas [2]. The Uganda health sector strategic plan adopted the Village Health Team (VHT) concept to promote the health and well-being of all members and increase the number of children who can access health care within 24 hours of onset of signs and symptoms [3]. This would reduce the continuing gap in health service provision between the households and the health care service providers. The child survival strategy and the road map for maternal and neonatal health have prioritized the use of VHTs to improve the health of mothers, newborns and children.

Since 2002, Uganda has adopted and implemented community case management for malaria, locally known as home based management of fever. Under this program, community health workers provide pre-packaged anti-malaria drugs presumptively to children that present with high fever. In 2010, this program was scaled up to the whole country as a strategy to reduce child mortality by improving access to health care for sick children in resource poor settings [2].

Presently, the use of life saving preventive childhood interventions in Uganda is fairly good with breast feeding 60%, vitamin A supplementation 78% and Hib-3 vaccine 80%, but the use of curative interventions is not as high with only 64% overall receiving a fraction of curative intervention [4]. It's therefore important that this large treatment gap is addressed with a combination of high impact effective intervention such as integrated community case management working alongside community health systems [2].

This strategy if properly implemented can increase access to drugs and all the other health services to children within 24 hours of onset of childhood signs and symptoms of malaria, diarrhea and pneumonia. Access brings services closer to caretakers and nearest to their homes, making them more readily available [5]. This increases utilisation of such services and hence acceptability. Increased access to ICCM services is key for increasing coverage of health services most especially to children below five years in such communities by providing supplementary health services and hence a reduction of health inequalities most especially for children below five years [6].

Few studies have been carried out to assess the performance of CHW in Kabarole district in Uganda and there is a gap between what is presently known about the acceptability and utilization of CHWs in ICCM implementation. This particular study assessed the acceptability and utilization of ICCM services in Kabarole District and it was done to supplement other studies that were carried out in the district.

Objectives

General objectives

The general objective of this study was to assess the acceptability and utilization of community health workers after the adoption of the Integrated Community Case Management policy for malaria, pneumonia and diarrhea in Kabarole District.

Specific objectives

- To describe the community access to Integrated Community Case Management services in Kabarole District.

- To describe the community utilization of Integrated Community case Management services in Kabarole District.

Research questions

- What is the community accessibility to Integrated Community Case Management services in Kabarole District?

- Why is there low utilisation of Integrated Community case Management services in Kabarole District?

Methodology

Study site

The study was conducted in a rural Ugandan district of Kabarole in Rwimi sub-county about 386 Km from Kampala city.

Study design and population

A total of 9 villages were purposely and randomly selected. In these 9 villages, a total of 384 households were selected.

A cross sectional household survey was conducted among care givers of children below five years. The study population consisted of children below five years and their care takers were the respondents. A care giver was defined as any person above 18 years of age who at the time of the study was directly responsible for the care of an under five. A house hold was defined as a group of people who at the time of the study were living together and ate at the same cooking pot.

Inclusion and exclusion criteria

Care givers who had been responsible for an under five for at least proceeding three months to the study were included in the study. Households that had an under five were included in the study. The households with caretakers who were absent for three consecutive visits to the household were excluded.

Sample size consideration

A total of 384 participants were selected to participate in the study. The appropriate sample size will be determined using the Kish and Leslie (1965) formula for single proportions, as shown below; using a standard normal value of 1.96 and an estimated acceptability of CHWs service of 0.5 for community households allowing for a precision of 5%.

$$\text{Using } n = Z^2 PQ/d^2$$

where: P is the estimated acceptance of problem under study.

$$Q \text{ is } 0.1 - P$$

d is the maximum error the investigator is willing to allow.

$$\text{Hence } n = 1.96^2 \times 0.5 \times 0.5 / 0.05^2 = 384 \text{ community households}$$

Sampling strategy

Out of 9 parishes in Rwimi Sub County, 5 were sampled by simple random sampling using the ballot method. A list of households was obtained from the local council 1 of each village, and updated with the help of a Community Health Worker. This was done to determine the number of households with children under five years in each village. The register was used as a sampling frame and from this; the required number of households legible for the study were sampled by systematic random sampling. Within the selected households, in case a household had more than one child less than 5 years, one child was selected by simple random sampling using the ballot method.

Data collection

A semi-structured questionnaire was used to collect data from care givers. The data was collected by a team of five investigators from Makerere University College of Health Sciences. The investigators were trained in quantitative data collection, research methods and completing questionnaires. The data collection tools were pre-tested and properly prepared to ensure quality control, reliability and validity. The investigators actively participated in pre-testing tools in households which were not part of the selected sample and data collection took place between 22nd November to 4th December, 2014. A lot of care was put in designing the questionnaires to minimize recall bias because of the details which were expected from the respondents.

Analysis plan

Quantitative data was cleaned and entered using Epi info version 3.5.1 and it was then analyzed STATA version 14.0 soft ware to generate frequency tables, proportions, percentages, graphs, tables, pie-charts and linear trends.

Ethical considerations

Permission was sought from Institutional Review Board of Makerere University School of Public Health and the Uganda National Council for Science and Technology. Similarly, permission was also sought from District Health Officer, District Health Inspector and Local Council leaders in their respective areas in Kabarole district. Consent was sought from participating households using consent forms translated to their appropriate local language, with a thumb print option provided for illiterate participants so as to have an informed proposed consent. Confidentiality was maintained at all levels and times by using anonymous questionnaires that are coded.

Study limitations

It was possible that some caregivers gave false information regarding access and utilization of ICCM services. However, this was mitigated by not using self-directing questionnaires and by probing such questions so that the respondent does not have any bias.

Also, there was a possibility of recall bias since the three months proceeding to the study were too long. However, this was minimized by comparing the caregivers response with a treatment card or voucher received from the CHW for verification purposes. In case a caregiver used home treatment, we would ask for the left over drugs or packaging materials.

The strengths of this study included using random sampling method that enabled generalization of results since the study population was highly representative. Causality could not be established though most variables showed correlation.

Generalization of the results

This study is highly generalizable in Uganda since most findings were compared to other studies within the country. In general, the trust in the CHWs and the level of awareness influenced the utilisation of ICCM services. Also, the distance to the CHW in the communities influenced the access of ICCM services and this was highly compared to both in Uganda and outside Uganda.

Results

The study was carried out between 22nd November to 4th December, 2014 in Rwimi Sub County, Kabarole district to assess the acceptability and utilization of community health workers after the adoption of the integrated community case management policy in Kabarole district. A total of 384 respondents participated in the study and we used a cross sectional household survey to get our findings.

Baseline characteristics of the study population and respondents

Of 405 households approached for interview, 384 (94.8%) agreed to participate. The majority of the caretakers were married 91.3% (350/384), mothers 63.6% (244/384) and farmers 56.7% (217/384). The age of the caretakers ranged from 18–54 years and the majority 75.6% (290/384) were females. Most 84.8% (325/384) had attained formal education whereby, 58.2% (223/384) attained primary education, and 15.9% (61/384) secondary and only 10.7% (41/384) had attained tertiary education. Also, most were catholic 45.8% (176/384) and the rest were Anglican 32.6% (125/384), Muslim 11.7% (45/384) and SDA 9.9% (38/384).

Across all the studied households, the age of the children ranged from 1–59 months with a median of 30 months (IQR 26–35) and the majority 53.1% (204/384) were males.

Community utilization of ICCM services

Most caretakers 97.1% (373/384) had utilized health services in the three proceeding months to the study but only 52.3% (201/384) had utilized ICCM services. The rest had utilized services from a traditional healer 0.5% (2/384), home 8.6% (24/384), government health unit 27.3% (105/384) and non-government health units 13.7% (53/384). The respondents were asked to give reasons for seeking ICCM services and they mentioned the following reasons like convenience 51% (196/384), trust in the skills of the service provider 30.3% (116/384), recommendation from family members 25.8% (99/384), relatively low cost 10.5% (40/384), conduct of personnel 9.3% (36/384) and other reasons 20.3% (78/384).

With regard to the ICCM services utilized, 60.2% (121/201) had utilized Malaria services, 31.1% (62/201) Diarrhea services and 8.7% (17/201) Pneumonia services. The reasons for seeking ICCM services included availability of drugs 58.2% (117/201), near to household 23.4% (47/201), trust in ICCM services 5.8% (12/201) and awareness of the services under ICCM 12.6% (25/201).

The reasons for not seeking ICCM services included the unavailability of drugs 27.2% (50/183), no child was sick 21.7% (40/183), do not like CHWs 12.7% (23/183), do not know they exist 8.3% (15/183), CHW was unavailable when I went there 7.2% (13/183).

Most caretakers 53.1% (107/201) were satisfied with the services under ICCM and specifically, 14.6% (29/201) were satisfied with history taking, 40.4% (81/201) about drugs given, 25.6% (51/201) about the prescription process and 19.4% (39/201) about the time of service. On whether the CHWs and local councils carry out sensitizations and local meetings about ICCM in the community, the majority 63.2% (243/384) mention yes. Of those who mentioned yes, most mentioned on functions 44.6% (108/243), having regular meetings 36.7% (89/243) and on social gatherings 18.7% (45/243). The details of community utilization of ICCM services are shown in the Table 1.

Factors influencing community utilization of ICCM services

The factors influencing community utilization of ICCM services include: distance to CHWs 23.4% (47/201), aware of the CHWs services 12.6% (25/201), trust in CHWs 5.8% (12/201) and availability of services at the time of the visit to the CHW 58.2% (117/201).

Factors influencing community utilization of ICCM services following a logistic regression

Amongst all the factors predicting the utilization of ICCM services, awareness was the most significant (p=0.000), followed by trust in the community health workers (p=0.0002) and distance to the community health workers (p=0.0008). However, the availability of drugs at the CHW place was not a predictable factor following a logistic regression (p=0.492).

Factors influencing community utilization of ICCM services following a multi-variable analysis

The multi variable analysis was conducted on all variables that had p   0.2 under bi variable and those factors that could have a plausible influence. Following the adjusted analysis, the distance to the community health worker (1 km) [adOR: 1.65; 95%CI [1.075–2.522], was positively associated with the utilization of ICCM services and trust [adOR 0.853; 95%CI [0.641–1.135], in the CHW to deliver ICCM services was also associated with the utilization of ICCM services. In a similar way, the level of awareness [adOR 0.725; 95%CI [0.538–0.979] amongst the caretakers was positively associated with the utilization of ICCM services. However, the availability of drugs [adOR 1.052; 95%CI [0.733–1.513] was not associated with the utilization of ICCM services. The details of the analysis are given in Table 2.

Community access to ICCM services

In Rwimi sub-county, most 75.3% (290/384) caretakers stay near (below 1 Km) CHWs compared to 52.1% (200/384) who stay near public health facilities (P<0.001). Of those who stay near CHWs, 30.3% access services from CHWs compared to 13.3% who stay near public health facilities. Most 75.6% (152/201) of the caretakers who use ICCM services can access transport means and of those, 44.3% (89/201) use motorcycles 3.4% (7/201) use taxis, 23.4% (47/201) foot whereas 28.9% (58/201) use bicycles.

Nearly all caretakers access the services provided under ICCM except 18.4% (71/384) that are unable to access the services due to waiting time 42.3% (30/71), serving hours 22.4% (16/71), and un-availability of drugs 35.3% (25/71). The majority 65.6%(132/201) of the caretakers take 10 minutes only to reach the nearest CHW in their respective villages, 20.3% (41/201) take 15 minutes and the rest take above 15 minutes. The caretakers who take only 10 minutes to reach the CHW are more likely to use ICCM services than the caretakers who use more than 15 minutes [OR 5.01, 95%CI [4.051–6.013]].

The Table 3 summarizes the care takers access to ICCM services.

Discussion

Community utilization of ICCM services

The results showed that the utilization of ICCM services was moderate since 52.3% of the caregivers had utilized ICCM services for children below five years. Most caregivers preferred government health units and non-government health units as the next point of care after the CHWs for treatment of immediate complications for their children. The caregivers specified that convenience of ICCM services in terms of easy access, trusting in the CHWs,

low cost and conduct of CHWs make them prefer taking children to the CHWs to receive immediate attention in case of fibril illness. This may be due to the fact that the study area is endemic to malaria as 60.2% of the children below five years had suffered from fever in the last three proceeding months to the study and more than a half had more than one episode. This value was higher than the one found out in the entire region of western Uganda where by the utilization was at 40% [4]. This could be due to different levels of community support rendered to CHWs in the various districts of the region giving such a discrepancy. ICCM services are highly utilized in communities where they are accepted, appreciated and the community members cooperated with CHWs to promote health [1]. The high utilization may therefore be due to mobilization of communities to take part in the program by local councils hence creating awareness about ICCM. This is mainly because social support not only earns the CHWs respect but it boosts their prestige and social standing as well. This is consistent in Bangladesh and India whereby studies have showed that community support and respect became indirect incentives to CHWs and hence increasing availability of ICCM services [7] and hence increasing utilization in turn.

Community satisfaction with ICCM services

Most of the caretakers were satisfied with ICCM services specifically the caretakers were satisfied with the drugs given, the prescription process, the time of service and history taking. The level of satisfaction of caretakers may be an indication of the level of training given to the CHWs prior to the Implementation of the program in the district. This is because training builds capacity for CHWs to deliver high quality services in the communities and hence meeting the expectations of the caretakers of children below five years. This brings the services closer to the families that need the health care than depending on health centers that are distant from communities. Training the CHWs enabled them to carry out timely diagnosis, recognize clinical danger signs, communicate with higher level healthcare workers about referrals, and initiate treatment in their community with appropriate essential drugs [6].

In Kenya, 55% of the caregivers are satisfied with ICCM services and unlike the caretakers in Uganda, the caretakers in Kenya are satisfied with the follow up by CHWs, one-on-one counseling, information dissemination and reminders to use the drugs.

This finding is consistent with the findings from western Uganda where by the caretakers were satisfied with ICCM services [8]. The caretakers' satisfaction is a clear indication that the program is meeting its intended goals and objectives [4]. When the caretakers are satisfied with the services, they highly utilize them since they can be assured of drugs, no delays in services and the prescription process hence making the services available to the caretakers. Caregivers do not want to go where there are no drugs and delayed services as they feel they are wasting time and hence making them resort to the next providers.

Factors influencing community utilization of ICCM services

The study assessed the factors influencing community utilisation of ICCM services in Rwimi sub-county and the results showed that trust in the CHWs, the level of community awareness and the distance to the CHWs are the key predicting factors associated with the

utilization of ICCM services. It is important to know that the CHWs were trained in diagnosis, patient care and general handling of the patients and so they acquired such skills. The caretakers trusted the professional skills of the CHWs and their level of knowledge of handling their children. This brings satisfaction to the caretakers of children with the services offered under ICCM. Also, trust in the CHWs earns them respect, dignity and recognition in the community and this acts as a motivating factor that makes them more willing to deliver efficient services to the children.

The distance to the CHW was also an influencing factor that was positively associated with the utilisation of ICCM services in Rwimi sub-county by the caretakers for their children below five years. Availability of transport means is key as it increases access to the ICCM services more easily and can help to reduce under five mortality [9]. It should be noted that distance determines accessibility, availability, affordability and acceptability of health services [10] and hence determines morbidity and mortality among children under 5 years of age. The ICCM services were introduced to increase the number of children accessing anti-malarials within 24 hours of onset of signs and symptoms and so short distance to reach the CHWs serves this purpose efficiently. This will save time and transport costs by the caretakers and hence making the caretakers to attend to other family chores and will in turn reduce congestion in public health facilities [4,11]. This finding is consistent with other studies in Uganda [12,13]. However, this finding is inconsistent with study findings from Nigeria where by distance was not a determinant factor for seeking treatment for children below five years by caregivers. The caretakers were majorly concerned about the professional skills and the care given by the CHW. This was because the ICCM services were near the communities and hence making the caretakers perceive that the services they were getting outweighed any considerations of distance [14]. The results showed that the level of community awareness about ICCM services is positively associated with the utilisation of the services. The ICCM program in Rwimi sub county seems to be getting a lot of support from the community members and the local authorities like local council one. The ICCM policy requires continued sensitization by the local leaders in the community about the intentions of the VHT services in the community. This will increase trust in western medicine by the local communities and boosts the motivation of the CHWs. The sensitization is done through having regular meetings, mentioning them on radio stations, functions and other social gatherings in the community. Awareness of the ICCM services increase trust in the services offered which in turn increases the utilization of the services offered by the CHWs.

Community access to ICCM—The study assessed the caretakers' access to ICCM services in the community and the majority of the caretakers can access the ICCM services within 1 km of the CHW. The caretakers use only 10 minutes to access the ICCM services for their children below five years and they have access to transport to enable them access the services. Access to transport means enables caretakers to seek for ICCM services more easily and this also increases convenience as reported by the majority of them. This may be because the availability of transport means in such a remote community determines accessibility and hence utilization of ICCM services [15] and this in turn determines morbidity and mortality among children less than 5 years of age. The caretakers had easy

access to motorcycles, taxis and bicycles which they use to reach the CHWs in case the child is worsening. The availability of transport means coupled with community satisfaction with the ICCM services has made the services to be highly utilized in the community in a malaria endemic sub-county. This has contributed to the success of the program in the studied villages and hence achieving the targeted goals. This may be due to the fact that easy access brings services closer to caretakers and nearest to their homes, making them more readily available [5]. Increased access to ICCM services is key for increasing coverage of health services most especially to children below five years in such communities by providing supplementary health services. Also, when services are equally accessible to all the community members in 10 minutes as indicated by the results leads to a reduction of health inequalities most especially for children below five years [16]. More interesting is the fact that caretakers who use more than 15 minutes to reach ICCM services are less likely to seek the services for their children below five years from CHWs [OR 5.01, 95%CI [4.051–6.013]]. This may be due to the fact that 59.5% of the caretakers reside within 3 km to nearest formal health facilities. It should be noted that the caregivers are unsatisfied with serving hours and unavailability of drugs at the CHWs premises and so this forces them to walk to the formal facilities as the distance increases from the CHWs. However in Nigeria, seeking services from CHWs by caregivers for their children below five years was not associated with distance from CHWs. Most of the caregivers in that study considered the expertise by the CHW as a major factor but not the distance. This was because most of the CHWs stayed near the people and so the caretakers majorly concentrated on the quality of the services offered rather than the distance (Agu et al., 2013).

Conclusion

The following conclusions can be deduced from this study: The implementation of ICCM policy in kabarole has been an effective approach in increasing the utilization of malaria, diarrhea and pneumonia treatment services and hence increasing access to health services at community level. Trust in the CHWs, level of community awareness and distance to the CHWs are positively associated with the utilization of ICCM services.

Acknowledgments

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Table 1

Community utilization of ICCM services.

Variable	Frequency (N=384)	Percentage (%)
Utilized health services		
Yes	373	97.1
No	11	2.9
Service utilization		
Traditional healer	2	0.5
At home	24	8.6
CHW	201	52.3
GHU	105	27.3
NGHU	53	13.7
Perceived Worth		
Positive	204	53.1
Negative	180	46.9
Satisfaction with ICCM services N=201		
Prescription of drugs	51	25.5
Time of service	39	19.4
History taking	29	14.6
Drugs given	81	40.4

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Table 2

Factors influencing community utilization of ICCM services following a multi-variable analysis.

Factor		Outcome, n=201		AOR	P-Value	95%C. Intervals
		Formal health care (%)	Informal health care (%)			
Distance	<1 km	56 (62.2)	34(37.8)	1.65	0.001	1.075–2.522
	>1 km	43 (38.7)	68 (61.3)	0.63	0.001	0.432–0.926
Awareness	Yes	74 (49.1)	102 (50.8)	0.725	0.000	0.538–0.979
	No	25 (100.0)	0 (0.0)			
Trust	Yes	99(46.3)	102 (53.9)	0.85	0.000	0.641–1.135
	No	12(0.00)	0(00.0)			
Availability	Yes	60 (51.3)	57 (48.7)	1.05	0.498	0.732–1.513
	NO	39(46.4)	45 (53.6)	0.87	0.498	0.564–1.331

Table 3

Care takers access to ICCM services.

Variable	Frequency, n=384	Percentage (%)
Distance from health facility		
Near(below 1 km)	200	52.1
Far (above 1 km)	184	47.9
Distance from CHW		
Near (below 1 km)	290	75.3
Far (above 1 km)	94	24.7
Staying near health facility and service accessibility		
GHU	57	28.7
NGHU	93	46.3
Home	23	11.7
CHW	27	13.3
Staying near CHW and service accessibility		
GHU	81	27.8
NGHU	102	35.1
Home	20	6.8
CHW	87	30.3
Care takers with transport means and where they access services from N=290		
GHU	168	58.3
NGHU	34	11.7
Home	44	15.0
CHW	44	15.0
Care takers with no transport means and where they access services from N=94		
GHU	13	13.3
NGHU	16	17.3
Home	30	32.1
CHW	35	37.3