

COMMUNITY MEMBERS' INTERACTION WITH HEALTH PROFESSIONALS AND HEALTH LITERACY UNDER ONE HEALTH APPROACH IN SELECTED WARDS IN TANZANIA: THE NEXUS

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ABSTRACT

Health care providers are a community's trusted source of health information and can impact on health literacy. However, their effectiveness depends very much on how health care providers recognize and respond to patients' information and communication needs. This article from a cross-sectional study discusses the influence of the community members' interaction with health professionals (CMIWHP) on health literacy (HL) under One Health Approach in selected wards in Morogoro, Tanzania. It specifically:- (i) assessed HL of the people in the study area, (ii) assessed CMIWHP, and; (iii) assessed the association/linkages (nexus) between CMIWHP and HL levels. Data was collected using a structured questionnaire administered through a Computer Assisted Personal Interviewing (CAPI) electronic platform from 1440 respondents obtained through multistage sampling procedure, 80 focus group discussions' participants and 16 key informant interviewees. Indexes of score were constructed to measure CMIWHP and HL respectively. A chi-square test of independence was used to establish the association/linkages (nexus) between CMIWHP and HL. IBM-SPSS v.20 analysed quantitative data while qualitative data were organized into themes on specific objectives to back up findings. The study revealed, about one third of the respondents (32.9%) with adequate HL, moderate HL (30.8%) and majority with inadequate HL (36.3%). The results further indicate that only 17.5% (95% CI:15.0 to 19.9) had high CMIWHP, 42.5% (95% CI:39.5 to 45.9) with medium CMIWHP and the majority 40.0% (95% CI:37.2 to 43.1) had low CMIWHP. Chi-square results indicate a significant association between CMIWHP and HL, $\chi(2)=168.593$, $p=.000$, $\phi=.342$ It is concluded that CMIWHP significantly associates/links to HL levels, but with a medium effect . It is recommended that effective interventions should be established to enable further health care providers recognition and responses to patients' information and communication needs.

Keywords: patients-providers interaction, health literacy, patient-centered care, Tanzania

1.0 INTRODUCTION

Undeniably, what people interact with everyday has always been found to shape the ideas about health and behaviours, this has included, the communication, information, and technology that people interact with (Margalit *et al.*, 2006; Aceto *et al.*, 2018). It remains uncontested that health communication, information and technology are essential to health care, public health, and the way our society views health (DHHS-US, *n.d.*; Epstein *et al.*, 1993; Assis-Hassid *et al.*, 2013; Aceto *et al.*, 2018). It is against this background that the Ministry of Health and Social Welfare (MoHSW) in Tanzania recognizes the potential of information and communication technology (ICT) to transform healthcare delivery by enabling information access and supporting healthcare operations, management, and decision making (Darcy *et al.*, 2014:36). Obviously, it is through these interactions that the context and the ways professionals and the public search for, understand, and use health information, significantly impacting their health decisions and actions.

Among these interactions, community members' interaction with health professionals (CMIWHP) has been considered as a communication route and source of information which has influence on HL and consequently into health outcomes (Epstein *et al.*, 1993; Assis-Hassid *et al.*, 2013;URT, 2017; Muhanga, 2018a). Obviously, HL can significantly contribute towards attaining good health particularly when taken into the context of the interface of humans, animals and the environment. This is recognizing the fact that there exists an inextricable link between human, animal and environmental health, hence it is imperative for veterinarians, human health and professionals in some other related sectors to collaborate closely at the same time a high level of HL under One Health Approach encouraged among people towards maintaining good health (Muhanga and Malungo, 2018b).

It is worth noting that health professionals, healthcare providers, and the health system have a major role in assisting people to build knowledge and skills about their health (Mboera *et al.*, 2007; Lambert *et al.*, 2014). Due to that, health professionals and health facilities, among others, have been identified as major stakeholders in HL (Mitic and Rootman, 2012); much as health care providers are a community's trusted sources of health information and definitely have impacts on health literacy and consequently on health (Beck *et al.*, 2002). Definitely, patients and general community encounters with health professionals and systems have always been expected to result into improving health literacy knowledge and skills through the support of health professionals (Nielsen-Bohlman, *et al.*, 2004; Easton *et al.*, 2010). Incognizant of the roles that health professionals, healthcare providers, and the health system have in building knowledge and skills about health; the provision of health care in a way that patients are empowered to understand and act upon crucial health information when making healthcare decisions has gained importance (Frankel *et al.*, 2005; Stein *et al.*, 2005; Altin and Stock, 2016).

However, effectiveness of this depends very much on how health care providers recognize and respond to patients' information and communication needs.

Despite the potentiality of CMIWHP to serve as health information source, innumerable barriers to CMIWHP effectiveness to better serve patients and general public eventually to improve their HL exist (Barry *et al.*, 2000; Cegala *et al.*, 2000; URT-MoHSW, 2009; Muhanga, 2018). These barriers include; healthcare professionals use of language of their discipline, increasing complexity in terms of navigating healthcare systems; health professionals' limited understanding of HL resulting into health professionals' inability to improve their patients' health literacy skills hence limiting patients' capacity to improve understanding of their illness and instructions on how to manage their health conditions (Rudd and Anderson, 2006; Lambert *et al.*, 2014). An observation made by Nutbeam (2018:4) is that sometimes patients find it very difficult to interact "with a person (like a doctor) whom they find unfamiliar and intimidating". Other barriers are related to language and communication which are reported to result in impaired communication with medical providers (Williams *et al.*, 1995; Davis *et al.*, 2002). Studies (Stewart, 1995; Williams *et al.*, 1998; Makoul and Clayman, 2006; Street *et al.*, 2009) identify quality of communication between health professionals and patients as another barrier. Additionally, unfriendly services (URT, 2007: ix) is identified as another barrier, resulting from health workers abuse of professional code of ethics and conduct which has sometimes been reflected on usage of bad language to patients (URT, 2017:17).

In the view of the identified barriers and challenges, there has sometimes been a difficulty for the CMIWHP to realize what has been expected, that is to provide substantial health information that can improve health literacy knowledge and skills through the support of health professionals. To address this situation countless efforts have been institutionalized (Booth *et al.*, 2004; Stein *et al.*, 2005; Reis *et al.*, 2011; Darcy *et al.*, 2014; URT-MoHSW, 2007; URT, 2017). *Inter alia*; these efforts included; transforming healthcare organizations to health literacy responsive organizations through redesigning their structures and processes in support of low literate patients to navigate, understand, and use information and services for taking care of their health (Paasche-Orlow *et al.*, 2006, Brach *et al.*, 2012). This transformation encourages health care organizations to implement elements of patient-centred care. Patient centred care is literally "care that is respectful of and responsive to individual patient preferences, needs, and values" and that ensures "that patient values guide all clinical decisions" (IOM, 2001:3). Practically, the implementation of elements of patient-centred necessitates health care organizations plus its staff to shift their total focus from disease oriented care but also involve in a close patient-physician partnership for the sake of producing the best possible outcome for the patient (Barry and Edgman-Levitan, 2012). The government of Tanzania embarked into a number of initiatives which among others focusing on information, education and communication; aiming at empowering the community for health improvement (URT, 2007:52). These initiatives are also underlined in subsection 3.3.3 of the 2003 National Health Policy which states: "To ensure quality and

effective health communication, the Ministry shall continue to provide guidelines and procedures for the provision and delivery of health education and IEC interventions at all levels” (URT, 2003:9). Along with that the government of Tanzania also strengthened active community partnership through intensified interactions with the population for improvement of health and social wellbeing (URT, 2017: 3)

The initiatives which were devised to address barriers and challenges towards quality and effective health communication theoretically are intending to empower patients to take care of their health and to support patients to navigate, understand, and use health information and services (Altin and Stock, 2016:7). Contemporarily, there is scanty existing empirical evidence on the extent to which CMIWHP based on patient-provider communication has been enhanced and how it has resulted into greater patients’ empowerment to navigate, understand, and use health information and services in Tanzania. It is not empirically known however to which extent such contacts (interactions) have managed to influence information exchange and hence impacting on HL. It is in this light that this article analyses the nexus that exists between CMIWHP and HL following the efforts to address challenges and barriers to CMIWHP effectiveness to better serve patients and general public eventually to improve their HL in the context of OHEA in selected wards in Morogoro, Tanzania.

2.0 MATERIALS AND METHODS

This paper results out of a cross sectional study conducted in the districts namely Morogoro municipality and Mvomero both located in Morogoro region in Tanzania. According to Tanzania-NBS (2013) the population of Morogoro municipality and Mvomero districts are reported to stand at 315,866 and 312,109 people respectively. The National One Health Strategic Plan 2015 – 2020 locates Morogoro under potential routes of risks exposure due to identification of some incidences of zoonotic diseases in the area (URT-PMO, 2015:16). The choice of Morogoro urban and Mvomero districts in Morogoro region in Tanzania for the study is justified on the ground that there has been numerous incidences of interactions of humans and animals which have been reported in the area. This area is a home to a pastoral community of Maasai origin; as well bordered by the Mikumi National Park, hence higher level of interaction between human and animals which is likely to lead to higher risk due to possibility of prevalence of certain health behaviours. Studies (Karimuribo, *et al.*, 2005; Mgone *et al.*, 2014) have also identified health risks presence in the area. This area is also occupied by inhabitants of very diverse socio-cultural and economic backgrounds hence providing a very good opportunity to conduct a study of this nature where a phenomenon under study requires comparison. Presence of Medical and veterinary staff at these two districts presents an opportunity of interaction to resolve issues under OHEA.

Using a cross-sectional research design both qualitative and quantitative data were collected. The choice of this design is based on being economical in terms of time, financial resources and nature of the study objectives (Kothari, 2004). A structured

questionnaire guide using a Computer Assisted Personal Interviewing (CAPI) electronic platform was used for data collection. This study employed multi stage sampling procedure, which comprised of four stages (in choosing districts, wards, villages/streets, and HHs) which enabled one thousand four hundred and forty respondents to be obtained from four purposively selected wards, the next stage two villages/streets from four wards were chosen and finally respondents were selected through simple random sampling from each village/street where animal keeping and related activities plus evidence of selling livestock products are found. The local leaders were involved in preparing sampling frame. IBM-SPSS v20 and Gretl software were used for the purposes of computing frequencies, percentages, chi-square, mean and maximum scores.

For sample size estimation, a 95% confidence interval (CI), a margin of error of 5%, and a design effect of 1.5 were assumed. Design effect was used since the multistage sampling method was employed. A minimum adequate sample size was calculated based on the statistical estimation method of Kelsey et al. (1996). A sample size of 1440 respondents was determined by using the formulae:-

$$s = X^2 NP (1 - P) \div d^2 (N - 1) + X^2 P (1 - P).$$

Where:-

s = required sample size.

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).

N = the population size.

P = the population proportion (assumed to be .50 since this would provide the maximum sample size).

d = the degree of accuracy expressed as a proportion (.05).

Sample size for this study was calculated from the total population of each 2 purposive selected streets/ villages from a ward. After obtaining total sample for each ward, proportions of each streets/villages from the total sample was calculated. The sample size was then distributed in the identified study streets/ villages. The sample size allocated for each village/ street was considered adequate, since Bailey (1994) and Field (2009) claim that a sub sample of 30 respondents being the bare minimum for studies in which statistical data analysis is to be done regardless of the population size.

2.1 Measurement of Variables

2.1.1 Measurement of Community Members' Interaction with Professionals (CMIWHP)

To measure the interaction of respondents with professionals (medical, veterinary and environmentalists) on health and related matters, respondents were asked if they had communicated with these professionals in the past three (3) months and if they had visited or been visited by any of these professionals. A total of 6 questions were asked, three (3) each for communication and visiting aspects respectively. Respondents were required to respond "No" if they had not communicated with professionals and if they had not visited

or been visited and ‘Yes’ responses if they had communicated with professionals and if they had visited or been visited. All “No” responses were coded as 0 and “Yes” responses were coded as 1. The responses were transformed to 1 and 2 for No and Yes responses respectively for the purposes of computing the scores to indicate the level of community members’ interaction with professionals. A total score was computed from the six (6) asked questions.

$$\text{CMIWHP (3.00-6.00)} = Q1 + Q2 + Q3 + Q4 + Q5 + Q6$$

CMIWHP was then categorized into levels; namely: - High level of CMIWHP, (scores above 5.0), Medium level of CMIWHP (scores between 4.0 and 5.0) and Low level of CMIWHP (scores below 4.0).

2.1.2 Measurement of Health Literacy

For the purposes of measuring HL, methodological aspects from European HL Survey were adapted in this study (HLS-EU, 2012:4). To be able to measure HL, respondents were then asked: On a scale from very easy to very difficult, how easy would you say it is to: i.e., (Find information on treatments of illnesses that concern you). The questions comprised of items which reflected three health pertinent areas (health care, disease prevention, health promotion) and four information processing stages (access, understand, appraise, apply) in connection with health relevant decision-making and tasks on health and other closely related aspects under the interface of humans, animals and the environment. Using items related to health related areas and information processing stages a context specific HL assessment framework for assessing HL under OHEA was developed. It is a matrix measuring the perceived difficulty of performing a selected one health relevant tasks based on a four-point self-report scale (very easy, easy, difficult, and very difficult). The way a respondent will find it easy or difficult to undertake a certain task reflects an individual’s HL level under OHEA. To measure HL an index of score was created by allocating four points to every “very easy” response, three points to “easy” response, two points to “difficult” response, and one point to “very difficult” response. For the purposes of categorizing health literacy, scores were cut into three equal groups using SPSS Scores and classified into Inadequate Health Literacy (IHL), Marginal Health Literacy (MHL) and Adequate Health Literacy (AHL). A study by Gazmararian *et al.*, (2003) has also used a similar categorization.

2.1.3 Results and Discussion Socio-Demographic Characteristics of the Respondents

Socio-demographic characteristics of the respondents are very important variables in most social studies (Kaale and Muhanga, 2017; Muhanga and Malungo, 2017a; Muhanga, 2017b). Incognizant of that information on some socio-demographic characteristics namely age, sex, education level, marital status and household size were obtained. The summary on the socio-demographic characteristics of the respondents is provided in Table 1.

The results reveal that majority 29.2% (95% CI: 23.3 to 35.0) of the interviewed respondents were aged between were between 30 to 39 and 3.8% (95% CI: 1.7 to 6.2) were above 70 years. The average age was 43.7 years (95% CI: 43.1 to 44.4 years), and the highest age and the lowest age were 21 and 72 respectively. The majority 52.1 % (95% CI: 49.6 to 54.7) of the respondents interviewed were women. Slightly more than one-third (39.2%; 95% CI: 36.6 to 41.7) of the respondents had not gone to school at all. Of the

interviewed respondents, about 57.5% (95% CI: 50.9 to 63.8) of the respondents were married. In terms of household size (total number of household members) the average household size was 5 (95% CI: 5.08 to 5.28) members, lowest household size (minimum) had 1 member and the highest household size (maximum) with 10 members. About 62.9% of the interviewed households had 1 to 5 members.

Table 1: Socio-Demographic Characteristics of the Respondents (n=1440)

Variable	Categories	Percentage
Age in Years	21-39	42.1
	40-49	26.3
	50-59	17.1
	60-69	10.7
	> 70	3.8
Level of Education	Not gone to school at all	39.2
	Universal adult education	2.5
	Primary school	30.0
	Secondary school	8.8
	Post-secondary /vocational	10.4
	University	9.2
Sex	Male	47.9
	Female	52.1
Marital Status	Never married/Single Married	30.4
	Separated	57.5
	Widow	1.7
	Widower	5.4
	Cohabiting	2.5
	Too young to marry	0.8
		1.7
Household Size	1-3	21.7
	4-7	65.9
	> 8	12.4

2.1.4 Health literacy under the Humans, Animals and the Environment Interface

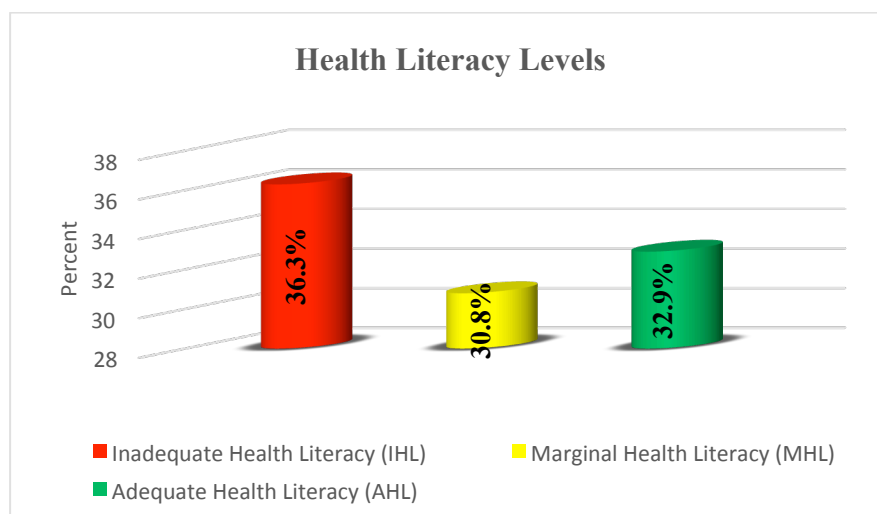
HL under the humans, animals and the environment interface at the household level was measured by using a context specific HL assessment tool. The results indicate that the mean score was 261.9 (95% CI: 257.6 to 266.4) while maximum and minimum scores were 141.0 and 501.0 respectively with a Std. deviation of 85.0 (95% CI: 81.4 to 88.3). Table 2 and Fig. 1 present HL results into categories, the results indicate that 36.3% (95% CI: 33.7 to 38.9) of the respondents had IHL, while 30.8 % (95% CI: 28.4 to 33.3) with MHL and 32.9% (95% CI: 30.3 to 35.3) had AHL.

Table 2: Health Literacy categories (n=1440)

Health Literacy Categories	Frequency	Percent	95% Confidence Interval	
			Lower Bound	Upper Bound
Inadequate Health Literacy (IHL)	522	36.3	33.7	38.9
Marginal Health Literacy (MHL)	444	30.8	28.4	33.3
Adequate Health Literacy (AHL)	474	32.9	30.3	35.3
Total	1440	100.0		

The findings from this study are similar to those from other studies conducted in various parts of the world. The trend indicates that IHL, low and limited HL is reported to be a common occurrence throughout the world even in economically advanced countries with strong education systems (Gazmararian, *et al.*, 1999b; IOM, 2004; Kutner, *et al.* 2006; HLS-EU CONSORTIUM, 2012; WHO, 2013; Sørensen *et al.*, 2015; Sørensen *et al.*, 2015). Low HL may well be more prevalent in many low and middle income countries as it has been observed in this study, though the situation is reported to be worse in the developing part of the world (Muhanga and Malungo, 2018a). This implies that lack of skills needed to manage health and prevent disease appears regardless of a country's level of development. Undeniably, to quote CDC¹ there are significant proportions of people among even within “those who read well and are comfortable using numbers, who are still facing HL issues much as they aren’t familiar with medical terms or how their bodies work.” Such individuals have problems with interpreting statistics and evaluating risks and benefits that affect their health and safety.

Fig.1 presents further HL levels in the study area whereby it can be observed that the majority of the respondents are found under IHL (36.3%) and only 32.9% are under AHL.

**Fig. 1 Health Literacy levels**

¹ Understanding Health Literacy: <https://www.cdc.gov/healthliteracy/learn/Understanding.html>

The existence of low, problematic and inadequate HL was found to be attributed to a number of facts as it was revealed in FGDs in this study. In a FGD at Mazimbu Ward; one male participant claimed that:

“.....Health related information has been very inadequateeven when it is available such information has been presented in a language which is difficult for us lay people to understand....”

This claim from the FGDs is similar to what has been observed by Mboera *et al.* , (2007) during their survey, which among others , they observed that despite health care facilities being found to be the best place for rural Tanzanian individuals to receive health information, it was witnessed that some of the brochures and posters that were prepared to provide health related information did not apply to health risks of the respective local community and were not at some points available for distribution to individual patients. Unavailability points out to issues of inadequacy of such health promotion materials. This is an indication that sometimes have been hindered by the failure to contextualize HL as it has been seen that information provided did not apply to health risks of the respective local community. If brochures and posters found at a health care facility did not apply to health risks of the local community, this has a very negative consequence on the effectiveness of such efforts in educating people to become health literate. Indubitably, HL is context specific, i.e. its function, acquisition and application should be in the light of distinct contextual conditions (Nutbeam, 2000; Kickbusch and Maag, 2006; Pleasant and Kuruvilla, 2008; Freedman *et al.*, 2009). This implies that failure to contextualize HL could also contribute to ineffectiveness of such efforts to educate people to become health literate.

2.1.5 Community Members' Interaction with Professionals (CMIWHP)

Table 3 shows that the minimum and maximum scores on CMIWP were 3.00 and 6.00 respectively with mean score being 4.7 (95% CI: 4.65 % to 4.76%) with Std. Deviation of 0.84 (95% CI: 0.8% to 0.9%).

Scores	Frequency	Percent	95% Confidence Interval	
			Lower Bound	Upper Bound
3.00	102	7.1	5.6	8.6
4.00	474	32.9	29.9	35.8
5.00	612	42.5	39.4	45.6
6.00	252	17.5	15.2	20.1
Total	1440	100.0	100.0	100.0

The results further indicate that only 17.5% (95% CI: 15.0 to 19.9) were in High level of CMIWP, while 42.5% (95% CI: 39.5 to 45.9) on Medium level CMIWP and 40.0% (95% CI: 37.2 to 43.1) on Low level of CMIWP. The categories of CMIWP are presented in Table 4 and Fig.2.

Table 4: Levels of Interactions with Professionals on Health Matters (n=1440)

	Frequency	Percent	95% Confidence Interval	
			Lower Bound	Upper Bound
Low CMIWP	576	40.0	37.2	43.1
Medium CMIWP	612	42.5	39.5	45.9
High CMIWP	252	17.5	15.0	19.9
Total	1440	100.0	100.0	100.0

The CMIWHP is further indicated in Fig. 2 whereby it can be seen that the high CMIWHP is occupying a small share of the pie (17.5%) only against the rest of the categories.

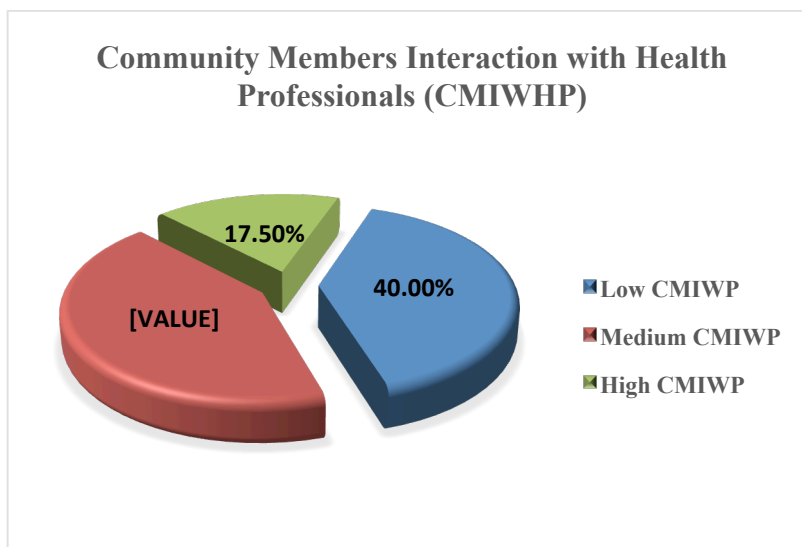


Fig. 2: Categories of Community Members Interaction with Health Professionals

The results in Table 5 show that majority of the respondents (47.9%) who had low CMIWHP were found under the IHL category, while 27.1% on MHL and only 25.0% had AHL. Table 5 further shows that majority of the respondents (54.8%) who had high CMIWHP were found under the IHL category, while 16.7% on MHL and only 28.6% had AHL.

Table 5: CMIWPH categories * Health Literacy Levels Cross tabulation (n=1440)

		Health Literacy Levels			Total
		IHL	MHL	AHL	
	Count	276	156	144	576
Low CMIWHP	% within Categories of CMIWHP	47.9%	27.1%	25.0%	100.0%
	% within HL levels	52.9%	35.1%	30.4%	40.0%
	% of Total	19.2%	10.8%	10.0%	40.0%
	Count	108	246	258	612
Medium CMIWP	% within Categories of CMIWHP	17.6%	40.2%	42.2%	100.0%
	% within HL Levels	20.7%	55.4%	54.4%	42.5%
	% of Total	7.5%	17.1%	17.9%	42.5%
	Count	138	42	72	252
High CMIWP	% within Categories of CMIWHP	54.8%	16.7%	28.6%	100.0%
	% within HL Levels	26.4%	9.5%	15.2%	17.5%
	% of Total	9.6%	2.9%	5.0%	17.5%
	Count	522	444	474	1440
Total	% within Categories of CMIWHP	36.2%	30.8%	32.9%	100.0%
	% within HL Levels	100.0%	100.0%	100.0%	100.0%
	% of Total	36.2%	30.8%	32.9%	100.0%

The results for the Chi-square tests for the association of CMIWHP and HL level are presented in Table 6. The results from the Chi-Square Tests of independence indicate that $\chi(2) = 168.593, p = .000$. This is an indication that there is statistically significant association between CMIWHP and HL level.

Table 6: Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	168.593 ^a	4	.000
Likelihood Ratio	178.776	4	.000
Linear-by-Linear Association	5.839	1	.016
N of Valid Cases	1440		

A chi-square test of independence indicated significant association between HCSB and HL levels $\chi^2(4, n=1440) = 168.593, p=.000, \phi=.342$. The phi coefficient in this study is .342 based on Cohen's 1988 criteria of .10 for small effect, .30 for medium effect and .50 for large effect the strength of association between the variables is medium. The details are presented in Table 7.

Table 7: Bootstrap for Symmetric Measures

		Value	Bootstrap ^a			
			Bias	Std. Error	95% Confidence Interval	
					Lower	Upper
Nominal by Nominal	Phi	.342	.002	.023	.300	.390
	Cramer's V	.242	.002	.016	.212	.276
N of Valid Cases		1440	0	0	1440	1440

a. Unless otherwise noted, bootstrap results are based on 1440 bootstrap samples

It can be noted from Table 5 that CMIWHP has not been very effective to influence information exchange and hence impacting on HL. It is obvious from Table 5 that the nexus between CMIWHP and HL can only be observed for Low CMIWHP and IHL also for Medium CMIWHP and MHL only but not for High CMIWHP and AHL. This is to say that those who had low CMIWHP had also IHL and likewise those who had medium CMIWHP had MHL but there has been mismatch between high CMIWHP and AHL. The results also in Table 4 show that only 17.5% had high CMIWHP. It can be observed that low level of CMIWHP can be attributed to the fact that health professionals have not been welcoming such interactions very much as it was explained by this middle aged male participant:-

“Doctors and nurses are not the kind of people to be questioned a lotthey don't welcome thatwhen you ask a lot they see you a much know person and interfering intoWhere else can we get such informationsee the radio and TV stations mostly are busy entertaining ...playing music and moviesnewspapers are mostly doing business ...politics and current issues are what mostly featuring in these newspapers ...We sometimes really like to know about our health and the like.... but where do we get such information ?....

Thaker (2008) argues that how patients connect with the healthcare professional also influences communication between the doctor and patient. The role of healthcare systems in addressing the challenges of predominantly low levels of health literacy in populations is very strong in the literature (Canadian Council on Learning, 2008; Nakayama *et al.*, 2015; Sorensen *et al.*, 2015), despite health systems continuing being less responsive to the issue of low health literacy (Paasche-Orlow, 2011; Penaranda *et al.*, 2012; Palumbo, 2017). It can be observed from the FGDs what people have been expecting from the health care sources and the kind of response they received. Apparently, the kind of response received from the healthcare systems have been hindering gaining access to, understanding and using health related information. It is obvious that if such information is inadequate definitely individuals' demands for such information are likely not to be met. This implies that low HL is attributed to inadequacy of health information as explained by this participant in a FGD. Undeniably, health professionals-patients interaction could have been the most effective source of health information when it is that effective. What has been

learnt from the FGD is that these professionals have not been allowing a lot of questioning from their clients so this implies that this source has not been in a position to serve as an effective source. Almost similar observation has been made by Nutbeam (2018:4) who claims that sometimes patients find it very difficult to interact “with a person (like a doctor) whom they find unfamiliar and intimidating”. It is no wonder that HL is observed to be low in the study area given these circumstances.

Another important aspect which emanated from the FGDs was on how health information is presented. Of interest with respect to health information presentation is the language used. The most vital here is the level of simplification of the language used for the lay persons to understand. From the FGDs it came clear that the language used has sometimes not been simplified enough for lay person’s consumption. This by itself, unquestionably, stands as a barrier towards understanding and using such information in ways which promote and maintain good health. It is reported by Williams *et al.*, (1995) and Davis *et al.*, (2002) that barriers in language and communication are also associated with low HL and result in impaired communication with medical providers. One key informant from the health department when asked on how they try to bring medical and health messages to lay people’s understanding, he responded:-

“We have been trying to simplify our communication with lay people whenever it has been possible. But sometimes it becomes difficult to really get medical issues to such levels. We, healthcare professionals have our own culture and language. It is the culture of medicine and the language of our specialty as a result of our training and work environment.”

It is therefore apparent that given such circumstances CMIWHP cannot realize its intended targets due to the ways health professionals communicate with the general public. In a way if these professionals are the key source out of which lay people are expecting to gain knowledge on health matters are so much sticking to their culture and language then an obvious barrier is created when it comes to accessing such information. When a particular communication is in plain language there are higher chances that the listener or reader can understand what is communicated the first time they hear or read it. Communicating in plain language makes it possible for the provision of meaningful and reliable information. This has been the concern of the World Health Organization (2013) when it comes to building HL together with making health information materials sensitive to differences and diversity in cultures, sex, age and individuals in their content and format. Definitely, HL problem is likely to be created when organizations or people create and give others health information that is too difficult for them to understand. Another observation made during FGDs which also affects HL is on the interaction between health workers and patients. Level of interaction between health workers and patients is considered to have influence on the transfer of health information to the patients as stated by a participant in a FGD at Doma:-

.....when I go to the hospital I get to know at least on the symptoms, causes and preventive measures for certain disease(s)but this depends very much on how interactive a particular health worker would be when attending to yousometimes some of these health workers are not that much interactivethey will simply provide you with the medication and that's it

Obviously when a person is ill, s/he is expected to visit a healthcare facility or doctor and this encounter involves a reciprocal set of obligations and privileges. It can be implied from the FGDs that in a way health professionals have so much focused on the medication aspects ignoring the role of providing information related to diseases (i.e. on symptoms and preventions). Lalazaryan and Zare-Farashbandi (2014) argue that health workers have another role beyond just providing medication to patients. Transfer of health information by educating the patients and encouraging them to search for related information is considering being a role that health workers have to play towards preventing diseases. This is supported by Making Every Contact Count Approach (NICE, 2007 as cited by NWPH², n.d.) and Beck, *et al.*, (2002).

2.1.6 Ethical Issues

The protocol for the study was approved by the University of Zambia (UNZA). Local research clearance was granted by Morogoro municipality and Mvomero district administrative officials. In order to avoid any impediment to the research process the researcher had to clarify the purpose of the study to the local government and village leaders. Introducing the purpose of the study to the local leadership facilitated the process of identifying the key informants for qualitative interviewing. The researcher obtained the written and oral (for those who couldn't read and write) informed consent from all those who participated in the study, and they were informed of their right to withdraw from the study at any time. The participants were assured of their anonymity in that none of information from them will be attributed to their names. Permission was sought from individuals to use various photographs in this report in which they appear.

2.1.7 Conclusions and Recommendations

It can be observed that the efforts to address the challenges towards effective CMIWHP have not realized its intended objectives towards greater patients' empowerment to navigate, understand, and use health information and services in Tanzania. As it has been witnessed during FGDs a number of barriers and challenges have been identified which had negatively impacted on the CMIWHP in the study area. Consequently, low CMIWHP has been observed in this study which resulted into inadequate health literacy from the majority of the respondents. This implies that such contacts (interactions) have not managed to influence information exchange and hence impacting on HL. In light of that, it is concluded

² North West Public Health (n.d). Evaluation of Approaches to Health Literacy in Ashton, Leigh and Wigan <http://www.nwph.net/nwpho/Publications/NHS%20ALW%20Health%20Literacy%20Final%20Oct%202012.pdf>

that despite the potentiality of CMIWHP to serve as health information source, a number of barriers to CMIWHP effectiveness still exist. It is recommended that further initiatives should be devised to improve CMIWHP through addressing the challenges facing this important source of health information.

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eHealth strategy development: a case study in Tanzania

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