

Knowledge and Health Seeking Behavioural Patterns of Caregivers on Managing Childhood Febrile Conditions in Singida Region – Tanzania

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Abstract: Although the trend of under five mortality revealed to decline worldwide but still a global burden, since the under five children continue to die every day especially those from poor setting. Early diagnosis and prompt treatment of childhood febrile conditions are essential for reducing the progression of the illness to severe disease and, therefore, decrease mortality among under five children. This study aimed to assess knowledge and health seeking behavioral patterns of caregivers on managing childhood febrile conditions in Singida region. A community-based analytical cross-sectional study was conducted at Iramba, Itigi and Mkalama District Council from April to May 2019. A sample size of 751 care givers were involved meanwhile 7 destroyed byrain. Participants were selected using simple random sampling. Interviewer-administered structured questionnaire was used to collect data. Data were entered and analyzed using SPSS version 20. Multiple logistic regression analysis was done to determine the strength of association on factors influencing knowledge and health seeking behavioral patterns and controlling the confounders. Among 744 caregivers participated, 57% (425) had high knowledge on managing childhood febrile conditions. Influencing factors were education level ($P<0.05$) and Marital status ($P<0.05$). Only 41.5% of caregivers seek health care to the health facility, 38% went to community doctors, 10% went to neighbours, 6.8% went to religious leaders and 3% went to traditional healers. Knowledge and health-seeking behavioural patterns have an influence on self-medication practices among caregivers.

Keywords: Knowledge, Health Seeking Behavioural Patterns, Caregivers, Under Five, Singida

1. Introduction

Under-five mortality is still a major health problem all over the world although the trend is declining. Globally the trend of under-five mortality is declining by 58% [1]. UNICEF report revealed that 1 out of 26 children died before reaching the age of 5 years in 2017 compared to 1 out of 11 in 1990.

Approximately 15,000 of under-five deaths occurred every day. This global burden is still high requiring more interventions to improve the survival chances of the world children [1]. In Sub Sahara Africa the under-five mortality is 76 deaths per 1000 live births in 2017, this equals 1 out of 13 children dying before the age of 5 years [1]. Infectious diseases remain to be the leading causes of under-five mortality especially children

in the poor setting. Pneumonia, diarrhoea and malaria account for the highest prevalence (30%) of global under-five deaths [1]. In Tanzania, the under-five mortality is 67 deaths per 1000 live births. This is a trend of decline from 141 in 1991-1992 to 67 deaths in 2015-2016 [2].

Fever is considered when body temperature is $\geq 37.5^{\circ}\text{C}$ [3]. Fever in children is the major public health problem and it accounts for about 70% of presenting complaints to the pediatric outpatient departments. Usually indicates an underlying infection and is a cause of concern for parents and caregivers [4]. In Tanzania, morbidity and mortality of children aged 2 – 59 months showed that febrile condition contributes high in under-five mortality whereby Malaria accounts for 49%, diarrhoea 27% and Pneumonia 22%. The case fatality found to be 74% per 1000 under-five children admitted [5]. The occurrence of fever is due to various infectious and non-infectious processes interacting with the body defense mechanism. In most children fever is either due to an identifiable microbiologic agent or occurs during exposure to excessive environmental heat [3].

Most of the mothers perceived fever as the hotness of the whole body of the patient [6]. According to the 2015-16 Tanzania Demographic and Health Survey [2], 18% of Tanzanian children had a fever in the two weeks before the survey. It has been reported that about 90% of Tanzanians live within 5km from health care facility but only 40 – 54% of children are taken to seek medical care [2].

Several efforts are done by the government in the management and prevention of childhood illness including integrated management of childhood illness (IMCI) hospital and community based, training on Malaria prevention and Supply of treated net to the household (ITN). With all these efforts done, under-five deaths are still high compared to the target of millennium development goal number 4. More effort should be put on prevention of childhood febrile condition [5]. There are number of reported factors contributing to poor health-seeking behaviors to caregivers of these children with fever including caregiver social-economic status, age and marital status, child's age and sex, effectiveness and adverse outcomes of previously administered medicines, a specific health facility factor such as inadequate supply of medications and poor attitudes of healthcare providers and disease severity [7].

The most frequent proceeding of the mothers to reduce the fever to children was antipyretic administration, followed by foot bath, referring to a physician, and use of medicinal herbs [8]. The knowledge and practice of managing childhood conditions among caregivers is likely needed to be considered for a change to facilitate early attendance to the health facility for better care.

This study intended to assess knowledge and health seeking behavioral patterns of caregivers in managing childhood febrile conditions in Singida region. Caregivers are the first close person to the child who knows their behaviour changes and informants of paediatric illnesses. Early diagnosis and proper management of fever play a great role in combating the bad prognosis of febrile conditions.

2. Materials and Methods

2.1. Study Area

The study conducted at the community level in Singida region, Tanzania. Singida region has seven districts named Singida Urban, Singida Rural, Iramba, Mkalama, Manyoni, Ikungi and Itigi district. This study involved three districts which were Iramba, Itigi and Mkalama.

According to the 2012 Tanzania National census, the population in Singida was 1,370,638 people and under-five children was 210,941, immunization coverage is 80% [2]. There are 202 health facilities in the region which include 10 hospitals (5 owned by the government, 5 are Faith-based, 18 health centre (15 public, 3 FBO), 173 dispensaries (148 Public, 11 private, 14 FBO) and 1 maternity home. The main tribes belongs to Nyaturu mainly found in Ikungi, Singida Urban and Singida Rural; Nyiramba found in Mkalama and Iramba districts; Gogo who occupying Manyoni and Itigi districts. There is also a very small peculiar tribe of hadzabe found at Mwangeza ward, Kipamba village in Mkalama district. Main activities were small scale farming and animal keeping.

2.2. Study Design and Participants

A community based cross sectional analytical study using quantitative approach was used. All caregivers with children aged 12 to 59 months who were willing to participate were included in the study while those who were not willing to participate, who were very sick and those who were mentally ill were excluded in the study.

2.3. Sample Size and Sampling Technique

The sample size of study participants was obtained by using a formula $n = Z^2 \times Pq / e^2$ (1) $n = Z \times P (1-P) / e^2$ (2) adopted from Cochran (1975) as cited by Ajay and Micah [9], Where n =Sample size, Z =Confident interval to 95% (1.96), $q=1-p$, e =tolerable error (0.03). p =Prevalence in previous study 80%. The estimated sample size was 751 participants. During analysis 7 questionnaire was omitted because were destroyed by rain and remained with 744 participants which gives the response rate of 100%. Purposive sampling was used to select the region then a multistage sampling with four stages was used for selecting the districts, wards and villages. In all stages, a simple random selection by lottery method was done. A list obtained in each stage and written in a piece of papers one by one; these papers mixed then picked up to the required number. The first stage was the selection of 3 out of 7 districts (Iramba, Itigi and Mkalama). The second stage was the selection of two wards from the list in each District; the third stage was the selection of three villages in each selected ward. A total of 18 villages were involved in the study. The study participants were selected using simple random sampling.

2.4. Data Collection Tool and Data Quality Control Methods

A semi-structured interviewer-administered questionnaire

with open and closed-ended questions was used to collect data. The questionnaire was adapted and modified from a study done in Jordan and Tanzania health survey [10]; [2] based on the objectives of the current study and relevant local factors related to the research question. The tool used to collect information on demographic, characteristics of respondents, knowledge on managing childhood febrile condition and health-seeking behaviour among caregivers.

Pretesting of a tool was done one-week prior data collection using 5% of a total sample size from the general population who were selected using a simple random sampling to measure its validity and were not included in the study. Also, the same questionnaire was retested on the same sample after one week and the correlation between first and second test was obtained to determine for good reliability. Correction or improvement made for those areas with inconveniences to ensure clarity of questions and give appropriate responses from participants. Two research assistants who were nurses with diploma level were trained by principal investigator for two days before data collection. Data was cleaned, edited and coded before data analysis.

2.5. Data Processing and Analysis

Data were analyzed using a statistical package for social science (SPSS) version 20. Demographic characteristics were analyzed by descriptive statistics to indicate frequency and percentages. Chi-square was used to test the association between selected variables. Bivariate logistic regression analysis was used to determine the strength of association between the selected variables. Multivariate analysis was used to control the confounders. Significance of association was determined by significance level $P < 0.05$ and data were presented using tables and figures.

3. Results

3.1. Demographic Characteristics of Caregivers

This study involved 774 caregivers who met the inclusion criteria. The age was grouped and analyzed. The majority of caregivers were aged between 26-33, 308 (41.4%). The mean age of caregivers was 34.24 and the median 32.00 ± 8.547 . Greater part 524 (70.4%) of caregivers were female. Occupational status of caregivers was assessed and the findings showed that most 523 (70.3%) were peasants.

The level of education of caregivers was an important variable assessed in this analysis of the study where majority 471 (63.3%) had primary education while minority 18 (2.4%) had tertiary education and a greater proportion was Christian 516 (69.4%). Furthermore, the marital status of caregivers was assessed and majority 565 (75.9%) were married.

Also, identifying the tribes of caregivers as part of this study where Nyiramba were 427 (57.4%). Regarding the number of children belongs to a caregiver, 172 (23.1%) had more than four children, on the other hand, both parents living together were 539 (72.4%). (Table 1).

Table 1. Distribution of demographic characteristics of caregiver (N=744).

Characteristics	Frequency (n)	Percentage (%)
Caregivers Age group (years)		
18-25	95	12.8
26-33	308	41.4
34-41	203	27.3
42-49	79	10.6
50-57	59	10.6
Sex		
Female	524	70.4
Male	220	29.6
Occupational status		
Peasants	523	70.3
Small business	157	21.1
Employed	64	8.6
Educational level		
No formal education	91	12.2
Primary	471	63.3
Secondary	164	22.0
Tertiary	18	2.4
Religion		
Christian	516	69.4
Muslim	210	28.2
Traditional belief	18	2.4
Marital status		
Unmarried	126	16.9
Married	565	75.9
Widowed	12	1.6
Separated	41	5.5
Tribe		
Nyiramba	427	57.4
Nyaturu	145	19.5
Other	111	14.9
Sukuma	36	4.8
Iraqw	25	3.4
Relationship with child		
Biological mother	448	60.2
Biological father	197	26.5
Other	99	13.3
Number of Children		
More than four children	172	23.1
Two children	168	22.6
three children	152	20.4
One child	138	18.5
Four children.	114	15.3
Parent living together		
Yes	539	72.4
No	205	27.6
Childs sex		
Male	341	45.8
Female	403	54.2
Childs age group		
12-24 months	446	60.0
25 – 36 months	127	17.0
37 – 48 months	94	13.0
49-59 months	77	10.0

Source: Field data (2019)

The household wealth as shown in figure 1, indicates that majority 285 (38.3%) were poor, 273 (36.7%) were rich, 186 (25%) Poorest and no one in the middle wealth.

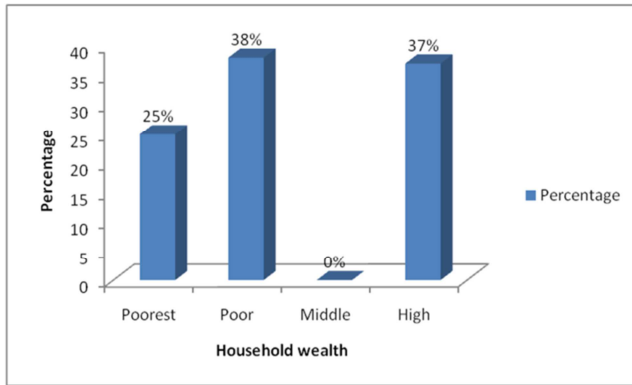


Figure 1. The distribution of household wealth (N=744) Source: Field data (2019).

3.2. Caregivers Knowledge on Managing Childhood Febrile Condition

Most caregivers 324 (43.5%) understand fever as hot to touch the body of the child, then 120 (16.1%) loss of appetite. Majority of caregiver obtain information from health facilities 468 (62.9%). When they were asked about side effects if fever not treated, majority, 534 (71.8%) of caregivers reported death and a small proportion 11 (1.5%) reported coma. Also, the study found that only 196 (26.3%) of caregiver knew the normal range of the body temperature which is 36-37°C.

It was also revealed that the response on initial management for a child with fever was antipyretics for most caregivers 344 (46.2%). When caregivers were asked if every child with fever need paracetamol, only 298 (40%) responded 'Yes'. Regarding antibiotic, the majority 333 (45%) responded 'No'. Furthermore caregivers were asked if complications raise from fever can be treated by fever medications, A greater proportion 344 (46%) of caregivers said Yes.

This study also evaluated if fever is the consequence of bacterial or viral infection, greater proportion of caregivers 316 (42.5%) responded 'Yes'. Majority 408 (55%) of caregivers responded that fever help to alert caregiver about child's condition. Regarding whether it is reasonable to wait 3 days before seeing a doctor, almost 598 (80%) of caregivers said 'No'. Moreover, 325 (44%) showed that it is not necessary to treat fever regardless of body temperature (Table 2).

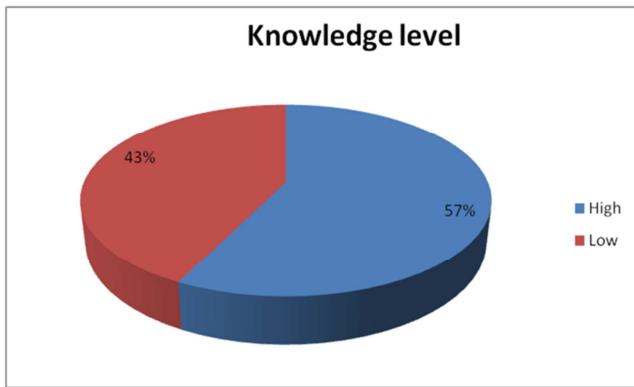
Table 2. Caregiver's knowledge on managing childhood febrile conditions (N=744).

Variables	Frequency	Percentage (%)
Understanding of fever		
Hot by touch	324	43.5
Loss of appetite	120	16.1
Body weakness	80	10.8
Shivering	67	9
Vomiting	65	8.7
Cold by touch	59	7.9
Fits/convulsion	21	2.8
Don't know	8	1.1

Variables	Frequency	Percentage (%)
Source of information		
Health facility	468	62.9
Family/Friends/Neighbor	219	29.4
Social media (News paper, radio, Television)	46	66
Never	8	1.1
Side effects if fever not treated		
Death	534	71.8
Seizures	99	13.3
Dehydration	52	7
Coma	11	1.5
Nothing will happen	12	1.6
Don't know	32	4.3
Understanding normal temperature		
35-36°C	148	19.9
36-37°C	196	26.3
38-40°C	43	5.8
More than 40°C	7	0.9
Don't know	350	47
Initial management of fever		
Give fever medicine	344	46.2
Consult Doctor	158	21.2
Apply cold compresses	157	21.1
Give plenty of fluid	42	5.6
Consult relatives/friends	13	1.7
Consult traditional healer	8	1.1
Don't know	22	3
Every child with fever need		
Paracetamol		
Yes	298	40.1
No	292	39.2
Don't know	154	20.7
Every child with fever need antibiotics		
Yes	173	23.3
No	333	44.8
Don't know	238	32
Complication raises from fever can be treated by fever medications		
Yes	344	46.2
No	160	21.5
Don't know	240	32.3
Fever is the consequence of bacterial or viral infection		
Yes	316	42.5
No	175	23.5
Don't know	253	34
Fever help to alert caregiver about child's condition		
Yes	408	54.8
No	150	20.2
Don't know	186	25
It is reasonable to wait 3 days before seeing a doctor		
Yes	96	12.9
No	598	80.4
Don't know	50	6.7
It is necessary to treat fever regardless of body temperature		
Yes	291	39.1
No	325	43.7
Don't know	128	17.2

Source: Research field data (2019).

After the principal component analysis, the results revealed that 425 (57%) had high knowledge and 320 (43%) had low knowledge as seen in figure 2.



Source: Field data (2019)

Figure 2. Knowledge level of caregiver in managing childhood febrile conditions (N=744).

3.3. Bivariate and Multivariate Logistic Regression of Factors the Level of Knowledge Among Caregivers on Managing Childhood Conditions

To determine the strength of association and controlling confounding factors, those factors that showed significant relation in chi-square were analyzed using bivariate and multivariate logistic regression. The results showed that those with no formal education, primary and secondary education were less likely to have high knowledge compared with those who have high education ($P < 0.05$). Also, those who were married were 4.067 times more likely to have high knowledge compared to separated caregivers ($P < 0.001$).

Similarly, there is an association between tribe and knowledge whereby Iraqw was 14.803 times more likely to have knowledge compared to other tribes ($P < 0.001$) (Table 3).

Table 3. Bivariate and multivariate logistic regression of factors influencing knowledge level of caregivers.

Variable	OR	P-value	95% C. I. for OR		AOR	P-value	95% C I	
			Lower	Upper			Lower	Upper
Sex								
Male	0.694	0.024	0.505	2.554	0.806	0.221	0.571	1.139
Female (Ref)								
Educational level								
None	2.667	0.014	0.920	7.730	0.237	0.019	0.071	0.791
Primary	1.305	0.601	0.482	3.538	0.350	0.075	0.114	0.108
Secondary	1.644	0.343	0.589	4.593	0.290	0.036	0.091	0.921
Higher education (Ref)								
Religion								
Christian	0.086	0.005	0.020	0.380	5.760	0.024	1.256	26.409
Muslim	0.096	0.001	0.021	0.426	6.077	0.022	1.303	28.347
Traditional (Ref)								
Marital status								
Unmarried	0.293	0.002	0.135	0.637	3.412	0.004	1.470	7.921
Married	0.254	0.000	0.125	0.516	4.067	0.000	1.862	8.884
Widowed	0.033	0.002	0.004	0.289	7.467	0.006	1.787	31.207
Separated (Ref)								
Tribe								
Nyaturu	0.751	0.265	0.454	1.243	1.620	0.071	0.959	2.734
Nyiramba	1.005	0.982	0.660	1.530	1.294	0.263	0.824	2.033
Iraqw	0.173	0.006	0.049	0.610	14.803	0.000	3.250	67.428
Sukuma	2.239	0.042	1.030	4.866	0.443	0.081	0.178	1.106
Other (Ref)								
Household wealth								
Poorest	1.480	0.041	1.015	2.156	1.365	0.156	0.888	2.096
Poor	0.857	0.364	0.615	1.196	0.719	0.074	0.501	1.032
High (Ref)								

Source: Field data (2019)

3.4. The Health Seeking Behavioural Patterns Among Caregivers

Caregivers involved in this study were 744, among them, 234 (31.7%) reported that their children had fever or illness in the past two weeks before commencement of the study. As shown in table 4, greater proportion 440 (59%) of caregivers seek advice/treatment out outside their homes while 292 (39%) didn't and 12 (2%) didn't remember (Table 4).

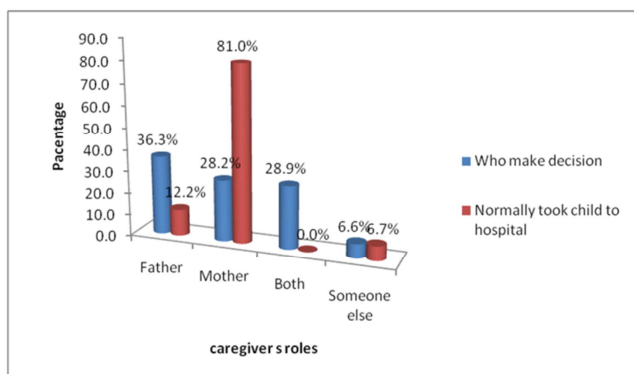
Table 4. Responses of caregivers on Health-seeking behavioural patterns on managing childhood febrile conditions (N=744).

Behaviour	Frequency	Percentage (%)
Fever in the last two weeks		
Yes	234	31.7
No	510	68.3
Duration of fever		
Less than 3 days	126	53
3days	58	23
More than 3 days	53	22

Behaviour	Frequency	Percentage (%)
Seek advice/treatment for sick child outside the home		
Yes	440	59.1
No	292	39.2
Don't remember	12	1.6
Don't know	56	7.5
Was there someone in the community who is regularly consulted with regards to childhood illnesses?		
Yes	412	55.4
No	253	34
Don't know	79	10.6
Spouse was consulted		
Yes	110	14.8
No	613	82.4
Don't know	21	2.8
Relative was consulted		
Yes	130	17.5
No	593	79.7
Don't know	21	2.8
Neighbor was consulted		
Yes	81	10.9
No	641	86.2
Don't know	22	3
Doctor was consulted		
Yes	295	39.7
No	425	57.1
Don't know	24	3.2
Traditional healer was consulted		
Yes	28	3.8
No	692	93
Don't know	24	3.2
Religious leader was consulted		
Yes	51	6.8
No	670	90.1
Don't know	23	3.1

Source: Field data (2019)

Regarding decision making, a greater proportion, 270 (36.3%) of caregivers responded that father is one who makes decision of health seeking for the a sick child than a mother 210 (28%) while those who both father and mother makes decision is 215 (28.9%). Surprisingly, 603 (81%) of caregivers who took their sick children to the health facility were mothers (Figure 3).



Source: field data (2019)

Figure 3. Responses on who makes the decision and took the sick child to the health care facility.

The study assessed the distance to walk from household to the health facility, Majority 405 (54.4%) walk less than

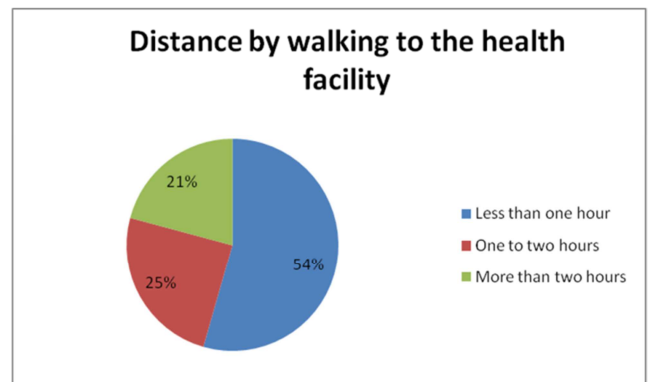
one hour (Figure 4). Also, on the factors which might discourage caregiver to seek health care from health care facilities, more than half, 455 (61.2%) responded 'Yes' on easy access of drugs outside the health facility, 286 (38.4%) responded 'No'. Regarding the quality of care, Majority 577 (77.6%) of caregiver responded to be satisfactory. About long distance to the health facility, only 296 (39.8%) of respondents encounter such problem. Else on factors which might discourage caregiver to seek health care from health care facilities, majority 455 (61.2%) responded on easy access of drugs outside the health facility. (Table 5).

Table 5. Response of caregiver on what discourage them from seeking health care to the health facility (N=744).

Response	Frequency	Percentage (%)
Easy access of drugs outside the health facility		
Yes	455	61.2
No	286	38.4
Don't know	3	0.4
Quality of care less than satisfactory		
Yes	165	22.2
No	577	77.6
Don't know	2	0.3
Long distance to health facility		
Yes	296	39.8
No	442	59.4
Don't know	6	0.8
Long waiting time		
Yes	193	25.9
No	544	73.1
Don't know	7	0.9
Negative attitude of health care providers		
Yes	60	8.1
No	680	91.4
Don't know	4	0.5

Source: Field data (2019)

About the distance to walk from household to the health facility, Majority 405 (54.4%) walk less than one hour (figure 4).

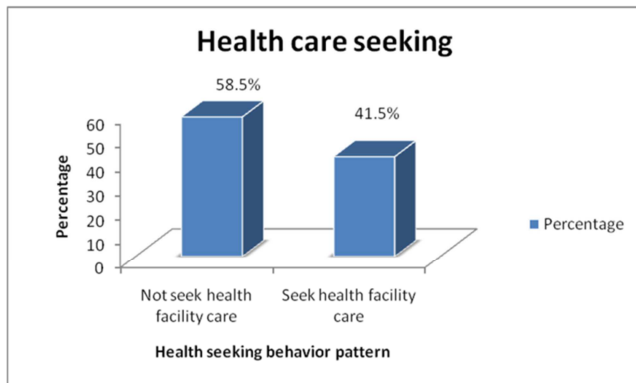


Source: Field data (2019)

Figure 4. Response on distance to walk from household to the health facility.

After principal component analysis, the result revealed that

majority 435 (58.5%) did not seek health care to the health facility as seen in figure 5.



Source: Field data (2019)

Figure 5. Distribution of health seeking behavioral patterns among caregivers on managing childhood febrile conditions (N=744).

3.5. Bivariate and Multivariate Logistic Regression on Factors Influencing Health-Seeking Behavioural Patterns on Managing Childhood Febrile Conditions

Bivariate and multivariate logistic regression was done to determine the strength of association and controlling for confounding factors. The results of this study showed that there is an association between the age of caregiver and health-seeking behavioural patterns where age group 26-33 and 34-41 years were 90% and 77% less likely to seek health care facility compared to age group 50-57 years ($P<0.001$).

The results revealed that peasants and small businesses were 5.2 and 5.8 times more likely to seek health care facility respectively compared to those who were employed ($P<0.001$). However, caregivers with low knowledge were 37% less likely to seek health care facility compared to those with high knowledge ($P<0.05$) while caregivers from the household with the poorest wealth were 2.7 times more likely to seek health care facility than those with high wealth $P<0.001$ (table 6).

Table 6. Results of bivariate and multivariate logistic regression analysis of factors influencing health-seeking behavioural patterns.

Variable	OR	P-value	Confidence interval		AOR	P-value	Confidence interval	
			Lower	Upper			Lower	Upper
Caregivers age								
18-25	0.519	0.054	0.266	1.012	0.219	0.003	0.081	0.592
26-33	0.262	0.000	0.146	0.469	0.100	0.000	0.043	0.233
34-41	0.458	0.011	0.251	0.835	0.229	0.000	0.102	0.515
42-49	0.418	0.014	0.208	0.836	0.262	0.002	0.111	0.616
50-57 (Ref)								
Sex								
Male	1.395	0.040	1.016	1.917	1.270	0.549	0.581	2.773
Female (Ref)								
Occupation								
Peasant	1.602	0.102	0.911	2.815	5.280	0.000	2.356	11.831
Small business	2.399	0.006	1.289	4.463	5.878	0.000	2.578	13.402
Employed (Ref)								
Education level								
None	0.205	0.009	0.063	0.671	0.202	0.026	0.050	0.823
Primary	0.191	0.004	0.062	0.591	0.178	0.011	0.047	0.671
Secondary	0.202	0.007	0.064	0.642	0.254	0.042	0.068	0.949
Higher (Ref)								
Tribe								
Nyaturu	1.751	0.030	1.055	2.904	2.151	0.011	1.191	3.885
Nyiramba	1.306	0.226	0.848	2.013	1.613	0.073	0.956	2.720
Iraqw	0.074	0.012	0.010	0.567	0.085	0.022	0.010	0.702
Sukuma	1.268	0.545	0.588	2.732	1.445	0.405	0.608	3.434
Other (Ref)								
Relation to child								
Father	1.345	0.234	0.826	2.190	1.996	0.118	0.839	4.745
Mother	0.882	0.577	0.566	1.373	1.855	0.068	0.956	3.632
Other (Ref)								
Number of children								
One	1.567	0.052	0.996	2.465	2.595	0.004	1.368	4.923
Two	0.917	0.697	0.591	1.421	1.626	0.094	0.920	2.873
Three	0.889	0.608	0.566	1.395	1.452	0.187	0.834	2.527
Four	1.513	0.090	0.938	2.441	2.209	0.008	1.226	3.981
More than four (Ref)								
Easy access of drugs outside health facility								
Yes	1.606	0.002	1.184	2.177	1.769	0.001	1.252	2.501
No (Ref)								
Negative attitude of health care provider								
Yes	3.350	0.000	1.903	5.895	3.021	0.001	1.566	5.828
No (Ref)								

Variable	OR	P-value	Confidence interval		AOR	P-value	Confidence interval	
			Lower	Upper			Lower	Upper
Knowledge level								
Low	0.623	0.002	0.464	0.836	0.632	0.009	0.448	0.893
High (Ref)								
Household wealth								
Poorest	2.376	0.000	1.622	3.481	2.703	0.000	1.665	4.389
Poor	1.178	0.352	0.834	1.663	1.257	0.258	0.846	1.868
High (Ref)								

Source: field data 2019.

3.6. The Correlation Between the Level of Knowledge and Health Seeking Behavioral Patterns Among Caregiver on Managing Childhood Febrile Conditions

The findings in table 7 indicates the Pearson's correlation matrix of level of knowledge and health seeking behaviour among caregivers in managing childhood febrile conditions. The findings showed that, there is statistically significant positive correlation between the level of knowledge and health seeking behaviour ($R=0.116$; $P=0.002$).

Table 7. Show Pearson Correlation between self medication, health seeking behavioral patterns and knowledge of fever.

		Knowledge level	Health seeking behavioral pattern
Knowledge level	Pearson correlation	1	0.116**
	P-value		0.002
Health seeking behavioral pattern	Pearson correlation	0.116**	1
	P-value	0.002	

Source: Field data (2019)

Key: **. Correlation is significant at the 0.01 level (2-tailed).

4. Discussion

According to the results of the current study, majorities (41.4%) of caregivers were in the age group of 26-33 year with the mean age of 34.24 and median was 32 ± 8.547 in which greater proportion (70.4%) were female. This is not surprising results since it is the active reproductive age group and female were targeted first as caregivers. Most of them (75.9%) were married with the background of primary educational (63.3%) and (70.3%) were peasants.

4.1. Knowledge of Caregivers in Managing Childhood Febrile Conditions and Its Associated Factors

The initial objective of this study was to assess the level of knowledge among caregivers in managing childhood febrile conditions. Knowledge help caregivers to understand the causes, symptoms and complications of childhood febrile conditions which leads to the action taking. The finding revealed that more than half of caregiver had high knowledge. This may be associated with increasing means of communicating information down to the community level such as community meetings, use of posters television and mobile telephones in which people share different information [2]. Furthermore, the increasing number of health facilities at the village level might be the reason for high knowledge. Although there is high level of knowledge but the different from those with low knowledge is small which implies that there is no common understanding in the management of childhood febrile conditions and there are number of caregivers who need to be addressed. The findings are consistent to the study done by Adedire *et al.*, [3] and

Nyaledzigbor *et al.*, [2] that caregivers who had high knowledge were 60.7% and 70% respectively. This was different from the study done in Malaysia which showed that 26.1% of caregivers had good knowledge that was significantly associated with ethnicity, education level and household income [4].

Factors reported to influence knowledge in the current study were level of education and marital status whereby those with no formal education were significantly less likely to have high knowledge than those with higher education. Caregivers who were married were 4 times more likely to have high knowledge compared to those who were separated. This is could be because a high level of education has increased the chance to learn more things in the process of the studies [5]. On marital status, marriage exposes a person to learn from his/her partner of various information including those of health related. Similar findings reported by Ahmed *et al.*, [14] that mothers with postgraduate and university level of education reported lower temperature for high fever than those with lower degrees ($P=0.001$). Also, Abu-Bakar, Gharaibeh, Al-Zoubi, Savage, & Gharaibeh, [7] showed that mothers level of education was a significant positive association with knowledge ($P<0.05$).

4.2. Health Seeking Behavioural Patterns of Caregivers and Its Associated Factors in Managing Childhood Febrile Conditions

Health seeking behavioural patterns was an important objective of this study. Caregivers were assessed to determine the patterns of seeking health services for their sick children. The findings revealed that only 41.5% of

caregivers prefer first to seek health care from health facility when their children fall sick which is underutilization of health care facility and a greater proportion (58.5% of caregivers) finds other alternatives treatment first. Moreover, 55.4% of caregivers reported the presence of people who were regularly consulted in the community for advice or treatment. The underutilization of health care facility might be associated with the high number of drug shops in the community where caregivers may get drugs quickly at a low price even if the course of drug is not complete [8]. As business-oriented, those who sell the drugs they are willing to sell drugs upon the will of the customer. Also drug shortage at the health facility where caregiver after being prescribed, they are told to buy those drugs outside the health care facility due to shortage of drugs [8]. According to the current study, people who were regularly consulted includes 39.7% unauthorized doctors, 17.5% were close relatives in which 14.8% were spouse, 10.9% neighbour, 6.8% were religious leaders and 3.8% traditional healers. Surprisingly, people who were consulted frequently are not medical professionals. These people are consulted because of friendly, free service or at a low cost, sometimes the payments are done afterwards. In comparison to the other studies with low utilization of health facility, 42% of caregiver went to health facility [8], 18-38% of caregivers were reported to seek care from health facility $P < 0.001$ [9]. Also, 22% of caregivers reported to prefer primary care to the health facility, 25% obtained drugs to drug shops, 0.8 went to church and 0.3% to traditional birth attendants [10]. The findings of the current study were different to the study done by Hamooya, Chongwe, Dambe, & Halwiindi, [11] which showed that 64% went to the health facility and 18% visited other sources.

Various factors appears to have an association with health seeking behavioural patterns. The current study found that, the knowledge level had an influence in health seeking behaviour as those who had none, primary and secondary education showed statistical significant to have high health seeking from health care facility compared to those who have higher educational level ($P < 0.05$). Also it shows that, those who were poorest had high level of health seeking from health facility compared to those with high wealth. This is due to the fact that, those with a low level of education and the poorest were worried once their children becomes sick and attempt to seek health care immediately at the health facility while those with high level of education and high wealth tend to know things even when their child's gets sick they just find drugs from different sources without medical prescription and provide to children. The findings of the current study differs with study done by Mahejabin et al., [12], findings showed that there were statistical significant as those who had higher education and high income tend to seek health care facility while for the current study, the poorest and those with a low education level were the once who seek health care facility. These differences might be due to the different in country where the research was conducted as in Tanzania health services to under five are free of charge therefore majority can access compared to other country

where health services to under five have to pay. The study done in Yemen also revealed that those with higher education were seeking medical care [13]. Furthermore, the study done by Gerald, [22] on factors influencing health seeking behaviour showed that, there was an association between level of income and health seeking behaviour whereby those with grass thatched house were less likely to seek health facility care compared to those with good income.

4.3. The Correlation Between the Level of Knowledge and Health Seeking Behavioural Patterns

The three variables which are the level of knowledge, health seeking behaviour patterns were correlated using a Pearson's correlation matrix. The findings of the current study showed a statistical significant of a positive correlation between the level of knowledge and health seeking behavioural patterns (11.6%). This means that, the increase in the level of knowledge also there will be an increase in the level of health seeking behavioural patterns. Similar findings as the study done in Congo and Nigeria showed a positive association between knowledge and health seeking behaviour ($P \leq 0.01$). Other studies focused on the associations between these variables than correlation compared to the current study [15].

5. Conclusion

The majority were knowledgeable, although knowledge level was high the difference between high and low knowledge found to be very small indicating the need for community intervention to improve the knowledge level.

The greater proportion of caregivers prefer to seek health care without consulting health care facility medical professional, practicing self-medication for serious illnesses which is very risky for drug resistance and severity of illness. For this reason, the strategy of each village to have a dispensary, ward to have a health centre to facilitate easy access of health care services is not complemented by the community. The level of knowledge was positively correlated with health-seeking behavioural patterns among caregivers in managing childhood febrile conditions.

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