

Knowledge, Attitude, and Practices on Nutrition among Elderly People Living in Gihembe Refugee Camp, Rwanda

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Abstract

Nutrition Knowledge, combined with practices and attitudes, is essential in improving the population's nutrition. Although the refugee camp management is making efforts by designing nutrition interventions to under-five children, pregnant and breastfeeding women, older adults are a susceptible category not considered, and little is known about their nutritional knowledge, attitudes, and practices. This research aims to assess the nutrition knowledge, attitude, and practices among older people living in Gihembe refugee camp. The study used a cross-sectional study design. A simple random sampling technique was applied. The sample size of 251 respondents selected from target population which was older people aged above 60 years who were Congolese refugees living in Gihembe refugee camp. Data were cleaned and entered to SPSS version 21 for analysis. The present study revealed that 153 (61.9%) of respondents had good knowledge towards nutrition and 94 (38%) had poor knowledge on nutrition. and 29.6% of respondents had negative attitude and 70.4% had positive attitude towards nutrition aspect. The study shown that 119 (48.2%) of respondents had poor nutritional practices and 128 (57.8%) of them had good nutritional practices. This study also revealed that elderly people who reported that their primary source of income was from WFP/UNHCR were less likely to have good nutritional practices [ARO = 0.125, 95%CI = 0.016-0.999 and P = 0.05] compared to elderly people who do not have any source of income. This study calls the government to make plans for actions and strategies to improve nutritional knowledge attitudes and practices among refugees, specifically elderly people. .

Keywords: Knowledge; Attitude; Practice; Elderly People; Gihembe Camp

Introduction

Nutrition is essential for physical, emotional, and psychological development of human health [1]. Even if significant efforts have been made to improve nutrition and reduce the burden of diseases associated with inadequate nutrition, different studies still indicate that the problem still exists. The report of the World Health Organization of the year 2017 stated that for the countries where data are available, people in those countries are suffering from different types of malnutrition [2]. The World Health Organization reports that globally, in 2014, millions of adult people have been diagnosed with two forms of malnutrition: overweight and obesity. The same report reveals that many people in the world are left behind from the benefit of improved nutrition [2]. Studies have been conducted to document the incidence or prevalence of malnutrition among different categories of people. There was a study confirmed that malnutrition is a common serious issue among the adult population [1]. Literature indicates that older adults who are at the most considerable risk of consuming

an inadequate diet, are those who have psycho-social problems, physiological problem, live alone, limited access to health services and have low income [3]. Scholars show that food choices among adults are based on other factors than food preferences. Those include income, the person's ability to shop, prepare, chew and swallow food and some diseases, as well as types of allergies that might be caused by the consumption of particular kinds of food or medicines [4]. Moreover, there was a study showed that lack of companion in eating triggers malnutrition among adult people [5]. The literature illustrates that refugees are likely to develop malnutrition since they rely on assistance in terms of food from both international and local humanitarian organizations, and sometimes the food is not enough in both quantity and quality, which result in a lack of food variety as well as the frequency of the diversity of the meal. Also, refugees in camps suffer from malnutrition resulting from insufficient quantity and quality and the lack of food of their traditions and cultural beliefs [6]. Displaced older adults are at risk of developing malnutrition due to other factors such as their attitudes, knowledge, and other challenges related to the appropriate ways of preparing food [3]. Research works and guiding documents illustrated a significant number of factors that trigger malnutrition among older people, especially in refugee camps. [7] indicated that the displaced people, due to insufficient food, lack of land, lack of income generation activities, and a social network, this community might be at high risk of developing malnutrition [7]. The literature illustrates some drivers that trigger nutritional-related issues among older adults. Those include eating-related practices and beliefs, culture, as well as social and economic drivers. However, different scholars recommend country-focused studies that may explain older people's nutritional issues in specific countries in Africa since situations may differ from country to country [8]. Many scholars revealed how nutrition-related knowledge, attitude, and practices are vital elements to consider to have improved nutrition [9].

However, there is still a knowledge gap towards the knowledge, attitudes, and practices related to nutrition among the older people living in refugee camps and their challenges. It is not enough to focus on issues of insufficient food but also nutritional knowledge, attitudes, and practices among these communities [9]. Lack of this information has adverse effects, as it will continue to lead to an increase in records of mortality and morbidity related to malnutrition. Therefore, there is a need for research to fill that gap to provide evidence-based recommendations so that government and humanitarian organizations may make informed decisions to save the lives of elderly people living in refugee camps.

Research Objectives

- To assess the level of knowledge of elderly persons of Gihembe refugee camp on nutrition.
- To assess the attitudes of elderly persons living in Gihembe camp towards nutrition.
- To determine the nutrition practices of elderly persons living in Gihembe refugee camp.
- To determine factors influencing the nutrition practices of the elderly community living in Gihembe.

Research Questions

- What is the level of knowledge of nutrition among older adults living in the Gihembe refugee camp?
- What are the attitudes of older adults living in the Gihembe refugee camp towards nutrition?
- What are the nutrition practices of older adults living in the Gihembe refugee camp?
- What factors are influencing the nutrition practices of older adults living in the Gihembe refugee camp?

Methods

Study design

This research was cross-sectional since data were collected once in time. This study was quantitative as it collected data in the form of numbers. The research was a descriptive study as it focused on describing the nutritional knowledge, attitudes, and practices of adult people living in Gihembe refugee camp.

Study population

This study's target population was 679 older people aged 60 years and above who are Congolese refugees living in Gihembe refugee camp (UNHCR, 2021).

Sample size and sampling procedure

The sample size of this study was 251, calculated by applying the above formula, where $N = 679$ and $e = 0.05$. The study used simple random sampling techniques to determine research respondents for quantitative research from sample determined using a formula.

The Reliability focused on the Degree to which the tool was giving the same findings during the trial. In this regard, a Test-Retest reliability measure was done to ascertain Reliability. After that, Cronbach's coefficient was calculated to ensure the Reliability of the research instrument. The coefficient was greater than 0.7, and the research was considered reliable.

The researcher developed research instruments by adopting questionnaires to previous similar studies conducted (including the research done by Al Riyami., *et al.* 2010 as well as the study conducted by Tayie, 2004) to ensure that the study tools were helping to answer the research questions as well as meet the objectives of the study. Also, the experts of the supervisor were consulted to improve content validity.

Data management

Research assistants with at least a high school education level were hired and trained on the study objectives, data collection method, and research ethics before data collection. Each of the three research assistants pre-tested one questionnaire to make sure they were comfortable and understand the questionnaire well and had a session meeting with the researcher to clarify and common understanding of the questionnaire. Data was collected after having the consent of participants, and each interview took 35- 40 min with the respondent. To comply with measures in place to contain COVID-19 spread and since the targeted population was considered at high risk, data collection was done virtually through phone calls. At the end of each day, the researcher cross-checked the questionnaire completeness and provided feedback to research assistants.

Data analysis and ethical consideration

To determine the level knowledge of elder person, twelve statements were used where the mean score was 4.63 and people scored above the mean were considered to have good knowledge and poor knowledge to these with score which is less the mean. Level of attitude was identified by score assessment of variables where seven statements have been used and the mean score was 3.73 and it was considered as reference point. Nutritional practices also was determined by calculating the mean score of variables and it was 6.65. A person with points below the mean had poor practices towards nutrition and above the mean had good practices.

The study was conducted in an ethical context. First, the ethics committee of Mount Kenya University provided ethical clearance for this study, then after researcher requested permission from the MINEMA to collect data. After getting the letter to conduct the research and submitting its copy to camp management to collect data, the researcher and research assistants were introduced to the respondent through the support of the community health workers. The respondents explained the study aim, their freedom to participate and exit the survey, confidentiality, and were ensured that information provided would only be used for academic purposes. Those who accepted to participate were interviewed, and for those who refused to be interviewed, the call was ended after thanking them.

Results

Socio-demographic characteristics of the respondents

As indicated in table 1, those are socio-demographic characteristics of 247 respondents all reached and data collected using questionnaire through face to face interview.

Variables	Frequency	Percentage (%)
Gender		
Male	81	32.8
Female	166	67.2
Marital status		
Single	14	5.7
Married	161	65.2
Widow/Divorced	72	29.1
Religion		
Catholic	22	8.9
Adventists	180	72.9
Protestants	31	12.6
Muslims	5	2.0
No affiliation	9	3.6
Age group		
60 - 64	108	43.7
65 - 69	67	21.1
70 - 74	38	15.4
75 and above	34	13.8
Education level		
Illiterate	131	53.0
Primary school	88	35.6
Secondary	28	11.4

Table 1: Social demographic characteristics of respondents.

Source: Primary data, 2021.

Table 1 illustrates that majority of respondents were female (67.2%), 65.2% of respondents were married and 43.7% were aged between 60 - 64 years old and 53% did not attend the school, and among those who attended the school, a significant number (75.8%) attended primary school only.

Variable	Frequency	Percentage
Primary source of income		
None	7	2.8
Family/friend support	9	3.6
WFP and UNHCR support	231	93.5
Main source of food		
Purchase	231	93.5

Borrowing	16	6.5
Living status		
Alone	16	6.5
With elderly spouse	142	57.5
With a disabled person	19	7.7
With others	70	28.3
Number of household members		
One	17	6.9
Two	32	13.0
3-5	88	65.6
Chronic disease		
Yes	98	39.7
No	140	56.7
Do not know	9	3.6
Regular medication		
Yes	84	34.0
No	163	66.4
Smoking		
Yes	25	10.1
No	220	89.9
Alcohol consumption		
Yes	63	25.5
No	184	74.5

Table 2: Socio-economic characteristics. Life style and health condition.
Source: Primary data, 2021.

Table 2 indicated that most respondents (93.5%) rely on the support of UNHCR and WFP as their source of income to survive, and 3.6% rely on support from family or friends. Regarding food sources, (93.5%) of respondents purchase food, and in addition, 98 (39.7) of respondents had chronic diseases, 84 (34%) of respondents take regular medication and 63 (25.5%) of them consume alcohol.

Presentation of findings

The findings of this study are presented according to their research objectives which are to assess knowledge, identify the attitudes, determine the nutrition practices and to determine factors influencing the nutrition practices of the elderly community living in Gihembe.

Assessment of knowledge of elderly persons of Gihembe refugee camp on nutrition.

The first objective of this study was to assess the knowledge of elder person of Gihembe refugee camp on nutrition and measured by score assessment of variables as presented below.

Variables	Frequency	Percentage
Knowledge on the signs of malnutrition		
Lack of energy/weakness	31	12.6
Weakness of immune system	26	10.5
Loss of weight/ thinners	95	38.5
Oedema	39	15.8
Don't know	56	22.7
Do you know the causes of malnutrition?		
Yes	225	91.1
No	22	8.9
Causes of malnutrition		
Not eating enough food	94	41.8
Food doesn't contain enough nutrients	84	37.3
Disease/ill and not able to eat enough food	23	10.2
Others	24	10.7

Do you know the consequences of malnutrition?		
Yes	242	98
No	5	2
Consequences of malnutrition among adults?		
Low immunity and wound healing	39	16.1
Reduced muscle and tissue mass	43	17.8
Decreased mobility	24	9.9
Increased risks of falls	25	10.3
Psychological/low mood	24	9.9
Others	87	36
Do you know the composition of a balanced diet?		
Yes	226	91.5
No	21	8.5
What is the composition of a balanced diet?		
Carbs	32	14.2
Fat	2	0.9
Protein	22	9.7
Vitamins	37	16.4
Carbs and Vitamins	13	5.8
Carbs and Vitamins and Protein	17	7.5
Others	103	45.6
Do you know how malnutrition can be prevented?		
Yes	243	98.4
No	4	1.6
How can malnutrition be prevented among elderly		
Eat more food	40	16.2
Eat more food and eat varied food	67	27.1
Eat more food and eat balanced food	62	25.1
Eat balanced food & Drink water	9	3.6
Eat more food, eat balanced food, vegetables, and fruits	16	6.5
Eat vegetables, and fruits	11	4.5
Eat balanced food	11	4.5
Eat varied food	1	0.4
Don't know	42	17.0
Key moment of washing hands		
After going to the toilet	27	10.9
After changing baby's	25	10.1
Before preparing food	18	7.3
Before feeding a child	15	6.1
Before eating	20	8.1
All the above	142	57.5
Importance of balanced food		
To maintain born strength	54	21.9
To prevent osteoporosis	21	8.5
Source of calcium	13	5.3
Source of Vitamin D	20	8.5
All the above	138	56.3

Table 3: Nutritional related knowledge.

Table 3 indicates that 225 (91.1%) confirmed that they know the causes of malnutrition and 94 (41.8) of respondents confirmed that malnutrition can be caused by not eating enough food while 84 (37.3%) said that it caused by consuming food which does not contain enough nutrients. 16.1% mentioned that low immunity and wound healing are consequences of malnutrition and 226 (91.5%) said that they know the composition of balanced deity. Eating more and varied food can prevent malnutrition among elder people which said by 67 respondents while other 62 respondents said that eating more and balanced food is also a way of malnutrition prevention.

Overall score of the knowledge of elderly person of Gihembe refugee camp on nutrition.

The objective one was to assess knowledge of elderly persons of Gihembe refugee camp on nutrition and was measured by score assessment of variables as presented in the figure below. Twelve statements were used to determine the level knowledge of elder person where the mean score was 4.63 and people scored above the mean were considered to have good knowledge and poor knowledge to these with score which is less the mean.

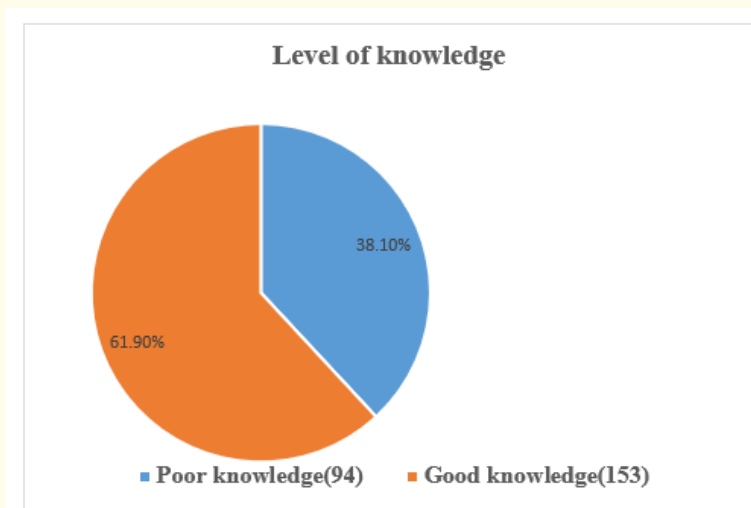


Figure 1: Level of knowledge.

As indicated by the figure 1, 153 (61.9%) of respondents hah good knowledge towards nutrition and 94 (38.1%) had poor knowledge on nutrition.

Attitude of elder people living in Gihembe camp towards nutrition

Second objective was to identify the attitudes of elderly persons living in Gihembe camp towards nutrition. As reference of scores should not be applicable, the researcher decided to put into consideration of mean score of 3.7, where people counted > 3.7 points was the one with negative attitude and people with points above the mean > 3.7 had positive attitude towards nutrition.

Variables	Frequency	Percentage
Considerations for food choices		
Affordable food	162	65.6
Balanced diet	27	10.9
Food availability for purchase	58	23.5

Perceptions on the seriousness of malnutrition among older persons		
Serious	187	75.7
Not sure	38	15.4
Not serious	22	8.9
Food habits influence		
Not	11	4.5
Low	22	8.9
Higher	214	86.6
Perception on eating different types of food on the meal		
Not good	5	2.0
Moderate	23	9.3
Good	219	88.7
Quality of food should change at older age		
Disagree	26	10.5
Agree	221	89.5
Experiencing appetite changes		
Yes	205	83.0
No	42	17.0
Importance of following the recommendation to consume dairy product at least twice a week		
Not important	4	1.6
Moderate	27	10.9
Important	216	87.4

Table 4: Attitude of elder people living in Gihembe camp towards nutrition.

The table 4 shows that for consideration of food choices of elder people 65.6% consume affordable food while 27 (10.9%) put into consideration balanced food. 219 (88.7%) had good perception on eating different types of food on the meal and 221 (89.5%) agreed that quality of food should change at older age. Among respondents 205 (83.0%) experienced appetite changes and 216 (87.4%) said that it is importance of following the recommendation to consume dairy product at least twice a week.

Overall score of level of attitudes of elder people towards nutrition aspect

The second objective was to identify the attitude of elder persons living in Gihembe camp towards nutrition and was measured by score assessment of variables where seven statements have been used. The mean score was 3.73 and it was considered as reference point.

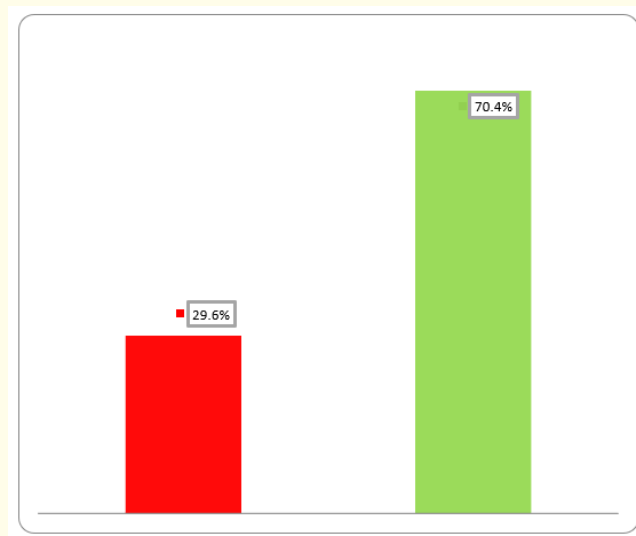


Figure 2: Level of attitudes of elder people towards nutrition aspect.

Figure 2 presented above is showing the of level of attitude of elder people towards nutrition aspect where 29.6% of respondents had negative attitude and 70.4% had positive attitude towards nutrition aspect.

Nutrition practices of elderly persons living in Gihembe refugee camp

Objective three was to determine the nutrition practices of elder person living in Gihembe camp and was measured score assessment of variables where 14 statements presented in the table below were used and mean score was 6.65. A person with points below the mean had poor practices towards nutrition and above the mean had good practices.

Overall score of nutrition practices of elder person living in Gihembe camp

The mean score has been use to determine nutrition practices of elderly person living in Gihembe camp and the mean score was 6.65. A person with points below the mean had poor practices towards nutrition and above the mean had good practices as presented in figure 3 below.

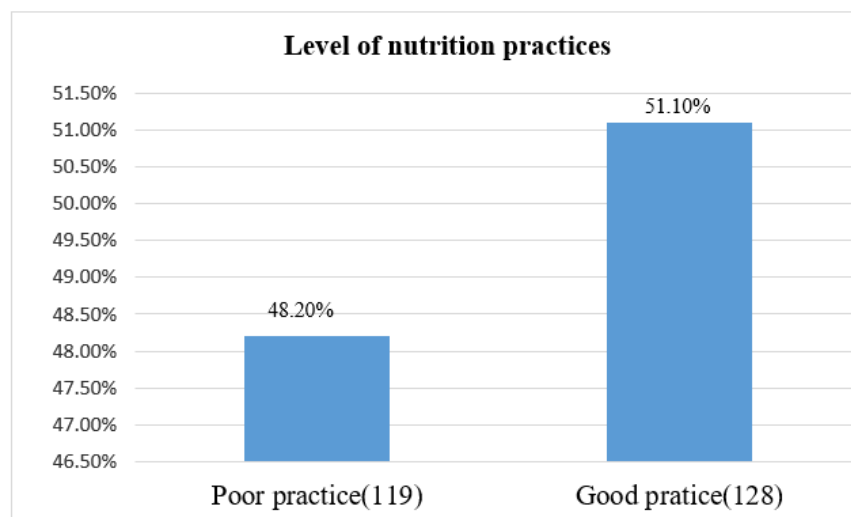


Figure 3: Level of nutrition practices of elder people living in Gihembe camp.

The figure 3 shown that 119 (48.2%) of elderly person living in refugee camp had poor nutritional practices and 128 (51.8%) of them had good nutritional practices.

Factors influencing the nutrition practices of the elderly community living in Gihembe

Objective four was to determine factors influencing the nutrition practices of elderly community living in Gihembe refugee camp. 14 factors evaluated to check whether they have statistical significant with nutrition practices with < 0.05 P-value calculated to 95% CI, as presented in the table below.

Variables	Level of nutritional practices				P-value
	Good practices		Poor practices		
	n	%	n	%	
Gender					0.17
Male	38	29.7	43	36.1	
Female	90	70.3	76	63.9	
Marital status					0.09
Single	10	7.8	4	3.4	
Married	87	68	74	62.2	
Widow/Divorced	31	24.2	41	34.5	
Religion					0.96
Catholic	19	7.8	12	10.1	
Adventists	94	73.4	86	72.3	
Muslim	3	2.3	2	1.7	
No affiliation	5	3.9	4	3.4	
Protestants	16	12.5	15	12.6	
Age group					0.12
60 - 64	63	49.2	45	37.8	
65 - 69	33	25.8	34	28.6	
70 - 74	20	15.6	18	15.1	
> 75	12	9.4	22	18.5	
Education level					0.60
None	64	50	67	56.3	
Primary	49	38.3	39	32.8	
Secondary	15	11.7	13	10.9	
Primary source of income					0.04
None	5	3.9	2	1.7	
Family/friends	8	6.3	1	0.8	
WFP/UNHCR	115	89.8	116	97.5	
Living status					0.04
Alone	9	7	7	5.9	
With elderly pause	83	64.8	59	49.6	
With disabled person	3	2.3	16	13.4	
With others	33	25.8	37	31.1	
Household					0.04
One	9	7	8	6.7	
Two	20	15.6	12	10.1	
3-5	46	35.9	42	35.3	
More than 5	53	41.4	57	47.9	
Chronic Disease					0.25
Yes	56	57.1	42	42.6	
No	68	49.3	70	50.7	

Don't know	3	33.3	6	66.7	
Regular medication					0.35
Yes	47	36.7	37	31.1	
No	81	63.3	82	68.9	
Smoking					0.41
Yes	14	11	11	9.3	
No	113	89	107	90.7	
Alcohol consumption					0.04
Yes	39	30.7	23	19.5	
No	88	69.3	95	80.5	
Level of knowledge					0.73
Poor knowledge	50	39.1	44	37	
Good knowledge	78	60.9	75	63	
Level of attitude					<0.001
Negative attitude	23	18	50	42	
Positive attitude	105	82	69	58	

Table 5: Factors influencing the nutrition practices of the elderly community living in Gihembe (Bivariate).

The table above shown that there was statistically significant between primary source of income, living status, household member, alcohol consumption and level attitude and nutrition practices of elderly community living in Gihembe refugee camp at < 0.05 P-value calculated to 95% CI.

Variables	AOR	95%CI		P-value
		Lower	Upper	
Primary source of income				
None	Ref			
Family/Friends Support	0.4	0.078	2.062	0.27
WFP/UNHCR Support	0.125	0.016	0.999	0.05
Living status				
Alone	Ref			
With only spouse elderly	0.711	0.509	0.992	0.045
With spouse living with disability	1.472	0.964	2.248	0.073
Household members				
One	0.974	0.372	2.548	0.957
Two	0.691	0.332	1.44	0.324
3-5	1.073	0.682	1.688	0.762
More than 5	Ref			
Alcohol consumption				
Yes	0.587	0.334	1.032	0.064
No	Ref			
Level of attitude				
Negative attitude	Ref			
Positive attitude	0.657	0.485	0.89	0.007

Table 6: Factors influencing the nutrition practices of the elderly community living in Gihembe (Multivariate).

This study revealed that elderly people got their primary source of income from WFP/UNHCR are less likely to have good nutritional practices [ARO = 0.125, 95%CI = 0.016 - 0.999 and P = 0.05] compared to elderly people who does not have any source of income. Elderly people lived with only elderly spouse [AOR = 0.711, 95%CI = 0.509 - 0.992; P = 0.045] were less likely to have good nutritional practices compared to elderly people living alone. The study also shown that elderly people who had positive attitude [AOR = 0.657; 95%CI = 0.485 - 0.89; P = 0.007] were less likely to have good nutritional practices compared to elderly person with negative attitude.

Discussion

The present study conducted on knowledge of elderly people living in Gihembe camp found out that 61.9% of respondents had good knowledge towards nutrition and 38% had poor knowledge on nutrition.

These findings are contrary with results from the study titled "Nutrition knowledge, beliefs, and dietary habits. Among elderly people in Nizwa, Oman," Findings from this study illustrated that the respondents also had poor nutrition knowledge. In this study, only 20% knew that good nutrition might prevent health problems [10].

This study also revealed that the of level of attitude of elder people towards nutrition aspect where 29.6% of respondents had negative attitude and 70.4% had positive attitude towards nutrition aspect. In consideration of choice of food, some of elder people consumed affordable food but few of them focused on balanced diet with good perception on eating different types of food on the meal. Although, during elder age people experience appetite change as revealed in this study, therefore it is important to following the recommendation of consuming balanced deity.

In the comparison with other study, the stated findings are far from the one of the study conducted from Taiwan, which stated that Taiwanese elderly have quite positive general nutrition attitudes [11].

This study highlighted primary source of income, living status and level attitude as the contributing factors of nutrition practices among elderly people living in Gihembe refugee camp.

The study conducted in Nepal were not in the same line with present study, where its findings stated that the contributing factors of nutritional practices among elderly people were Sex, gender, educational status, ethnicity, occupation, the income level of caregiver, smoking status, the experience of any mistreatment, daily physical activity, having concentration problems and poly-pharmacy [12].

Other factors highlighted which may contribute to the lack of knowledge on improved nutrition included disease and medicines, and their side effects, the interactions between drugs and nutrients, inability to prepare food themselves, loss of teeth, changes in hormone due to aging. Lack of knowledge on improved nutrition, and restricted food due to different reasons as mentioned as another factor. Additionally, poverty, social culture, religious influence, change of employment status, dependency, loss of a significant person, some pain, difficulty in chewing are contributing factors [13].

Conclusion

This study assessed the nutritional knowledge, attitudes, and practices of older adults living in the Gihembe refugee camp in Rwanda. The findings illustrated that the level of nutritional knowledge is still low among refugees because it revealed that greater than a third of respondents had poor knowledge about nutrition. While the level of attitudes towards nutrition aspect is satisfactory, almost a half of them had poor nutrition practices. The most factors associated with nutritional practices among elderly person living in Gihembe camp were primary source of income, living status, and level of attitude. The results can't be generalized for whole country in consideration of the study design, sample size and the characteristics of study population in the refugee camp which might differ from lifestyle outside the camp.

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