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Assessment of the Factors Associated with the Integration of Nutrition Care Services into the Health Care System in Ntungamo District

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Abstract

This study explored the integration of nutrition care services into the Health Care System in Ntungamo District. The study also described the knowledge and attitude of staff on the integration of Nutrition care services in Public Health facilities, to identify the systems and structures in place for promoting the integration of nutrition care services into Health Care system in Public Health Facilities and to examine the available policies and guidelines on integration of Nutrition care services in Public Health facilities in Uganda, and their utilization in Ntungamo District. It was a cross-sectional descriptive study involving 196 respondents and carried out in one hospital and three HCIVs. Quantitative data was analyzed using SPSS version 16.0 while qualitative data was analyzed using thematic and content analysis. Most of the respondents, 151, (77%), said that some facilities don't conduct nutrition care community mobilization and sensitization while 45 (23%) of the respondents mentioned that they conduct nutrition care community mobilization and sensitization. It can be concluded that there was minimal integration of Nutrition care services in Public Health facilities in Ntungamo District. It is recommended that the district should increase funding to nutrition activities in the district budget and work plan as well as conduct training to improve on capacity building of all health workers including Doctors and clinical officers.

Keywords: *Integration, Integrated service, Integrated Health Systems.*

Introduction

Globally, health advocates, funders, and implementers have proved integration to be a better tool to meet the needs of individuals and health systems. It provides opportunities to receive multipurpose and coordinated care under the same health provider or health facility, rather than having separate visits for separate interventions [1].

Integration is the organization, management and delivery of various preventive and curative health services according to their individual needs over time and across different levels of the health care system [2]. It involves a single encounter with the client to address multiple health or even social concerns as a better means to meet the needs of individuals and health systems [3]. This involves better planning to increase access to information and efficient personnel use [4]. It combines a set of methods, processes and models that seek to improve patient care through improved coordination, therefore does not involve a specific approach. However, key elements of integration must prevail [5].

Nutrition integration has been fostered through the Global integration nutrition strategy. This has been achieved through adequate budget allocation, human resource development and staffing of the health sector. It has promoted equity by targeting vulnerable populations and geographical areas. Nutrition has been positioned in the development agenda which has enhanced government ownership and leadership, thus increasing availability and accessibility to nutritious therapeutic feeds and

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effective monitoring and evaluation systems [6].

Integrated nutrition care has been demonstrated in many countries in sub-Saharan Africa like Malawi, Ghana and Zambia where integrated community-based management of acute malnutrition (CMAM) is seen as the best feasible approach to nutrition care [7]. This is enhanced by good political will and commitment that has enabled the formation of nutrition policy, advocacy and training of health workers, hence building the capacity of the health system [8].

In Madagascar, an integrated nutrition care package is implemented on a large scale aiming at improving infant and young child feeding practices; and improving women's dietary practices through the implementation of essential nutrition actions. This is enhanced through training of health workers and community, community mobilization and mass media. In addition, policy formulation, establishing partnerships for implementation, capacity building, community support and behaviour change communication (BCC) have enhanced improved nutrition [9]. Madagascar has accomplished this goal through the implementation of its National Nutrition Policy and the National Action Plan for Nutrition, which focus on promoting appropriate infant and young child feeding practices, community-based nutrition activities such as growth monitoring and promotion and the integration of nutrition into primary health care [10].

The U.S. Agency for International Development (USAID) Mission in Madagascar partners with the Government of Madagascar in training and engaging health workers to promote the management of health services at the community level. In addition, community-based activities involving behaviour change communication (BBC) through multiple channels, training of health workers, and support for community-based organizations and individuals have increased access to nutrition services [11].

In Uganda, the integration of nutrition services intensified in 2010 where integration was seen as the most logical way to efficiently deliver health services, especially in HIV/AIDS illnesses where nutrition care is important for successful treatment and patient survival [12]. Following this, Nutrition has been incorporated into the minimum health care package and nutrition policies and guidelines put in place to guide nutrition care implementation. In addition, strengthening capacity by training health workers in nutrition care was carried out, which was intended to increase the capacity of the health workforce to render nutrition care [13].

Furthermore, Uganda's integrated nutrition information management system was made to enable the monitoring and evaluation of the implementation of nutrition care activities. This is aimed at strengthening the national capacity to provide reliable, timely and accurate integrated information regarding nutrition implementation [14]. This is intended to inform policy on the state of nutrition care implementation to make evidence-based decisions using reliable information [15] and [16]. There was little information available in Ntungamo on the integration of nutrition care services into the Primary Health Care system in Public facilities in Ntungamo District. This study therefore was an attempt for the researcher to explore more about the integration of nutrition care services and the barriers to the integration process.

Ntungamo District is located in South Western Uganda and is bordered by the Republic of Rwanda in the South, Isingiro District in the East, Mbarara District in the northeast, Rukungiri District in the Northwest and Kabale District in the Southwest. The district has three Health Sub-Districts Rushenyi, Kajara, and Ruhaama.

The national census of 2014 estimated the population of Ntungamo District at about 350,000, with an estimated annual population

growth rate of 2.4%. The current population is estimated at 385,000 people.

The main economic activity in the district is agriculture with an average balance of both commercial and mixed farming. The staple food is mainly bananas, millet, and potatoes with bananas being the dominant. Ntungamo is referred to as a model district, the food basket of Uganda and economically stable [17].

The health services in the district are rendered by public health facilities, private not-for-profit (PNFP) and private health providers (PHP) with no integration of most health Services rendered. The private health providers are mainly individually owned clinics and faith-based health facilities.

Methodology

Study Design

A descriptive, cross-sectional study design was conducted involving both qualitative and Quantitative methods of data collection and analysis. The study was descriptive because it derived new meanings, and gathered rich contextual data and its interpretation to enhance evidence-based decision-making, while a cross-sectional design was used because the information required was collected at a single point in time without follow-up.

Study Area

The study was conducted in Public health facilities in Ntungamo District and was entirely focused on the integration of nutrition care services. Ntungamo District is located in South Western Uganda and is bordered by the Republic of Rwanda in the South, Isingiro District in the East, Mbarara District in the northeast, Rukungiri District in the Northwest and Kabale District in the West. The District has three Health Sub-Districts which include Rushenyi, Kajara, and Ruhaama. Itojo has a District General Hospital.

Study Population

The study population included all health workers who offer nutrition care services and policymakers in Public Health facilities in Ntungamo district.

Study Unit and Respondents

The study unit was the Hospital and 3 Health Centre IVs, in Ntungamo District. The respondents for this research included the Medical Superintendent, Facility In charge and Health workers who provided contextual information on the implementation process of nutrition care integration.

Sample Size Calculation

The sample size formulae developed by Kish [18] for single proportions were used in calculating the sample size.

$$n = \frac{Z^{2\,(pq)}}{d^2}$$

Where n = Total sample size

z = Z score corresponding to 95% confidence level = 1.96

Q = 1 - p

d = precision (+/-6%).

$$N = \frac{1.96 \times 1.96 \times 0.46 \times 0.54}{0.06 \times 0.06}$$

P=0.46

Q=1-0.46=0.54

d=6%

Therefore N=3.8416*0.248/0.0049

= 196 respondents

Note: The p value was derived from a study done by Kikafunda 2015 who found the prevalence of malnutrition at 46% in Ntungamo district.

Therefore, 196 respondents were targeted in the whole District.

Proportionate sampling was applied to determine the number of respondents to be interviewed according to the level of the facility in order of Health Centre IV and Hospital in the ratio: 1: 3 respectively. This ratio was based on the staffing structure and considerations were

made to ensure a representative sample at every level of the facility.

The researchers first established the staffing levels in every facility for the number of nurses, doctors, clinical officers, nutritionists and social workers on duty during the study period and convenient sampling was used. The staff who were off duty during three days of data collection in the facility and those who were on leave (study leave, sick leave, and maternity leave) were not included in the study. Every facility had different cadres of respondents for quantitative data and 196 respondents were targeted.

Sampling Technique

Purposive, convenient, and simple random sampling methods were used in this research. Ntungamo District was selected purposively because of the high prevalence of malnutrition particularly undernutrition in 2014 and 2016 despite health infrastructure development and several programs offering nutrition services like Health Child Uganda and the Ministry of Health. The key stakeholders were selected purposively because of their experience, responsibility, technical expertise and knowledge to give a deeper understanding and contextual information about the inputs and implementation process.

Purposive sampling was preferred because results generalized the sample to the whole population and therefore, attention was put on samples purposively selected due to their potential to yield deep and rich information [19]. The Hospital and Health Centre IVs were selected purposively because they are the referral centres offering both in and outpatient acute and chronic care services respectively, with adequate infrastructure, programs and personnel to handle malnourished cases. This gave a deeper understanding and rich information on different approaches to the status of integrated nutrition care services. Respondents from sampled health facilities were selected using convenient sampling where only health workers who were on duty on the days of data collection were recruited in the study.

Results of the Study

A total of 196 respondents participated in the study, one hospital and three HCIVs were included in this study.

Table 1. Demographic Characteristics of the Respondents (N = 196)

Category		**Frequency**	**Percentage**
Years in service	0-10	115	58.7
	11-20	34	17.3
	21-30	32	16.3
	31-40	15	7.7
Cadre of staff	Doctor	04	02
	Clinical officer	23	11.7
	Registered nurse/midwife	65	33.2

	Enrolled nurse/midwife	104	53.06

Most of the respondents were Enrolled Nurses/ Midwives (53.06%) and the least were Doctors (2%). Nutrition care is mostly offered by nurses/Midwives and therefore nurse's commitment is key to nutrition care integration compared to very few Doctors who are in most cases busy with managerial duties. However, it is their role to provide resources as well as support supervision to make sure nutrition care integration is implemented.

Knowledge and Attitude of Staff on Integration of Nutrition Care Services

All the respondents had knowledge and positive attitudes towards the integration of nutrition care services.

Integrating Nutrition Care Services in Practice

Table 2 shows that there was minimal integration of Nutrition care services in Ntungamo district health facilities. The proportion of health workers who included various aspects of integration of nutrition care services such as weighing clients, taking MUAC measurements, nutrition & health education etc was low. For example, only 57 (29.1%) of the respondents said that they offer weighing as a nutrition care service, yet the weight of an individual is very key in the integration of nutrition care services.

Table 2. Nutrition Care Services Offered to Patients (N = 196)

Response	**Frequency**	**Percentage**
Weighing	57	29.1
MUAC	20	10.2
Height	12	6.1
Nutrition feeds	25	12.8
Health Education	39	19.9
Referral	43	21.9
Total	**196**	**100**

This low level of integration was collaborated by the Views of the In-charge of the Outpatient department at Rubaare H/C IV who in response to whether they offered integrated nutrition care services said:

"…Yes we offer nutrition care; mainly we [health workers] weigh our clients and also check using MUAC Tapes, and also the clinical picture but due to work overload, sometimes we do not do it"

The nursing officer in charge of OPD

Thus from the findings, it is shown that there was a low stride taken in nutrition services offered to the patients in the health facilities in Ntungamo district.

Nutrition Training Attended in the Last One Year

The findings in this study showed that slightly over half of the health workers 106 (54.1 %) had received training integration of nutrition services in their work. The most common method of this training was through short time workshops (90, (49.5)).

Table 3. Nutrition Training Attended in the Last One Year (N = 196)

Category	Response	Frequency	Percentage
Staff trained	Yes	106	54.1
	No	90	45.9
Training opportunities	Workshops	97	49.5
	CME	44	22.4
	Long courses	55	28.1

Training of staff on nutrition integration has, however, not taken place recently due to the absence of a focal person. This was well captured in the statement of health In Charges as follows:

"…You see many people [Health workers] were trained and we had a focal person, but due to constant transition of staff, she left and up to now the responsibility has not yet delegated to another staff"

Health Facility in Charge.

Nutrition Screening in the Facilities

Most of the respondents 189 (96.4%) mentioned that they do nutrition screening in their facilities.

Only 79 (40.3%) of respondents mentioned that they have weighing scales as shown in the table.

Table 4. Nutrition Screening in the Facilities (N = 196)

Category	Response	Frequency	Percentage
Nutrition screening	Yes	189	96.4
	No	07	3.6
Screening equipment	Weighing scale	79	40.3
	Height measure	45	23
	MUAC tapes	39	19.9
	Head circumference.	33	16.8

Systems and Structures in Place

Holding Staff Regular Meetings to Discuss Nutrition Care Activities

Many health workers 84.2 % (165) agreed that the facility staff hold regular meetings to discuss nutrition care activities whereas only 15.8% (31) respondents disagreed with it.

One hundred and fifteen (115), 58.7 % of respondents, disagreed that their facility has a nutrition care focal person.

Table 5. Holding Staff Regular Meetings to Discuss Nutrition Care Activities (N = 196)

Category	Response	Frequency	Percentage
Holding staff regular meetings	Yes	165	84.2
	No	31	15.8
Availability of Nutrition care focal persons.	Yes	81	41.3
	No	115	58.7

Nutrition Care Community Mobilization and Sensitization

Most of the respondents, 151, (77%), said that some facilities don't conduct nutrition care community mobilization and sensitization while 45 (23%) of the respondents mentioned that they conduct nutrition care community mobilization and sensitization.

Many respondents119 (60.7%) said that they have outreaches involving nutrition services as indicated.

Table 6. Nutrition Care Community Mobilization and Sensitization (N = 196)

Category	Response	Frequency	Percentage
Nutrition care community mobilization and sensitization	Yes	45	23
	No	151	77
Nutrition services involved in the outreach.	Yes	119	60.7
	No	77	39.3

Policies and Guidelines on Integration of Nutrition Care Services in Public Health Facilities in Uganda, and their Utilization in Ntungamo District

Nutrition Training Offered to Community Leaders, Policy Makers, VHTs and Family Care Givers

Most of the respondents 115 (58.7%) indicated that they offer nutrition training to community leaders. Two-thirds of the respondents 132 (67.3%) specified that their facilities conduct community meetings with policy makers, elders and family care givers to discuss nutrition issues, sixty-four respondents, 32.7% disagreed.

Table 7. Nutrition Trainings Offered to Community Leaders, Policy Makers, VHTs and Family Care Givers (N = 196)

Category	Response	Frequency	Percentage
Nutrition trainings offered	Yes	115	41.3
	No	81	58.7
Facilities conduct community meetings	Yes	132	67.3
	No	64	32.7

Nutrition training of community leaders was, however, hampered by poor facilitation at the district as expressed by the District Health Officer.

"…We used to have a programme funded by Uganda Health Partners they were facilitating nutrition activities including the training of village health teams and then we would ask village health teams to bring locally available food. Then we teach them how to prepare and they would go and teach mothers in the communities but it stopped because of lack of facilitation"

District Health Officer

Availability of Policies/Guidelines that Promote Nutrition Care

Although the majority 178 (90.8%) of the respondents agreed that they had seen the national nutrition care policy/guidelines, Less than half of the respondents (78, 43.8%) indicated that they use the policy/guidelines regularly. The majority (100, 56.2%) used the guidelines only sometimes.

Table 8. Availability of Policies/Guidelines that Promote Nutrition Care (N = 196)

Category	Response	Frequency	Percentage
Have seen the Integration of National nutrition care policy/guidelines	Yes	178	90.8
	No	18	9.2
Usage of the national nutrition care policy/guidelines	Regularly	78	43.8
	Sometimes	100	56.2

Work Planning and Budgeting for Nutrition Care

All the respondents agreed that the essential medicine list includes nutrition feeds, and also all respondents agreed that nutrition care had a budget in their facilities.

Nutrition Care Activities Included in the Work Plan

Many health workers 178 (90.8%) agreed that they have included nutrition care in their work plans. Most of the respondents 186 (94.9%) said that government is the source of funding to nutrition care activities.

Table 9. Nutrition Care Activities Included in the Work Plan (N = 196)

Category	Response	Frequency	Percentage
Nutrition activities in work plan	Yes	178	90.8
	Don't know	18	9.2
source of funding for nutrition care activities	Government	186	5.1
	Donors	00	00
	Don't know	10	94.9
Availability of nutrition care funding	Monthly	54	27.6
	Quarterly	67	34.2
	Annually	75	38.2

The relationship between the number of independent variables (for example years of service, cadre of staff, nutrition training offered) and the dependent variable (integration of nutrition care) was determined using the χ^2 test. A significant relationship was seen between the cadres of staff (χ^2 = 105.49, p < .05) with enrolled nurses/midwives reporting more integration (96.2%) compared to the doctors and clinical officers. Participants who had attended nutrition training were found to be integrating nutrition services in their work compared to those who did not attend the training (χ^2 = 72.46, p < .05). Holding regular meetings at a facility was associated with a higher level of integration of nutrition care services than was the case for facilities which did not hold regular meetings on nutrition integration(χ^2 = 30.54, p < .05). In addition, regular usage of the national nutrition care policy and guidelines was positively associated with integration of nutrition care services (χ^2 = 75.59, p < .05). The years of serves and availability of nutrition care policy/ guidelines had no significant relationship to integration of nutrition care services. The findings are indicated in Table 9.

Table 10. Relationship between Available Policies and Guidelines and Integration of Nutrition Care Services in Public Health Facilities in Uganda, and their Utilization in Ntungamo District

Variables		**Integration of Integration of Nutrition care services**		χ^2	***p***
		Yes, n= 178 (90.8%)	**No, n =18, 9.2%**		
		Frequency (Percent)	**Frequency (Percent)**		
Years of service	0-10	104(90.4)	11(9.6)	0.74	.864
	11-20	30 (88.2)	4(11.8)		

	21-30	30(93.8)	2(6.3)		
	31-40	14(93.3)	1(6.7)		
Cadre of Staff	Doctor	1(50.0)	1(50.0)	105.49	< 0.05
	Clinical officer	3(13.0)	20(87.0)		
	Registered nurse/midwife	60(92.3)	5(7.7)		
	Enrolled nurse/midwife	100(96.2)	4(3.8)		
Nutrition trainings received	Yes	99(86.1)	16(13.9)	72.46	< 0.05
	No	21(25.9)	60(74.1)		
Facilities conduct community meetings	Yes	101(76.5)	31(23.5)	30.54	< 0.05
	No	23(35.9)	41(64.1)		
Availability of national nutrition care policy/guidelines	Yes	108(60.7)	70(39.3)	1.7825	.182
	No	8(44.4)	10(55.6)		
Usage of the national nutrition care policy and guidelines	Regularly	70(89.7)	8(10.3)	75.59	< 0.05
	Sometimes	28(25.5)	82(74.5)		

Assessing Barriers to the Integration Process

Health Facilities Face Challenges in Implementing Nutrition Care

The majority of the respondents 131(66.8%) said that they face challenges in implementing nutrition care services in Ntungamo District. The most common challenges were a shortage of staff (43.5%) and a lack of feeds (23.5%).

Table 11. Health Facilities Face Challenges in Implementing Nutrition Care (N = 196)

Category	**Response**	**Frequency**	**Percentage**
If health facilities face challenges	Yes	131	66.8
	No	65	33.2
Challenges faced in implementing nutrition care**.**	Shortage of staff	81	43.5
	Lack of feeds	46	23.5
	Shortage of funds	59	30
	Lack of knowledge	10	5

These challenges to integrating nutritional care services were re-echoed by one facility in charge who said:

"Ah…we used to offer nutrition care services, we were supplied with some items pertaining nutrition feeds but currently they are no longer in the health facility…what we do currently, we assess for signs of poor nutrition, especially under five and health educate accordingly…but the real nutrition products we don't give because they are out of stock" health facility in charge.

"There is a delay of funding by the government which affects the implementation process of integrating nutrition care services. This affects logistics as well as planned activities like outreaches." District Health Team member.

Measures Put Forward to Overcome the Challenges

According to the study 47(24%) of the respondents cited reporting to the district as a measure, to overcome some of the challenges, (77 39.3%) cited referral, 30 (15.3%) talked of health education 17 (8.7%) mentioned donor collaboration.

Table 12. Measures Put Forward to Overcome the Challenges

Measures	**Frequency**	**Percentage**
Reporting to the district	47	24
Referral	77	39.3
Health education	30	15.3
Donor collaboration	17	8.7
CMEs	25	12.7
Total	**196**	**100**

The findings showed there were some strategies in place as some of the key informants reported continuous assessment of patients particularly children to detect cases early enough. In support during the interview, the nutritionist said:

"…the strategies we have is to continuously assess whatever child that comes in so that we can detect even those that are at risk of getting malnutrition"

Nutritionist

Discussion of Results

All respondents knew integration of nutrition care services and their attitude towards integration was positive. Despite this level of knowledge and positive attitudes, there was minimal integration of nutrition care services in Ntungamo District. This is likely to have been caused by a shortage of staff, poor funding, and lack of nutrition feeds as these were stated to be the barriers to integration. This is in agreement with [20] who said enough human resources manage the implementation of activities and re-arrangement of health service delivery systems for better-integrated service delivery.

It was established that the integration of nutrition services in the health facilities in Ntungamo district faced several challenges. For instance, the majority of the respondents, that is 80.1% (157), believe that they do not do nutrition health education whereas 19.9% (39) respondents mentioned that they do nutrition health education. This indicates that there is a gap in service provision as far as the integration of nutrition care services is concerned and this means that health facilities lack capacity regarding problem solving and advocacy skills.

Additionally, it was established that integration of nutritional services in the health facilities in Ntugamo district varied in terms of the cadre of staff, attendance of nutrition training, conducting of community meetings at the facilities and usage of the national nutrition care policy and guidelines. This could be attributed to a variety of challenges faced by health facilities mostly ranging from poor funding, lack of nutrition feeds, and lack of skilled staff. This is in agreement with [21] who said that multi-skilled personnel coordinate with each other to render coordinated, complete and continuous care and that the Patient focus is a guiding principle in all decisions in health system nutrition integration.

Some of the measures to overcome the above challenges suggested by respondents include the district authorities giving referrals at HCIVs to patients, and health education. This means that health workers should tell the patients nutritious foods where nutrients can be obtained. This is in agreement with [22] who said during health education, Professionals were urged to change from a nutrient-based approach to food food-based approach when communicating nutrition information to the general public.

According to the study findings, the availability of policies/ guidelines in Health facilities, and years of service were not significant factors in determining integration of nutrition care services in Ntungamo District. This is not surprising as it is not the availability of policies and guidelines that influences integration but rather the proper understanding and use of these guidelines that is important.

Conclusions

There was minimal integration of Nutrition care services in Public Health facilities in Ntungamo District.

The factors significantly influencing the level of integration were the cadre of staff, nutrition training received, holding regular meetings, and usage of the national nutrition care policy and guidelines. The policies and guidelines on integration of Nutrition care services in Public Health facilities in Ntungamo District were less regularly implemented although they were available in most health facilities.

In regard to examining the association between the policies and guidelines to the integration of nutrition care services, it was evident that integration of nutrition care services differed by cadre of staff, attendance nutrition trainings, conducting meetings at the facilities and usage of the national nutrition care policy and guidelines.

Recommendations

From the findings, it is recommended that health facilities hold regular (at least quarterly) meetings to review nutrition indicators as one of the policy structures and this should be done by in charges of health facilities.

In order to improve the integration and performance of integrated services, it is recommended that the district:

1. Increase funding to nutrition activities in district budget and work plan.
2. Conduct trainings to improve on capacity building of all health workers including Doctors and clinical officers.
3. Enhance usage/utilization of nutrition care policies be emphasized by Ministry of Health across the country.

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Conflict of Interest

The authors declare no conflicts of interest.

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