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Contribution of Training Strategies to the Type of Service Delivery of Nutritionists Exiting TVET Institutions in Uasin Gishu County, Kenya

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Abstract:

This study focuses on the factors contributing the type of service delivery by nutritionists exiting TVET institutions in Uasin Gishu County of Kenya. Market demands for nutritionists are expected to be met by a globally competitive and quality education, training and research (GOK, Sessional paper No 10 of 2012 on Vision 2030). This concept has been well documented in the syllabus by the professional body entrusted with the stipulation of standards in the training of nutritionists in Kenya, Kenya Nutritionists and Dietician's Institute KNDI which envisions the application of basic social sciences principles in the management and prevention of Non Communicable Diseases NCDs or nutritional disorders, an acknowledged global challenge. The training of nutritionists is ideally meant to underscore the equipping of these trainees as change agents who are well versed with requisite skills, attitudes and knowledge. However, empirical data on how training strategies of nutritionists contribute to their service delivery has not been documented. This study addresses this gap. This study is Sequential, mixed methods of explanatory research employing a cross-sectional survey along with qualitative inquiry tools of in depth interviews that investigate the training of nutritionists in Kenya. To measure curriculum implementation, a survey was conducted on clinical and community nutritionists within Uasin Gishu County in order to evaluate their perceived need for training in nutrition. An in depth interview with key informers comprising of one community nutrition administrator and four senior nutritionists working in a teaching and referral hospital within the county were engaged to corroborate the data collected from the survey and measure service delivery. SPSS software package was used to compute quantitative data. This study established that Curriculum implementation process in the training of nutritionists needs to be readjusted to in cooper ate interdisciplinary models that address themselves to a dynamic job market that is complex.

Keywords: Training strategies, nutritionists, service delivery, interdisciplinary models

1. Introduction

Capacity building for nutrition professionals as part of the strategies to tackle the underlying causes of NCDs, especially cancers in developing countries may provide some solutions to the problems confronting Africa. Literature suggests that there is a strong need for reinvigorating training in nutrition as related to NCD prevention through, encouraging a team approach to prevention, and offering more community-oriented services (Keller, 2004). This stance has been reiterated pertaining to Africa in general where community capacity to handle nutritional related challenges has been compromised by the burden of curative services at the expense of preventive strategies Delislie 2012; Amuna, Paul, Zotor, Francis 2006; Steyn & Mbhenyane, 2012. A nutritional intervention by stake-holders in the prevention and management of NCDs has been proven as a viable approach as is the case in the North Karelia project (Puska, 2002). The North Karelia project involved health and other services namely, schools, NGO's, Innovative media campaigns, local media, supermarkets, food industry, agriculture etc. The specific health service referred in the North Karelia project majorly points at the profession of nutritionists. In the same stride, a number of studies support the effectiveness of deliberate multi-disciplinary actions in both the prevention and management of NCDs (Shebka, Miri, Noormohammedpour & Rahim, 2018; Sarafzadegan, Baghaei, Sadri, Kelishadi, Malekefzali, 2006; Beaglehole, Bonita, Horton, Adams, 2011).

On account of such evidence of successful interventions, opportunity for learning abound. Professional education seems to be one step toward the right direction on this. Yet reflective training has not kept pace with these fresh health challenges, largely because of fragmented, outdated, and static curricula that produce ill-equipped graduates, (Julio, Chen, Zulfqar, Cohen, Crisp, & Evans, 2010). A number of roots to these problems which include the fact that the problems are systemic: mismatch of competencies to patient and population needs; as well as narrow technical focus without broader contextual understanding; predominant hospital orientation at the expense of primary care; quantitative and qualitative

imbalances in the professional labor market; and weak leadership to improve health-system performance. Laudable efforts to address these deficiencies have mostly floundered, partly because of the so-called prejudice of the professions—ie, the tendency of the various professions to act in isolation from or even in competition with each other (Julio et al., 2002, pp.111-112) Education and Training and Health are among the eight key social sectors that are considered in the Kenyan blue print for transformation towards attaining equitable social development that is to bring about a nation that is globally competitive and prosperous with a high quality of life (Government Of the Republic of Kenya, 2013). Under education and training, Kenya is to provide a globally competitive and quality education, training and research that will be achieved through such avenues as modernizing teacher training and revising the curriculum for university and technical institutes to include more science and technology in order to meet market demands. (GOK, Sessional paper No 10 of 2012 on Vision 2030, 2012). Links between education and other social subsectors such as the labor market, public and private sector partnerships, to name a few, have been proposed as being a viable outlook towards the realization of vision 2030. One such link is between education and health in which the health subsector aims at incorporating basic (preventive & promotional health) in school curricula and continued human resource training for health. This has also been a point of consideration in other places, (Beaglehole, Bonita, Horton, Adams, 2011; WHO, 2013; 55; UN General Assembly, 2011.) If Kenya is to achieve an education that is responsive, the need for capacity development to match market demands is an important case in point. The problems and mismatch between the level of skills imparted by education system as a whole and the requirements of the labor market must be corrected in order to meet the demands of the new economy. The Report by the Task force (TF) (2011) appointed by the then Education Minister Prof. Sam Ongeru in January 2011 to realign the education sector to Vision 2030 and the new Constitution identified a number of challenges, gaps and concerns which led to a pertinent question: “Is the Kenyan Education System and its institutions and programs fit for the purpose?” Specific issues identified included relevance with regard to content and delivery; sufficient flexibility to adapt to the changing socio-economic needs and requisite quality to match global competitiveness and to address challenges of the 21st century (Ministry of Health, 2015; Ministry of Education, 2012; Tivet act 2013; The constitution of Kenya, 2010) The workforce in nutrition is an important determinant of a population’s capacity to address public health issues (Palermo & McCall, 2008). Efforts to enhance the nutrition workforce capacity must explore a range of strategies including the repackaging of nutritionists’ training to adapt to the emerging lifestyles that interact with dietary behaviors to bring about the undesirable consequences of NCDs. The training of Nutrition Technicians from Technical and Vocational Education Training Institutions, TVET is a major consideration in this study. It is indeed noteworthy that the training of nutritionists in Kenya tends to be reductionist, emphasizing the individual patients rather than population approaches. It also offers little on structural policy and broader public health approaches. Nutrition trainees, who on completion of training become practitioners not only have to address the complications brought about by the illnesses, but also deal with the emotional and psychological components of their clients. Yet the curriculum is structured to bear a mostly clinical approach in which causes of illnesses are studied, symptoms and nutritional management of the same. Changing food choices, a major responsibility of nutritionists, may sound easy, but it has proven to be a very complex problem that require more than a reductionist approach to training. Successful nutrition counseling requires that nutrition technicians acquires multidisciplinary competencies in areas such as psychology to understand why clients eat the way they do and use this knowledge to develop appropriate interventions. The goal of nutrition counseling and education is to help individuals change their food and eating behaviors so that they can select healthful choices (Holi, Calabrese, & Millet, 2003). In order to be effective change agents’, nutrition professionals need a solid foundation of counseling and education principles to practice new skills and knowledge of evaluation methodology (Bauer, Liou, & Sokolik, 2012).

In the same context that edges towards embracing psychology in training, eating is considered as a learned activity (Domjan, 2014; Bennet, Elaine, & E, 2000; 2012; Ogden, 2011). Children early experiences contribute to their food preferences later in life. Eating is also a social activity that brings family and friends together during meal times; siblings, parents and others serve as role models (Holi et al, 2003). Hence theories of social psychology provide the conceptual frame work for this study as well.

1.1. Purpose of the Study

The purpose of this study was to examine how curriculum implementation contributes to the final service delivery of nutritionists exiting TVET in Kenya.

1.2. Objective of the Study

The main objective of this study was to investigate the extent to which the implementation of the curriculum contributes to effective delivery in service of nutritionists in Uasin Gishu County.

2. Methodology

In this study, multiple samples were used in which all major hospitals and health centers in Uasin Gishu County were purposely selected and a survey given to 234 nutritionists. The number 234 was arrived at based on an estimated population of nutritionists in Uasin Gishu being 600 thus going with what is dictated statistically by Cohen, Manion & Morrison (2005). This was then followed by interviewing 5 key informants who were nutritionists in administrative positions because they were willing and were suitable to provide the detail needed to expand the qualitative results (Creswell, 2014; Benard 2002; Driscoll, 2007; Palinkas et al, 2015). Both numeric and narrative data were generated from the participants. Purposive sampling served for the study very well because it provided the frame work within which an intensive study was done. The research needed to get to the depth, detail and meaning of the program in order to

illuminate the training of nutritionists. This required that the researcher engages personal experience by having direct contact with and gets close to the informants, situation and phenomena of the training as well as the industry for which the training is being undertaken (Patton, 2002). Quantitative data analysis consists of measuring numerical values from which descriptions such as frequencies and percentages were used. Quantitative data collected was presented in form of tables, charts and graphs with the help Statistical Package for Social Science (SPSS) version 22. On the other hand, qualitative data was analyzed thematically. Based on research objectives

3. Results

The study looked at the link between Curriculum and the emerging nutrition-related needs in the nutrition industry Kenya. Table 1 shows that 39.3%, (nearly 40%) of participants felt that their training lacked exposure to the realities of the nutrition industry. In the same vein, results on the question as to whether trainers for the core nutrition courses were theoretical in their approach, (were not in touch with what goes on in the working environment.) or not; 51.3% disagreed while 42.3% agreed that trainer for their core courses were theoretical in their approach and out of touch with what goes on in their working environment. This agrees with what (Amuna & Zotor, 2006) propose that there is a clear and urgent need in developing countries, especially Africa, for modifications in the curricula for the health sciences including Nutrition to reflect new realities; further, evidence-based nutritional knowledge should not only be assessed and updated, but applied in healthcare practice.

	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree		Total	
	N	N %	N	N %	N	N %	N	N %	N	N %	N	N %
Prevention	20	8.5%	30	12.8%	24	10.3%	130	55.6%	30	12.8%	234	100.0%
Management	5	2.1%	40	17.1%	0	0.0%	145	62.0%	44	18.8%	234	100.0%
Time On Prevention	15	6.4%	20	8.5%	29	12.4%	131	56.0%	39	16.7%	234	100.0%
Time On Management	35	15.0%	39	16.7%	29	12.4%	101	43.2%	30	12.8%	234	100.0%
Exposure	29	12.4%	63	26.9%	20	8.5%	98	41.9%	24	10.3%	234	100.0%
Realistic	5	2.1%	24	10.3%	20	8.5%	97	41.5%	88	37.6%	234	100.0%
Trainers Approach Theoretical	49	20.9%	71	30.3%	15	6.4%	79	33.8%	20	8.5%	234	100.0%
Examined On Prevention Of Ncds	10	4.3%	25	10.7%	25	10.7%	139	59.4%	35	15.0%	234	100.0%
Examined On Ncds Management	0	0.0%	25	10.7%	20	8.5%	121	51.7%	68	29.1%	234	100.0%
Importance Of Being Up To Date	10	4.3%	0	0.0%	10	4.3%	34	14.5%	180	76.9%	234	100.0%
Nutritionists Should Be Role Models In Body Weight	10	4.3%	10	4.3%	20	8.5%	64	27.4%	130	55.6%	234	100.0%
Preparedness In Treatment/Management Of NCDS	15	6.4%	10	4.3%	15	6.4%	97	41.5%	97	41.5%	234	100.0%

Table 1: Curriculum Implementation

3.1. Analysis and Interpretation

3.1.1. The Training I Underwent Had Sufficient Content on the Prevention of NCDs

With 21.4% disagreeing while 68.4% agreeing to the above statement could mean that though the majority of the participants felt that content on prevention of NCDs was sufficient. On the other hand, 21.4% who were dissatisfied with the content covered could be indicative of a substantial number of nutritionists that felt unequipped to tackle prevention of NCDs.

3.2.2. The Time Taken on Management of Non-Communicable Disease during Training was Appropriate

The response to this statement shows that 19.2% disagree while 80.8% agree that time spent on the management of NCDS was appropriately allocated during the course of their training. Again, 80.8% are good with what they got on the management of NCDs, the remaining 19.2% who were not satisfied, could mean that they required more content at a personal level, or were absent from class when topic was done or that they failed to encode the information for retrieval when needed thus leading their forgetting. Other reasons for the dissatisfaction could also stem from the lack of

involvement through practical or hands on experience which has been found to improve career and personal satisfaction (Palermo & McCall, 2008).

3.2.3. The Time Taken on Management of Non-Communicable Disease during Training was Appropriate

With 31.6% of the participants disagreeing while 56.0% assenting to this statement it means that a good number of the participants at 31.6% needed more time for training to become effective with the management of NCDs, although 56.0% were fine with the time allocation.

3.2.4. Opportunities were Available during the Course of Training for Us as Trainees to be Exposed to Situations Similar to Our Current the Working Environment

With 39.3% of the participant disagreeing while 52.1% agreeing, it means that exposure to real patient situations was not provided for sufficiently. For competency achievement, this exposure is necessary (Bauer, Liou, & Sokolik, 2012)

3.2.5. Trainers for the Core Nutrition Courses Presented Us with Realistic Situations That I Currently Meet in the Course of My Practice

On this question 12.4% disagree while a substantial 79.1% agree that their trainers had been realistic. This means that trainers for core courses were mostly perceived to be in touch with the real world of the nutrition related needs. But interestingly when asked differently, 42.3% of the participants agree that their trainers were theoretical in their approach of teaching while 51.3% disagree. This may mean that the participants are not so sure on this point. This notwithstanding, knowledgeable mentorship is of prime importance (Palermo & McCall, 2008).

3.2.6. The Examinations Administered to Us at the End of Each Module Addressed Information That Relates with the Prevention of Non-Communicable Diseases

Examinations were generally perceived by the participants as having tackled aspects on prevention of NCDs, 74.4% and 80.8% perceiving that exam questions addressed management of NCDs.

3.2.7. It Is Important for Nutritionists to Remain up to Date Regarding the Prevention of Non-Communicable Diseases

91.5% of the participants find it important that nutritionists remain up to date with information to do with the prevention of NCDs, 82.9% of the participants also agree that as nutritionists, they should be role models by maintaining normal body weight (Bandura, 2004)

Count distribution of responses on any other knowledge area perceived necessary for inclusion in nutritionists curriculum related to NCD s management.

Disorders of the upper Gastro-intestinal Tract (G.I.T)	Definition Disorders of the upper gastro-intestinal tract Causes and symptoms Dietary management of the named disorders	2 Hours- theory 3 Hours Practice
Disorders of the lower Gastro-intestinal tract	Definition of the lower gastro-intestinal tract Causes and symptoms Dietary management of the named disorders	2 hours- theory 3hours Practice
Disorders of the stomach	Stomach disorders Formulation of modified diets Counseling patients	3hours- practice
Disorders of the liver and the pancreas	Functions of the liver Functions of the pancreas Disorders of the liver and pancreas Causes and symptoms Dietary management of the of the named disorders	Theory-1 hour Practice- 3hours
Diabetes	Definitions Types Causes and symptoms Dietary management and counseling	Theory -1 hour Practice- 3hours
Gall bladder and Renal disorders	Functions of the gall bladder and kidney Disorders Causes and symptoms Dietary management of the named disorders	Theory-1 hour Practice- 3hours
Cardiovascular disorders	Definition of cardiovascular disorders Causes and symptoms Dietary management and counseling	Theory – 1 hour Practice- 3 hours
Surgical burns	Definitions Causes Feeding methods Dietary management and counseling	Theory- 2hours Practice- 3hours

Table 2: Excerpt of Module I Syllabus

3.4. Training Needs Touching the Syllabus

One key informant acknowledges that for a start, the syllabus has addressed a number of issues on the nutrition practice; however, she relates, the need for broader approaches to learning. The aspect of having a hands on approach to learning as opposed to a theoretical one is particularly encouraged. She observed that the idea of giving trainees a lot of lectures by “just teaching them and teaching them is not enough”. “The experience I have had in the practice of nutrition has helped me to realize that it would be important for “... the trainers and the student can visit the hospital, make yourself familiar with the hospitals so that when you are sending them during attachment , they really know what they are doing..., that is exposure now...”

The findings reflected from the syllabus and tabled in table 3.2 corroborated with those from the key- informants. Considering the number of hours taken to tackle specified topics in the syllabus as well as how the topics are to be addressed, mostly theoretically is in convergence with the finding from the key informants who expressed utter dissatisfaction with the nutritionist graduating from school as the end product of schooling. Of much concern was the lack of skillfulness in approaching the practice of nutrition.

Capacity for prevention and control of non-communicable diseases, including monitoring and surveillance operations has been found to be inadequate from a global perspective and the need for a surveillance framework, including a minimum set of indicators covering exposures and outcomes, deemed essential for policy development and assessment and for monitoring of trends in disease (Beaglehole & Horton, 2010).

4. Discussion

The aim was to provide a description and interpretation of the gaps in training strategies of information rich sample of Kenya’s nutritionists with the view of seeking for training needs in the training of nutritionists. NCDs have a nutrition component both in the prevention and in their management. This comprises the sole role for the training of the nutritionists. Yet the study found out plenty in terms of the gaps that exist in the way the curriculum is organized that requires consideration.

The objectives for the training of nutritionists as stipulated by KNDI in brief include; participation in the application of basic and social sciences principles used in the management and prevention of nutritional disorders; recognize food choices for individuals or communities to promote healthy eating; prevent malnutrition and manage diet related conditions; participate in nutrition communication/health education, and nutrition counseling to individuals, groups and communities; Help in the generation of national and international nutrition and dietetics policy.

New realities within this context refer to nutrition related needs of Kenyans that have been well spelt out by the Kenya Health Policy 2012-2030, whose first strategic objective happens to be; halting and reversing the rising burden of NCDs and the sixth being; eliminating communicable diseases and strengthening collaboration with health related sectors which have a bearing on NCD prevention and control, (MinistryofHealth, 2015). The NCD that have been targeted are; cardiovascular conditions, cancers, diabetes, and chronic obstructive pulmonary diseases and their shared risk factors. The prevention and management of these NCDs claim much of the space allocated to the Nutrition industry for which nutritionists are trained to remedy.

NCDs are at the top of the agenda for the training of nutritionists as reflected in the current curriculum for training nutritionists. However as has already been noted from findings of this study as well as literature, a number of disconnects do exist between the curriculum and these realities. For instance, Table 1 shows that 39.3%, (nearly 40%) of participants felt that their training lacked exposure to the realities of the nutrition industry. In the same vein, results on the question as to whether trainers for the core nutrition courses were theoretical in their approach, (were not in touch with what goes on in the working environment.) or not; 51.3% disagreed while 42.3% agreed that trainer for their core courses were theoretical in their approach and out of touch with what goes on in their working environment. This finding was convergent with what was relayed by the nutrition industry and echoed by key informers. The key informers decry level of skills of nutritionists being churned out of the TVET colleges with the exception of those from KMTC. Why is this?

Learning of skills may not be acquired by the present approach to curriculum implementation in the regular TVET colleges in which most of the nutrition trainers are out of touch with the nutrition industry. This notwithstanding, clinical skills otherwise called competencies have a hands on aspect that may not be relayed by the paper pencil and lecture approach to training.

Data obtained from the syllabus advanced by KICD and evaluated by KNEC are also clearly way out of touch with the realities of the nutrition industry. The shallowness portrayed by the subject matter of core areas is an area of real concern. A case in point may be viewed from the excerpt drawn from the syllabus that instructs that diabetes may be taught in a paltry one hour theory lesson and 3 hours of practice. Drawing from the experience of the researcher, of a truth, the three hours purported to be included for practice work goes un timetabled and it is difficult to even think of a practice class for which no recourses have been allocated. So to say the least, that is an aspect found merely on paper; it has not taken place inside any of the classes taught within the regular TVET colleges exemplified by the one in which this researcher works. This mismatch is pointed out by (Frenk, Bhutta, Jordan, Nigel, & Evans, 2010) who point out that, Professional education has not kept pace with challenges that are emerging within the health industry. This has been attributed to fragmented, outdated, and static curricula that produce ill-equipped graduates. From this end this fragmentation is evident in several ways. The predominant hospital orientation at the expense of primary care in the approach to nutritional problems has been strongly implicated as being out of tune by participating nutritionists in the study who related that it would have been better to go to the community rather than waiting for the patients to come to them. By the time an individual makes the decision to go for medical care for any ailment and in this case a nutrition

related one, it is mostly either too late or almost too late to remedy through dietary means. This has been reiterated by Hughes who asserts that clinical competencies are not at all required for community public health nutrition practice, adding that the training programs require to be changed in order to factor in this all important fact (Hughes, 2003)

5. Conclusion

This study concluded that there is a clear and urgent need, for modifications in the curricula for Nutrition to reflect new realities of the industry. Harmonization between what is taught in school with the emerging nutritional needs requires agreed upon strategy that is deliberate and continuous. Without setting into place appropriate strategies, the current curriculum fails the test of being responsive to the current pressing and complex needs of the industry. This has been reiterated in the Kenyan Health policy that anticipates the strengthening of collaboration between the health sector and related sectors which have a bearing on NCD prevention and control. (Ministry of Health, 2015).

This study established a mismatch that shows that, Professional education has not kept pace with challenges that are emerging within the health industry. This has been attributed to fragmented, outdated, and static curricula that produce ill-equipped graduates

6. Recommendation

This study recommended innovation in training that leads to a multidisciplinary strategy in training as opposed to the current lecture methods that are bent towards being abstract in nature. Such innovation in knowledge impartation would favor more exposure to industry regularly.

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