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Professional-Related Factors Influencing Inter-Professional Collaboration among Healthcare Workers in Primary Healthcare Facilities in Nakuru County, Kenya

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Abstract:*Inter-professional collaborative education and practice can prepare health workers to work on inter-professional teams by educating them about key concepts related to inter-professional collaboration. The study sought to determine professional-related factors influencing inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County, Kenya. The study employed a cross sectional survey research design and a questionnaire to collect data from 146 healthcare workers. Stratified random sampling technique was used to sample the primary healthcare facilities and the respondents to be included in the study. Data was analyzed using SPSS and relationships between variables was tested using correlation analysis and multiple regression. Ethical clearance was sought from Kenya Methodist University ethical review board and National Commission for Science, Technology and Innovation. The study established that Professional-Related Factorssignificantly affected inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. The study, therefore, recommended that inter-professional collaboration among the healthcare workers in the area be strengthened through adequate sensitization of the medical professionals on the merits of collaboration and the need to maintain professionalism during group work.*

Key Words: Professional-Related Factors, Inter-Professional Collaboration, Healthcare Workers

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I. Introduction

1.1 Background of the study

The health care system is solely charged with the responsibility of comprehensively treating patients. To achieve on this mandate, it demand for skills, knowledge and expertise that is beyond the scope of one professional. For example, managing a seriously mentally ill patient would involve the nurses, physician, a psychiatrist, case managers and pharmacists, as the core team members, but might also include lab technicians, dieticians, occupational therapists and chaplains (Steihaug, et al., 2016). In the US, a hospital patient today is thought to interact with over 50 different hospital employees during a four-day stay (O'Daniel& Rosenstein, 2008). The burgeoning and complex demands of inter-professional collaboration practice today is not a new phenomenon. Today's patients typically require inter-professional collaboration to address issues pertaining their health status because of increasingly health needs. Interdisciplinary approach allows interactions of different perspectives and expertise thus forming a common goal for maintaining, improving and restoring individual health outcomes while combining resources (Barker &Oandasan, 2005; Lumague et.al, 2008).

Globally, The World Health Organization (2016) indicates that collaborative practice among multiple health care workers strengthens health systems, acceptance of care, patient satisfaction and improves client /patient outcomes. Research suggests that interprofessional collaboration improve patient outcomes and access to health care (WHO, 2010; Archer, 2012). In addition, those health care workers who serve as part of a team are more effective and have higher job satisfaction than those who do not (Raab et al., 2012). In many countries, policy-makers have focused attention on enhancing health care delivery and promoting collaboration within inter-professional primary care teams (IPCTs), with a view to supporting the complex needs of populations presenting with different chronic diseases (Xyrichis&Lowton, 2008). However, blurring or misunderstanding of professional identities, roles and responsibilities are some of the barriers to be overcome in order to successful integrate health care amongst professionals (Hellesø&Fagermoen, 2010). Inter-professional collaboration occurs when multiple health care workers from different professional backgrounds provide comprehensive services with the involvement of patients, their families, caregivers, communities, and population to deliver quality care across settings (WHO, 2010)**.**

Regionally, Agyepong et al. (2018) report on needs assessment and other preparatory work undertaken in Ghana, South Africa and Uganda, towards the development of a pan-African professional Doctorate in Public

Health (DrPH), as a professional, interdisciplinary terminal degree focused on strategic health leadership.A South African analysis of two rural case study hospitals (Mathole *et al.*, 2018) shows how leadership practices and style can make a difference in terms of hospital performance.A study done in South Africa by Ellapen et al. (2018)on Interprofessional knowledge and perceptions of selected South African healthcare practitioners towards each other showed the existence of a diverse range of perceptions regarding interprofessional healthcare collaboration owing to a lack of inter-professional knowledge of the individual SoP across the various medical and healthcare disciplines.Carinand Heila, (2016) studied interprofessional health education to improve collaboration in the South African and indicated that interprofessional education is important for establishing a culture of interprofessional collaboration and teamwork among different healthcare professions at an early stage of professional development in order to achieve improved health care outcomes for patients and healthcare providers alike.

In Kenya the inter-professional collaboration is still practice using the old concept of multi-disciplinary approach which implies members working independently, but with related roles, towards the same goal, each team member being responsible for a different part of the patient's treatment with little or no overlapping of professional roles (Wilson &Pirrie, 2000). Hammick et al. (2007), was for the opinion that multi-disciplinary approach occurs when members from two or more professions/discipline practice side by side for whatever reason, whereas inter-professional collaboration has an interactive component where they learn with, from and about each other.Inter-professional collaboration implies interdependence that involves team members crossing into another's sphere or surrendering some aspects of their own professional role, altering professional boundaries or accepting a new identity within the team with a form of reprocity between team members (Pirrie et al., 1998). According to Wilmot (1995), interprofessional collaboration demands an integrated approach with a greater degree of maturity and flexibility with regard to health professional's knowledge base.

1.2 Statement of the Problem

There is a marked increase in the misuse of resources, poor patient outcomes, medical errors, and unnecessary or even harmful services that raises the care costs and degrade its quality in Kenya and especially in largely populated Counties, Nakuru County included in the list. These outcomes are associated with poor collaboration among health care practitioners shown by evidence of fragmentation and compartmentalization in the primary healthcare delivery process (Adwok, Kearns, &Nyary, 2013). A study done in Nairobi County on collaborative model for supporting shared healthcare in Kenya associated poor inter-professional collaboration among health care practitioners with fragmentation and compartmentalization in the process of primary healthcare delivery (Heroes, 2017).However, the professional related factors have not been examined for their effect on inter-professional collaboration among health care practitioners.Therefore, the study sought to determine the influence of Professional-Related Factors oninter-professional collaboration among health care worker in primary healthcare facilities in Nakuru County.

Objective of the Study

i. To determine professional-related factors influencing inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County.

II. Literature Review

2.1 Bronstein's Model of Interdisciplinary Collaboration

Bronstein's Model of Interdisciplinary Collaboration will be used here as a guide to assess inter-professional teamwork (Bronstein, 2003) and help organization of the information. Bronstein's model consists of two aspects (see Figure 1): the first aspect outline the generic components of optimum interdisciplinary collaboration; the second aspect describe the model in context by mentioning the various factors influencing inter-professional collaboration. The components in the first part intended to promote inter-professional collaboration include: collective ownership of goals, interdependence, flexibility, newly created professional activities, and reflection on process (Bronstein, 2003, p. 297). Additionally, the other aspect indicates the key elements that can hinder or facilitate this process, which include: professional role, personal attributes, structural characteristics, and a history of collaboration (Bronstein, 2003, p. 302). Understanding the concepts can equip professionals to working on inter-professional teams.

The goal of Bronstein's model was to come up with a general representation of the components of optimal collaboration. The model is based on a review of the theoretical frameworks as well as the social work practice literature. Therefore, the model is grounded in theory, but it also has a strong practical side. Moreover it is independent of the domain, and has a strong focus on interdisciplinary aspects of collaboration. It can be used as a manual to provide a promising start of collaboration or to improve existing collaborative efforts independently of the underlying disciplines (Wittenberg-Lyles, Oliver, Demiris&Regehr, 2010).

Therefore, the researcher chooses this model to be able to establish the factors influencing inter-professional collaboration among health professionals

2.2 Professional-Related Factors

Inter-professional education has been gaining more traction in recent years to be integrated in health care training. A framework for interactive learning among students of different professions was formulated in 2011(IPEC, 2011). To keep current, professionals are urged to (a) become continuous learners who "upskill and retrain" (Clark, Draper & Rogers, 2015) through continuing professional development, and (b) attend inter-professional education programs, viewed widely as the best channel to becoming "collaborative-practice ready".IPE occurs when students and members of two or more professions associated with social or health care, engaged in learning from, with and about each other (Barr et al., 2005, Craddock et al, 2006). It provides an ability to share knowledge and skills between professions allowing shared values, better understanding and respect for the roles of other healthcare practitioners (Karim et al., 2008). Students who engage in collaborative activities during their learning will be more likely to bring a collaborative approach later when they become practitioners (Speakman, 2015).

The desired end result is to develop a health care team-based, collaborative approach that improves client outcomes and the quality of care (Young et al., 2007).Moreover, clinicians are expected to utilize knowledge and skills from several disciplines in management of patients and coordinating interdisciplinary approach in order to deliver quality care (Benner, Sutphen, Leonard & Day 2010; WHO, 2010). However, recent reports express concerns on the current capacity of nursing education to merge these demands, considering the shortage of nursing faculty educators and mentors (Benner, et al., 2010). In addition, scheduling is a critical challenge for IPE programs as varying health profession programs have different curriculum specific duration and requirements, student in-person activities availability and accreditation standards (Bridges et al., 2011).

IPE Program introduces learners to the skills and knowledge essential to help functionally participate in health-care team. The competency developed during this process is necessary to equip learners experience on client-centered approach to collaboration and problem solving. Inter-professional competencies are broadly categorized into four; teamwork, communication, roles and responsibilities, and process reflection.However, as per the Inter-professional Education Collaborative Expert Panel (2011) these competencies are further described through specific co-competency statements that include: Ethical practice: - understanding the views of other health professional held by self and others that may be stereotypical - acknowledging that other practitioners views are important and equally valid. Teamwork: -This is having the ability to be team leader, team member and knowing the barriers to teamwork; Relationship with, and recognizing the needs of the patient: - working collaboratively basing yourself in patient center- care and promoting client participation as partners in care management. Roles and responsibilities means understanding not only one's own responsibilities, roles and expertise but also those of other types of health care workers; Communication: -expressing one's perspective and opinion competently to colleagues as well as listening to team members; Learning and critical reflection: - requires critical reflection on one's own relationship within a team and means translating inter-professional learning to the work setting; (IPEC, 2011).

Research finding has shown that participants experience domain thinking as a barrier to the development process of shared care plan. Baldwin (2007) sees the phenomenon of territoriality to be among the major challenge to inter-professional collaboration, in which the members of the professional team protect their practice and scope in regard to identity, autonomy and accountability. Some researchers have revealed that collaboration is an interpersonal process and requires two or more parties in intellectual activities (D'Amour et al., 2005). However, if one of these parties has limited ability to perform some tasks autonomously, then they may be unable to make beneficial contributions to discussions with others pertaining patient care. Achieving optimal level of autonomy is in one sense allowing health professionals their knowledge within the team and the respect of their profession. A certain level of autonomy may promotes participation making a role to be more rewarding and meaningful. The synergy between autonomy and collaboration is reinforced by the work of (Maylone et al., 2011) who postulated that autonomy can lead to more effective teamwork.

Power issues are has shown to be an important influential factor that can determine how health professionals interact with one another. Equal power sharing can give the professionals autonomy and capacity to decision-making (Papathanassoglou et al., 2012; Van der Heijden et al., 2010; Johannessen&Steihaug, 2014) that are critical to inter-professional collaboration. Nevertheless, unequal power distribution and sometimes accompanied by discrimination pose a great challenge to the current health system and a significant limitation to inter-professional collaboration.The conspicuous influence by physician and GPs in secondary and primary healthcare setting respectively may be attributed to the power and authority they have traditionally enjoyed through: their monopoly on defining what constitutes disease and illness, their use of diagnostic and scientific language and monopoly on deciding what constitutes expertise and knowledge in clinical practice (Degeling et

al., 2004). In collaboration between specialists and GPs in mental health, GPs seem to be inferior; they want specialist to be regarded them as competent colleagues and to enjoy the same level of respect that specialists show each other (Berendsen et al., 2009).

Other professional power barriers include the fears of dilution of professional identities among the professions and multi- disciplinary professional historical rivalries. Some professional bodies have shown some concern that IPECP could reduce the autonomy of professions who have worked hard to its attainment (Guilliland, 2001). Hall,(2005) discusses the possibility that formal role demarcation (role blurring) will occur because of overlapping competencies. Role blurring is considered beneficial by some while others oppose it and link it to role strain and confusion (Brown, 2000). For example, certain professionals on the team might believe that their role is being encroached upon and that their sense of professional identity is eroding (Hall, 2005). Others may be overwhelmed because they are trying to do everything and are experiencing uncertainty about the limits of their responsibilities (Bélanger& Rodriguez 2008),Grumbach&Bodenheimer, 2004). While some professionals may perceive role blurring as a threat, others may see an opportunity to expand their responsibilities or to make the team more flexible and responsive to its client population (Brown, 2000).

Members of inter-professional teams performs different roles that are subject to professional boundaries. Bourgeault and Mulvale (2006) described boundaries as contested spheres of practice resulting from the process of division of labour. For instance, Abbott, (1998) highlighted that professions cultivate peculiar knowledge systems so as to maintain their sphere of influence and their 'exclusive property'. However, (Bourgeault and Mulvale, 2006) pointed out the efforts of regulatory agencies to break down professional boundaries on health teams given that overlapping roles and responsibilities encourages teams to be responsive to ever changing situations. Chreim et al., (2007) revealed the necessity of meanings, actions and interactions of professionals within their organizational settings to understanding of role construction. The reviewed literature, while mentioning concepts such as role clarification and role overlap (Dufour& Lucy, 2010) does not particularly consider role construction as a main focus.

Other studies (Tsasis et al 2012, Xyrichis&Lowton 2008, Hellesø&Fagermoen, 2010) indicate that; different understanding of professional demarcation roles and tasks; different bases of professional knowledge were important barriers to effective collaboration. Results of a Swedish study pointed out that nurses are more proactive towards collaboration compared with GP's and that a positivity to collaboration is part of nurses' professional role to a greater extent than the general practitioners (Hansson et al., 2008). The poor attitude to collaboration influenced the GPs' modest wish to interdisciplinary collaboration and preference to collaborate with providers in specialist services (Berendsen et al., 2009).

D' Amour et al., (2005) pointed out that sharing responsibilities is an endeavor to collaboration. The team members could be having limited contact with others (autonomous) and still have responsibilities which are interchangeable with other professions. In a systematic review on inter-professional teams, Virani, (2012) states that team members ought to divide work based on their scope of practice. In this way, the ability to expound what, in addition to scope of practice, may be influencing the distribution of responsibilities in the setting of inter-professional primary health care team. D'Amour et al., (2005) further stated that one among the major challenges facing inter-professional practice is on how professional territories are distributed and carved out within a complex system. Many challenges are encountered during attempts to provide care across a diverse set of professionals. These difficulties include overcoming a lack of trust and respect, and coordinating the roles between team members (Bélanger& Rodriguez, 2008). These challenges are often experienced at individual level where ongoing boundary work of professional roles (Duner, 2013) are negotiated and constructed.

III. Materials and Methods

In the present study, the positivist approach was adopted. Positivism maintains that the scientist/researcher is the observer of an objective reality. From this understanding of ontology, the methodology for observation in natural science was adopted for social science research (Žukauskas, Vveinhardt&Andriukaitienė, 2018). Positivism allows for scientific investigations of phenomenon using statistically testable hypotheses and generalizations. As such, compared to the other research philosophies, it was the most applicable for the present study.This study was conducted using quantitative cross sectional survey design. Descriptive survey is a method of collecting information by interviewing or administering a questionnaire to a sample of individuals (Orodho, 2005). The study targeted medical professional working in primary healthcare facilities in Nakuru County which has an approximated medical staff population 1800 with a total of 838 in public facilities and approximately 962 in private facilities (Nakuru County Ministry of Health, 2017). To obtain the required sample size from these target population, the study adopted the formula by Nassiuma(2000).

$$n = \frac{Nc^2}{c^2 + (N-1)e^2}$$

Where n = sample size, N = population size, and e = error margin (≤ 5%), c = coefficient of variation (≤ 30%).By substituting into the formulae, the right sample size for the study was, therefore, 159 respondents. This study used stratified random sampling to select regions (Sub-Counties), health facilities and respondents.

Questionnaires were used in this study to collect data. The formulation of the questionnaire is informed by two previously used questionnaires in related studies; Index of interdisciplinary collaboration questionnaire, which was used to measure the extend of collaboration among health workers(Crow, 2015: Bronstein, 2002) and Perception of Inter-professional Collaboration Model Questionnaire (PINCOM-Q) used to assess perceptions of inter-professional collaboration (Odegard&Strype, 2009).To ensure validity and reliability of the research instrument, a pretest of the questionnaire was conducted in two health facilities one private and one public in both level 3 and level 4 facilities in Kericho County prior to carying out the the study. To ascertain validity, the instrument was subjected to analysis by a team of specialists in the area of study for review. In order to improve the reliability of the instrument, the research employed the internal consistency method. This was done by calculating the Cronbach's alpha coefficient for the questionnaire from the results of the pretest study. A value of 0.7 or below of the Cronbach's alpha coefficient shows low internal consistency (Cronbach & Azuma 1962).The researcher used the computer software Statistical Package for Social Scientists (SPSS) version 2.1 to aid in data analysis using simple descriptive statistical measures such as, mean, standard deviation and variance to give glimpse of the general trend. In addition, correlation analysis was used to determine the nature of the relationship between variables at a generally accepted conventional significant level of P=0.05 (Sekaran, 2003). Multiple regression analysis was also employed to compare the relationship of independent variable and dependent variables.Throughout the study, ethical considerations were made. Permissions to carry out the study were sought from relevant institutions to allow the research to be carried out the study in the area. To uphold ethical standards, the participants were required to sign consent forms before participating in the study. Relevant information about the study was relayed to the respondents for them to understand why and what they are to do so as to ensure their voluntary participation. Data collection and reporting was done in a manner that did not breach the confidentiality agreement with the respondents and as such, they were not allowed to identify themselves in any way in the instruments of the study.

IV. Results and Discussion

4.1 Professional-related factors

The objective of the study was to determine professional-related factors influencing inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. The findings are presented in Table 1.

Table 1: Professional-related factors

Statements (n = 146)	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev
We do have internal education day where team members would present and teach each other about different clinical topics	1.7	6.7	10	43.3	38.3	4.1	0.947
My pre-service training and continuous professional development (CPD) have prepared me to collaborate effectively with other professionals	0	0.8	5	42.5	51.7	4.45	0.633
I work in harmony with medical professional of other disciplines	0	0	3.3	41.7	55	4.52	0.565
I always communicate with professionals in health and other fields in a responsive and responsible manner that supports a team approach	0	0.8	4.2	48.3	46.7	4.41	0.615
Some health care professionals dominate the interprofessional meetings with their professional viewpoints	4.2	6.7	14.2	55.8	19.2	3.79	0.969
Occasionally interprofessional groups do not work because some health care professionals dominate the meetings	9.2	9.2	19.2	40.8	21.7	3.57	1.193
I always feel that other professionals have expectations that are contradictory to mine when I work in inter-professional groups	11.7	8.3	21.7	40	18.3	3.45	1.222
I always feel that my area of responsibility is clearly defined when I work in inter-professional groups	0.8	10.8	11.7	52.5	24.2	3.88	0.927
Laws and regulations are well stipulated and known in inter-professional groups	10.8	10.8	8.3	42.5	27.5	3.65	1.288
Every medical professional knows the area of responsibility of the other professionals	8.3	6.7	10	35.8	39.2	3.91	1.23
Average						**3.973**	**0.959**

It is evident from the findings in Table 4.5 that with a mean of 3.973 and a standard deviation of 0.959, that majority of the respondents were inclined to agree with the statements regarding professional-related factors influencing inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. In particular, there were strong indications that inter-professional education was important tointer-professional collaboration as indicated by the means suggesting strong agreement with the statements; We do have internal education day where team members would present and teach each other about different clinical topics (mean = 4.1, SD = 0.947), and; My pre-service training and continuous professional development (CPD) have prepared me to collaborate effectively with other professionals (mean = 4.45, SD = .633). These findings underscore the value of education and training on inter-professional collaboration counseled by Clark et al., (2015) who urged inter-professional education programs as the best channel to becoming "collaborative-practice ready".

It is also evident that individual competencies played an important role in inter-professional collaboration as evidenced by the strong reactions to the statements; I work in harmony with medical professional of other disciplines (mean = 4.41, SD = .615), and; I always communicate with professionals in health and other fields in a responsive and responsible manner that supports a team approach (mean = 4.52, SD = .565). The competency developed during this process is necessary to equip learners experience on client-centered approach to collaboration and problem solving as indicated by Inter-professional Education Collaborative Expert Panel (2011). While there was agreement professional power contributed to inter-professional collaboration among medical professionals in the healthcare facilities in the area, this construct was not rated highly as indicated by the responses to the statements; Some health care professionals dominate the interprofessional meetings with their professional viewpoints (mean = 3.79, SD = .969), and; Occasionally interprofessional groups do not work because some health care professionals dominate the meetings (mean = 3.57, SD = 1.193). This was, however, contrary to the ethical practices prescribed by IPEC (2011) specifically explaining that understanding the views of other health professional held by self and others that may be stereotypical - acknowledging that other practitioner's views are important and equally valid.

The roles and responsibilities of the medical professionals also affected their inter-professional collaboration as indicated by majority of the respondents who agreed that they always feel that other professionals have expectations that are contradictory to their when they work in inter-professional groups (mean = 3.45, SD = 1.222). Most, however, felt that their areas of responsibility were clearly defined when they work in inter-professional groups (mean = 3.88, SD = .927). Roles and responsibilities means understanding not only one's own responsibilities, roles and expertise but also those of other types of health care workers. According to Benner, et al., (2010), healthcare professionals are expected to utilize knowledge and skills from several disciplines in management of patients and coordinating interdisciplinary approach in order to deliver quality care.

Regarding domain thinking, the findings suggest that majority (mean = 3.65, SD = 1.288) agreed that laws and regulations were well stipulated and known in inter-professional groups. Further, majority (mean = 3.91, SD = 1.23) agreed that every medical professional knows the area of responsibility of the other professionals. These findings imply that domain thinking was not necessarily a barrier to inter-professional collaboration among the healthcare workers. Therefore, they fail to support Baldwin (2007) who saw the phenomenon of territoriality to be among the major challenge to inter-professional collaboration, in which the members of the professional team protect their practice and scope in regard to identity, autonomy and accountability.This means that the role conflicts were expected to be small and collaboration levels high as there was domain thinking was minimal.

4.2 Inter-professional Collaboration

The study also sought to determine the status of inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. The findings are presented in Table 2.

Table 2:Inter-professional Collaboration

Statements (n = 146)	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Std. Dev
My interactions with colleagues from other disciplines occurs in a climate where there is freedom to be different and to disagree.	0	3.3	18.3	55	23.3	3.98	0.745
Colleagues from all professional disciplines take responsibility for developing treatment plans.	2.5	3.3	10.8	56.7	26.7	4.02	0.86
I utilize other professionals in different disciplines for their particular expertise and they too utilize me for a range of tasks	0.8	10.8	51.7	35.8	0.8	4.48	0.807
I can define those areas that are distinct in my professional role from that of professionals from other disciplines with whom I work.	0.8	1.7	14.2	51.7	31.7	4.12	0.769
I am willing to take on tasks outside of my job description	0	0	5.8	48.3	45.8	4.4	0.6

when that seems important.							
I utilize formal and informal procedures for problem-solving with my colleagues from other disciplines.	0	0	12.5	57.5	30	4.18	0.631
Organizational protocols reflect the existence of cooperation between professionals from different disciplines.	0	5.8	14.2	49.2	30.8	4.05	0.829
Working with colleagues from other disciplines leads to outcomes that we could not achieve alone.	0	1.7	12.5	42.5	43.3	4.28	0.744
Colleagues from other disciplines are as likely as I am to address obstacles to our successful collaboration.	0	5.8	18.3	47.5	28.3	3.98	0.84
My colleagues from other disciplines and I talk together about our professional similarities and differences including role, competencies, and stereotypes.	0	5.8	11.7	48.3	34.2	4.11	0.828
Average						**4.16**	**0.765**

It can be deduced from the aggregate mean of 4.16 and standard deviation of 0.765 that there was a high level of agreement with the statements describing the status of inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. The findings specifically indicate that majority of the healthcare professionals strongly agreed (mean = 3.98, SD = .745) that interactions with colleagues from other disciplines occurred in a climate where there was freedom to be different and to disagree. Further, colleagues from all professional disciplines take responsibility for developing treatment plans (mean = 4.02, SD = .86). This was in agreement with Barr, (2009) who found that teamwork and collaboration not only to help resolve conflict between professions practicing in closer proximity but also to help better meet the needs of patients and clients.Regarding interdependence, the findings suggest that most of the respondents strongly agreed that they utilized other professionals in different disciplines for their particular expertise and they too were in turn utilized for a range of tasks (mean = 4.48, SD = .807). Most also said that they could define those areas that are distinct in their professional role from that of professionals from other disciplines with whom they worked (mean = 4.12, SD = .769). This concurred with Morrison (2007) who found that Collaborative interactions shows a blending of professional cultures and are achieved by sharing knowledge and skills to promote the quality of patient care.

Majority of the respondents were flexible to take on tasks outside of their job description when it was necessary (mean = 4.4, SD = .6). Most utilized formal and informal procedures for problem-solving with their colleagues from other disciplines (mean = 4.18, SD = .631). Regarding collaborative activities, the findings suggest that most of the respondents were of the view that organizational protocols reflect the existence of cooperation between professionals from different disciplines (mean = 4.05, SD = .829). Further, working with colleagues from other disciplines leads to outcomes that could not achieve alone (mean = 4.28, SD = .744). This was in agreement with Brown (2000) while some professionals may overlook an opportunity, others may see an opportunity to expand their responsibilities or to make the team more flexible and responsive to its client population. Finally, on reflection on process, the findings indicate that most respondents felt that their colleagues from other disciplines were as likely as they were to address obstacles to their successful collaboration (mean = 3.98, SD = .84). Moreover, most were of the view that they talk together with their colleagues from other disciplines about our professional similarities and differences including role, competencies, and stereotypes (mean = 4.11, SD = .828). According to Widmer et al, (2009), recent developments in reflexivity also showed that reflexivity is also important to foster and guarantee team functioning.

4.3 Regression Analysis

Bivariate regression was performed to establish whether professional-related factors significantly influenced inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County, Kenya are given in Table 3.

Table 3: Regression of professional-related factors influencing inter-professional collaboration

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate		
	.362a	0.131	0.125	4.34042		
ANOVAa		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	404.269	1	404.269	21.459	.000b
	Residual	2675.169	142	18.839		
	Total	3079.438	143			
Model Coefficientsa		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		

(Constant)	26.919	3.226		8.344	0.000
AuditCase	0.373	0.081	0.362	4.632	0.000

a Dependent Variable: Interdisciplinary Collaboration

b Predictors: (Constant), Professional-Related Factors

The results in Table 3 shows that the relationship between the variables was significant ($\beta = 0.362$, $p \leq 0.05$). The adjusted r-square ($R^2_{Adj} = 0.125$), further, indicates that model could explain upto 12.5% of the variations in the inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. It also suggests that the model could improve when more predictive variables were incoporated into the model.This means that professional factors, such as, inter-professional education, individual competencies, professional power, roles and responsibilities and domain thinking contributed significantly to inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County. This finding agreed with Speakman (2015) that professional collaborative activities during their learning will be more likely to bring a collaborative approach later when they become practitioners. The findings, however, disagree with Guilliland (2011) that IPECP could reduce the autonomy of professions who have worked hard to its attainment.

V. Conclusions

Based on the results of the study, the following conclusions were drawn. First, concerning professional-related factors influencing inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County, the study revealed that professional factors, such as, inter-professional education, individual competencies, professional power, roles and responsibilities and domain thinking did not contribute significantly to inter-professional collaboration among healthcare workers. Therefore, the study concludes that professional-related factors were significant to inter-professional collaboration among healthcare workers in primary healthcare facilities in Nakuru County.

VI. Recommendations

The study makes the following recommendations based on the findings;Interprofessional collaboration among the healthcare workers in the area can be strengthened through adequate sensitization of the medical professionals on the merits of collaboration and the need to maintain professionalism during group work. This is necessary as the findings revealed that interprofessional groups do not work because some health care professionals dominate the meetings and also have undue expectations of their colleagues.

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