INTERPROFESSIONAL LEARNING DYNAMICS: CHARACTERISTIC FEATURES AFFECTING HEALTHCARE MANAGEMENT IN SOUTHEASTERN NIGERIA.

By

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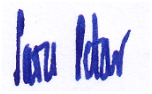

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Dedication

To the almighty God, for His grace in my life.

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My profound gratitude goes to the Almighty God for preserving my life and helping me towards the success of this dissertation work.

To my project supervisors, Prof. Atul Pati Tripathi, your time and efforts as well as your academic advice during this dissertation are well appreciated. You were always available, and I never felt alone. Thanks for educating me on what management and administration are all about.

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ABSTRACT

INTERPROFESSIONAL LEARNING DYNAMICS: CHARACTERISTIC FEATURES AFFECTING HEALTHCARE MANAGEMENT IN SOUTHEASTERN NIGERIA

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Dissertation Chair: Prof. Atul Pati Tripathi

Background

Healthcare professionals in clinical settings work in teams that require interprofessional collaboration that hinges on interprofessional learning. Assessment of characteristic features of interprofessional learning affecting healthcare management in South-Eastern Nigeria is of high essence for effective patient management.

Methods

The research design was a prospective cross-sectional descriptive study. It was conducted at Federal Medical Centres and the Teaching Hospitals in various healthcare departments located in Southeastern Nigeria. 386 practicing healthcare professionals were enlisted for the study using a validated questionnaire 'Interprofessional Learning Dynamic Scale'. The questionnaire contains socio-economic status, interprofessional learning features, healthcare professionals' relationship, readiness, knowledge, attitude and perception, towards interprofessional learning. The researchers collected data through simple random sampling, analysed descriptively using frequency tables, spearman's rank correlation, one way

analysis of variance and Tukey-kramer post honesty significant differences for comparison at 0.05 level of significance.

Results

Majority (61.7%) aged between 20-29 years and 57.3% of the total respondents were female. Gender had positive significant relation with teamwork (rs=0.112; p=0.028), and conflict resolution. Participants discipline had negative significant relation with teamwork (rs= -0.129; p=0.012), conflict resolution, communication and prejudice. Previous interprofessional learning showed positive significant relation with radiographers' ability to communicate effectively, resolve conflict issues, accommodate others and in collaboration. The majority (51.3%) felt that patient management were not discussed adequately between healthcare practitioners. Ignorance among respondents towards having prejudice about other professionals and inappropriate patient referral was noted. There was noted significant difference (p=0.000) among disciplines with radiographers having better intra-relationship among themselves. Majority (72.5%) had previous experience of IPL and affirmed to had benefited from having radiographers on an interdisciplinary team.

Discussion and Conclusion

There were observed differences in accommodation, teamwork, value, prejudice, communication, and knowledge among healthcare professions while intra-disciplinary relationships were of good positive team dynamics. Institutions should ponder on possible ways to offer healthcare practitioners adequate interprofessional training needs as IPL knowledge is transferable in clinical practice. Interprofessional learning could provide answers to the differences in interdisciplinary practice that could create a path towards socialization, breaching the silos of diverse professional stereotypes.

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CHAPTER I:

1.1 Introduction

Healthcare settings in recent era demands total involvement of healthcare practitioners in various specialties for effective patient management, hospital processes as well a working relationship between healthcare practitioners (Elugwu *et al.,* 2023; Showande and Ibirongbe, 2023; Carney *et al.*, 2019). Global transformation has revealed the essence of effective communication and collaborative care around the world through interprofessional learning to improve the health of individuals, population and elevate the responsiveness of healthcare environment (IOM, 2015; Zwarenstein, Goldman, and Reeves 2009). Healthcare management in South-East Nigeria is facing various challenges that call for innovative solutions, recommending the need for urgent adoption of strategies in interprofessional collaborative practices to assess impact of interprofessional learning (IPL) on quality of patient care (Opele, 2022; Zoriah, Lim, and Pang, 2011).

Obviously, the way practitioner's master's knowledge while develops new set of skills and improving in attitude towards achieving competence over time will always affect achievable results (IOM, 2015). Therefore, understanding interprofessional learning dynamics could provide valuable insights into how these can be addressed as further investigation has been inquired aiming towards understanding healthcare practitioners' desires and factors capable of altering their perception which could inform a structured approach for implementing and examining IPL outcomes (Bogossian *et al.*, 2023; IOM, 2015). Interprofessional learning poses as a well-coordinated process for institutions and professionals to be able to achieve desirable healthcare outcomes (Lieneck *et al.*, 2022; Christian *et al.*, 2020; Guinan *et al.*, 2018).

Few studies conducted in Nigeria found that IPL improves healthcare professionals' understanding of their roles, effective communication and better sense of collaboration which could lead to improved teamwork and better healthcare management (Opele, 2022; Nwobodo *et al.,* 2021; Egwu *et al.,* 2020). However, there are challenges in evaluating IPL in Nigeria as contemporary healthcare approaches have become more outcomes based. Concerns are about the quality and cost of healthcare, patient care, transformation of healthcare practitioners' education model through IPL to improve professionals' competencies (IOM, 2015). Osaro and Charles, (2014) identified lack of awareness and understanding of IPL among healthcare professionals and limited resources as major IPL barriers. They suggested the need for training and education on IPL, as well as increased government support. Managers' (education providers, healthcare providers and regulatory authorities) must understand the characteristics of IPL to develop effective structures, policies, and strategies, an effort needed to promote interprofessional collaboration and teamwork (Showande and Ibirongbe 2023: IOM, 2015). Location in which interprofessional training occurs is very crucial as the world changes faster in healthcare settings, education-to-practice continuum should be designed for authenticity to provide positive dynamic outcomes (Carney *et al.,* 2019; IOM, 2015).

Literature identified gaps between interprofessional learning and practice outcomes recommending examination of quality of IPL experience which could be transferred should main objectives within IPL programm introduced daily in health settings (Bogossian *et al.,* 2023; Lieneck *et al.,* 2022; McLaughlin *et al.,* 2020; IOM, 2015; Brock *et al.,* 2013; Zoriah *et al.,* 2011). The committee on Measuring the Impact of Interprofessional Education on Collaborative Practice and Patient Outcomes acknowledged that it is possible to link the

learning process with the outcomes (person, population, system) through thoughtful, collaborative and well-designed studies targeted to answer questions (IOM, 2015). Despite documented benefits of IPL, many institutions had failed to design, implement, and sustain effective and scalable interprofessional immersion strategies to improve scholars' level of confidence that provide real-world interprofessional patient-centred care experiences (Lee, Dong and Aw, 2022; IOM, 2015; McLaughlin *et al.,* 2020). The committee identified these gaps necessary to be addressed to strengthen the evaluation of the impact of IPL outcomes: aligning education with healthcare plans, lack of conceptual framework to measure IPL impact, strengthening IPL practice and its link to behavioral changes towards collaboration (IOM, 2015). WHO, (2010) recommended institutional based research as being essential in understanding the challenges and potential solutions for interprofessional learning and collaborative practice as it could be locality based. It could vary significantly ranging across competencies, knowledgeability, skills competency and behaviors required for collaborative practice (IOM, 2015; Brock *et al.,* 2013). A recent study suggested a further study for institutions to create a harnessed learning opportunities for healthcare practitioners towards authentic, customized, and effective care management in South-East Nigeria (Elugwu *et al.,* 2023). A coordinated plan through realignment among educators, health systems leaders and policy makers are essential and could create an optimal learning environment and a competent healthcare workforce (IOM, 2015).

Interprofessional learning being relatively a new concept, there is obvious lack of understanding on the characteristic features of interprofessional learning (IPL) dynamics and their impact on healthcare management in South-East Nigeria. Ranging from poor interprofessional training leading to ineffective care, poor patient satisfaction, readmission,

medical errors, low workforce retention with system inefficiencies (IOM, 2015; WHO, 2010; Zwarenstein *et al.,* 2009). Higher healthcare cost, and suboptimal community engagement and poor health outcomes maybe a reflection of differences in alignment towards a productive healthcare management (Reeves, 2016; IOM, 2015; Zwarenstein *et al.*, 2009). The better way of sustaining an impactful IPL program is through proper coordination of education program with existing healthcare system especially in developing countries. The socioeconomic need for a meaningful health quality broaden as Nigeria is a developing economy country with several characteristic features affecting this region's welfare (IOM, 2015). This region has higher indices of chronic diseases like hypertension, diabetes mellitus and cancer. Including diseases require multidisciplinary management approach, which could be achieved through interprofessional collaboration (Elugwu *et al.,* 2023: Osaro and Charles, 2014). However, with diverse cultural practices existing in many communities in South-East Nigeria having unique cultural practices that influence their health-seeking behaviour and believes, an interprofessional team comprising members from different cultural backgrounds could help bridge the gap between healthcare providers and patients need.

Interprofessional learning refers to clinic-based related practices of healthcare professionals toward effective patient management where two or more professions learn with, from and about each other in academic settings and work-based environments pre and post professional certification. The WHO reported IPL as being essential for preparing "collaborative practice-ready" healthcare workforce to respond to healthcare system needs (Elugwu *et al.,* 2023). As in reality, theoretical learning alone will not contribute to a better outcome in the healthcare environment, actual clinical practice remains the goal standard.

Scholars who affirm knowing the basic theory of interprofessional education experienced challenges in implementing the understanding in clinical placement (Pinto *et al.,* 2012). However, the WHO has been promoting IPL in less developed areas in the world using evidence reported from developed parts of countries. The transfer of this segregated evidence could be questionable as there are the major significant differences among these locations education system and healthcare environment (IOM, 2015).

This research work has identified and will therefore seek to determine the specific features of interprofessional learning affecting healthcare management in South-Eastern Nigeria. It is imperative to view IPL program in Nigeria health sector to evaluate what it could offer to interprofessional relationships and patient management outcomes. These include outcomes on various level of the Kirkpatrick expanded model focusing more on changes in professionals' behavior and improved performance in healthcare system shown in **Table 1.1** (Carney *et al.,* 2019; IOM, 2015; Reeves *et al.,* 2015). Evaluation of IPL could be affected directly or indirectly by enabling or hindering factors which impact outcomes. These factors influence overall outcomes in each level as seen in the Interprofessional Learning Continuum (IPLC) Model in **Figure 1.1** (IOM, 2015). Institute of Medicine has emphasized on limited knowledge on socio-cultural factors affecting professionals' relation to both professionals and patients which exist in developed countries and worst in a developing country like Nigeria, this should awaken awareness of various institutions and government agencies for support (IOM, 2015). Alignment of schedules, logistics, differences in mode in which each discipline group organizes team learning as well as resources such as space and time in integrating learners into team-based environment were reported as a barrier as education reform are not properly coordinated with healthcare

system path of redesign that results to various interprofessional learning outcomes (Lee *et al.,* 2022; McLaughlin *et al.,* 2020; IOM, 2015; Carney *et al.,* 2019; McGettigan and Mckendree 2015)

TABLE 1.1 Kirkpatrick Expanded Outcomes Typology.

Level 1: Learner's reaction	Learners' views on the learning experience and its interprofessional nature
Level 2a: Modification of attitudes/perceptions	Changes in reciprocal attitudes or perceptions between participant groups; changes in attitudes or perceptions regarding the value and/or use of team approaches to caring for a specific client group
Level 2b: Acquisition of knowledge/skills	Including knowledge and skills linked to interprofessional collaboration
Level 3: Behavioral change	Individuals' transfer of interprofessional learning to their practice setting and their changed professional practice
Level 4a: Change in organizational practice	Wider changes in the organization and delivery of care
Level 4b: Benefits to patients, families, and communities	Improvements in health or well-being of patients, families, and communities

SOURCE: Adapted from previous study, Reeves *et al.,* (2015).

Factors relating to varied levels of interprofessional experiences among practicing healthcare professionals are unknown in this locality namely: dental laboratory scientists; dietitians; medical laboratory scientists; doctors; nurses; pharmacists; physiotherapists; and radiographers. These might be of great influence on healthcare professionals' relation to poor patient management and poor professionals' satisfaction which may eventually lead to increased patient readmission rate and personnel's disengagement from service (Elugwu *et al.,* 2023; Carney *et al.,* 2019; IOM, 2015).

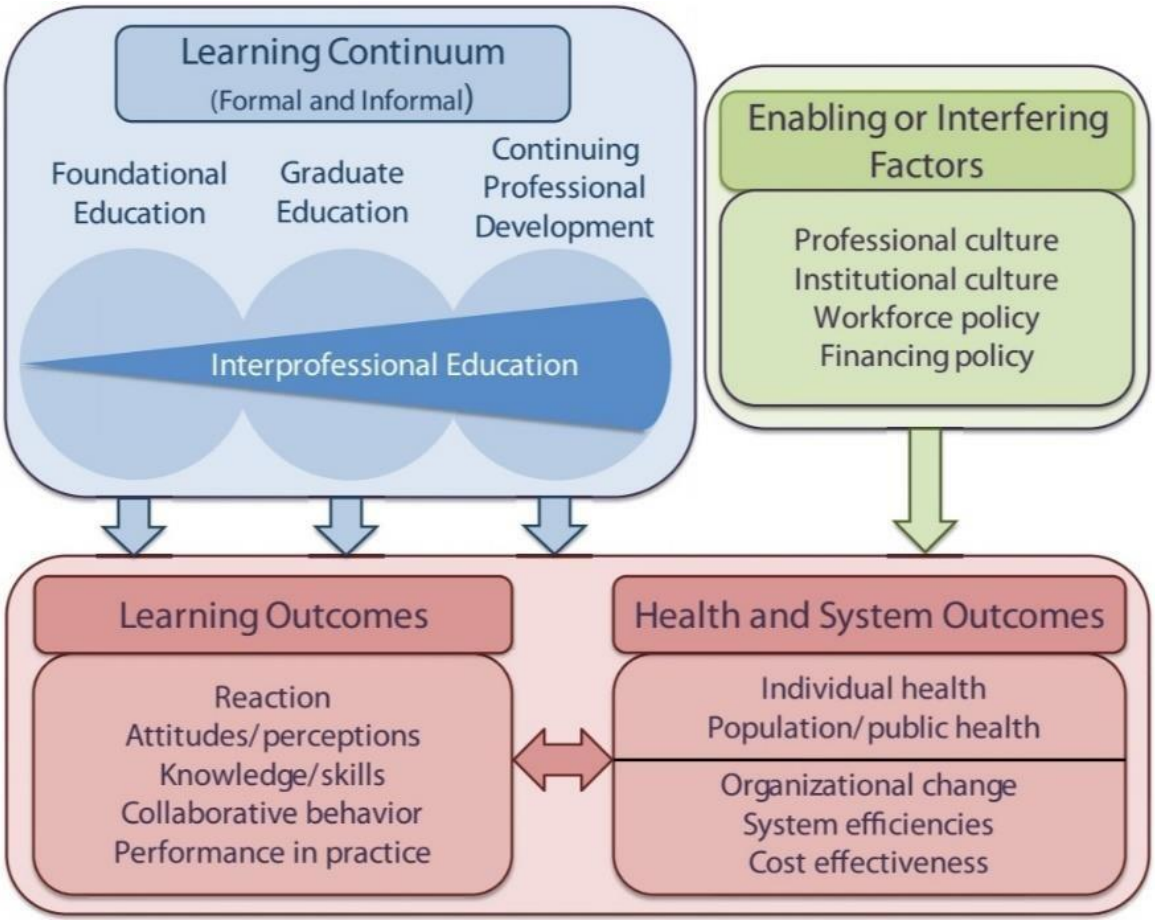

FIGURE 1.1 The interprofessional learning continuum (IPLC) model.

Identifying these factors could enable training institutions and healthcare providers to appreciate its effect on multidisciplinary collaborative practice among healthcare professionals: the need for alignment. This might initiate plans for adaptive curriculum review and continuum professional development programmes to safeguard patients and the dynamic healthcare environment (Lee *et al.,* 2022; Nwobodo *et al.,* 2021). Moreover, the importance of having radiographers as part of multidisciplinary team could be unclear, highlights on team member benefit could serve as a guide to other health practitioners towards positive team dynamics, creating an environment for people's value orientation,

staff-patient mutual understanding during and after their hospital care and increases productivity.

In view of the above, is essential to assess the present state of interprofessional learning and the level of relationship, knowledge, readiness, perception, and attitude of healthcare practitioners towards collaborative practices and its potential benefits to patients and healthcare system. These could be achieved using Interprofessional Learning Dynamic Scale (IPLDS) which is a mixed method survey aim for understanding insights how IPL program improves collaborative practice and change in system outcomes (Elugwu *et al.*, 2023; IOM, 2015; Zwarenstein *et al.*, 2009). As IOM recognized importance of variety of data collection means and the use of various methods for evaluating outcomes of IPL and exploring potential relationships among variables (IOM, 2015).

1.2 Research Problem

Healthcare professionals in clinical settings work in teams that require interprofessional collaboration that hinges on interprofessional learning. Improving collaborative practice in healthcare is of essence to better health quality and patient management (Carney *et al.,* 2019; Zwarenstein *et al.,* 2009). In Southeastern Nigeria, healthcare professionals face numerous challenges due to an inadequate healthcare system and resource constraints (Showande and Ibirongbe, 2023). Unfortunately, limited attention has been paid by researchers towards IPL context and socio-economic factors on healthcare management. The essence of context in IPL is pertinent as healthcare system grows rapidly requiring examination of the programs impact on institutions growth widely (IOM, 2015). It is not clear which factors: gender, level of educational attainment, professional's profession, how many years in practice or prior IPL engagement are associated with the state of healthcare and its management in this locality (Elugwu *et al.*, 2023; Olson and Bialocerkowski, 2014).

Earlier research studies reported IPL strenghtening learners' perception, patients and professionals' job satisfaction, there is weak prove linking IPL to the assumed intermediary and terminal outcomes (IOM, 2015; Zwarenstein *et al.,* 2009). Recent studies have highlighted the importance of IPL, including shared responsibility, participatory decision-making process and communication in enhancing collaboration among health practitioners (Elugwu *et al.*, 2023; Opele, 2022; McLaughlin *et al.*, 2020). However, limited research has explored the specific features of IPL dynamics and their impact on healthcare management. The significant poor relationship between IPL and the outcomes of healthcare delivery system could be chanelled to the nature of learning and practice settings.

Generating proves from well-resourced environment is challenging, more taskier in developing countries with fewer research and data resources (IOM, 2015). Therefore, it becomes imperative to assess the specific features of existing IPL, the level of relationship existing among healthcare professionals, their knowledge, readiness, perception, and attitude towards IPL in South-Eastern Nigeria. These could better the understanding necessary to develop effective interventions to enhance healthcare services as the vital intermediary in connecting IPL with healthcare outcomes is through improved collaborative practice (IOM, 2015; Zwarenstein *et al.*, 2009).

1.3 Purpose of Research

To assess the characteristic features of interprofessional learning affecting healthcare management in a dynamic healthcare environment in South-Eastern Nigeria. While literature has described the importance of IPE and IPL, there is crucial need to better understand how to align education and practice opportunities so that innovative models of IPL can be successfully implemented and sustained.

Specific Objectives

To examine socio-economic confounders affecting radiographers' relationship with other healthcare professionals using IPL objectives as management tools.

To assess level of professional dynamics existing among healthcare professionals within the South-Eastern Nigeria.

To assess specific features of IPL in healthcare management in this locality.

To identify the benefits of interprofessional practices faced by radiographers as a member of multidisciplinary team.

1.4 Significance of the Study

The influence of socio-economic factors on radiographers' relationship with other healthcare professionals with reference to interprofessional learning objectives as a management tool will enable healthcare institutions to be conscious of its effect on multidisciplinary collaborative practice. This might initiate institutional support for interprofessional learning programme to encourage teamwork, collaboration, communication, and conflict resolution strategies.

Provision of information on the level of professional dynamics to the stakeholders will enable them to reinforce through health policy development and implementation to provide harmony among healthcare professionals for optimal patient management.

The observed specific features of interprofessional learning in this locality might initiate a plan for adaptive curriculum review and continuum professional development programme. This will in turn strengthens healthcare workforce well-prepared to function collaboratively in the care of patients and safeguarding the dynamic healthcare environment.

The identified benefits will serve as a guide to radiographers and other healthcare professionals towards positive team dynamics, creating an environment for people's value orientation, staff-patient mutual understanding during and after their hospital care and increases productivity. These will increase generated revenue within the healthcare environment.

1.5 Research Purpose

The unique socio-economic characteristics that exist in the South-Eastern Nigeria could be used to develop key strategies in interprofessional learning to produce authenticity and customization of learning in Nigeria. This study will reveal the capability to transfer IPL knowledge and skills from the learning classroom settings into the clinical environment in this locality.

This study could give more insight on multidisciplinary practice differences, a possible solution which could lead to improving socialization and collaborative behaviours through IPL knowledge in similar developing countries.

CHAPTER II:

REVIEW OF LITERATURE

2.1 Theoretical Framework

The pedagogical theories on strategies for effective interprofessional learning include Allport's intergroup contact theory (Mohaupt *et al.,* 2012), and the Three-P model as (presage, process, and product) of learning and teaching.

2.1.1 Intergroup Contact Theory

This theory was referenced among the most effective ways to enhance cooperation among groups that are having conflict. Allport's theory affirmed interpersonal contact as the most proven ways to minimize prejudice among minority and minority groups. If one could communicate appropriately, it enable comprehension and appreciation of different aspects of their life, leading to new appreciation and understanding; prejudice is minimized (Bogossian *et al.,* 2023). The issue of stereotyping, prejudice, and discrimination are frequently encountered among conflict groups (Elugwu *et al.,* 2023; Lieneck *et al.,* 2022). Properly managed contact among groups will minimize misunderstanding thereby improving interaction outcomes (Mohaupt *et al.,* 2012). Contact does not prevent misunderstanding in situations where distress exist among participants. The longer the contact situations the less the distress for the members of the groups to feel better among themselfs (McLaughlin *et al.,* 2020; Mohaupt *et al.,* 2012). To maximize outcomes, positive contact is essential with following criteria:

Equal status: The team have to participate in an equal and respectful manner in their relationship. It should be better members posses likely backgrounds, abilities, and features. Dissimilarities in academic knowledge, value, abilities, or experiences should be minimized as these qualities influences the perception among groupings (Bogossian *et al.,* 2023; Lieneck *et al.,* 2022; Guinan *et al.,* 2018). Healthcare professionals should respect each other regardless of their position or social status. Creating a culture of respect and collaboration would enhance healthcare management.

Common goals: The participants should focus on goals and embrace it as a uniting objective. This could be achieved when groups cooporates by combining their individal skills and abilities (Guinan *et al.,* 2018; IOM, 2015; Mohaupt *et al.,* 2012). Trust being an essential component of healthcare management, healthcare professionals should work together to deliver quality care.

Intergroup cooperation: The team need to collaborate towards the targets without competition (Lieneck *et al.,* 2022). Poor organizational structure, inadequate staffing and power imbalances hinders intergroup cooperation and teamwork (IOM, 2015). Teamwork is crucial in the delivery of healthcare services. When healthcare professionals collaborate, they can achieve common objectives and enhance patient outcomes. This can be improved by creating a culture of collaboration and encouraging multidisciplinary research. The target was enhancing collaboration and intensify IPL (Lieneck *et al.,* 2022; Carney et al., 2019; IOM, 2015; Brock *et al.,* 2013).

Support of authorities, law or customs: It is necessary for the groups to respect authorities that orgainize intergroup interactions and association. These interactive activities need to promote good social behavior and damn intergroup comparisons

(McLaughlin *et al.,* 2020; Mohaupt *et al.,* 2012). This could be improved by introducing transparent policies, providing more training, increasing funding, and improving access to medical supplies. Effective leadership requires collaboration and communication among regulatory authorities and all healthcare professionals. Interprofessional learning teaches scholars the essential skills that they would need to become effective leaders, such as risk assessment, conflict resolution, planning, and negotiation.

Personal interaction: The interactive activity have to include informal, personal contact with participating team. Distress groups must engage in conversation with one another. Without this criterion, they are unable to comprehend each other and cross-group friendships will not be present (Carney *et al.,* 2019; Guinan *et al.,* 2018; Mohaupt *et al.,* 2012). Allport intergroup contact theory explained the cause of prejudice as a general or personal belief made about a group with biased information or misconstruct (Mohaupt *et al.,* 2012). The rationale to reduce prejudice increases as learners become aware of groups scopes and ideal roles. This awerness could be altered when individual meets a member who is different from the outgroup concepts belived earlier and subsequently altering their belief.

2.1.1.1 The Effects of Intergroup Contact

Intergroup face-to-face interaction among members do minimize their prejudice as having frequent positive interaction could eradicate prejudice and negative perception (Mohaupt *et al.,* 2012). Positive impacts include enhanced patient-centered care, improved teamwork, communication, confidence, and improved quality of care in clinical settings. It has been demonstrated that pre-practice interprofessional group training is highly beneficial in establishing the foundations for future clinical practice (IOM, 2015; Brock *et al.,* 2013).

This has enabled educators to create simulated interprofessional trainings that demonstrate the essential elements of effective teamwork (Brock *et al.,* 2013; Zwarenstein *et al.,* 2009).

2.1.1.2 Psychological Process Involved in Intergroup Contact

Firstly, Allport stated that intergroup interaction facilitates learning about the out-group and results in a reduction in prejudice. Secondly, intergroup contact reduces distress which paricipants experience during collaborative activities with out-group, this could reduce stereotyping and prejudice towards the out-group. Thirdly, it enhances individuals capability towards comprehending the views of other out-groups. (Lieneck *et al.*, 2022; Mohaupt *et al.*, 2012).

2.1.1.3 Negative Contact

Paolini *et al.,* (2014) reported negative interection being a strong influencer of prejudice than positive encounter as it leeds to silos behaviour out-group members' during the interaction. Study has shown how individual prior contact do determine the extent of conflict in future experiencing positive relation will leesd to a good team dynamics (Paolini *et al.,* 2014). Ineffective group interaction has significant economic consequences that reduce quality, safety and access to care (Brock *et al.*, 2013). The linear correlation between group interaction and patient safety lead to the coaching of future healthcare practitioners to cooperate as teammates in the healthcare settings (Brock *et al.,* 2013).

2.1.2 Three (3)-P's Model (Presage, Process and Product)

Presage, Process and Product Model describes the interplay and relationships between the different components of learning. Biggs and Tang (2011) defined presage factors as socio-political nature of learning and the characteristics of the individuals (planners, teachers, and learners) who participate in learning/teaching. Process factors were regarded as the approaches to learning and teaching that were employed in an educational endeavor and product factors were observed as the results of the learning (Hammick *et al.*, 2007). The 3P's model was utilized to evaluate an IPL approach in the healthcare involving mental homes. It was discovered following this study that there were positive outcome through this model to untangle compilcated confounding factor that could hinder IPL success. Most importantly, this model highlighted key ways to create new views, linking ideas and providing detailed necessity of presage in correlation to the process and the product outcomes (Hammick *et al.*, 2007).

2.1.2.1 The Presage of Interprofessional Learning: Context of Interprofessional Learning. These factors impact on the development and implementation of IPL: geography and demography, learner numbers, professional grouping, and resources (Bogossian *et al.*, 2023; Lieneck *et al.*, 2022; IOM, 2015; Hammick *et al.*, 2007).

A) Geography and Demography

According to Hammick *et al.*, 2007, there was lack of knowledge regarding most IPL concept and context, likely geography, background, gender and ethnic groups which could contribute to shaping IPL programmes, participants' experiences and possibly outcomes. Gender influence among radiographers and other healthcare practitioners relation could have caused the perceived differences in accommodation, collaboration, teamwork,

conflict resolution, prejudice, communication, and respect among healthcare professionals. (Elugwu *et al.,* 2023).

B) Learner Professions and Numbers

The vast majority of practitioners across professions have positive influence on IPL intervention as each learns about the other group duties in practice (Bogossian *et al.,* 2023; Lieneck *et al.,* 2022; McLaughlin *et al.,* 2020; Guinan *et al.,* 2018). Large class number has been reported not to help in having an effective interprofessional training as learners indicated that an increase in participants' number with respect to interprofessional training would be inconvenient (Bogossian *et al.,* 2023; Lieneck *et al.,* 2022; Christian *et al.,* 2020; Olson and Bialocerkowski, 2014).

C) Drivers for Interprofessional Learning

Interprofessional learning occurs as a need for patient outcome betterment using enhanced collaborative learning initiatives. Bogossian *et al.,* (2023) and Missen *et al.,* (2012) identified the essensce for leaders commitment in service particularly to support continued commitment to sustainable services. Another driver for development of IPL wasto ensure information are passed accurately, this will aid understanding and promotes learing for collaborative purposes (Bogossian *et al.,* 2023; Lee *et al.,* 2022; Lieneck *et al.,* 2022). The most ecffective pattern of learning to collaborate is through routine engagement in the activity (Elugwu *et al.,* 2023; Hammick *et al.,* 2007).

D) Resources for Interprofessional Learning.

Organisation having resources to mange facilities were basic factors in initiating and promoting IPL activities. Physicians have low expectations of the IPL intervention and believe the initiative is not encouraged by their organisation (Hammick *et al.,* 2007). Bogossian *et al.,* (2023), advised on structural building benefits and leader supports in promoting cooperative efforts. Scheduling among groups for IPL initiatives in professional settings remains a challenge (Bogossian *et al.,* 2023; Lee *et al.,* 2022; Lieneck *et al.,* 2022; McLaughlin *et al.,* 2020; Carney *et al.,* 2019; McGettigan and McKendree 2015; Hammick *et al.,* 2007). Lee *et al.,* (2022) and Carney *et al.,* (2019) reported that having the period all participating learning groups are available remains a difficult task. Most researchers acknowledged external and institutional funding to developed, implement, and evaluate the IPL despite being a challenging task (Bogossian *et al.,* 2023; Lieneck *et al.,* 2022; McGettigan and McKendree 2015; Hangula *et al.,* 2013; Missen *et al.,* 2012).

E) Facilitator Characteristics in Interprofessional Learning

Facilitator characteristic is a determinant in learning processes and outcomes of interprofessional practice (Bogossian *et al.,* 2023; Lieneck *et al.,* 2022). Bogossian *et al.,* (2023) affirmed that quality of supervision was important to scholars' satisfaction during IPL. Lee *et al.,* (2022) revealed that facilitators of interprofessional interventions use styles of facilitation with their students' teams that encourage and direct them on how to collaborate as an interprofessional collaborator. Lee *et al.,* (2022) employed educational pedagogical initiatives as the participating groups were composed of multidisciplinary and skilled educators who planned and facilitated the session which resulted to a successful outcome.

F) Learner Characteristics in Interprofessional Learning

According to Bogossian *et al.,* (2023) learners' characteristics include, but not limited to expectations, beliefs, and motivations about IPL for collaborative patient care, can be a limiting factor if not put to check. Amongst participants, there was a positive attitude towards IPL among them following an invitation to participate in IPL, these were good feedback among the students relation and understanding of others roles in clinical environment (Bogossian *et al.,* 2023; Guinan *et al.,* 2018). Studies demonstrated the importance of experience and involvement of practitioners in IPL activities: the greater an individual get involved the better their perception and social engagement (Bogossian *et al.,* 2023; Showande and Ibirongbe 2023; Carney *et al.,* 2019; Al-Shaikh *et al.,* 2018; Okoronkwo *et al.,* 2013).

Lieneck *et al.,* (2022) revealed participants had ranges of willingness towards engaging in an optional IPL event. Reluctancy had been connected to structural challenges, scheduling or poor prove of assessment (Lee *et al.,* 2022; Carney *et al.,* 2019). Zoriah *et al.,* (2011) found that students participating in an IPL placement at a relatively short period of time was experienced in clashes with their profession-specific lecturing schedule. Equally student doctors in a study by Zoriah *et al.,* (2011) reported distress in making meening in learning that which would not be academically evaluated. Zoriah *et al.,* (2011) stated that medical scholars were mostly reluctant to volunteer to participate in IPL. These studies examined the underlying reasons for reluctance as most professionals prefer uni-professional growth.

Hammick *et al.,* (2007) noted that stereotyping and negative views of respective professional responsibilities were limiting factors of IPL initiative. Scholars believed that

group stereotypes and hierarchies could be a challenge in IPL intervention (Bogossian *et al.,* 2023; Rabani *et al.,* 2021; Guinan *et al.,* 2018; Zoriah *et al.,* 2011). Zoriah *et al.,* (2011) found that many scholars in their early professional training had enrolled into a discipline with a subtle attitude of prejudices for other professions, which influenced their early interprofessional interactions. Hammick *et al.,* (2007) found out that every professional group valued their discipline comparably higher while the education quality of student doctors were significantly higher. Student doctors were considered more compassionate by allied health professionals, equally medical students valued other discipline to be knowledgable (Zoriah *et al.,* 2011; Hammick *et al.,* 2007).

Zoriah *et al.,* (2011) reported that professional orientation strongly influences interprofessional learning in medicine, nursing, midwifery, and allied health professions. They also stated that age, prior working engagement, and professionals' interaction contribute to their perception regarding other disciplines and teamwork. Fear of failure in front of other professionals regardless of their professional background was noted as a serious challenge towards collaborative attitude (McLaughlin *et al.,* 2020).

According to Hammick *et al.,* (2007) in the 3-P model, gender is a key element of presage. Guinan *et al.,* (2018) found that female practitioners exhibited positive dynaics towards IPL than male scholars. Most of the healthcare workers in IPL were female, as most healthcare practitioners are female (Hammick *et al.,* 2007). Guinan *et al.,* (2018) reported that the male participants and the doctors were dominant during the discussion as a result of a gender imbalance.

2.1.2.2 The Process in Interprofessional Learning

A) Facilitating Interprofessional Learning

The ability of the facilitator to work creatively with the scholars encourages effective interprofessional teaching (Lee *et al.,* 2022; Lieneck *et al.,* 2022). This enables a frequent assessment of self and career learning knowledge to assist scholars in their development process (Lee *et al.,* 2022). Coaching by facilitators as an expertise helps the scholars initiate team building faculty (Bogossian *et al.,* 2023; Lee *et al.,* 2022). Creating opportunities for clinical staffs' interaction through interprofessional learning can serve as professional development programme (Lee *et al.,* 2022; McLinghlin *et al.,* 2020).

B) Design for Adult Learning

According to the adult learning theory of Knowles, learning is more effective when scholars determine the content of learning which should be relevant to their personal and professional practice (Lee *et al.,* 2022). It is essential to consider who is able to control the content and process of IPL (Lee *et al.,* 2022; Hammick *et al.,* 2007). Adults scholars engage more when there is mutual agreement between the scolars and the facilitators (Lee *et al.,* 2022). In the process where scholars trust in facilitators' knowledge and in their abilities, it is an additional motivation to the learning groups (Lee *et al.,* 2022; Hammick *et al.,* 2007).

C) Learner Choice During Interprofessional Learning

According to Bogossian *et al.,* (2023), Lee *et al.,* (2022) and IOM, (2015) learner choice at any moment varies which includes: the choice of participating, the choice of what they engage in or what is addressed in the IPL, selection of the number of participants in a group. When IPL is implemented at the management level, learners may have no choice (Hammick *et al.,* 2007). When IPL is initiated for quality improvement to enhance clinical

engagements, team members are motivated to actively identify relevant issues and the obstacles to improvement (Lee *et al.,* 2022; Lieneck *et al.,* 2022; Carney *et al.*, 2019; IOM, 2015). One aspect of pre-qualification learning was the difference in mandatory attendance to IPE activities (Hammick *et al.,* 2007).

D) Authenticity and Customization of Interprofessional Learning

In Bogossian *et al.,* (2023), Lee *et al.,* (2022) and IOM, (2015) the need to utilize adult learning in IPL became an essential factor for accepted IPL. They also noted that IPL requires the initiation and learning to be tailored to the concerned group and their discipline approach, resulting in authenticity from the learning experience. Receiving feedback from team members and a conducive learning environment for IPL were motivating factors (Carney *et al.,* 2019; Okoronkwo *et al.,* 2013; Hammick *et al.,* 2007). Working with simulated patients serves as a learning subject in practice and is a acceptable IPL practice (Brock *et al.,* 2013; Zwarenstein *et al.,* 2009).

Authenticity in learning enhances efficiency of IPL through the various means of promoting learning (Lee *et al.,* 2022; Lieneck *et al.,* 2022; IOM, 2015). Customization of IPL to look realistic of everyday practice for certain groups was a mechanism for productive outcomes and it goes far being a nessecity to the practice need to the individual practitioner (Lee *et al.,* 2022; IOM, 2015; Hammick *et al.,* 2007). Bogossian *et al.,* (2023) and Lee *et al.,* (2022) reported that participants selected potentially good practices for IPL development according to their organizational structure. Institute of Medicine (2015) and Zoriah *et al.,* (2011) reported that the longer course duration the more positive effects it has on the scholars' perceptions.

2.1.2.3 The Product of Interprofessional Learning

McLaughlin *et al.,* (2020) and IOM, (2015) reported the essential components of interprofessional learning intervention as positive learning outcomes for the participant as well as standardized organizational service and effective patient care. Interprofessional learning outcomes extend beyound significant knowledge, and characters requirement for practitioners ability and confidence in patient care (Carney *et al.,* 2019; IOM, 2015). IPL and interprofessional continuing professional development outcomes are characterized by improvement in practitioner behavior, and client services (Lieneck *et al.,* 2022; Reeves *et al.,* 2015; Zwarenstein *et al.,* 2009).

Interprofessional learning enhances team work and respect for the opinions of each practitioner, enhancing staff satisfaction, pratitioners attitude, and minimization of hospital-based error (Al-Shaikh *et al.,* 2018). Scholars with previous experience in an IPL activities showed confident in communication and socialize more with other practitioners (Al-Shaikh *et al.,* 2018; IOM, 2015; Carney et al., 2019).

2.2 Theory of Reasoned Action

Showande and Ibirongbe (2023) revealed that many developed nations enforced interprofessional education (IPE) system with its adjunct engagement of interprofessional collaborative practice (IPCP). Nigeria was not concurrent about IPE, they researchers aimed to evaluate the attitudes pharmacy trainees and practicing pharmacists towards IPE and IPCP, obstacles were reported with opinion on its remedy. The Interprofessional Attitude Scale was used survey a cross-sectional study of 238 pharmacists and 765 pharmacist students through an online questionnaire. The majority of pharmacists (87%) and pharmacy students (82.2%) assert the necessity for healthcare practitioners to learn among themselves and have positive attitudes towards IPE and IPCP. Professional pride (hierarchical status) pharmacists (21.42%), pharmacy trainees (7.19%), prejudice against other health professions pharmacists (14.7%), pharmacy students (9.67%)], uni-professional activities, and government policies pharmacists = 10 (4.2%), pharmacy trainees = 20 (2.61%) were perceived as obstacles to the implementation of IPE and IPCP. This study recommended cooperation among healthcare professionals to reduce professional conflict, the implementation of IPE in undergraduate pharmacy curriculum and to make available of required resources as a priority by the government authorities. Efforts are needed for favorable implementation of policies to support IPE and learning in Nigeria.

Rabani *et al.*, (2021) in researching scholars' view regarding the institutional hierarchy in clinical environment, the effects it has on interdisciplinary learning and its outcomes which was linked to clinical tribalism. The use of questionnaire was adopted in this survey. The study revealed that trainees (87.7%, n=50) were knowledgeable of institutional hierarchy existence, indicating the inclination of value from allied health

professionals, nurses, pharmacists, and doctors being the highest in order. Many individuals, 61.4% (n=35), showed willingness to engage in interprofessional learning programs. The majority of trainees (70.1%, n=40) concur interprofessional learning programs contributing much towards patient-centred care, and helps understand each healthcare practitioners' responsibilities (82.5%, n=47) but rather lack the capacity to alter the ideology of hierarchical value among scholars. This has made the trainees remarkable opinion unchanged about ranking doctors with higher value in clinical environments.

Maharajan *et al.,* (2017), worked on the readiness for and perception of IPL among health care undergraduate students for a period of 6 months in the International Medical University, Malaysia using two questionnaires: 'Readiness for Interprofessional Learning Scale' and the 'Interdisciplinary Education Perception Scale'. The Intra-class correlation of Readiness for Interprofessional Learning Scale had 0.76 with Cronbach's value 0.90. Using a confidence interval of 95%, a high score, which was good dynamics towards IPL, was observed. The Interdisciplinary Education Perception Scale (IEPS) was also adopted to evaluate behavioral change among healthcare trainees. It comprised three domains (competency and autonomy, perceived need for cooperation, and perception of actual cooperation) with 12 items. The validated instrument used a 6-point Likert-scale (strongly disagree = 1, moderately disagree = 2, somewhat disagree = 3, somewhat agree = 4, moderately agree = 5 and strongly agree = 6). It has Cronbach's alpha of 0.80 and a test reliability of 0.60, a higher mean score which was a sign of positive IPL dynamics. The trainees' demographic data (age, gender, ethnicity, program of study and prior experience of IPL) were documented. The average questionnaire returned was 83% where scholars affirmed that sharing learning among practitioners enlightens their knowledge about clinical

issues. The scholars concur that shared learning enhances their communication to each other. Trainees felt favored working and learning uni-professionally. Student doctors, pharmacy trainees, and health sciences scholars had differing opinions about the negative professional identity. According to their years of studies, teamwork, negative group identity and roles had a greater impact on students' opinion. Attitudes and readiness to engage in IPL showed significant differences among groups which was influenced by the trainees' years of study. Interprofessional learning activities needs inclusivity in institutions curriculum, this will encourage trainee's competency in healthcare environment and acknowledging each other's roles.

Okoronkwo *et al.,* (2013) in their study identified factors which could Favor and impede interprofessional interactive practice among practitioners at the Nnamdi Azikiwe teaching hospital, Nigeria. They utilized cross-sectional and quantitative method using a validated structured questionnaire. The 110 doctors and 95 nurses in the teaching hospital were surveyed on their perception and factors that influence or hinder ICP. The data were analyzed to determine the influence of profession, gender, and years of experience on perception of ICP at 0.05 level of significance. The study concluded that both practitioners had positive perceptions of ICP in southeast Nigeria. The association of gender of both practitioners on their view of ICP were not significant (p value = 0.2782, df = 18, t = 1.118). They noted that years of working in clinical environment had notable influence on their view, those who have spent more than 6 years had a good knowledge of ICP better than those below 6 years of working experience. There was no association between respondents' profession and their understanding of ICP.

Booysen *et al*, (2012), the knowledgeability, views and understanding of trainees in healthcare and qualified practitioners towards multidisciplinary practices were assessed. The researchers carried out a descriptive cross-sectional survey through a self-administered, face-tested survey for qualitative as well a quantitative data collection. It included 16 open-ended and closed ended questions. The closed-ended questions consisted of several-choice questions and Likert interval scales. The sample size was 529, comprising first-year students, final-year students and working professionals in the fields of medicine, dietetics, physiotherapy, occupational therapy, and speech-language and hearing therapy. They observed an increase in proficiency in understanding the scope of each profession among the graduating scholars compared to the beginners. There were no distinguishable remarks in understanding among working professionals and the 1st year trainees. There was less knowledge regarding allied health sciences scope with a p-value of 0.001. There was a uniformity in agreement that patients would always benefit from interdisciplinary treatment. The researchers asserted that good patient prognosis was linked to interdisciplinary team care, which increased with years of engagement (p-value = 0.019). The subjects regarded clinicians as being valuable during collaborative activities while other allied health sciences were equally valued. Practitioners with advanced practices felt more confident in interregional involvement of another discipline role. There was an increase in understanding of the role of the dietitian from first year students to final-year students with a p-value of 0.001, however, it remained at the same level among the working personnel. The study confirmed that as much experience one acquires through collaborative initiatives the better their understanding towards team functions which increases with years of involvement and engagement in healthcare environment.

Al-Shaikh *et al.*, (2018) the Saudi Arabian medical and dental students expressed their concern for IPL. Through cross-sectional survey 278 trainees participated the IPL foundation block and professionalism modules in their basic learning. A modification on existing RIPLS survey instrument having 4 subscales and 29 items was used to collect trainees view towards shared learning. A 5-point Likert scale was utilized. The scholars t test detected differences among the mean scores of both trainee group. The scholars had a mean age of 19.8±1.7 years. The study demonstrated no variance in mean responses of both trainee group who participated. Shared learning initiatives towards practitioner's skills and patient-centered care was highly regarded. Respondents affirmed developing mutual trust for other individuals through IPL engagements. Participants desired uni-professional learning to create distinct identities and autonomy. There was positive response towards IPL and the teamwork. It was reported that more attention must be given to encourage learners' efforts in understanding each professions roles in clinical system.

McGettigan and McKendree (2015), interprofessional training impacts both practitioners and scholars in providing enabling environment for interdisciplinary placement in clinical areas. A mixed method was employed, including an instrument for Psychological and Social Factors which was utilized on focus group to evaluate the impact of staff while the impact on trainees were assessed through Readiness for Interprofessional Learning Survey (RIPLS). A two-week interprofessional training program was conducted among trainees in their final year. They provided evidence of skill recognition and expertise sharing as the benefits identified by the staff. The placement was highly rated by the medical students despite the small number of students from other professions. Ward functioning was observed to be stable. The RIPLS values on teamwork, and centered care

were significantly improved. Budgetary constraints and large student numbers were a major obstacle for the continuation of the program. They study encouraged clinical based training through IPL program as it benefits patients and practitioners. They asserted that having group of trainees from different professions will not be helpful rather mentors from various professions with trainees in single profession was more effective. The most cited barrier to interprofessional training was aligning schedules of various group in organization. Interprofessional learning can be utilized by providing authentic interprofessional training experience.

Brock *et al.,* (2013) reported that medical errors and negative health outcomes were linked to communication failure. This increases the emphasis on training healthcare professionals to excel in teamwork. The study focused on the effectiveness of simulation-based Team Strategies and tools to Improve Performance and Patient Safety (TeamSTEPPS) training and its impact on trainees' view, understanding, and competency regarding team communication. Three hundred and six (306) medical, nursing, pharmacy, and physician assistant students participated in a four (4) hours training that included a one (1) hour TeamSTEPPS didactic session. Preassessments and postassessments were employed to evaluate attitudes, beliefs, and reported opportunities to observe or participate in team communication behavior. Many scholars (48.7%) did preassessments and postassessments. Significant differences were reports for attitudes toward team communication ($p<0.001$), motivation ($p<0.001$), utility of training ($p<0.001$) and self-efficacy ($p=0.005$). There was a significant attitudinal shift for TeamSTEPPS skills, including team structure ($p=0.002$), mutual assistance ($p=0.003$) and communication ($p=0.002$). There were significant shifts in knowledge of TeamSTEPPS ($p<0.001$) and

communicating in interprofessional teams' practices ($p<0.001$). This study demonstrates positive attitudinal and knowledge benefits for IPL.

Yu-Chih Lin *et al.,* (2013), the impact of problem-based learning (PBL) curricular model on trainees' understanding and confidence on collaborative activities in clinical settings. The participants were thirty-six medical and nursing students' volunteers, and they were in three set (medical group, nursing group, and mixed group). The PBL tutorials provided a multiperspective problem analysis tool for a narrative story with multiple story lines. The participants were self-evaluated through questionnaire. The questionnaire internal consistency was observed by cronbach alpha. The validity was checked through comparisons between the dimension scores and the student group by one-way analysis of variance test (ANOVA) test and Tukey-Kramer honestly significant difference (HSD) comparisons. The distinction between scholars' capability and view regarding "interprofessional communication and collaboration" ($p = 0.0184$) was significant. The result showed that the scores in the mixed group (37.58 ± 3.26) were on raise compared to the medical group (32.10 ± 4.98). They also stated that there were different viewpoints among the participants involved in the study. The participants suggested that healthcare professionals should learn to recognize and respect other individuals' views. In practice, many groups may experience difficulties distinctly and may possess views that are peculiar to a profession, leading to having more than one solution benefiting various clinical ethic situation. The participants suggested that understanding law and ethics is essential for decision purposes in ethical challenges. Almost all the participants suggested that a systematic approach for ethical reasoning is essential, and it is essential to the tutors to provide it during the tutorial sessions. The participants acknowledged that the programme

was stressful, but rewarding to collaborate among groups to provide help in challenging issues. The researchers concluded that trainees in other disciplines were supportive in making decisions in clinical situations. The overall satisfaction rate was approximately 79.41% for students' course satisfaction, while the satisfaction rating of mentors was 82.35%. Many participants (82.35%) affirmed IPL to be effective in enhancing their clinical ethics knowledge, which supports the evidence that the study model is effective. Conclusively, the models through which interprofessional PBL offers learning of clinical ethics is much more effective, yielding positive outcomes on trainees' view and behaviors in interprofessional collaborative practice.

Pinto *et al.,* (2012), interprofessional education (IPE) clinical placement influences healthcare professional (HCP) scholars' view of interprofessional collaboration (IPC) similar to that of trainees in a traditional clinical placement. A mixed-method design was implemented, utilizing quantitative data from the self-administered Interdisciplinary Education Perception Scale (IEPS) and qualitative data from focus groups. The IEPS was administered to HCP students (n ¼ 36) in two Toronto hospitals before and after a structured 5-week IPE clinical placement to examine changes in their perceptions of IPC. Students in a traditional clinical placement (n ¼ 28) were used as a control group. Focus groups were then conducted with seven students who took part in the structured IPE clinical placement to explore their opinion on IPE. No statistically significant differences between groups after the structured IPE clinical placement were evident. The intervention group demonstrated a more positive outcome in all IEPS scores from baseline to follow-up. Students appreciated the understanding and competency gained during the structured IPE clinical engagement. Students demonstrated that structured IPE engagement gives insight

about collaborative initiatives and enlighten participants the benefits of IPC in improving care management and overall care delivery. The use of case studies was recognized as highly valuable to the student learning experience and suggested a team representative from the workplace for authenticity of learning. Students demonstrated an increase in knowledge and regards for each other duty in each group. The scholars also noted the issues of the IPE initiatives to include time constraints, scheduling, incomplete team, lack of conflict-resolution training, and varying levels of trainees' commitment to the IPE engagements. Participants assert to know the theory of IPE but found it challenging to act on during practice due to their facilitators' lack of practice, it is likely due to schedule issues or lack of IPE guide. Many scholars agreed that opportunities for IPE should be made available at undergraduate level before completing the job. Scholars who learn IPE have better view towards collaboration within the healthcare environment.

2.3 Human Society Theory

Multidisciplinary collaboration creates avenue for professionals to comprehend their academic learning in clinical practice settings through observation of, and involvement in patient management (Lee *et al.,* 2022; Opele, 2022; Henderson *et al.,* 2010; Zwarenstein *et al.,* 2009). There was evidence to suggest that more experienced learners demonstrate greater understanding of each professionals roles, as well as improved attitudes towards IPL and collaboration (Christian *et al.,* 2020; IOM; 2015; Mohaupt *et al.,* 2012). The extent of participants' previous IPE exposure and various experiences could alter participants' perception of another (Lieneck *et al.,* 2022; Christian *et al.,* 2020; Pinto *et al.,* 2012).

The qualities of an interdisciplinary team include accommodation, communication, collaboration, appropriate resources and procedures, quality care, respecting and understanding each other's role which are the key objectives of IPL. Interprofessional learning enhances awareness and understanding each group duty and enhances their collaboration clinical decision making as well as meeting the needs of patients (McLaughlin *et al.,* 2020; IOM, 2015; WHO, 2010). It could improve scholars' perceptions of the benefits of interprofessional collaboration (IPC), enhance clinical self-confidence and a stronger sense of professional autonomy (Nwobodo *et al.,* 2021; Carney *et al.,* 2019; Pinto *et al.,* 2012). These changes are favourable which has been observed to enhance team work and minimize the onpass of negative perception in healthcare settings (Elugwu *et al.,* 2023).

Henderson *et al.,* (2010) reported that the quality of teamwork and co-operation between health professionals is 'under the microscope'. The typical Nigeria healthcare system could be cited as an environment where conflict is inevitable (Nwobodo *et al.,* 2021). According to Bogossian *et al.,* (2023) . Interprofessional Education for Collaborative

Patient-Centred Practice (IECPCP) Framework is influenced by the outcome of interprofessional learning. The effects of each categorical IECPCP framework factors; micro level (socialization issues, learning context, and faculty development), meso level (leadership and resources, administrative processes), and macro level (education system, government policies, social and cultural values) on the competency of each professional towards collaborative practices, communication, conflict resolution strategies, prejudice, role identification, and teamwork within the healthcare system and environment, interprofessional learning dynamics arises.

Aligning societal healthcare need demands both reengineering of existing interprofessional practice models as well as redesigning the clinical learning environment for health practitioners (Lee *et al.,* 2022; McLaughlin *et al.,* 2020; IOM, 2015). Facilitating interprofessional learning across and between professional groups can be detrimental to patient flow systems, staff resources, healthcare processes, organisational structures and health policy makers do not support multidisciplinary involvement during the clinical experience (Bogossian *et al.,* 2023; Zwarenstein *et al.,* 2009). Organizational support is imperative to successful interprofessional learning but hindered by lack of the management willingness to support, as well as regulatory frameworks (Lieneck *et al.,* 2022; Reeves 2016; IOM, 2015; Zwarenstein *et al*., 2009).

Observed differences in professional status, low participation rates among health professionals, time constraints, leaners' number, and lack of conflict-resolution strategies were described as challenging factor (Lee *et al.,* 2022; Nwobodo *et al.,* 2021; McLaughlin *et al.,* 2020; Carney *et al.,* 2019; IOM; 2015; Pinto *et al.,* 2012). Awareness of these factors might improve institutions' understanding of healthcare professionals' needs, maximizing

the benefit gained from interprofessional education and IPL programmes (Lee *et al.,* 2022; Lieneck *et al.,* 2022; McLaughlin *et al.,* 2020).

Interprofessional learning has been identified as a feasible aid to these challenges, as it can help break down professional silos and promote collaboration and teamwork among healthcare providers from different disciplines (Opele, 2022; Egwu *et al.,* 2020; Carney *et al.,* 2019). Bogossian *et al.,* (2023), Christian *et al.,* (2020) and IOM, (2015) reported that a well-designed program could also have differed level of success, it is imperative to examine the quality of IPL implementation. The most effective way of learning to work together is by doing it: participating in a task with the objectives to build a working environment. This helps trainees understand themselves and their duties through collaborative supports (Elugwu *et al.,* 2023; IOM, 2015).

According to Elugwu *et al.*, (2023) using Interprofessional Learning Dynamic Scale (IPLDS), reported level of education as socio-cultural factors having negative impact on IPL dimensions. There was noted significant differences among healthcare professionals' relationship, and perceptive attitude to collaborative practices which may be contributed by socio-cultural factors or mode of learning. Therefore, healthcare managers must understand the characteristics and challenges of IPL to develop effective structures, policies, and strategies that promote interprofessional collaboration and teamwork.

Medical technology advancements for effective patient care demands optimal co-operation of healthcare givers through collaboration and positive professional dynamics. Opele, (2022) and Neese, (2016) documented that for a health professional to be exceedingly competent during patient management, the communication skills must be good to link with patients, health carer and other members of the multidisciplinary team.

Interprofessional learning is essential for enhancing healthcare professionals' skills and competencies for improved patient outcomes (IOM, 2015). Shared responsibility, participatory decision-making, communication, and mutual respect are vital IPL dynamics that should be incorporated into healthcare management in South-East Nigeria. There is a need to incorporate IPL into healthcare curricula and address the barriers hindering effective IPL in the region (Elugwu *et al.,* 2023; IOM, 2015).

2.3.1 History of Interprofessional Learning in Nigeria.

Interprofessional education (IPE) is a process of learning and cooperating among various healthcare groups, including physicians, nurses, dentists, pharmacists, radiographers, and others, to promote effective team-based patient care (Showande and Ibirongbe, 2023). While the concept of interprofessional education in Nigeria may be relatively new, there has been a gradual development of the approach over the years (IOM, 2015). The history of interprofessional education in Nigeria is traced back to the colonial period when the British medical personnel established the first healthcare system in the country. During this period, healthcare was predominately delivered by physicians, with little involvement of other healthcare professionals (Osaro and Charles, 2014).

After the country gained independence in 1960, there was a need to improve the healthcare system to accommodate the growing population. As a result, nursing and midwifery schools were established to train more nurses and midwives as demand increases for healthcare services (Okoronkwo *et al.,* 2013). The WHO supports IPE through extensive efforts including the “Learning Together to Work Together for Health” to advocate for IPE and Interprofessional collaborative practice (IPCP) as early as 1973 (Showande and Ibirongbe, 2023). The 1978 Alma-Ata Declaration on primary services was a meaningful

growth in the establishment of healthcare in Nigeria.The declaration recognized the need for a multidisciplinary approach to healthcare delivery, which included the involvement of other healthcare professionals like pharmacists, physiotherapists, radiographers, and health extension workers (Elugwu *et al.*, 2023). This marked the beginning of a shift towards interprofessional education in healthcare management.

In 1998, Institute of Medicine (IOM) published a report titled “The Future of Nursing: Leading Change, Advancing Health”. This emphasized on the need for interprofessional collaboration in healthcare delivery (Bleich, 2011). The report led to the establishment of interprofessional education programs across the globe, including Nigeria. The first interprofessional education program in Nigeria was introduced in the late 1990s at the College of Medicine, University of Lagos. The program focused on enhancing collaborative skills among healthcare professionals to improve patient care. In 2007, the Nigerian Medical Association and the National Association of Nigerian Nurses and Midwives developed a collaborative program to enhance interprofessional education in Nigeria.

In 2010, the WHO introduced the Interprofessional Education Collaborative (IPEC) to promote interdisciplinary education globally and are of the opioion that IPE should be included in health curriculum (Showande and Ibirongbe, 2023). In Nigeria, the IPEC influenced the structuring of interprofessional education programs, including Nigeria Interprofessional Health Education Project (NIHEP). NIHEP is a collaboration between three Nigerian universities, including Bayero University, University of Ibadan, and University of Nigeria, to promote interprofessional education in healthcare management (Oladimeji, Okuzu, and Olaniran 2022). The program focuses on developing a curriculum

that brings together healthcare professionals from different specialties, to provide a better understanding of different healthcare professions.

Although, recent study by Showande and Ibirongbe (2023) reported that. IPE is scarce in many pharmacy schools in Nigeria due to the outdated Bachelor of Pharmacy (BPharm) curriculum, which did not consider IPE inclusion. The National Universities Commission (NUC) on December 2021 endorsed twenty universities for pharmacy programs and eleven have been approved to offer the new PharmD program which is intended to enhance students' professional skills and knowledge and prepare them for collaborative practice through IPE and learning in Nigeria (Showande and Ibirongbe 2023).

2.3.2 Interprofessional Learning Model

According to Showande and Ibirongbe (2023) and IOM, (2015) the healthcare has progressed from a group of individual professionals to interprofessional collaborative practices, thereby featuring this model as the goal standard in clinical settings. Olson and Bialocerkowski (2014), reported that most IPL challenges were lack of transferability of IPL understanding from the classroom to workplace as training where not performed in authentic clinical settings. Early traditional training of healthcare scholars was uni-professional, engendering professional tribalism and hierarchical relationship through an outdated curriculum (Showande and Ibirongbe 2023; Lieneck *et al.,* 2022). Healthcare profession students will hardly interact if professional silos training remain evoke (Carney *et al.,* 2019). It is evident that most of IPL engagements are not natually constructed, which will expedite burning out in clinical engagements as IPL was an extra praticipation which lead to stress in its initiation (Zwarenstein *et al.,* 2009).

Lee, (2022) noted that if IPL active is made engaging, problem-based, goal oriented and experimental, this interactive delivery strategies will motivate professionals to attend. Lieneck *et al.,* (2022) and Missen *et al.,* (2012) suggested a need to devise novel clinical learning models to expand the number of scholars involved in placements with no increase in clinical staff burden nor placing patients at risk. Interprofessional learning is a means to reduce professional silos practices while promoting mutual learning by healthcare professionals (IOM, 2015). Interprofessional learning outcomes could be transferred into practice if the objectives of IPL are consistently introduced in clinical sessions (Lieneck *et al.,* 2022; IOM, 2015). Incorporating IPL into the placement experience can facilitate changes in the healthcare sector as evident in the United Kingdom by the regulatory, governing, and accrediting bodies (Missen *et al.,* 2012; IOM, 2015).

Work-based learning will be more sustained if harmoniously incorporated into continuing interprofessional development programme (Bogossian *et al.,* 2023). Many students observed numerous positive experiences associated with case-based learning (CBL) in enhancing delivery of care (Pinto *et al.,* 2012). Furthermore, to improve communication and competent team for addressing conflicts and equal status, interprofessional problem-based learning (PBL) curriculum is a feasible route for scholars. (Yu-Chi Lin *et al.,* 2013; Zwarenstein *et al.,* 2009). They noted that undergraduate trainees could be distressed as conflicts arises in areas where their roles are needed. Canada is working on healthcare professional programs to develop collaborative model that provide an enhancement for IPL model of healthcare either through small groups, lectures, clinics, or simulation laboratories. (Christian *et al.,* 2020).

Many methods have been employed to teach IPE activities such as case-based interaction, enhanced patient evaluation, roleplaying, or online modules (Lieneck *et al.*, 2022; Christian *et al.*, 2020; IOM, 2015). According to Olson and Bialocerkowski (2014) and IOM, (2015) to identify differences and similarities in IPL models and activities without assumptions of transferability, the model should not be confined to; the model of learning and IPL duration, institutions and scholars conribution. These only cannot be utilized as the basis for developing IPL strategies, because of the unique social and infrastructural characteristics that exist in each society, however these may help organization authorities and health professions understand more about IPL.

In Nigeria, Okoronkwo *et al.*, (2013) found out that physicians preferred intra-disciplinary rather than inter-disciplinary collaborative learning which is not truly supportive of collaborative practice and learning. Al-Shaikh *et al.*, (2018) also report from their study that undergraduate medical and dental trainees wishes to be taught in silos to have seperate professional identity. This increased focus on medical professionals has led to a decrease in healthcare services leading to a less holistic approach to patient care (Al-Shaikh *et al.*, 2018). There was minimal interaction with scholars from other disciplines, introducing a common first year IPL activity for all healthcare professions could be a better way university could encourage cross-disciplinary interaction (Missen *et al.*, 2012). The attributing factor suggests that, in many learning environment, scholars are taught in distinct units as each profession has their specific language, goals as well as departmental rules (Missen *et al.*, 2012).

However, each discipline can not be able to manage the multitude of patients necessities which varies as each patient has a specific need of care. Bogossian *et al.,* (2023), argued that the challenges to organize and implement IPL differed among organizations. Regional based research is essential to understand the challenges and potential solutions for interprofessional learning and collaborative practice in each institution (IOM, 2015; WHO, 2010).

2.3.3 Aim of Interprofessional Learning

Effective interprofessional learning dynamics can improve healthcare management in South-East Nigeria. It improves patient outcomes, increased job satisfaction, and increased efficiency in healthcare service delivery. Interprofessional learning enhances collaboration, improves care, promote patient-centered desicions, and enhance outcomes (Carney *et al.,* 2019; IOM, 2015; McGettigan and Mckendree, 2015). As healthcare management continues to evolve, it is evident that interprofessional learning dynamics are crucial in ensuring the successful delivery of healthcare services.

Henderson *et al.,* (2010) recommended two goals for a considerable amount to be achieved from IPL: Firstly, that the key objectives of IPL should be defined to enable a coordinated response to policy and delivery model development, which should be actively promoted in the work area to clearly define what can be achieved from IPL; secondly, IPL should be supported by genuine clinical involvement to ensure a consistent alignment between learning objectives and clinical learning experiences. This is especially true in South-east Nigeria, where various distinctive features affect healthcare management. Interprofessional Learning (IPL) represents a learning experience that is founded on

collaboration, interaction and cooperation among students and teachers with different healthcare-related professional backgrounds.

The aim of IPL was to create new collaborations, while reinforcing existing interprofessional activities supports integration of team communication into program curricula of various healthcare profession (IOM, 2015; Brock *et al.,* 2013). Carney *et al.,* (2019) and Guinan *et al.,* (2018) reported the acceptance of IPL as participants demonstrated that they had good knowledge needed to cooperate and achieve a common objective for effective care outcomes. Interprofessional learning has become a key foundational understanding to prepare future healthcare professionals for working in the dynamic and demanding healthcare environments. This form of learning fosters professional roles, which in turn can lead to more effective team function (Christian *et al.,* 2020; Carney *et al.,* 2019).

2.3.4 Interprofessional Learning Barriers

Healthcare management in South-east Nigeria is facing various challenges that call for innovative solutions. Interprofessional learning can provide valuable insights into how these challenges can be addressed. Studies revealed that there are limitations in the implementation of interprofessional learning in clinical practice (Lee *et al.,* 2022; Carney *et al.,* 2019; IOM, 2015). These limitations can be mainly attributed to socio-political factors, resource limitations, administrative support, professional stereotypes and so on.

A) Socio-Political Factors

There is gross marginalization in clinical management, although organisations spends a lot, the contempt condition raises a serious concern about management of the health sector especially in south-east of Nigeria (Osaro and Charles, 2014). This may have

led to the bad perception of many healthcare practitioners in this locality. The socio-political factors that affect healthcare management in South-east Nigeria are quite outstanding. Many communities in South-east Nigeria have unique cultural practices that influence their health-seeking behavior and beliefs. These factors emanate from various social and political factors that determine who gets what kind of healthcare service (Showande and Ibirongbe, 2023). Service learning is an integral aspect of IPL, and it involves students acquiring knowledge and skills required to serve their community through healthcare services to underserved populations.

Socio-political factors like ethnicity, gender, religion, socioeconomic status, and others have a substantial impact on healthcare management in the region (Rabani *et al.,* 2021; IOM, 2015; Missen *et al.,* 2012). An interprofessional team comprising members from different cultural backgrounds can help bridge the gap between healthcare providers and patients. These maybe traceable to incessant industrial actions by healthcare professionals as there is lack of political will in public healthcare delivery in Nigeria (Osaro and Charles, 2014).

B) Resource Limitations

One of the critical features that affect healthcare management in South-east Nigeria is resource limitation. Nigeria, like many other African countries, is experiencing a significant resource chasm that is affecting the country's healthcare sector immensely (IOM, 2015; Osaro and Charles, 2014). Limitations to resources both monetary and human resource remain a major stumbling block for interprofessional learning development (Lieneck *et al.,* 2022). The WHO (2010) identified that in most developing nation,

institutions of healthcare must rely heavily on government allocated funds for the effective running of the institution. Funding is the primary challenge of IPL implementation.

Implementing IPL programs can be expensive, and it may require additional staffing, facilities, and equipment to support the program (Missen *et al.*, 2012). The school of medicine and pharmacy of the University of Namibia one of few establishments creating strides in interprofessional learning development have challenges in executing IPL, because of resources: budget and workforce (Hangula *et al.*, 2013). Budgetary constraint was a major challenge for continuation of their IPL program (IOM, 2015; McGettigan and McKendree 2015). Many healthcare institutions in South-east Nigeria have insufficient funding, and this hampers their ability to provide adequate healthcare services. The financial backlog cripples a considerable portion of the country's healthcare sector, impeding necessary treatment of patients, including basic essential treatments.

Supporting the ill requires not less than 30 healthcare care practitioners, including radiographers, medical laboratory scientists, physicians, nurses, physiotherapists, social workers, pharmacists, dieticians, dental laboratory technicians, speech and language therapist, orthoptists, paramedics, practitioner psychologists, prosthetists/orthotists and other healthcare practitioners (Osaro and Charles, 2014). This requires all round support in adapting IPL culture in daily management of the ill for the best healthcare services (Osaro and Charles, 2014).

C) Administrative Support

The administrative authorities must be supportive for effective outcome of interprofessional learning (Lieneck *et al.*, 2022). Administrative support is critical in order to build organizational settings in which interprofessional collaboration can thrive. Essential

enablers for stimulating and sustaining interprofessional learning are leaders (Carney *et al.*, 2019). In 2006, the Health Force Ontario initiative is aimed at encouraging and training healthcare prctitioners and trainees through the Health Force Ontario initiative. George Smitherman, stated, we are supporting innovative approaches to health education and delivery that emphasize a team approach to patient care, which can lead to better care for Ontarians and greater job satisfaction for health professionals (Pinto *et al.,* 2012).

Leadership at the administrative level is fundamental to the accomplishment of interprofessional collaborative practice (IOM, 2015). Leadership from education providers, health services, and regulatory authorities are essential to enable interprofessional learning implementation and a driver to its sustainability within the clinical learning environment (arney *et al.,* 2019; IOM, 2015; Missen *et al.,* 2012). Bogossian *et al.*, (2023), stated that without administrative support, which includes healthcare facility assets such as programmatic infrastructure, management, and facilitators, interprofessional learning cannot progress. Lieneck *et al.,* (2022) and Missen *et al.*, (2012) noted the importance for healthcare organisations to cooperate and initiate IPE within the healthcare environment and as well to provide resources for IPL. Healthcare institutions should provide adequate man power and other resources for IPL to be effective in the clinical setting (Lieneck *et al.*, 2022).

Furthermore, administrative support is needed to schedule rooms, confirm accessibility of supervisors, and find alternatives when required, who are reliable to submit attendances and results of scholars' collaborative efforts (Bogossian *et al.,* 2023). With lack of administrative support, there will be no suitable structure to support and assess professional performance in practice (Van Dijk-de Vries *et al.,* 2012). Providing

opportunity for IPL impacts positively on student attitudes, knowledge and towards practicing in teams. This elevates students' confidence and understanding of their profession as well as other professions, thereby enhancing communication, building trust, and discouraging silo behavior. This is cost effective for the healthcare management team and patients (Missen *et al.,* 2012). Lack of leaders supports these three spheres of office (education providers, healthcare service providers, and regulatory authorities) will limit practitioners' readiness for collaborative clinical engagments (Lieneck *et al.,* 2022; Missen *et al.,* 2012).

(i) Education Providers

Education providers and healthcare professions need to adequately commit to and support IPL initiatives for effective patient care outcomes. When organisational goals and dedicated coordinators who are suitably trained are prioritised, IPL becomes realistic with needed resources to facilitate the process (Lieneck *et al.,* 2022; Missen *et al.,* 2012). This act will lead to students benefiting from the strong foundation as part of their undergraduate clinical education. However, studies have reported that IPL was not formally enlisted as core courses with less focus in clinical education programs (Showande and Ibirongbe 2023; Missen *et al.,* 2012). Creating a common first year IPL activity for all healthcare professionals could be a better way for university to encourage more scholarly cross-disciplinary interaction (Christian *et al.,* 2020).

Okoronkwo *et al.,* (2013) suggested the introduction of interdisciplinary program into the daily learning of trainees to strengthen interprofessional collaborative practice and decrease hindrances when they graduate. The conventional university learning does not make IPL as a specific requirement in undergraduate health professional courses due to the

lack of IPL in practice (Al-Shaikh *et al.,* 2018; Missen *et al.,* 2012). Discipline-specific learning objectives being the priority, this restricts the exposure of scholars to IPL opportunities. Reviews from different studies reported minimal interaction with scholars from other disciplines (Carney *et al.,* 2019). Interprofessional interaction and understanding is the core benefit of including IPL activity in curriculum (Christian *et al.,* 2020; IOM, 2015; Missen *et al.,* 2012).

(ii) Regulatory Authorities and Ineffective Policies

Another feature affecting healthcare management in the region is the absence of effective policies. The regulatory authorities must provide extensive leadership by promoting and valuing IPL as a tool for student social learning (Christian *et al.,* 2020; IOM, 2015). Medical educators asserted that accessing scholars from another profession is challenging due to regulatory limits (Missen *et al.,* 2012). Cross-disciplinary supervision serves as a medium to increase students' number, however, some regulatory authorities insist that undergraduate student's assessment and supervision must be provided within their specific discipline (Missen *et al.,* 2012).

Interprofessional supervision has been suggested to facilitate IPL as there are similarities in elements of students' clinical practice (Missen *et al.,* 2012). In Columbia, the University of British Columbia initiated a consolidation into the College of Health Discipline, IPE workshops and optional courses such as Health Care team Development to facilitate implementation of IPL activities (Christian *et al.,* 2020). The United Kingdom policy provided additional support for IPL in the curricula across health care disciplines in the universities and colleges, thus providing the incentive, regulatory force, and adequate political support. This policy change provided everyone who worked in the National Health

System with the skills and knowledge to collaborate with patient-centered care and has promoted multiprofessionalism (Missen *et al.,* 2012). Although some policies are available, they are often not enforced, leading to a decline in the quality of healthcare services (IOM, 2015).

Osara and Charles (2014) highlighted that most crisis within health sector in Nigeria results from improper heading of hospital and advocated that competent health managers should lead the health facility delivery process. This will help in implementing policies to encourage interprofessional education in healthcare management. Establishing the National Health Policy in 1997, which emphasized the need for multidisciplinary team-based healthcare delivery shows the government recognized the need for healthcare professionals to work collaboratively.

D) Scheduling

The scheduling of IPL sessions can be challenging, and it may require additional planning and communication (Carney *et al.,* 2019). Lieneck *et al.,* (2022), identified time scheduling of interprofessional learning as resource-intensive activity that entail appropriate administrative finance and institution reimbursement, without which it would be impossible for the development of interprofessional learning. IPL requires flexible scheduling as students from different professions may have different clinical schedules. McGettigan and McKendree (2015) cited barrier to interprofessional training as having difficulty in aligning schedules each profession. For example, Lee *et al.*, (2022) highlighted limitation of their study as the small sample size due to clash with clinical working hours. Lieneck *et al.,* (2022) and Pinto *et al.,* (2012) identified challenges of the IPE tutorials to include time

constraint. Without administrative support, organizations will experience challenges in assimilating helpful methods into logistics and scheduling.

E) Class Size and Duration Affect Clinical Demonstration

Proper engagement on IPE in medical environment could have the benefits to create placement ability, preparing scholars for collaborative practice among healthcare professionals to optimize healthcare service outcomes (Missen *et al.,* 2012). McGettigan and McKendree (2015), suggest that institutional managers should not only be involved in introducing interprofessional learning activities, but should also play an influential role in producing an atmosphere in which interprofessional training can be sustained. Large student number was a major challenge for continuation of the IPL program (McGettigan and McKendree 2015). Large class sizes do not help to have an effective interprofessional training; learners referenced large class size with respect to interprofessional training, would be inconvenient (Bogossian *et al.,* 2023). Christian *et al.,* (2020) noted that learner from larger discipline (size) could miss the key benefits of IPL if they are unable to interact with learner from other health discipline. Small size groups were found to be more positive than larger size groups (Christian *et al.,* 2020).

Longer IPL sessions may allow more time for group discussion creating an enabling environment to communicate among themslves and better understand each practitioners role (McLaughlin *et al.,* 2020). Zoriah *et al.,* (2011) reported that the longer duration courses resulted more positive effects on the scholars' perception. While in another study, the length of the IPL session was regarded as time consuming (Rabani *et al.,* 2021). This can be harnessed with required leadership within each sphere of influence (education providers, healthcare providers and regulatory authorities) to checkmate the barriers and

challenges related to IPL processes currently used to educate medical scholars in medical facilities (Missen *et al.,* 2012).

F) Conflicts of Interest

Conflicts of clinical ethics occur among different healthcare professionals (Yu-Chih Lin *et al.,* 2013). When conflicts between different healthcare professionals arise, communication and relationships may be very extreme. Healthcare professionals must deal with conflicts of value that can lead to significant consequences in decision making.(Bogossian *et al.,* 2023; Lieneck *et al.,* 2022; McLaughin *et al.,* 2020). In Nigeria, healthcare professionals do no collaborate well due to demand for superiority of a healthcare profession over others. This results to conflict which threatens to split the healthcare environment apart with a detrimental effect on healthcare management (Osaro and Charles 2014). This is responsible to the low morale and less productivity in the Nigeria healthcare system. There is more to working together as it aid smooth running of the clinical environment (Osaro and Charles 2014).

Interprofessional learning would be beneficial when scholars focus on conflict management and having insight on posible challenges that could surface. (Pinto *et al.,* 2012). They also stated that conflicts arise when scholars are brought together. They argued about problems associated with interprofessional learning, collaborative practice, and conflict resolution and provided valuable ideas that may possibly improve the efficacy of interprofessional learning. Being responsible ot duty and valuing the input from each member in other healthcare disciplines is the way forward (Osaro and Charles 2014). Case-based learning and other models in patient care were also extremely essential to professionals' knowledge acquisition (Lieneck *et al.,* 2022). Stressing more on the

importance of conflict-resolution strategies would be essential. Lack of conflict-resolution training among professionals is an element affecting IPL intervention (Pinto *et al.,* 2012).

Ineffective communication and poor cooperation to overcome conflicts do negatively influence patient care (McLaughlin *et al.*, 2020; IOM, 2015). According to Yu-Chih Lin *et al.*, (2013) conflict is one of the limiting factors towards interprofessional learning which can destroy collaborative teams if not dealt with. Different professional backgrounds may have different perspectives that may lead to conflicts during IPL sessions. There has been an instance where conflicts values occurred during a discussion among scholars from different health care professions though the issue was solved (Yu-Chih Lin *et al.,* 2013). This bad practice needs to be stopped to move the Nigerian health system forward as seen in developed countries in the world. One important future that could provide clear benefit to patient would be that healthcare practitioners work as partners and have mutual respect (IOM, 2015; Osaro and Charles 2014).

Frustrations may occur or be experienced when conflicts of values are encountered. Conflicts of value can lead to significant consequences in decision making, which can occur between patients and medical practitioners and among healthcare practitioners (Bogossian *et al.,* 2023). The key needed for groups to work together is by removing hierarchical style and center the interest on networking and collaboration (IOM, 2015; Osaro and Charles 2014). The process of IPL aims to reduce and eliminate work-related conflicts, supporting clinical workers to recognise their roles in health management (Rabani *et al.,* 2021; IOM, 2015). It is essential to address these conflicts and develop communication strategies for resolving the differences.

G) Professional Culture and Stereotypes

Professional cultures and stereotypes are the main obstructions to collaboration (WHO, 2013). Bogossian *et al.,* (2023) recognizes professional culture as the public inheritance of a community, the total of the careers, ways of discerning and conducts which differentiates one group of people from another and which is likely to be passed down from cohort to cohort. Professional cultures often suppress chances for collaboration and constitute important barriers to attaining interprofessional learning (IOM, 2015; WHO, 2013). Christian *et al.,* (2020) reported decrease in medical learners' attitude in teamwork due to threat to their professional identity among other healthcare practitioners. Resistance to change is a challenge, as some healthcare professionals may be resistant to the change in their traditional roles. Al-Shaikh *et al.,* (2018) reported that most scholars prefer to learn alone in order to preserve discrete professional identities. They may be hesitant to collaborate with other professionals and to share their expertise and knowledge. It is believed that stereotypes and culture of superiority can be traced back to pre-professional years.

Furthermore, the increased specializedization of healthcare, and social care has resulted division in healthcare leading to a less wholesome provision to client need (Al-Shaikh *et al.,* 2018). These may be reduced in healthcare settings when medical trainees witness interprofessional learning at early stage of preprofessional engagement (Egwu *et al.,* 2020; IOM, 2015). Christian *et al.,* (2020) noted that healthcare practitioner who participated in any previous IPL activities showed interest in continuing their interprofessional relationships. Interprofessional learning could eradicate stereotypes within the healthcare system (Rabani *et al.,* 2021; IOM, 2015).

2.3.5 Benefits of Interprofessional Learning

According to Missen *et al.,* (2012) the existing shortage of healthcare practitioner requires an efficient approach to health based learning that could increase the size of scholars for medical training placements without requiring clinical staff or placing patients at risk. This practice facilitates sustainability within clinical settings. Interprofessional learning can increase healthcare professional clinical capacity and enhance students' clinical experience (Carney *et al.,* 2019; IOM, 2015). Interprofessional learning is enhanced through collaborative training among professions to receive specific training that eliminate barriers, and promote the understanding among groups (Lienack *et al.,* 2022; McLaughlin *et al.,* 2020).

Interprofessional learning is for the gain of both the patients and health workers, but most importantly the patients. It prepares and provides scholars with chances for advancement in communication skills and a favourable view for their future careers in healthcare organizations (IOM, 2015; Yu-Chi Lin *et al.,* 2013). Also, IPL utilizes members of different professions working together to achieve the goal of improved patient outcomes, approved sense of professional autonomy and competence (Guinan *et al.,* 2018; IOM; 2015).

A) Interprofessional Learning Enables Teamwork

Collaborative practice is another important characteristic of IPL that is critical for creating a patient-centered environment (Zwarenstein *et al.,* 2009). Before tis era, doctors or physicians were regarded as the “quarterback” of patient healthcare (Education Management Solutions, 2017). According to Education Management Solutions (2017), doctors took most decisions on how patients were treated as when healthcare is in

consideration. With an improved prominence on interprofessional learning, other clinicians such as Pharmacist, nurses, radiologists, and healthcare professionals from any disciplines of a patient's medical team, are permitted to make recommendations about patient care (Bogossian *et al.,* 2023; McLaughlin *et al.*, 2020; Guinan *et al.*, 2018). Carney *et al.*, (2019) and Zoriah *et al.,* (2011) revealed that participants expressed better understanding that collaboration within the healthcare groups is essential. They expressed that each professional discipline-specific perspective is important to maintain an appropriate steps to patient need. With IPL, students learn to work from a collaborative perspective, thereby developing mutual respect and valuing other professionals' perspectives (Lieneck *et al.,* 2022).

B) Interprofessional Learning Enables Comprehensive Patient Care

Patient-centered care encompasses the patient's needs, perspectives, and experiences, provided by a team of professionals from different professional backgrounds. According to Education Management Solutions, (2017) when collaborating with different disciplines, it is difficult to provide a more comprehensive assessment of patient care. Interprofessional learning fosters students' understanding of the importance of patient-centered care and its application in their future practices. This provides a unique and flexible learning environment that encourages learners to explore and develop their knowledge and skills. It enhances learners' professional competence as it provides an opportunity to learn from other professionals and improve their critical thinking and problem-solving abilities. Each individual medical professional is collectively a piece to the skills puzzle (McLaughlin *et al.,* 2020). They also affirm that assembling all these pieces enables a well coordinated patient's needs.

C) Interprofessional Learning Closes Communication Gaps

Communication is the primary aspect of IPL, and communication in IPL is different from communication in other settings as it is dependent on interprofessional collaboration. In collaboration with all health professionals, a better communicative atmosphere elvolves (Education Management Solutions, 2017). In the past, that is before the existence of interprofessional education or before IPL was adopted, health practitioners would basically view patient's chart to assess patients condition (Education Management Solutions, 2017). Adversarial relationships, undefined roles or insufficiently developed communication pathways within teams will result in communication failure (Brock *et al.,* 2013).

Effective communication is critical to patient safety and healthcare outcomes. Safe practice in a clinical environment requires assertive intarection among practitioners and clients, it requires affirmative listening and honesty (Brock *et al.,* 2013). Interprofessional learning teaches students how to discuss patients needs in different settings. Missing vital information is a communication failure between team members and can lead to wrong interpretation of messages (Brock *et al.,* 2013).

Independent working causes overlooked symptoms and misunderstanding with patient essential needs (Education Management Solutions, 2017). Scholars involved in IPL activities learn to communicate effectively, solve problems, and manage conflicts. Guinan *et al.,* (2018) reported a direct effect of structured IPE clinical placement on patient care. With improved cooperation, medical pratictioners will be collaborating on a particular level, utilizing insight about patient medication, and accommodating each other to maintain the quality of care (Education Management Solutions, 2017).

D) Interprofessional Learning Minimizes Readmission Rates

Education Management Solutions, (2017) documented that with good attention to patients and clear interaction, clients outcomes could improve. Interdisciplinary teamwork enables resolving ongoing clinical issues like misdiagnosis (McLaughlin *et al.,* 2020). If the sick individual was misdiagnosed, he or she could return to the clinic earlier, this would be at a greater expenses both to the client and the clinic management. Shared decision-making is essential to IPL and involves the sharing of information and the collaborative discussion of treatment options so that patients can make informed decisions about their healthcare. Ineffective communication, perceived status and poor coordination among healthcare professions has been a serious challenge leeading to readmission (Rabani *et al.,* 2021; Al-Shaikh *et al.,* 2018).

Medical errors contribute significantly to poor health outcomes and cause harm to patients. Interprofessional learning has been shown to reduce medical errors by helping students develop critical thinking skills, team skills, and communication skills. This will also reduce healthcare costs in the long run by providing students with interdisciplinary training, enabling them to give the best possible care to patients. By enhancing collaboration, patients are well treated, which reduces readmission.(Guinan *et al.,* 2018). This approach can reduce the need for specialist referrals, which may ultimately reduce treatment costs.

E) Interprofessional earning Promotes a Team Mentality

The importance for preexposure of medical trainees to IPL initiatives has been emphasised for numerous decades to meet the need of changing clinical settings as it approaches team-based structure (Al-Shaikh *et al.,* 2018). Interprofessional learning facilitates collaboration as it promotes understanding of various professionals' roles in the healthcare workforce. The sick individuals do not benefit from interdisciplinary collaboration alone, as functioning independently also puts pressure on medical specialists (Education Management Solutions, 2017). Through IPL, students acquire a deep knowledge of healthcare professions skills and how to integrate it into work.

Togetherness brings about medical professionals supporting each other, breaching the silos of uni-professional practices (Education Management Solutions, 2017). In the United Kingdom, USA, Canada, the UAE, and Nordic countries, undergraduate level is the best time to develop positive attitudes towards collaborative practice, as many IPE and IPL programs have been introduced in countries such as the United Kingdom, USA, Canada, the UAE, Nordic countries, and Australia to help solve healthcare management challenges (Al-Shaikh *et al.*, 2018). Cross-disciplinary collaboration can lead to innovative research and improve patient care outcomes. Olson and Bialocerkowski, (2014) suggested that IPL can provide a solution to the differences in gender and discipline towards interdisciplinary function.

F) Promotes Patient-Centered Care

The primary goal of IPL is to create a patient-centered environment, which results in improved patient outcomes. Education Management Solutions (2017) proposed that all medical and healthcare professionals should see themselves as equal so as to offer patients

the finest care available. This could be possibly obtained through interdisciplinary collaboration, as IPL teaches scholars the need for collaboration in improving patient health and the importance of interprofessional care. Instead of having individual healthcare professionals attending solo to patients, group attendance patients' needs from the beginning was preferred, teaming cooperatively yeilds care that has long-term outcomes (Lieneck *et al.,* 2022).

Education Management Solutions (2017) reported that interdisciplinary collaboration starts with interprofessional engagements. Giving trainees the opportunity to learn ways to effectively collaborate among groups will produce knowledgeable practitioners with great insight towards importance of collaborating among themselves in practice (Education Management Solutions, 2017). Institutions should examine how to provide medical trainees with the interprofessional experience needed to practice as a team (Bogossian *et al.,* 2023; Guinan *et al.,* 2018; McLaughlin *et al.,* 2020).

2.3.6 Solutions for Interprofessional Learning

Interprofessional learning should be incooporated as part of vision outlines and the objectives of healthcare organisation. This will give a powerful allegiance for a patient-centered healthcare management. New development is frequently withset, especially when it requires changing the traditional ‘siloed’ approach (Missen *et al.,* 2012). Funding and resource challenges are ever present elements in IPL programme and they cut across both developed and developing countries. However, there is evidence of some institutions being able to overcome these challenges despite funding and human resource constraints. The University of Namibia for example was able to solve this challenge by integrating IPL into

existing courses: alignment of learning environment, learning objectives, and teaching methods (Hangula *et al.,* 2013).

There is limited or no educator-healthcare giver structural support for cross-disciplinary collaborative practices that favors the transmission of knowledge that could reinforce socialisation due to the degree of protectiveness within each profession (Missen *et al.,* 2012). Various studies have suggested that the course study for healthcare trainees should be redesigned to have objectives that will create avenue to successfully implement IPL. Interprofessional learning in pre-professional studies has been identified by various reports as key to resolving stereotypes and culture among health professionals (Bogossian *et al.,* 2023; Guinan *et al.,* 2018; McLaughlin *et al.*, 2020).

Booysen *et al.,* (2012) emphasized the significance of addressing students' assumptions early in their professional training as stereotypes can only be eradicated if healthcare professional has understanding other's roles in the provision of care delivery. Trainees could be more ready for the IPL training when they observed the linkage between continuum of care and group collaborative engagement (Missen *et al.,* 2012). Guinan *et al.,* (2018), reported that pre-professional acquired knowledge of health professionals duties will eventually improve their attitudes, and approach.

2.4 Summary

Healthcare management in South-east Nigeria is facing various challenges that call for innovative solutions. Interprofessional learning dynamics could provide valuable insights into how these challenges can be addressed. Therefore, managers (education providers, healthcare providers and regulatory authorities) must understand the characteristics and challenges of IPL to develop effective structures, policies, and strategies that promote interprofessional collaboration and teamwork. Interprofessional learning outcomes could be transferred into practice if the objectives of IPL are introduced daily in clinical activity (Bogossian *et al.,* 2023; Lieneck *et al.,* 2022; McLaughlin *et al.,* 2020; Guinan *et al.,* 2018; Zoriah *et al.,* 2011). According to WHO, (2010) institutional based research is imperative in understanding the challenges and potential solutions for interprofessional learning and collaborative practice. It includes range of significant benefits like knowledge, understanding, and behaviors required for staff to be confident and capable in collaborative care practice (Elugwu *et al.,* 2023). If effectively implemented, interprofessional learning will go a long way in improving healthcare management in South-east Nigeria.

This study identified and will therefore seek to determine the specific features of interprofessional learning impacting on healthcare management in South-eastern Nigeria. It is essential to establish IPL in the healthcare practice area in Nigeria and consider its potential impact on patient management and interprofessional relationships. The knowledge of perceived socio-cultural factors on professionals' relation to both staff and patient could awaken various institutions and government agencies to either support IPL programme which might encourage collaboration, teamwork, communication, conflict resolution, and

effective patient management. Identifying the level of interprofessional experiences among healthcare professionals will enable training institutions and healthcare providers to appreciate its effect on multidisciplinary collaborative practice among healthcare professionals. This might initiate plans for adaptive curriculum review and continuum professional development programmes to safeguard patients and the dynamic health care environment (Lee *et al.,* 2022; Nwobodo *et al.,* 2021). Highlighting the benefits of each discipline on multidisciplinary team will serve as a guide to other health practitioners towards positive team dynamics, creating an environment for people's value orientation, staff-patient mutual understanding during and after their hospital care and increases productivity.

CHAPTER III:

METHODOLOGY

3.1 Overview of the Research Problem

Healthcare professionals within clinical settings work in teams that require interprofessional collaboration that hinges on interprofessional learning. Maximium collaboration among health practitioners are crucial to improving healthcare quality and patient outcomes. Assessment of characteristic features of interprofessional learning affecting healthcare management in South-Eastern Nigeria is of high essence for quality patient care. While literature has described the importance of IPE and IPL, there is crucial need to better understand how to align education and clinical practice system so that innovative models of IPL can be successfully implemented and sustained in Southeast Nigeria.

3.2 Operationalization of Theoretical Constructs

The ‘Interprofessional Learning Dynamic Scale (IPLDS)’ suits the purpose of this study and allows for quantification of data being a mixed-method survey instrument. The questionnaire provided a measurable item essential to the objectives of this study (demographic information, previous IPL experience, four subscales on relationship among healthcare professionals, knowledge of interprofessional practice, readiness for IPL and perceptive attitude towards IPL which were on five-point Likert interval scale response). The pilot study was carried out, administered, and completed by appropriate healthcare professionals. Researchers having also used this instrument in their early study due to its high reliability Cronbach alpha value, questionnaire items clarity, streamlined data

collection procedures also justifies choice of this instrument for the operationalization of this research concept.

3.3 Research Purpose

The unique socio-economic characteristics that exist in the South-Eastern Nigeria could be used to develop key strategies in interprofessional learning to produce authenticity and customization of learning in Nigeria. This study will reveal the capability to transfer IPL knowledge and skills from classroom settings into the clinical environment in this locality.

This study could give more insight on multidisciplinary practice differences, a possible solution which could lead to improving socialization and collaborative behaviours through IPL knowledge in similar developing countries.

3.4 Research Design

This study research design was a prospective cross-sectional descriptive study. This design was considered appropriate as the researcher wished to characterize the existing interprofessional learning adopted among the practicing population and its practice outcomes in healthcare management in this locality at the same period of time. This will generate a more convincing findings through comparing many variables and provide a broader view for outcomes generalizability.

3.5 Population and Sample

The population for the study were dental laboratory scientists, dietitians, medical laboratory scientists, doctors, nurses, pharmacists, physiotherapists, and radiographers who work at Federal Medical Centres (FMC) and Teaching Hospitals within South-East of

Nigeria. The population size of clinical staff was estimated through the head of departments of the above healthcare practitioner. The head of the departments in Nnamdi Azikiwe University Teaching Hospital was contacted at first for the exact number of healthcare professionals in their departments and the total estimated number was 2274. Medical doctors (800) and House officers (116); Pharmacists (29) and their interns (83); Nurses (1000) and their interns (48); Radiographers (9) and their interns (42); Physiotherapists (7) and their interns (31); Medical Laboratory Scientists (9) and their interns (94); Dietetics (5); Dental Laboratory Scientists (1). An estimated number of practicing health professionals' population in these five hospitals (Nnamdi Azikiwe University Teaching Hospital in Anambra State, University of Nigeria Teaching Hospital in Enugu State, Alex Ekwueme University Teaching Hospital in Ebonyi State, F.M.C. Owerri in Imo State and F.M.C. Umuahia in Abia State) through their head of department was 11370, which was be used as a yardstick to obtain the sample size.

3.6 Participant Selection

In order to enlist the participating practitioners, simple random sampling method was adopted as well as Yaro Yamane's formula from a similar study (Elugwu *et al.,* 2023):

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

n - Sample size. N - Population size of selected healthcare professionals.

1- Constant. e - Margin of error which is 0.05.

Inserting the population size of selected practitioners in the formula above, we have:

$$n = \frac{11370}{1 + 11370(0.05)^2}$$

Sample size = 386 healthcare professionals as a representation of total population for accurate conclusion of results.

In order to minimize sample error, 10% minimum sampling size (~39) added to make sample size of 425 healthcare professionals for the study in case of some unfilled or unreturned questionnaires.

3.7 Instrumentation

Data was collected using validated questionnaire 'Interprofessional Learning Dynamic Scale (IPLDS)' which suit the purpose of this study. The IPLDS had a good reliability test outcome using Cronbach alpha; 0.734, 0.857, 0.835, and 0.782 for the four subscales on professionals' relation among themselves, knowledgability of IPL, readiness for interprofessional practice, and perceptive attitude towards interprofessional activities respectively (Elugwu *et al.,* 2023). The questionnaire contains items essential to the objectives of this study. Having used this questionnaire by the researchers in their early studies, also justifies the choice of this instrument for data collection as it has been tested, analysed, and published. The questionnaire was distributed among healthcare professionals in selected departments (dental laboratory scientists, dietitians, medical laboratory scientists, doctors, nurses, pharmacists, physiotherapists, and radiographers) at F.M.C and Teaching Hospitals in South-Eastern Nigeria. The IPLDS questionnaire was structured in English language, and it exhibits good quality such as: brevity and clarity (Elugwu *et al.,* 2023). To ensure co-operation, objectivity and sincerity, anonymity of respondents and confidentiality of their reports was guaranteed. The questionnaire contains both open and closed-ended questions. The closed-ended questions were multiple-choice items and four subscales of 5-points Likert interval scales. The IPLDS contained items on demographic

information, previous IPL experience, four subscales on relationship among healthcare professionals, knowledge of interprofessional practice, readiness for IPL and perceptive attitude towards IPL, making it suitable instrument for the objectives of this research study.

3.8 Data Collection Procedures

In order to enlist the participating practitioners, simple random sampling method was adopted. Data were collected using 'Interprofessional Learning Dynamic Scale (IPLDS)' for this study. The questionnaires were distributed among healthcare professionals: dental laboratory scientists; dietitians; medical laboratory scientists; doctors; nursing; pharmacists; physiotherapists; and radiographer who work at F.M.C and Teaching hospitals in South-east Nigeria. Questionnaires were self-distributed by the researcher; respondents were given two days to fill and submitted to head of each department after completion.

3.9 Data Analysis

Statistical Package for Social Science (SPSS) version 25. Was used to analyse data collected from the questionnaire items. The data was categorized based on the study objectives. Descriptive analysis was used to find percentages of the ratings of each socio-demographic items. The four subscales' responses from the respondents about their relation with others, knowledge of interprofessional practice, readiness for IPL and perceptive attitude towards interprofessional activity was quantitatively analysed as they are group of Likert scales and was treated as interval data. Spearman rank correlation was used to assess the socio-economic confounders affecting relationship among healthcare professionals using IPL objectives as a management tool. The level of professional dynamics existing among professions was assessed through the associations between the four-dimension

mean±SD scores (relationship with other healthcare professionals, knowledge of interprofessional practice, readiness for multidisciplinary practice and perceptive attitude for interprofessional activities) of the various discipline groups using one-way analysis of variance (ANOVA) while comparison were made using Tukey-Kramer post honestly significant difference (HSD). Tables were drawn to summarize the data on specific features of IPL in this locality. The following steps were adopted to describe all open-ended questions; reading the text, developing a coding scheme, data reduction, summarise codes and identify similarities and differences. The participants' opinion on how to improve interprofessional practice and their experience on interaction with radiographers were grouped into similarities of content and analysed qualitatively. The p-value was 0.05 level of significance.

3.10 Research Design Limitations

There were few unresponded questionnaires, although measures was put in place to increase the distributed questionnaire by 10 percent of the estimated sample size in case of unfilled or unreturned questionnaires. The estimated sample size for this study was achieved. The qustionneire items were lengthy as most participants expressed but commended the depth of information through their responses. There were no problems with carrying out the methods as originally planned as the sample size was considered to represent the population. There was no differentiation between formal and informal interprofessional collaboration. All the ethnic groups in Nigeria were represented through the participants. There was no limitation to the generability of results obtained to these regions.

3.11 Conclusion

Elugwu *et al.,* (2023) recommended for institutions to create learning opportunity to provide practitioners with taining that is needed for adequate patient care through authentic clinical settings. These could be achieved if the characteristic feature of IPL affecting healthcare management in this locality is well known, and harnessed, which could move us one step closer to transforming interprofessional practice and healthcare management in South-Eastern Nigeria. The large sample size will serve wide representation of the population of study in Nigeria as the education and healthcare system policies remain the same in Nigeria dispite cultural and religion diversity. The subject area stems from the researcher's desired passion to help improve patient outcome by advancing evidence-based practice. This knowledge gap in literature was noted which motivated the researcher in continuation of previously published article on this related subject area using 'Interprofessional Learning Dynamic Scale' as instrument of data collection which has already been validated and it had good reliability test outcomes. This will be a Novel research study, considering much lagging information and research on this subject area in South-Eastern Nigeria.

CHAPTER IV:

RESULTS

4.1 Sociodemographic Variables of Respondents

Table 4.1 results showed that greater number of the respondents (61.7%) was between the ages of 20-29 years while 57.3% of the participants were female. The level education attainment of the participants showed that 68.1% had B.Sc. being the majority and 0.3% being minority had professorship portfolio. Medicine (24.9%) as a discipline majored as respondents, followed by radiography with 20.2%, and the least being dietetics (2.6%). All the respondents work in the public sector while the years of professional practice showed that 39.1% had between 1 year of postgraduation work experience and 7.2% of the respondents were those with above 16years of work experience. Ninety-three percent of the respondents were Christians while 63.2% of respondents were single being majority and 0.5% were those separated by death or divorce.

Table 4.1 Socio-demographic Variables of Respondents

Variables	Frequency (%)	Total (%)
Age of Respondents		
20-29 Years	238 (61.7)	386 (100)
30-39 Years	88 (22.8)	
40-49 Years	50 (13)	
50-59 years	10 (2.6)	
Gender		
Male	165 (42.7)	386 (100)
Female	221 (57.3)	
Highest level of Education		
B.Sc	263 (68.1)	
MBBS	68 (17.6)	386 (100)
M.Sc.	16 (4.1)	
Residency	30 (7.8)	
PhD	5 (1.3)	
Consultant	3 (0.8)	
Professorship	1 (0.3)	
Discipline		
Dental Laboratory	16 (4.1)	386 (100)
Dietetics	10 (2.6)	
Medical Laboratory	32 (8.3)	
Medicine	96 (24.9)	
Nursing	60 (15.5)	
Pharmacy	40 (10.4)	
Physiotherapy	54 (14)	
Radiography	78 (20.2)	
Years of professional practice		
<1 Year	151 (39.1)	
1-5 Years	122 (31.6)	
6-10 Years	46 (11.9)	386 (100)
11-15 Years	39 (10.1)	
16-20 Years	9 (2.3)	
>20 Years	19 (4.9)	
Religion		
African Traditional Religion (ATR)	21 (5.4)	
Christian	359 (93)	
Muslim	2 (0.5)	386 (100)
Atheist	4 (1)	
Marital Status		
Single	244 (63.2)	386 (100)
Married	140 (36.3)	
Separated	2 (0.5)	

4.2 Socio-economic Confounders on Radiographers' Relationship with other Healthcare Professionals using IPL Objectives as Management Tools

Table 4.2 showed positive correlation (rs= 0.214; p= 0.000) between discipline and radiographers understanding about other professions roles and responsibilities in patient care. Radiographers' ability to accommodate other healthcare professionals had positive correlation with discipline (rs= 0.114; p= 0.026) and previous IPL experience (rs= 0.108; p= 0.035) but had negative correlation with gender (rs= -0.135; p= 0.008). There is a positive relationship (rs= 0.127; p= 0.012) between previous IPL experience and radiographers' ability to collaborate among other practitioners. Teamwork between radiographers and other healthcare professionals had positive correlation with gender (rs=0.112; p=0.028) and previous IPL experience (rs=0.167; p = 0.001) but negative correlation with discipline (rs= -0.129; p=0.012). Conflict resolution between radiographers and other healthcare professionals had positive correlation with gender (rs= 0.124; p=0.015), previous IPL experience (rs= 0.150; p=0.003) and negative relationship with discipline (rs= -0.146; p= 0.004). Perceived prejudice between radiographers and other healthcare professionals had positive correlation with gender (rs= 0.122; p= 0.016) and negative correlation with discipline (rs= -0.133; p= 0.009). Communication among radiographers with other health practitioners had positive relationship with prior IPL experience (rs= 0.168; p= 0.001) and negative relationship with discipline (rs= -0.132; p= 0.010).

Table 4.2 Socio-economic Confounders on Radiographer's Relationship with other Healthcare Professionals.

	IPL objectives		Gender	Level of education	Discipline	Previous IPL
Radiographers have a good understanding about our roles/responsibilities.	**Roles and Responsibilities.**	*Rs*	-0.056	-0.050	0.214**	0.009
		P-value	0.275	0.327	0.000	0.855
Radiographers are usually willing to take into account our convenience when planning their work.	**Accommodation**	Rs	-0.135**	-0.012	0.114*	0.108*
		P-value	0.008	0.813	0.026	0.035
Radiographers cooperate with the way we organize our health care plans.	**Collaboration**	Rs	0.003	-0.003	0.048	0.127*
		P-value	0.958	0.947	0.350	0.012
Radiographers do not usually ask for our opinion.	**Teamwork**	Rs	0.112*	-0.100	-0.129*	0.167**
		P-value	0.028	0.051	0.012	0.001
Disagreement with radiographers often remains unresolved.	**Conflict-Resolution**	Rs	0.124*	-0.044	-0.146**	0.150**
		P-value	0.015	0.385	0.004	0.003
Radiographers think their work is more important than other healthcare staff.	**Prejudice**	Rs	0.122*	0.072	-0.133**	-0.002
		P-value	0.016	0.161	0.009	0.976
I feel that patient treatment and care are not adequately discussed among health professionals.	**Communication**	Rs	0.011	0.073	-0.132**	0.168**
		P-value	0.835	0.151	0.010	0.001

4.3 Four dynamics in Interprofessional Learning

Table 4.3A result showed that radiographers had fair relationships with other healthcare professionals with a mean score of 3.0. The table also showed widespread ignorance about the respondents' relationships as an aspect of interprofessional learning dynamics. The majority of the respondents (110; 28.5%) responded "I do not know" to the question about radiographers having good knowledge of other practitioners' roles. One hundred and twenty-eight participants (33.2%) responded similarly to the question 'radiographers are usually willing to take into account our convenience when planning their work'. The response 'I do not know' also majored on these items; 'radiographers do not usually ask for our opinion' and ''disagreement with radiographers often remain unresolved''. The majority on average of 192 (49.8%) and 205 (53.4%) affirmed that radiographers cooperate with the way they organize their healthcare plans and as well considered that radiographers do not think their work was more important than other healthcare staff respectfully. It was noted that the majority 198 (51.3%) felt that patient medical treatment was poorly communicated among the care team.

Table 4.3B result showed that respondent had quality knowledge of interprofessional practice reflecting a mean score value of 3.84. Many respondents agreed having good knowledge of interprofessional practice in general.

Table 4.3C result showed that respondents are ready for IPL reflecting a mean score value of 3.55. Majority of the respondents agreed showing much readiness towards interprofessional practice in South-Eastern Nigeria.

Table 4.3D result showed that respondents had a good perceptive attitude towards IPL reflecting a mean score value of 3.21. Many respondents agreed having good

perception and attitude toward interprofessional learning with reference to the section items. Although, there was noted ignorance among respondents towards their perception and attitude as an aspect of interprofessional learning dynamics. Majority of the respondents (140; 36.3%) responded “I do not know” to the query about having prejudice or making assumptions about other healthcare professionals’ disciplines but agreed that prejudices with assumptions concerning other health team disciplines affects care management. Most participants (111; 27.7%) responded ‘I don’t know’ about the question relating to colleagues from other disciplines making inappropriate patient referral to them. The majority of the respondents (201; 52.1%) wholly disagreed with receiving feedback from other healthcare professionals in their settings. Similarly, many participants (111; 28.8%) felt not being treated as equal by colleagues from other healthcare professions.

Tab le 4.3A Radiographers Relationship with Other Healthcare Professionals

	Frequency (%)					Total (%) Mean
	SD	D	N	A	SA	
Radiographers have good understanding about our role and responsibilities.	45 (11.7)	65 (16.8)	110 (28.5)	108 (28)	58 (15)	386 (100) 3.17
Radiographers are usually willing to take into account our convenience when planning their work.	35 (9.1)	63 (16.4)	128 (33.2)	126 (32.7)	33 (8.6)	385 (100) 3.15
Radiographers cooperate with the way we organize our health care plans.	21 (5.5)	66 (17.1)	106 (27.5)	148 (38.4)	44 (11.4)	385 (100) 3.33
Radiographers do not usually ask for our opinion.	51 (13.3)	93 (24.2)	127 (33.1)	79 (20.6)	34 (8.9)	384 (100) 2.87
Disagreement with radiographers often remains unresolved.	56 (14.5)	128 (33.2)	133 (34.5)	44 (11.4)	25 (6.5)	386 (100) 2.62
Radiographers think their work is more important than other healthcare staff.	65 (16.9)	140 (36.5)	108 (28.1)	45 (11.7)	26 (6.8)	384 (100) 2.54
I feel that patient treatment and care are not adequately discussed among health professionals.	40 (10.4)	83 (21.5)	65 (16.8)	109 (28.2)	89 (23.1)	386 (100) 3.32
GRAND MEAN						**3.0**

Frequency table was analysed with reference to McLeod, (2019).

Table 4.3B Respondents Knowledge on Interprofessional Practice.

	Frequency (%)					Total (%) Mean
	SD	**D**	**N**	**A**	**SA**	
I do place the interests of patients at the center of interprofessional healthcare delivery.	33 (8.5)	35 (9.1)	38 (9.8)	145 (37.6)	135 (35)	386 (100) 3.81
I do respect the unique cultures, values, roles/responsibilities, and expertise of other health professions.	14 (3.6)	33 (8.5)	41 (10.6)	185 (47.9)	113 (29.3)	386 (100) 3.91
I do act with honesty and integrity in relationships with patients, families, and other team members.	14 (3.6)	18 (4.7)	51 (13.2)	156 (40.5)	146 (37.9)	385 (100) 4.04
I do communicate effectively my roles and responsibilities clearly to patients, families, and other professionals.	20 (5.2)	22 (5.7)	52 (13.5)	157 (40.7)	135 (35)	386 (100) 3.94
I do engage in continuous professional and interprofessional development programme.	22 (5.7)	45 (11.7)	74 (19.2)	165 (42.7)	80 (20.7)	386 (100) 3.61
I do avoid discipline-specific terminology when possible.	28 (7.3)	51 (13.3)	91 (23.7)	157 (40.9)	57 (14.8)	384 (100) 3.42
I do listen actively and encourage ideas and opinions of other team members.	12 (3.1)	26 (6.7)	53 (13.7)	223 (57.8)	72 (18.7)	386 (100) 3.82
I do share accountability with other professions, patients, and communities for outcomes relevant to prevention/ care.	12 (3.1)	23 (6)	68 (17.6)	194 (50.3)	89 (23.1)	386 (100) 3.84
I do reflect on my individual performance for my improvement.	9 (2.9)	27 (7)	45 (11.7)	186 (48.6)	116 (30.3)	383 (100) 3.97
I do maintain competence in my own profession appropriate to my scope of practice.	13 (3.4)	22 (5.7)	32 (8.3)	176 (45.6)	143 (37)	386 (100) 4.07
GRAND MEAN						**3.84**

Frequency table was analysed with reference to McLeod, (2019).

Table 4.3C Respondents Readiness towards Interprofessional Practice

	Frequency (%)					Total (%) Mean
	SD	D	N	A	SA	
Learning with other professionals will make me a more effective member of a healthcare team.	27 (7)	19 (4.9)	32 (8.3)	118 (30.6)	190 (49.2)	386 (100) 4.10
Patients would ultimately benefit if healthcare professionals worked together.	23 (6)	18 (4.7)	20 (5.2)	99 (25.6)	226 (58.5)	386 (100) 4.26
Shared learning with other healthcare professionals will increase my ability to understand clinical problems.	24 (6.2)	22 (5.7)	38 (9.9)	119 (31)	181 (47.1)	384 (100) 4.07
Communications skills should be learned with other healthcare professionals.	14 (3.6)	24 (6.2)	30 (7.8)	134 (34.9)	182 (47.2)	384 (100) 4.16
Team-working skills are vital for all healthcare professionals.	16 (4.1)	14 (3.6)	34 (8.8)	121 (31.3)	201 (52.1)	386 (100) 4.23
Shared learning will help me to understand my own professional limitations.	17 (4.4)	24 (6.3)	51 (13.3)	143 (37.2)	149 (38.3)	384 (100) 3.99
Shared learning will help me think positively about other healthcare professionals	15 (3.9)	28 (7.3)	37 (9.6)	159 (41.2)	147 (38.1)	386 (100) 4.02
For small-group learning to work, professionals need to respect and trust each other.	9 (2.3)	32 (8.3)	36 (9.3)	143 (37)	166 (43)	386 (100) 4.10
I don't want to waste time learning with other healthcare professionals.	177 (45.9)	73 (18.9)	46 (11.9)	47 (12.2)	43 (11.1)	386 (100) 2.23
It is not necessary for postgraduate healthcare professionals to learn together.	170 (44)	125 (32.4)	29 (7.5)	24 (6.2)	38 (9.8)	386 (100) 2.05
Clinical problem solving can only be learnt effectively with professionals from my own organization.	131 (33.9)	116 (30.1)	59 (15.3)	39 (10.1)	41 (10.6)	386 (100) 2.33
Shared learning with other healthcare professionals will help me to communicate better with patients and other professionals.	28 (7.33)	46 (11.9)	38 (9.8)	147 (38.1)	127 (32.9)	386 (100) 3.77

Table 4.3C Respondents Readiness for Interprofessional Learning (continued)

	Frequency (%)					Total (%) Mean
	SD	**D**	**N**	**A**	**SA**	
I would welcome the opportunity to share some generic lectures, tutorials or workshops with other healthcare professionals.	17 (4.4)	35 (9.1)	48 (12.4)	174 (45.1)	112 (29)	386 (100) 3.85
Shared learning and practice will help me clarify the nature of patients' or clients' problems.	23 (6)	42 (10.9)	46 (11.9)	172 (44.6)	103 (26.7)	386 (100) 3.75
Shared learning before and after qualification will help me become a better team worker.	24 (6.2)	33 (8.5)	51 (13.2)	173 (44.8)	105 (27.2)	386 (100) 3.78
I am not sure what my professional role will be/is.	133 (34.5)	103 (26.7)	51 (13.2)	59 (15.3)	40 (10.4)	386 (100) 2.40
I have to acquire much more knowledge and skill than other professionals in my own organization.	55 (14.3)	76 (19.8)	94 (24.5)	103 (26.8)	56 (14.5)	384 (100) 3.08
GRAND MEAN						**3.55**

Frequency table was analysed with reference to McLeod, (2019).

Table 4.3D Respondents Perception/Attitude Towards Interprofessional Learning

	Frequency (%)					Total (%) Mean
	SD	D	N	A	SA	
Developing an interprofessional patient/client care plan is excessively time consuming.	84 (21.8)	138 (35.8)	74 (19.2)	61 (15.8)	29 (7.5)	386 (100) 2.51
The interprofessional approach makes the delivery of care more efficient.	28 (7.3)	27 (7)	47 (12.2)	163 (42.2)	121 (31.3)	386 (100) 3.83
Developing a patient/client care plan with other team members avoids errors in delivering care and limits patients' readmission.	32 (8.3)	27 (7.0)	40 (10.4)	174 (45.1)	113 (29.3)	386 (100) 3.80
Working in an interprofessional environment keeps most healthcare professionals enthusiastic and interested in their jobs.	22 (5.7)	22 (5.7)	56 (14.5)	157 (40.7)	129 (33.4)	386 (100) 3.90
Healthcare professionals working as teams are more responsive than others to the emotional and financial needs of patients/clients.	24 (6.2)	30 (7.8)	71 (18.4)	147 (38.1)	114 (29.5)	386 (100) 3.76
I have prejudices or make assumptions about health professionals from other disciplines.	38 (9.8)	71 (18.4)	140 (36.3)	99 (25.6)	38 (9.8)	386 (100) 3.07
Prejudices and assumptions about health professionals from other disciplines get in the way of healthcare.	31 (8)	64 (16.6)	97 (25.1)	125 (32.4)	69 (17.9)	386 (100) 3.35
I consistently receive feedback from other health professionals in my setting.	76 (19.7)	125 (32.4)	82 (21.2)	22 (5.7)	81 (21)	386 (100) 2.61
Teamwork with other health professions is not important in my ability to manage clients/patients.	142 (36.8)	137 (35.5)	51 (13.2)	37 (9.6)	19 (4.9)	386 (100) 2.10
Colleagues from other discipline make inappropriate patient referral to me.	55 (14.2)	98 (25.4)	107 (27.7)	99 (25.6)	27 (7)	386 (100) 2.86

Table 4.3D Respondents Perception/Attitude Towards Interprofessional Learning (cont.)

	Frequency (%)					Total (%) Mean
	SD	**D**	**N**	**A**	**SA**	
I view part of my professional role as supporting the role of others with whom I work.	28 (7.3)	47 (12.2)	40 (10.4)	178 (46.1)	93 (24.1)	386 (100) 2.85
Colleagues from other healthcare professions do not treat me as an equal.	47 (12.2)	63 (16.3)	99 (25.6)	111 (28.8)	66 (17.1)	386 (100) 3.67
I am not willing to sacrifice a degree of autonomy to support interprofessional cooperative problem solving.	82 (21.2)	130 (33.7)	88 (22.8)	59 (15.3)	27 (7)	386 (100) 3.22
I utilize formal and informal procedures for problem-solving with my colleagues and other health professionals.	38 (9.8)	45 (11.7)	103 (26.7)	155 (40.2)	45 (11.7)	386 (100) 2.53
My organization creates a positive climate for interprofessional collaboration.	55 (14.3)	64 (16.6)	103 (26.8)	104 (26.9)	59 (15.3)	385 (100) 3.12
My organization creates opportunity for the staff work evaluation.	42 (10.9)	68 (17.6)	95 (24.6)	129 (33.4)	52 (13.5)	386 (100) 3.20
Hospital patients who receive interprofessional team care are better prepared for discharge than other patients.	42 (10.9)	33 (8.5)	48 (12.4)	143 (37)	120 (31.1)	386 (100) 3.68
GRAND MEAN						**3.21**

Frequency table was analysed with reference to McLeod, (2019).

4.4 Professional Dynamics Existing Among Healthcare Professions

Table 4.4 revealed having significant differences (p=0.000) among radiographers, dental laboratory scientists, dietitians, medical laboratory scientists, doctors, nurses, pharmacists and physiotherapists on radiographers relationships with other healthcare professionals with radiographers (2.84±0.11) having better relation among themselves. Radiographers shown to have a good knowledge of interprofessional practice than dietitians, medical laboratory scientists, doctors, nurses, pharmacists and physiotherapists while dental laboratory scientists (4.15±0.57) was more knowledgeable than other aforementioned healthcare professions, a dynamics with noted significant difference (p=0.043). Readiness for interprofessional learning showed more significant difference (p=0.000) among dental laboratory scientists, dietitians, medical laboratory scientists, doctors, nurses and radiographer with physiotherapists (3.97±1.10) being most ready and pharmacists (2.40±1.09) being less ready for interprofessional learning. Radiographers (3.32±1.06) had a good perception and attitude towards interprofessional learning than dietitians, medical laboratory scientists, doctors, nurses, pharmacists and physiotherapists while dental laboratory scientists (3.67±0.69) had better perceptive attitude for interprofessional activities among these practicing group, a dynamics with noted significant difference (p=0.001). Pharmacists had the least knowledge about interprofessional practice (2.81±1.15), lesser readiness for interprofessional learning (2.40±1.09), and the poorest perception and attitude towards interprofessional learning (2.14±1.14). Medical laboratory scientists had a poor relationship with radiographers with a mean±SD (1.85±0.11).

Table 4.4 Professional Dynamics Existing Among Healthcare Professions

Discipline	MEAN(±)SD			
	Radiographers relationships with other healthcare professionals	knowledge of interprofessional practice	Readiness for interprofessional learning	Perception and attitude towards IPL
Dental Laboratory.	2.53±0.11	4.15±0.57	3.72±0.46	3.67±0.69
Dietetics.	2.44±0.14	3.85±0.72	3.67±1.09	3.10±1.01
Medical Laboratory.	1.85±0.11	3.98±0.94	3.56±1.16	2.78±1.18
Medicine.	2.55±0.08	3.71±1.04	3.29±1.24	2.98±1.24
Nursing.	2.50±0.15	3.76±1.04	3.67±1.20	3.21±1.17
Pharmacy.	2.05±0.15	2.81±1.15	2.40±1.09	2.14±1.14
Physiotherapy.	2.19±0.12	3.93±0.99	3.97±1.10	3.45±1.16
Radiography.	2.84±0.11	4.05±0.96	3.53±1.02	3.32±1.06
P-value	0.000***	0.043*	0.000***	0.001**

4.5 Specific Features of Interprofessional Learning in Healthcare Management

Table 4.5A result showed that greater number of the respondents (72.5%) had previous experience of interprofessional programme. A greater number (68.6%) of the respondents revealed that the experience took place as a student and 31.4% experienced IPL as a working staff. The majority (51%) of the respondents revealed that the programme was conducted occasionally and between 1-2 hours majored (56.9%) as the duration of the programme. Many respondents (45.8%) were sponsored by academic institutions while 7% being sponsored by external organizations. Majority of the respondents (50.3%) affirmed that the purpose for the interprofessional programme was about learning healthcare professionals' roles and responsibilities in patient care (81.3%) while its impacts majored as socialization (47.9%), followed by improved knowledge towards interprofessional collaboration (35.8%). Classroom shared learning (37.8%) majored as the most adopted interprofessional learning model which was followed by observation-based and experimental learning (24.8%) in this locality.

Table 4.5B revealed that the majority of the respondents (84; 32.4%) considered doctors as the most important practitioner during interprofessional team functions, followed by nurses (36; 13.9%). Average number of respondents (61; 18.8%) had received training on the roles and responsibilities of doctors, followed by nurses (36; 11.1%).

Table 4.5C result showed that 13% of the respondents, being the majority considered medicine as the discipline they intend having more knowledge of their scope of practice and the least being physiotherapy (0.6%). Many respondents wish to know much about all the selected discipline's scope of practice.

Table 4.5A Interprofessional Learning Experiences of Healthcare Professionals

Variables	Frequency (%)	Total (%)
Have you had previous experience of IPL:		
Yes	280 (72.5)	386 (100)
No	106 (27.5)	
When:		
As Student	192 (68.6)	280 (100)
As a Staff	88 (31.4)	
How often:		
Occasionally	196 (51.0)	269 (100)
Frequently	58 (21.6)	
Consistently	15 (5.6)	
Duration:		
30 mins	35 (12.8)	274 (100)
1-2 Hours	156 (56.9)	
2-4 Hours	65 (23.7)	
Others Specify (less than 30 minutes)	18 (6.6)	
Sponsored by:		
Workplace	98 (35.9)	
Academic institution	125 (45.8)	273 (100)
External Organization	19 (7)	
Self	31 (11.4)	
Please what this interprofessional activities about:		
Learning healthcare professionals' roles & responsibilities in patient care.	152 (81.3)	
Learning diseases pattern and control	29 (15.5)	187 (100)
Case management review	2 (1.1)	
Teamwork	4 (2.1)	
What impact did it have on you:		
Improved socialization	91 (47.9)	
Improved interprofessional knowledge	68 (35.8)	190 (100)
Scopes of practice specifics	27 (14.2)	
Knowledge about teamwork	4 (2.2)	
Which among these methods of interprofessional learning was adopted:		
Problem based learning	33 (13.9)	
Cased-based learning	32 (13.4)	238 (100)
Observation-based & experimental learning	59 (24.8)	
Laboratory–based stimulated learning	8 (3.4)	
Classroom shared learning	90 (37.8)	
Problem based learning & Cased-based learning	10 (4.2)	
Case-based learning & Classroom shared learning	6 (2.5)	

Table 4.5B Interprofessional Learning Experiences of Health Professionals (cont.)

	Frequency (%)	Total (%)
Which among the disciplines is most important during interprofessional team functions?		
Dental Laboratory	4 (1.5)	
Dietetics	10 (3.9)	
Medical Laboratory	18 (6.9)	
Medicine	84 (32.4)	
Nursing	36 (13.9)	
Pharmacy	14 (5.4)	
Physiotherapy	12 (4.6)	259 (100)
Radiography	10 (3.9)	
Dental lab, Dietetics, Nursing, & Radiography	29 (11.2)	
Dietetics, Medical lab, & Medicine	25 (9.7)	
Dental lab, Dietetics, Medical lab, Medicine, Nursing, Pharmacy, Physiotherapy, & Radiography	11 (4.2)	
Pharmacy, Physiotherapy, & Radiography	2 (0.8)	
Medicine, Nursing, Pharmacy, & Physiotherapy	2 (0.8)	
Dietetics, Nursing, & Radiography	2 (0.8)	
Which among the disciplines did you receive training on their roles and responsibilities?		
Dental Laboratory	12 (3.7)	
Dietetics	18 (5.5)	
Medical Laboratory	32 (9.8)	
Medicine	61 (18.8)	
Nursing	36 (11.1)	
Pharmacy	21 (6.5)	
Physiotherapy	7 (2.2)	325 (100)
Radiography	24 (7.4)	
Dental lab, Dietetics, Medical lab, Medicine, Nursing, Pharmacy, Physiotherapy, & Radiography	30 (9.2)	
Dental lab, Dietetics, & Medical lab	29 (8.9)	
Dietetics, Medical lab, Medicine, & Nursing	21 (6.5)	
Medicine, Physiotherapy, & Radiography	22 (6.8)	
Dietetics, & Medical lab	6 (1.8)	
Medicine, & Nursing	4 (1.2)	
Physiotherapy & Radiography	2 (0.6)	

Table 4.5C Interprofessional Learning Experiences of Health Professionals (cont.)

	Frequency (%)	Total (%)
Which among the disciplines do you wish to know more about their scope of practice?		
Dental Laboratory	32 (9.8)	
Dietetics	30 (7.8)	
Medical Laboratory	42 (12.9)	
Medicine	50 (13)	
Nursing	31 (9.5)	
Pharmacy	19 (5.8)	
Physiotherapy	2 (0.6)	325 (100)
Radiography	24 (7.4)	
Dental lab, Dietetics, Medical lab, Medicine, Nursing, Pharmacy, Physiotherapy, & Radiography	34 (10.5)	
Physiotherapy & Radiography	24 (7.4)	
Nursing, & Physiotherapy	13 (4)	
Pharmacy & Radiography	14 (4.3)	
Medicine, Nursing, & Physiotherapy	4 (1.2)	
Dietetics, Physiotherapy & Radiography	4 (1.2)	
Medical Lab & Medicine	2 (0.6)	

4.6 Benefits of Interprofessional Practices Faced by Radiographers

Table 4.6 revealed that greater number of practitioner had benefited from having radiographers on an interdisciplinary team function ranging from provision of diagnosis and imaging (61%), being versatile and having a more efficient team (24.1%) and as well improved patient care (14.9%).

Table 4.6 Benefits of Interprofessional Practice Faced by Radiographers

Variables	Frequency (%)	Total (%)
Is there a benefit of having Radiographers on an interdisciplinary team function?		
Yes	270 (100)	270 (100)
What are their benefits		
Provision of diagnosis and imaging	119 (61)	
Improving patient care	29 (14.9)	195 (100)
Being versatile & having a more efficient team	47 (24.1)	

4.7 Summary of Findings

Healthcare settings in recent era demands total commitment and involvement of health practitioners from various disciplines for effective patient care. This practice requires interprofessional collaboration that hinges on interprofessional learning. Therefore, it becomes imperative to assess the specific features of existing IPL, the level of relationship existing among healthcare professionals, their knowledge, readiness, perception, and attitude towards IPL in South-Eastern Nigeria. These could better the understanding necessary to develop effective interventions to enhance healthcare services. Greater number of the respondents (61.7%) aged between 20-29 years and 57.3% of total participants were female. The level of education attainment of participants showed that 68.1% had B.Sc. while medicine (24.9%) as a discipline majored as respondents. Ninety-three percent of the respondents were Christians, while 63.2% of respondents were single and 0.5% were those separated by death or divorce. Gender had significant positive relationship with teamwork ($r_s=0.112$; $p=0.028$), conflict resolution ($r_s=0.124$; $p=0.015$), and prejudice ($r_s=0.122$; $p=0.016$). The participants discipline had negative significant correlation with teamwork ($r_s=-0.129$; $p=0.012$), conflict resolution ($r_s = -0.146$; $p = 0.004$), prejudice ($r_s=-0.133$; $p=0.009$), and communication ($r_s=-0.132$; $p=0.010$). Prior interprofessional learning experience revealed positive significant relation with radiographers' capacity to accommodate others ($r_s=0.108$; $p=0.035$), collaborate ($r_s = 0.127$; $p = 0.012$), form teamwork ($r_s = 0.167$; $p = 0.001$), resolve conflict ($r_s = 0.150$; $p = 0.003$), and communicate effectively with other health professionals ($r_s = 0.168$; $p = 0.001$). Radiographers had fair relationships with other healthcare professionals despite having widespread ignorance about relationship items as an aspect of interprofessional learning dynamics. The majority do not

know if radiographers have good understanding of other professions roles and responsibilities neither do they know if radiographers do voluntarily take account of others convenience as well as asking for their opinion and resolving disagreement. The majority (51.3%) felt that patient treatment plan is poorly communicated among care team. The respondents had good knowledge of interprofessional practice, ready for interprofessional practice with good perception and attitude about collaborative practices. The ignorance among respondents towards having prejudice or making assumptions about other healthcare professionals and making inappropriate patient referral to them was noted. There was noted significant difference ($p=0.000$) among disciplines with radiographers (2.84 ± 0.11) having better intra-relationships among themselves. Dental laboratory (4.15 ± 0.57) was more knowledgeable in IPL than other healthcare professions with noted significant difference ($p=0.043$). Readiness for interprofessional learning showed more significant difference ($p=0.000$) among professions with physiotherapy (3.97 ± 1.10) being most ready. Dental laboratory scientist (3.67 ± 0.69) showed to have better perception and attitude towards interprofessional learning with noted significant difference ($p=0.001$). Pharmacists had the least knowledge about interprofessional practice (2.81 ± 1.15), lesser readiness for interprofessional learning (2.40 ± 1.09) and had the poorest perception and attitude towards interprofessional learning (2.14 ± 1.14). Greater number of the respondents (72.5%) had previous experience of interprofessional programme mostly as a student which was sponsored by their academic institutions. Participants prior interprofessional programme was about learning healthcare professionals' roles and responsibilities in patient care (81.3%) which impacted majorly on improving their socialization abilities (47.9%), and improved knowledge towards interprofessional collaboration (35.8%). Classroom shared

learning (37.8%) majored as the most adopted interprofessional teaching model in this locality. Doctors were considered the most valued practitioner during interprofessional team functions and respondents' wishes more information about this discipline scope of practice comparable to other professions. The respondents affirmed to had benefited from having radiographers on an interdisciplinary team function ranging from provision of diagnosis and imaging (61%), being versatile and having a more efficient team (24.1%) and as well improved patient care (14.9%)

4.8 Conclusion

This study answered the objectives to which this study was aimed. These unique socio-economic characteristics that exist in the South-Eastern Nigeria can reveal strategies that could shape interprofessional learning that is able to produce authenticity and customization of learning. Ignorance among respondents towards having prejudice about other professionals and inappropriate patient referral was noted which affects healthcare management. There was noted significant difference among disciplines with radiographers having better intra-relationship among themselves, a concern towards healthy team dynamics. However, this study noted quality knowledge of and readiness for practice collaborative interventions that could improve healthcare management in South-eastern Nigeria.

CHAPTER V:

DISCUSSION

5.1 Socio-demographic Variables of Respondents

The unique socio-economic characteristics that exist in each society could provide information in IPL programm stratagy to produce authenticity and customised learning outcomes. This may help professionals and organisations to understand more about IPL and its effects on healthcare management. It was observed that many participants (61.7%) were aged between 20-29 years whom may be said to be in their early year of clinical practice with desire for more knowledge, experience and readily available to contribute to the body of knowledge. Few respondents (2.6%) being the age of 50-59 years may be as a result of scheduling owing to the researchers data collection period, high ranked consultancy occasional duty shift and public staff age retirement policies in Nigeria. Proportionate equal gender job opportunity was noted as 57.3% of practicing professionals were female and 42.7% male which may reveal government priority towards gender equality, promoting team mentality. This report was in agreement with Hammick *et al.,* (2007) study as many of their participants in IPL programme were female which could be linked to domination of healthcare system by female healthcare practitioners. Gender could have a substantial impact on healthcare management in the region if the processes of gender equality are not supervised (Rabani *et al.,* 2021; Missen *et al.,* 2012). This report disagreed with Guinan *et al.*, (2018) that male participants were dominant during discussion due to gender imbalance, which could be as a result of sociocultural background differences of both studies. The observed report could entail good organizational structure for recruitment processes in South-Eastern Nigeria. The level of education of the respondents showed that 68.1% had

B.Sc being the majority age group that mostly responded to the study who were professionals in their early work experience and internship staff; who made part of the 39.1% respondents with less than one year of work experience. Above average number of the respondents are well experienced in their professional work. Only one of the respondents was a professor which may be linked to the relatively early public staff age retirement policies in contrast to the long academic process conditions for attainment of professorship portfolios in the locality. Doctors (24.9%) majored as respondents which was linked to their numerous units specialties creating more avenues for interprofessional collaboration and multidisciplinary team within the hospitals. This agreed with Guinan *et al.,* (2018) and Kilminster *et al.,* (2004) doctors were dominant during discussion as an influence on discipline-specific decision imbalance. Radiographers, second in major accounts (20.2%) of the respondents which may be as a result of the researcher's profession conformity trait. Dietetics accounting 2.6% of the population may be linked to government negligence to some professions vital roles in patient care during recruitment or lack of provision of resources to function the unit. Considering public sector settings for this study was geared towards availability of resources for multidisciplinary collaborative practice, institutions multidisciplinary team support, presence of large group of healthcare practitioners, multidisciplinary care, department autonomy, hospitalised and ambulatory patient referred care which could lead to proper accessment outcome of the subject area. These factors could grant adequate assessment to the level of implementation of basic IPL activities on daily practice as similar in this study (Henderson *et al.,* 2010). Almost all the respondents were Christians which may represent the religious culture of this geopolitical area in Nigeria despite other religious groups where represented. Majority of the

respondents were single which could be as a result of cultural norm towards age of matrimony with reference to the dominant age group. Only 0.5% of the respondents were either separated by death or divorce which signifying high rate of fidelity and longevity within this geographical area in Nigeria.

5.2 Socio-economic Confounders on Radiographers' Relationship with other Healthcare Professionals using IPL Objectives as Management Tools

Radiographers' ability to accommodate other healthcare professionals had negative correlation with gender (rs=-0.135; p=0.008). This may imply observed differences in accommodation among healthcare professionals which has a perceived influence from gender (specific gender correlation was not carried out), as noted gender was a key element of presage in the Three-P model (Hammick *et al.,* 2007). There is need for more supervisor on gender recruitment equality. This was in agreement with Rabani *et al.,* (2021) and Missen *et al.,* (2012) reports that gender had a substantial impact on healthcare management but disagreed with Okoronkwo *et al.,* (2013) who reported no significant difference between gender in their perception toward interprofessional collaborative practices. This could be contributed by female domination of healthcare settings although distinctive male and female association to IPL objectives were not assessed. We cannot account for the difference seen in this variance outcome. Although Guinan *et al.,* (2018) found that female healthcare practitioners held more positive attitudes towards IPL than their male counterparts. Prior IPL exposure and discipline had positive correlation in radiographers' capacity to accommodation other health practitioners, (rs = 0.108; p=0.035) and (rs = 0.114; p = 0.026) respectively. This could reveal radiographers accepting the responsibility to accommodate other healthcare professionals for interprofessional practices. It also affirms

that IPL can provide solution relating to gender differences towards ‘interdisciplinary’ practice which agreed with this study (Olson and Bialocerkowski, 2014).

A positive relationship (rs=0.127; p=0.012) between previous IPL experience and radiographers’ ability to collaborate with other healthcare professionals was noted, and agreed with Carney *et al.,* (2019) and IOM, (2015) reports that previous work experience and professionals’ interaction influences each healthcare professional’s view about other professionals and collaborative care. This study agreed with previous studies that IPL improves collaboration among healthcare professionals (Elugwu *et al.,* 2023; Opele, 2022; Nwobodo *et al.,* 2021; McLaughlin *et al.,* 2020; Zwarenstein *et al.,* 2009). This report affirms the evidence that togetherness can bring about support among each profession, breaching the silos of diverse professional stereotype through IPL, as functioning independently could put pressure on healthcare professionals (Opele, 2022; Nwobodo *et al.,* 2021; Christian *et al.,* 2020; Egwu *et al.,* 2020; Carney *et al.,* 2019; IOM, 2015; Mohaupt *et al.,* 2012; Pinto *et al.,* 2012). This study outcome agreed with Education Management Solutions, (2017) and IOM, (2015) that a lot are gained through IPL activities, both to patients and staff, through reduction in readmission rate and satisfaction. Thereby reducing staff disengagement from clinical services as earlier reported (Carney *et al.,* 2019)

Teamwork between radiographers and other healthcare professionals had positive correlation with gender (rs=0.112; p=0.028), previous IPL experience (rs=0.167; p=0.001) and a negative relationship with discipline (rs=-0.129; p=0.012). The positive gender influence towards teamwork could be associated with the singlehood of the majority of the respondents, an avenue towards search for life partnership. This study agreed with earlier studies that prior IPL exposure offered to improve team structure through minimizing the

impact of stereotype and prejudice in clinical environment (Elugwu *et al.,* 2023; Opele, 2022; Nwobodo *et al.,* 2021; IOM, 2015). According to IOM, (2015) and WHO, (2013) professional cultures and stereotypes are the main obstructions to interprofessional teamwork which might suppress chances for collaboration and constitute a barrier to attaining interprofessional learning as similarly noted in this research study. This could be linked to perceived threat to their professional identity and resistance to change to their traditional roles among healthcare professions and agreed to previous report (Christian *et al.,* 2020; Zwarenstein *et al.,* 2019). This is in agreement with Guinan *et al.,* (2018) that IPL is based on group of practitioners working together to improve patient outcome by improving healthcare professionals' sense of autonomy.

Conflict resolution between radiographers and other healthcare professionals had positive correlation with gender ($r_s = 0.124$; $p = 0.015$), previous IPE experience ($r_s=0.150$; $p=0.003$) and negative relationship with discipline ($r_s= -0.146$; $p=0.004$). This shows that gender equality in team functions may decrease conflict of interest as same with previous IPL experience. Conflicts of clinical ethics do occur among different healthcare professionals as this study noted discipline as an influencing factor in conflict which could limit interprofessional learning which agreed with earlier studies (Bogossian *et al.,* 2023; Rabani *et al.,* 2021; Carney *et al.,* 2019; IOM, 2015; Yu-Chih Lin *et al.,* 2013; Zwarenstein *et al.,* 2009). This could be resolved by creating opportunities for clinical staff interaction through interprofessional learning which may serve as professional development programme as suggested by previous researchers (Maharajan *et al.,* 2017; Reeves 2016; Zwarenstein *et al.,* 2009). The study outcome revealed evidence of management supports towards conflict by institutions incorporating problem-based learning (PBL) as 18.1% of

respondents reported having witnessed such model of IPL in this locality. Interprofessional problem-based learning (PBL) could foster improved conflict-resolution as the process of IPL aims to reduce work-related conflicts, this agreed with earlier studies (Rabani *et al.,* 2021; Yu-Chih Lin *et al.,* 2013). This study also noted the existing practice of case-based learning (CBL) (13.4%) and comparison of other methodologies towards IPL in this locality which was similarly suggested as valuable professionals' knowledge acquisition model (Lieneck *et al.,* 2022; IOM, 2015; Zwarenstein *et al.,* 2009). According to adult learning theory of Knowles, for quality improvement that could introduce change into clinical practice, learning would be more effective when the learners had some level of control on the content of learning which should be relevant to their personal and professional practice and actively identify relevant issues to improvement (Pinto *et al.,* 2012; Hammick *et al.,* 2007). Profession-specific support was imperative to successful interprofessional learning and good clinical decision making but could be hindered by differences in perceived professions status, lack of conflict-resolution strategies and poor knowledge of IPL objectives which agreed with previous studies (Elugwu *et al.,* 2023; Showande and Ibirongbe 2023; IOM, 2015; Yu-Chih Lin *et al.,* 2013; Pinto *et al.,* 2012). In clinical settings, facilitating learning across and between professional groups could be counter-productive due to organizational culture or where little cross-disciplinary interaction to reinforce multidisciplinary engagement during clinical activities exist. This agreed with these studies (Carney *et al.,* 2019; Zwarenstein *et al.,* 2009). Professionals could be experiencing frustrations as a result ethical values which could lead to disengagement from clinical services. This research also suggests incorporating coaching and mentoring by an expertise into interprofessional learning that would assist learners to initiate team building

faculty. Although McGettigan and McKendree, (2015), argued multi-discipline group was not essential for effective interprofessional program rather facilitators from various professions teaching unique discipline scholar group could form teamwork. This argument could be linked to differences in study location as their study was carried out in a developed country where there are existing enforceable and sustainable policies. Lack of interdisciplinary discussion and cooperation to suppress conflicts of value do badly influence health management as doctors were perceived to be less caring and more arrogant than other healthcare professionals in pervious study (Bogossian *et al.,* 2023; Lieneck *et al.,* 2022; McLaughin *et al.,* 2020; Guinan *et al.,* 2018; Osaro and Charles 2014; Hammick *et al.,* 2007). Evidently this study revealed that scholars who were involved in previous IPL activities learnt to communicate effectively and improved management of conflict of value.

Perceived prejudice between radiographers and other healthcare professionals (in reverse question) shows positive correlation with gender (r_s= 0.122; p=0.016) and negative correlation with discipline (r_s= -0.133; p=0.009). This outcome showed that issues relating to prejudice were reoccurring challenge among disciplines and groups which agreed with previous study (Elugwu *et al.,* 2023; Showande and Ibirongbe 2023). Prejudice could result from direct or indirect generalizations made about the whole group based on incomplete or misunderstood information as also reported in this study (Mohaupt *et al.,* 2012). Understanding and appreciating other professions' value could develop a positive view enhancing patient-centered care, improved teamwork, communication, confidence, and improved quality of care in clinical settings thereby diminishing prejudice, this agreed with these studies (Bogossian *et al.,* 2023; Elugwu *et al.,* 2023; Carney et al., 2019). This study also agreed with previous research that stereotypes can only be eradicated if healthcare

professionals had understanding among themselves during provision of care within their role through IPL (Elugwu *et al.,* 2023; IOM, 2015). This research outcome agreed with this statement: interprofessional learning in pre-professional years might serve as a key to resolving stereotypes and discipline culture among healthcare professionals by addressing students' assumptions early in their professional training (Showande and Ibirongbe 2023; Brock *et al.,* 2013; Booysen *et al.,* 2012; Pinto *et al.,* 2012). Education Management Solutions, (2017) proposal for all medical and healthcare professionals should see themselves as equal so as to offer patients with the finest care possible through interprofessional collaboration, was considered valid with this study outcome. Pre-professionals IPL knowledge on healthcare professional roles will likely improve their attitudes and manners towards collaborative initiatives as it was similar in early studies (Showande and Ibirongbe 2023; Carney *et al.,* 2019; Maharajan *et al.,* 2017; Reeves 2016; Booysen *et al.,* 2012; Brock *et al.,* 2013; Pinto *et al.,* 2012). This study agreed with World Health Organization statement that professional cultures often suppress chances for collaboration and constitute important barriers to attaining interprofessional learning which can be traced back to pre-professional years (IOM, 2015; WHO 2013). As this study revealed in agreement with Maharajan *et al.,* (2017) professional orientation strongly influences interprofessional practice in healthcare settings and if not properly managed, could salient the groups activity during their encounter; the negative contact hypothesis as similarly reported in earlier study (Paolini *et al.,* 2014). This could hinder economic progress through reduce quality, insecurity, poor confidence, lack of collaboration, and poor access to care as similarly documented (Brock *et al.,* 2013; IOM, 2015). Therefore, this

study suggests in agreement with Mohaupt *et al.,* (2012) that facilitating intergroup contact learning to learn about each other could lead to reduced prejudice.

Communication between radiographers and other healthcare professionals had a positive relationship with previous IPL experience (rs=0.168; p=0.001) and negative correlation with discipline (rs= -0.132; p=0.010). Communication failure could result from adversarial relationships within teams as this study agreed with previous reports (Rabani *et al.,* 2021; Al-Shaikh *et al.,* 2018; IOM, 2015; Brock *et al.,* 2013). This revealed a communication gap among various disciplines despite the fact that they could be co-located with each other in clinical settings, which agreed with reports by previous researchers (Carney *et al.,* 2019; McGettigan and McKendree, 2015; Yu-Chih Lin *et al.,* 2013). Shared learning might improve the capability and knowledge of clinical issues resolution, leading to better communication among practitioners and proper patient treatment which agreed with earlier research (Elugwu *et al.,* 2023; Maharajan *et al.,* 2017). Communication can breach the silos of diverse disciplines, which is a barrier in this locality as this study shows there was lack of communication as members hardly receive feedback from their team members which agreed with previous reports (Carney *et al.,* 2019; Okoronkwo *et al.,* 2013; Hammick *et al.,* 2007). Enhancing communication through IPL will elevate students' confidence and understanding thereby building trust and discouraging silo behavior which would be cost effective for both healthcare management team and patients. It is essential that healthcare practitioners communicate effectively to connect among themselves as a multidisciplinary team for excellent patient care management was also reported (IOM, 2015; Neese, 2015; Missen *et al.,* 2012; Henderson *et al.,* 2010). Interprofessional learning could reduce medical errors by helping scholars develop communication and critical

thinking skills as scholars with previous exposure to IPL experiences were more confident about their communication which agreed with these studies (Carney *et al.,* 2019; Al-Shaikh *et al.,* 2018; IOM, 2015). Interprofessional learning creates avenue for good communication skills while poor communication and independent working could lead to mismanagement of prognosis and readmission which add cost to patients and health facilities, similar to these studies (Elugwu *et al.,* 2023; McLaughlin *et al.,* 2020; Education Management Solutions, 2017; Yu-Chi Lin *et al.,* 2013). Developing good communication strategies for resolving differences eliminates work-related conflicts and supports clinical workers to collaborate effectively, the aim which strengthens IPL, similarly suggested (Rabani *et al.,* 2021). Effective communication is essential to healthcare outcomes and requires active listening, assertiveness, feedback, and respect. These would lead to a safe practice (IOM, 2015; Brock *et al.,* 2013).

5.3 Four Dynamics in Interprofessional Learning

Table 4.3A result showed that radiographer's relationship with other healthcare professionals had a mean score of 3.0. Generally, this implies fair relationship between radiographers and other healthcare professionals within various public healthcare settings in South-east of Nigeria. The reliability co-efficient of radiographers' relationships with other healthcare profession was 0.734, and 26.6% error variance score. It was certain to believe that other healthcare professions felt uncertain: that radiographers understand their roles/responsibilities; if ready to accommodate them in practice; accepts their opinion; resolve a conflict; but agreed that radiographers are willing to form collaborative team with their patient care plans. These hindering factors noted in this study agreed with Institute of Medicine reported list of IPL barriers (IOM, 2015). All participating healthcare professions

affirm that radiographers respect and value other disciplines perspectives but felt that discussion on patient management were poorly organized. This may indicate lack of effective communication within the clinical environment which may consequently lead to readmission of patient as a result of poor-quality management. These uncertainties could be attributed to ineffective communication, poor collaboration and inappropriate strategic conflict management which may jeopardize the professionals' team dynamics which agreed with earlier study (Zwarenstein *et al.,* 2009). It may be evident to agree with previous studies that in clinical settings, there were poor inter-disciplinary discussion during active clinical care as healthcare professions maybe structurally co-located or greatly isolated limiting the opportunity for teamwork (Carney *et al.,* 2019; IOM, 2015; McGettigan and McKendree, 2015). It may be of great value if institutions should ponder on possible way of offering professionals adequate training supports for patients' management as IPL can provide solutions to the differences related to disciplines towards 'interdisciplinary' teamwork (Elugwu *et al.,* 2025; Education Management Solutions, 2017; Olson and Bialocerkowski, 2014; Pinto *et al.,* 2012). Education Management Solutions, (2017) and Zwarenstein *et al.,* (2009) also documented that with proper patient care plan and team discussion, patients were treated effectively the first time, combating ongoing patient care problems such as misdiagnosis as patient could be readmitted. Action needs to be taken as these may affect clinical staff engagement leading to disengagement from duty.

Table 4.3B result showed that respondent had better knowledge of interprofessional practice of mean value 3.84. The reliability co-efficient of knowledge of interprofessional practice was 0.857, which means that it has 85.7% reliable score and 14.3% error variance score. This outcome showed that respondents acquired general knowledge of

interprofessional learning which may be evidence of the ongoing activities of IPL in this locality. The participant level of knowledge could be affected by the extent of participants' previous interprofessional interactive exposure and types of experience which agreed with these studies (Christian *et al.,* 2020; Carney *et al.,* 2019; Pinto *et al.,* 2012). Similarly, more experienced learners express better understanding of each profession role likewise better perceptive attitude for IPL (Christian *et al.,* 2020; Mohaupt *et al.,* 2012). This study urged for more need for awareness on the respondents' relationships as respondents felt uncertain that radiographers understand their roles/responsibilities, as well as not being ready to accommodate them in practice, and accepts their opinion or resolve a conflict, which was jeopardizing professionals team dynamics. Could it be poor transferability of knowledge acquired from IPL in classroom into the actual clinical environment as suggested by these studies (Olson and Bialocerkowski, 2014; Missen *et al.,* 2012). Much more awareness about the importance of interprofessional learning in teamwork needs to be created in this locality to improve the system of care and professionals' collaborative attitudes. The drive for IPL support was to ensure knowledge transfer to relevant professionals in order to improve management of complex health environment (Bogossian *et al.,* 2023; Lee *et al.,* 2022; Lieneck *et al.,* 2022; IOM, 2015). Early pre-professionals acquired knowledge could address professionals' assumptions early in their professional training eventually improving their attitudes, and manners to eradicate stereotyping. This suggestion agreed with these studies (Guinan *et al.,* 2018; Brock *et al.,* 2013; Booysen *et al.,* 2012; Missen *et al.,* 2012) reports of having positive significant differences. In agreement with previous studies, multidisciplinary collaboration could provide an opportunity for healthcare practitioners to

maximize their acquire IPL knowledge in actual clinical settings to better patient management (Lee *et al.,* 2022; Carney *et al.,* 2019; Henderson *et al.,* 2010).

Table 4.3C result showed that respondents are ready for IPL with mean value 3.55. The reliability co-efficient of readiness for inter-professional learning was 0.857, and 16.5% error variance score. This high score could represent positive healthcare practitioners' readiness towards IPL. This may be linked to participants' willingness to learn and interact with staff in different healthcare professions. While in disagreement, Christian *et al.,* (2020) and Maharajan *et al.,* (2017) observed that scholars preferred to work and learn with individuals from their own profession due to threat to their professional identity, likewise these studies (Showande and Ibirongbe, 2023; Al-Shaikh *et al.,* 2018; Zoriah *et al.,* 2011) that most professions prefer to acquire competency skills and work solo thereby keeping professional distance (uni-professionally). This study disagreed with their report as respondents in this present study do wish to learn with other healthcare professionals but agreed with Showande and Ibirongbe, (2023) that majority of scholars considered it necessary for various healthcare professionals to learn together towards interprofessional collaborative practices. We cannot account for the difference seen in readiness toward IPL among studies. In order to improve scholars' readiness towards interprofessional collaborative practices in Nigeria, the National Universities Commission (NUC) on December 2021 endorsed twenty universities for pharmacy programs which eleven had been approved to offer the new PharmD program containing IPL with hope to elevate scholars' skills for collaborative practice (Showande and Ibirongbe, 2023).

Table 4.3D result showed that respondents had a general good perception and attitude towards interprofessional learning with a mean of 3.21. The reliability co-efficient

of respondents' perception and attitude towards inter-professional learning was 0.782, which means it has 78.2% reliable score and 21.8% error variance score. There were noted uncertainties and differences in opinion among participants in various vital social values; prejudice, communication, patient referrals, professionals value and equality which could greatly affect socialization and collaboration during IPL activities. These generally described the challenging factors in interprofessional collaborative practices in this locality which agreed with listed challenging factors impeding the objectives of IPE and IPL in previous studies (Showande and Ibirongbe 2023; Lee *et al.,* 2022; Nwobodo *et al.,* 2021; Rabani *et al.,* 2021; McLaughlin *et al.,* 2020; IOM, 2015; Al-Shaikh *et al.,* 2018; Pinto *et al.,* 2012). Greater numbers of healthcare professionals were uncertain to have prejudices towards other professions while affirming that prejudices affects healthcare management plan. This agreed with previous studies that negative views about other professionals' responsibilities were limiting factor of IPL initiative and suggested for proper managed contacts between groups through IPL to enable understanding leading to better interactions: the less prejudice (Carney *et al.,* 2019; Mohaupt *et al.,* 2012; Hammick *et al.,* 2007). Interprofessional learning creates more awareness and respect for each discipline roles and could improve scholars' perceptions of the benefits of interprofessional collaboration (IPC), enhance clinical self-confidence and a stronger sense of professional autonomy (Nwobodo *et al.,* 2021; McLaughlin *et al.,* 2020; IOM, 2015; Pinto *et al.,* 2012; WHO, 2010). Much more efforts could therefore be needed from institutions to elevate engagement of scholars to IPL experiences as the extent of participants' previous IPE exposure could shape participants perception relative to another. This agreed with Christian *et al.,* (2020) and Pinto *et al.,* (2012) findings. This could bring positive changes that had been earlier

reported in a study as it could reinforce team function and minimize stereotypes in healthcare settings (Elugwu *et al.,* 2023; Carney *et al.,* 2019).

There was lack of effective communication among healthcare professions as the participants generally denied receiving consistent feedback from other healthcare professionals in clinical settings. Receiving feedback from team members is essential as healthcare professionals needs to have exceptional link with patients, health carer and other members of the multidisciplinary team as similarly reported in these studies (Neese, 2015; Zwarenstein *et al.,* 2009; Hammick *et al.,* 2007). Could it be as a result of prejudice and conflicts of value among groups as communication could become extreme and impact greatly on decision making. It could lead to missing vital information and wrong interpretation of messages between team members. These findings agreed with previous studies outcomes, therefore, influencing care and treatment (Bogossian *et al.,* 2023; Lieneck *et al.,* 2022; McLaughin *et al.,* 2020; IOM, 2015; Brock *et al.,* 2013; Yu-Chih Lin *et al.,* 2013). This poor communication practice needs to be stopped which would move the Nigerian healthcare system forward as seen in developed countries in the world. However, to improve communication skills in clinical settings IPL activities remains a feasible approach as it promotes incorporation of teamwork interaction into programme curricula across the healthcare institutions, this agreed with these studies (Brock *et al.,* 2013; Yu-Chi Lin *et al.,* 2013). Therefore, healthcare institutions in this locality should implement a working policy which encourages social interaction among various disciplines. It could elevate professionals' confidence thereby enhancing communication and discouraging silo behavior. In agreement with earlier studies, receiving feedback from team members has always been perceived as useful motivation as effective team communication is imperative

to achieve patient safety (Carney *et al.,* 2019; Brock *et al.,* 2013; Okoronkwo *et al.*, 2013; Hammick *et al.,* 2007).

Participants reported that they do not know if other healthcare disciplines make inappropriate patient referral to them. This may be solid evidence to justify the uncertainty of various healthcare professions having good understanding about other professions roles and responsibilities which may be a general antipathy rather than being dominant to radiographers alone as observed in **Table 4.2** and **Table 4.3A**. By proper clinical referrals, patients could be treated effectively the first time, this will reduce patient readmission and save cost to both patients and healthcare management. This study recommends the suggestion according to IOM, (2015) and WHO, (2010) that IPL provide insights on practitioner's roles and improves collaborative clinical decisions. It is essential to document these qualities as enhancers reinforcing team function (Elugwu *et al.,* 2023; Carney *et al.,* 2019).

Healthcare professions do not treat themselves as equal as clearly shown in this study. In South-East Nigeria, some healthcare professions do claim superiority of value over others. This could result in inter-profession conflicts which could threaten splitting the healthcare settings apart with a detrimental effect on healthcare management, this agreed with previous studies (Bogossian *et al.,* 2023; Osaro and Charles, 2014). This may create fear of failure and lack of confidence as status and conflict of value may breed negative team dynamics in clinical settings. This could worsen the low morale and less productivity in the Nigeria healthcare environment. Members of the clinical team should see themselves as equal, as to offer patients the finest care possible, in agreement with earlier proposals (Education Management Solutions, 2017; Osaro and Charles, 2014; Mohaupt *et al.,* 2012).

A better communicative atmosphere could develop if healthcare professionals engage equally as a team, agreed with this study (Education Management Solutions, 2017). It is stress-free forming exhaustive assessment of care and sustain permanency of care when working mutually with team members from different disciplines. Differences in academic backgrounds, skill, years of experiences, ranking, and prejudice were suspected as influencing factors towards clinical tribalism and should be minimized, agreed with these studies (Bogossian *et al.,* 2023; Rabani *et al.,* 2021; Guinan *et al.,* 2018; Okoronkwo *et al.,* 2013). Healthcare professionals should respect each other regardless of their position or social status. Creating a culture of respect and collaboration would enhance healthcare management. Interprofessional learning has a positive impact in improving professionals' self-confidence within the healthcare team.

5.4 Professional Dynamics Existing Among Healthcare Professions

Table 4.4 results showed significant differences among healthcare professionals' relationship, understanding of IPL, readiness for collaborative activities, and perceptive attitude in collaborative practices. There was noted significant difference ($p = 0.000$) among radiographer, dental laboratory scientists, dietitians, medical laboratory scientists, doctors, nurses, pharmacists and physiotherapists on radiographers' relationships with other healthcare professionals with radiographers (2.84 ± 0.11) having higher score, which may imply good intra-relationship among radiographers. The high intra-professional relationship results from understanding their specific discipline role and responsibilities, accommodating, and collaborating among themselves, easy teamwork, strategic conflict resolution, non-prejudice within the discipline and familiar communication trait unlike the challenge faced in interprofessional interactive settings. These above listed domains are the

essentials of interprofessional learning objectives which are being influenced in healthcare management. This research outcome agreed with Yu-Chih Lin *et al.,* (2013), significant differences exist within groups capability, perspectives, value and respect towards interdisciplinary discussions, feedback and collaboration. Ineffective communication, perceived status, prejudice, and poor coordination among healthcare professions were serious barriers noted to affect healthcare delivery system which could lead to clinical errors, poor patient outcomes and readmission in Southeastern Nigeria. These studies (Bogossian *et al.,* 2023; Showande and Ibirongbe, 2023; Lee *et al.,* 2022; Lieneck *et al.,* 2022; Rabani *et al.,* 2021; Christian *et al.,* 2020; McLaughlin *et al.,* 2020; Carney *et al.,* 2019; Al-Shaikh *et al.,* 2018; Guinan *et al.,* 2018; IOM, 2015; WHO, 2013) agreed to this study outcome. Healthcare managers should understand these characteristic challenges in IPL and develop effective structures, policies, and strategies that promote interprofessional relationship among team.

Radiographers (4.05±0.96) had high score in knowledge of IPL which signified good knowledge about interprofessional practice than dietitians, medical laboratory scientists, doctors, nurses, pharmacist and physiotherapists while dental laboratory scientists (4.15±0.57) had highest score which implied the most knowledgeable among aforementioned healthcare professions with less significant difference among various disciplines (p=0.043). This evidence reflects the impact of having good knowledge of IPL as it was revealed on dental laboratory scientists' high positive perception and attitude towards interprofessional learning activities. It agreed with Christian *et al.,* (2020) report that healthcare practitioner who had participated in any previous IPL activities do show more interest and knowledge in continuing interprofessional relationships. Awareness and

experience of IPL could elevate scholars' confidence and understanding of their profession as well as other professions, thereby enhancing team dynamics, and discouraging silo behavior. These studies agreed with this study that there would be improved knowledge of each discipline's role as the knowledge and skills gained through the pre-professional and professional clinical placement was valuable which increases with more IPL experiences (Guinan *et al.,* 2018; IOM, 2015; Brock *et al.,* 2013; Booysen *et al.,* 2012; Pinto *et al.,* 2012). The examination of the dynamics of IPL activities in this locality revealed that the key objectives of IPL in academic settings could be transferable into clinical environment. Lieneck *et al.*, (2022) and IOM, (2015) agreed to this outcome while Olson and Bialocerkowski, (2014) argued that most IPL challenges were poor transferability of knowledge gained from IPL in classroom to actual clinical activities as learning where not undertaken in authentic clinical settings. The variation in transferability could be systematically linked to the learning model, learning duration, groups involved, organization and scholars' contributions. This practice gap in multidisciplinary collaboration was recommended for evaluation in these studies (Bogossian *et al.,* 2023; Lieneck *et al.*, 2022; McLaughlin *et al.,* 2020; Guinan *et al.,* 2018; IOM, 2015; Brock *et al.,* 2013; Zoriah *et al.,* 2011). The capacity to transfer gained knowledge do reinforce understanding and strengthen socialization as well could facilitate management of complex situations, which agreed with these studies (Bogossian *et al.,* 2023; Lee *et al.*, 2022; Lieneck *et al.*, 2022; Carney *et al.,* 2019; IOM, 2015; Missen *et al.,* 2012). Solidifying IPL programme as a routine part of daily clinical activity will move healthcare management a step further towards sustainable optimal patient care. Even though the IPL programme could be challenging, it has a high satisfactory rating outcome as it is valuable during

patient planning as each healthcare professional is collectively a piece of the puzzle. McLaughlin *et al.*, (2020) and IOM, (2015) also proposed similar opinion. Provision of IPL activities in the curricula across healthcare disciplines in the universities and clinical settings would improve patient care. This could provide a unique and flexible learning environment that encourages learners to explore and develop their knowledge, skills, critical thinking, and problem-solving abilities.

Readiness for interprofessional learning showed a significant difference (p=0.000) among dental laboratory, dietetics, medical laboratory, medicine, nursing and radiography with physiotherapy (3.97±1.10) being most ready while pharmacy (2.40±1.09) being less ready for interprofessional learning. This reluctance towards IPL could be linked to awareness, clashes with profession-specific teaching time (scheduling), stereotypes, culture of superiority (equality) or structural issues rather than general antipathy. These studies revealed and agreed with this study, among students of various healthcare professions, their readiness towards interprofessional learning showed significant differences which were mostly dependent on the scholars' year of study (Lee *et al.*, 2022; Lieneck *et al.*, 2022; Maharajan *et al.*, 2017). Rabani *et al.*, (2021) and Pinto *et al.*, (2012) revealed general readiness of students for IPE as they agreed that opportunities for IPL should be made available to scholars which was agreed to the findings in this present study. Lack of leaders support from the three spheres of influence (education providers, healthcare service providers, and regulatory authorities) could limit professionals' readiness for collaborative and cross-disciplinary learning activities. Institute of Medicine, (2015) and Missen *et al.*, (2012) also agreed to the above suggestion. Organisational support is very important in creating awareness, implementing, and motivating healthcare practitioners in

multidisciplinary practices. To affirm the positive chances of IPL, WHO, (2010) defined IPL as being essential for preparing a "collaborative practice-ready" healthcare workforce to respond to healthcare system needs (Elugwu *et al.,* 2023).

Radiographers (3.32±1.06) had good perception and attitude towards interprofessional learning than dietitians, medical laboratory scientists, doctors, nurses, pharmacists and physiotherapists while dental laboratory scientists (3.67±0.69) had better perception and attitude towards interprofessional learning with more significant differences among various disciplines (p=0.001). These differences in perception could be linked to the extent of participants' previous IPL experience and the types of exposure as many experienced distinct models of IPL while others had no previous IPL exposure. Although Al-Shaikh *et al.,* (2018) and Okoronkwo *et al.,* (2013) argued that there was no association between respondents' profession and their perception towards interprofessional collaborative practices, while these studies agreed to have significant differences in perception towards IPL (Maharajan *et al.,* 2017; Brock *et al.,* 2013; Christian *et al.,* 2013; Yu-Chih Lin *et al.,* 2013). Pinto *et al.,* (2012) reported that there were no statistically significant differences between groups which disagreed with this study outcome while in agreement to this study outcome, reported increasing positive perception of scholar according to years of IPL exposure (Showande and Ibirongbe, 2023; Booysen *et al,* 2012; Yu-Chih Lin *et al.,* 2013). We cannot account for the difference seen in participants perception towards IPL among these studies. Studies and present study have suggested that minimizing the differences in academic backgrounds, values, skills, experiences within groups and adopting a customized adult learning model would positively influence professionals (Bogossian *et al.,* 2023; Guinan *et al.,* 2018; IOM, 2015). Interprofessional

learning activities could create more awareness improving professionals' perceptions of the benefits of interprofessional collaboration (IPC), enhance clinical self-confidence and a stronger sense of professional autonomy. Guinan *et al.,* (2018) and IOM, (2015) reported that pre-professionals acquired knowledge on healthcare professional roles will eventually improve their attitudes, and manners as this study affirms.

Furthermore, pharmacists had the least knowledge about interprofessional practice (2.81±1.15), lesser readiness for interprofessional learning (2.40±1.09), and the poorest perception and attitude towards interprofessional learning (2.14±1.14). This was unlike dental laboratory scientists who had the best knowledge of interprofessional practices and transferably noted to have the best perception and attitude towards interprofessional learning. This revealed high transferability of knowledge from classroom settings into the clinical environment. This outcome agreed with IOM, (2015) but disagreed with these studies that most IPL challenges were poor transferability of knowledge due to the degree of protectiveness within each profession to preserve their professional identity (Olson and Bialocerkowski, 2014; Missen *et al.,* 2012). This variation on effects of IPL activities could be linked to location of study and the extent of previous IPL experience among the population. This study affirms that activities of IPL had positive chances to improve team dynamics within the healthcare environment.

5.5 Specific Features of Interprofessional Learning in Healthcare Management

Table 4.5A result showed that greater number of the respondents (72.5%) had previous experience of interprofessional learning which may reflect an ongoing practice of interprofessional learning programme in academic and clinical work setting as it accounts 68.6% and 31.4% respectively. The existing practice of interprofessional teaching during

the pre-professional and post-professional studies may account for the noted impact on professionals towards their knowledge, readiness, and positive perception of IPL. This in agreement that healthcare practitioners who had previous IPL experiences showed optimal interest in continuing their interprofessional socialization/relationships (Elugwu *et al.,* 2023; Christian *et al.,* 2020). Despite the fact that IPL programme was conducted occasionally, the duration of the programme mostly ranged between 1-2 hours and was largely sponsored by academic institutions rather than having the same number of sponsorships from healthcare providers. This may suggest that a more appropriate approach could be needed to harness IPL within the clinical settings for better assimilation and authenticity of learning: a call for clinical practice redesign. This requires healthcare providers and policy regulators' support for alignment of education with healthcare plan in Nigeria as developing country as earlier suggested by Institute of Medicine (IOM, 2015). There may be great essence for longer IPL sessions with free socialization period (informal) as previous studies suggested allotting more time for interaction as it creates more positive effects on the scholars' perceptions to feel comfortable with one another (McLaughlin *et al.,* 2020; Mohaupt *et al.,* 2012; Pinto *et al.,* 2012; IOM, 2015; Zoriah *et al.,* 2011). While in another study (Rabani *et al.,* 2021) argued that lengthy IPL session could have no impact and therefore time consuming. This outcome could be as a result of location and cultural differences. Participants reported that their previous interprofessional learning was focused majorly on learning about healthcare professionals' roles and responsibilities, teamwork, case management review and diseases pattern and control. These were noted to improve socialization and better understanding towards collaborative activities. Improved perceptions of the benefits of interprofessional collaboration (IPC) was also a justifiable

gain through IPL as well as self-confidence (Elugwu *et al.,* 2023; Lieneck *et al.,* 2022; Carney *et al.,* 2019; IOM, 2015; Henderson *et al.,* 2010; Zwarentein *et al.,* 2009). Moreover, this study revealed a multi-modal learning technique ranging from classroom shared learning (37.8%), observation-based and experimental learning (24.8%), problem-based learning (13.9%), cased-based learning (13.4%), and laboratory–based stimulated learning (3.4%) which could yield vast IPL outcomes in this locality. Previous articles reported that if learning models are not harmoniously incorporated into continuing interprofessional development programme could alter the objectives of IPL resulting to differed interprofessional learning outcomes (Lee *et al.,* 2022; McLaughlin *et al.,* 2020; Maharajan *et al.,* 2017; IOM, 2015; McGettigan and Mckendree 2015; Olson and Bialocerkowski 2014; Pinto *et al.,* 2012). This could emanate from the timing, scheduling, and model in which each discipline group organise team learning which could be resource intensive. To verify resemblance and deviation in IPL models without presumption of knowledge transfer, these models should be authentic and customized to the participating group demands, also agreed with previous researchers (Lee *et al.,* 2022; Lieneck *et al.,* 2022; McLaughlin *et al.,* 2020; IOM, 2015; McGettigan and Mckendree 2015; Olson and Bialocerkowski 2014; Hangula *et al.,* 2013; Pinto *et al.,* 2012). The University of Namibia for example was able to solve this challenge by integrating IPL into existing courses: alignment of learning environment, learning objectives, and teaching methods (Hangula *et al.,* 2013). Understanding the benefits of each learning model could help healthcare managers and institutions in implementing and sustaining optimal IPL activities without placing patients at risk.

In **Table 4.5B** many participants (32.4%) considered medicine as the most valued discipline during interprofessional team functions, followed by nursing (13.9%). This value of superiority could be detrimental to healthcare management and acceptability of decision-making process in South-East of Nigeria. It could be the reason for poor communication, teamwork, and prejudice in this locality. Healthcare professionals must deal with conflicts of value and see themselves as equal in clinical engagements. This suggestion is of essence and agreed with these studies (Bogossian *et al.,* 2023; Lieneck *et al.,* 2022; McLaughin *et al.,* 2020). This study agreed that doctors were appraised as the worthiest practitioner among the clinical work group despite every professional group rated themselves relatively high (Rabani *et al.,* 2021; Booysen *et al,* 2012; Hammick *et al.,* 2007). This system of value placement might create fear of failure in front of other professionals regardless of their professional background as hierarchies and negative intergroup contacts may create prejudice which could be a serious challenge in IPL intervention towards collaborative attitude (McLaughlin *et al.,* 2020; Paolini *et al.,* 2014). This could be responsible to the low morale and less productivity in the Nigeria healthcare system. All medical and healthcare professionals should see themselves as equal and engage equally in the relationship without competition so as to offer patients with the finest care possible as suggested in previous studies (Education Management Solutions, 2017; IOM, 2015; Mohaupt *et al.,* 2012). This could help in resolving professional conflict of value which had threatened to split the healthcare environment apart with a detrimental effect on healthcare management, in agreement with these studies (IOM, 2015; Osaro and Charles 2014). In practice, problems may be seen differently among each member of the team therefore creating multiple solutions to the challenge as similarly reported (Yu-Chih Lin *et al.,* 2013). Having members

of the group with similar backgrounds, characteristics and experiences could help influence their perceptions towards teamwork. Achieving this could likely be through pre and post graduate implementation of interprofessional interactive activities, despite Rabani *et al.,* (2021) noted failure of IPL to change the ideology of hierarchical value among scholars. This unchanged perceptive value of doctors ranked as the worthiest among clinical practitioner could be linked to their domineering attitude in clinical and socio-political decision-making within the healthcare environment.

A considerable number of respondents (18.8%) had received training on the roles and responsibilities of medicine as a profession, followed by nursing science (11.1%) as well as other allied health professions, proves the presence of IPL program resulting positive perception in this locality.

Table 4.5C revealed that 13% of the respondents, being the majority considered medicine as the discipline they reconsider knowing their scope in practice, the least being physiotherapy (0.6%). Participants' much interest in others scope of practice may reveal their readiness for interprofessional learning among healthcare professionals. This evidence of readiness implied acceptability of IPL in this locality. This could have been motivated from ongoing activity of interprofessional learning which may have met the expectations and encouraged the participants' positive perception and knowledge of IPL objectives in this locality. Al-Shaikh *et al.,* (2018) and Guinan *et al.,* (2018) also agreed by reporting the acceptableness of IPL among respondents and having clear knowledge towards collaboration to achieve effective outcomes in healthcare environment.

5.6 Benefits of Interprofessional Practices Faced by Radiographers

In **Table 4.6** many of the respondents affirmed to have benefited from radiographers on an interdisciplinary team function. Many respondents (61%) benefited clinically through their provision of diagnosis and imaging, versatility and supports for more effective team (24.1%) and improved patient care (14.9%). McGettigan and McKendree (2015) also documented skill recognition and expertise sharing as the benefits identified by the subjects. Interprofessional learning need to be fully immersed into education syllabus, this could promote scholars' interest to become exceedingly a better care provider.

CHAPTER VI:

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

6.1 Summary

This study outcome agreed that a lot is gained through IPL towards both patients and staff satisfaction. Thereby reducing staff disengagement from clinical services. Professional cultures, stereotypes and unequal value were the main obstructions to interprofessional teamwork which might suppress chances for collaboration and constitute a barrier to attaining interprofessional skills. This could be linked to perceived threat to their professional identity and resistance to change.

There was high acceptability of radiographers accommodating other healthcare professionals for interprofessional practices. This affirms that IPL can resolve challenges between gender, discipline and interdisciplinary activities. The researcher also suggested incorporating coaching and mentoring by an expertise into interprofessional learning that would assist learners to initiate team building faculty. Evidently this study revealed that scholars who were involved in previous IPL activities learnt to communicate effectively and manage conflict of value.

This study outcome validates and proposed that all medical and healthcare professionals should see themselves as equal so as to offer patients the finest care possible through interprofessional collaboration. Pre-professionals IPL knowledge on healthcare professional roles will likely improve scholars' attitudes and manners towards collaborative initiatives. Understanding and appreciating other professions' value could develop a positive view enhancing patient-centered care, improved teamwork, communication, confidence, and improved quality of care in clinical settings. Therefore, this study suggests

that facilitating intergroup contact learning to learn about each other could lead to reduced prejudice. This could have high significant economic impacts that improves quality, safety, confidence, collaboration, and access to care.

Communication can breach the silos of diverse disciplines, which was limiting in this locality as this study revealed there was lack of communication as members hardly receive feedback from their team members. This may consequently lead to readmission of patient as a result of poor-quality management. Enhancing communication through IPL will elevate students' confidence and understanding thereby building trust and discouraging silo behavior which would be cost effective for both healthcare management team and patients. Interprofessional learning could reduce medical errors by helping scholars develop communication and critical thinking skills as scholars with previous exposure to IPL experiences were more confident about their communication. Developing good communication strategies for resolving differences eliminates work-related conflicts and supports clinical workers to collaborate effectively, the aim which IPL strengthens.

It was certain to believe that other healthcare professions felt uncertain: that radiographers understand their roles/responsibilities; if ready to accommodate them in practice; accepts their opinion or resolve a conflict but agreed that radiographers are willing to form collaborative team with their patient care plans. This may indicate lack of effective communication within the clinical environment. These uncertainties could be attributed to ineffective communication, poor collaboration and inappropriate strategic conflict management which may jeopardize the professionals' team dynamics. It may be evident to agree with previous studies that in clinical settings, poor interdisciplinary interaction occurs as healthcare professions units maybe structurally co-located without joint activities or in

isolation limiting the opportunity for teamwork. Much more awareness about the importance of interprofessional learning in teamwork needs to be created in this locality to improve the system of care and professionals' collaborative attitudes. The drive for developing IPL was to ensure knowledge transfer to relevant professionals in order to improve healthcare management outcomes. Early pre-professionals acquired knowledge could address professionals' assumptions early in their professional training eventually improving their attitudes, and manners to eradicate stereotyping. Multidisciplinary collaboration could provide an opportunity for healthcare practitioners to appreciate their theoretical learning in clinical settings towards patient management.

There was a high positivity of healthcare practitioners' readiness towards IPL. This could be linked to participants' willingness to learn and interact with staff in different healthcare professions. There were also noted uncertainties and differences in opinion among participants in various vital social values: prejudice; communication; patient referrals; professionals value and equality which could greatly affect socialization and collaboration during IPL activities. These generally described the challenging factors in interprofessional collaborative practices in this locality. The negative views about other professionals' responsibilities were limiting factor of IPL initiative. This study suggested properly managed contacts between groups through IPL to enable understanding leading to better interactions. Therefore, healthcare institutions in this locality should implement a working policy which encourages social interaction among various disciplines. It could elevate professionals' confidence thereby enhancing communication and discouraging silo behavior. Receiving feedback from team members has always been perceived as useful motivation as effective team communication is imperative to achieve patient safety. By

proper clinical referrals, patients could be treated effectively the first time, this will reduce patient readmission and save cost to both patients and healthcare management. This study suggests that interprofessional learning could create more awareness and harness patient care processes through organized teamwork.

Differences in academic backgrounds, skill, years of experiences, ranking, and prejudice within groups were view as influencing factors towards clinical tribalism and should be minimized. Healthcare professionals should respect each other regardless of their position or social status. Creating a culture of respect and collaboration would enhance healthcare management. There were significant differences among dental laboratory scientists, dietitians, medical laboratory scientists, doctors, nurses, pharmacists, physiotherapists and radiographers in their relationship, understanding of IPL, readiness for interprofessional practices, and perceptive attitude for collaborative practices. The high intra-professional relationship among radiographers' results from understanding their specific-discipline role and responsibilities, accommodating, and collaborating among themselves, easy teamwork, strategic conflict resolution, non-prejudice within the discipline and familiar communication trait unlike the challenge faced in interprofessional interactive settings. Ineffective communication, perceived status, prejudice, and poor coordination among healthcare professions were serious barriers noted to affect healthcare delivery system which could lead to clinical errors, poor patient outcomes and readmission in Southeastern Nigeria. Healthcare managers should understand these characteristic challenges in IPL and develop effective structures, policies, and strategies that promote interprofessional relationship among team. Healthcare practitioners who have participated

in any previous IPL activities do show more interest and knowledge in continuing interprofessional relationships.

Awareness and experience of IPL could elevate scholars' confidence and understanding of their profession as well as other professions, thereby enhancing team dynamics, and discouraging silo behavior. The examination of the dynamics of IPL activities in this locality revealed that the key objectives of IPL in academic settings could be transferable into clinical environment. The variation in transferability could be systematically associated to model of teaching, IPL duration, organization and scholars' contributions. Solidifying IPL programme as a routine part of daily clinical activity will move healthcare management a step further towards sustainable optimal patient care. Even though the IPL programme could be challenging, it has a high satisfactory rating outcome as it is important during team function as each healthcare professional is collectively a piece of the puzzle. Provision of IPL activities in the curricula across healthcare disciplines in the universities and clinical settings would improve patient care. This could provide a unique and flexible learning environment that encourages learners to explore and develop their knowledge, skills, critical thinking, and problem-solving abilities. Lack of leaders support from these three spheres of power (education providers, healthcare service providers, and regulatory authorities), could limit professionals' readiness for collaborative and cross-disciplinary learning activities. Organisational support is very important in creating awareness, implementing, and motivating healthcare practitioners in multidisciplinary practices. The differences among groups in perception could be linked to the extent of participants' previous IPL experience and the types of exposure as many experienced distinct models of IPL while others had no previous IPL exposure. Interprofessional

learning activities could create more awareness improving professionals' perceptions of the benefits of interprofessional collaboration (IPC), enhance clinical self-confidence and a stronger sense of professional autonomy.

Pharmacists had the least knowledge about interprofessional practice (2.81±1.15), lesser readiness for interprofessional learning (2.40±1.09), and the poorest perception and attitude towards interprofessional learning (2.14±1.14). This was unlike dental laboratory scientists who had the best knowledge of interprofessional practices and transferably noted to have the best perception and attitude towards interprofessional learning. This revealed high transferability of knowledge from classroom settings into the clinical environment.

The demand for superiority among group of professions could be detrimental to healthcare management and the acceptability of decision-making process in South-East of Nigeria. It could be the reason for poor communication, less teamwork, and prejudice in this locality. Healthcare professionals must deal with conflicts of value and see themselves as equal in clinical engagements. This system of value placement might create fear of failure in front of other professionals regardless of their professional background as hierarchies and negative intergroup contacts could create prejudice which could be a serious challenge in IPL intervention towards collaborative attitude. This could be responsible to the low morale and less productivity in the Nigeria healthcare system. All medical and healthcare professionals should see themselves as equal and engage equally in the relationship without competition so as to offer patients the finest care possible. This could help in resolving professional conflict of value which had threatens to split the healthcare environment apart with a detrimental effect on healthcare management. Having members of the group with similar backgrounds, characteristics and experiences could help influence their perceptions

towards teamwork. Achieving this could likely be through pre and postgraduate implementation of interprofessional interactive activities. Much more effort could therefore be needed from institutions to elevate engagement of scholars to IPL experiences as the extent of participants' previous IPL exposure could shape participants perception relative to another.

Participants' much interest in others scope of practice may reveal their readiness for interprofessional learning. This evidence of readiness implied acceptability of IPL in Southeastern Nigeria. This may have been a motivation from ongoing activity of IPL, reason perceived positive behavior towards IPL objectives in this locality. Evidently, team collaboration benefits could range from specific service provision, support for effective teams to improved patient care. Interprofessional learning has proven to create more awareness and respect of other disciplines roles as well as stronger sense of professional autonomy.

6.2 Implications

This study revealed that socioeconomic factors such as gender, discipline, unequal value had influence on the key objectives of IPL thereby limiting teamwork, conflict resolution, communication and stengthening prejudice. It contributes to the deviations noted in understanding of IPL and perceptive attitude among groups during interactive initiative programme. Previous interprofessional learning experience proves to have greater chances in strengthening positive team dynamics and reduce transferability of disciplines stereotypes and prejudice into the clinical environment. Pre and postgraduation multidisciplinary learning activities is recommended for an effective and sustainable healthcare delivery in Nigeria and devdeloping countries. These outcomes could be

generalized in Nigeria as eduction curriculum and healthcare system policy remain the same dispite varied socioeconomic differences.

6.3 Recommendations for Future Research

Further studies shouild be carried out to assess the characteristics and outcomes of various model of interprofessional teaching in other localities using Interprofessional Learning Dynamic Scale (IPLDS) as it is a mixed-method survey instrument as suggested by Institute of Medicine which will provide optimal information about IPL interventions and its contribution to healthcare system outcomes. Possible differentiation between formal and informal interprofessional learning model is recommended.

6.4 Conclusion

Despite greater number of healthcare professionals received training on scope and roles of other health disciplines, which was evidence of ongoing interprofessional learning activity in this locality. There were observed differences in accommodation, teamwork, value, prejudice, communication, respect and knowledge of other disciplines roles among healthcare professions while intra-disciplinary relationships were of good positive team dynamics. Receiving feedback from team members has always been perceived as useful motivation as effective team communication is imperative to achieve patient safety which was limiting in this area. Much more awareness about the importance of interprofessional learning in teamwork needs to be created in this locality to improve the system of care and professionals' collaborative attitudes. There could be much to gained through IPL including improved perceptions of the benefits of interprofessional collaboration (IPC) and self-confidence in practice. Institutions should provide enabling environment for scholars' training in collaborative activities needed for patients' management. This study revealed

high transferability of knowledge from classroom settings into the clinical environment which was the driver for developing IPL. This outcomes agreed with World Health Organisation and Institute of Medicine and could be generalized despite differed eduction curriculum, healthcare system policy, and socioeconomic factors around the world. The capacity to transfer knowledge acquire through IPL will reinforce practitioners understanding and strengthen socialization thereby facilitating management of complex situations. Interprofessional learning could be an aid in resolving deviation in interdisciplinary practice outcomes, poor communication as well breaching the silos of diverse professional stereotype in Nigeria. Solidifying IPL programme as a routine part of daily clinical activity will move healthcare management a step further towards sustainable optimal patient care, reducing misdiagnosis and readmission rate which are of high cost to both patients and the healthcare facilities.

APPENDIX A

QUESTIONNAIRE

Swiss School of Business and Management Geneva.

Dear respondent,

This questionnaire is for the study, 'INTERPROFESSIONAL LEARNING DYNAMICS: CHARACTERISTIC FEATURES AFFECTING HEALTHCARE MANAGEMENT IN SOUTH-EASTERN NIGERIA'.

BY

ELUGWU CHUKWUEMEKA HENRY

All the information provided here will be considered confidential and will only be used for the purpose of the study. Your name is not required; kindly give your sincere opinion by ticking in the appropriate box [√].

Section A (Socio-Demographic Data)

1. What age group do you belong to? (a) 20-29 [ ] (b) 30-39 [ ] (c) 40-49 [ ] (d) 50-59 [ ] (e) 60 & above [ ].
2. Gender. (a) Male [ ] b) Female [ ] c) Others specify ……..
3. Which is your highest level of formal education? (a) B.Sc / B.NSc / B.MLS / B.PT / B.Pharm / Pharm D [ ] (b) MBBS [ ] (c) M.Sc / M.PT / M.Pharm [ ] (d) Residency [ ] (e) Ph.D/DBA [ ]
(f) Consultant [ ].
4. Your discipline? (a) Dental Laboratory [ ] (b) Dietetics [ ] (c) Medical Laboratory [ ] (d) Medicine [ ] (e) Nursing [ ] (f) Pharmacy [ ] (g) Physiotherapy [ ] (h) Radiography [ ]
5. Name of your place of work …….
6. Total years of professional practice. (a) < 1[ ] (b) 1-5 [ ] (c) 6-10 [ ] (d) 11-15 [ ] (e) 16-20 [ ] (f) >20 [ ]
7. Which religion do you profess?
(a) African traditional religion [ ] b) Christianity [ ] c) Muslim [ ] d) others specify […....]
8. Marital status? (a) Single [ ] (b) Married [ ] (c) Separated [ ]

Section B (Specific Features of Interprofessional Learning)

1. Have you had previous experience of interprofessional learning? Yes [ ] No [ ]

If you answered YES to question number (1):

(i) When? a) As a student [ ], in what year(s)? …, ….. b) As a staff [ ], at what level……..

(ii) How often? a) occasionally [ ]. b) frequently [ ]. c) consistently [ ].

(iii) Duration? a) 30 mins [ ]. b) 1-2 hrs [ ]. c) 2-4 hrs [ ]. (d) others specify [……]

(iv) Sponsored by a) Work place [] b) Academic institution [] c) External organization []

d) Self []

(v) Please give a brief statement of what this interprofessional learning was about

_____

(vi) What impact did it have on you? _____

(Vii) Which among this model of interprofessional learning was adopted?

a) Problem based learning [ ] b) Case-based learning [ ] c) Observation-based/experiential learning [ ] d) Laboratory-based simulated learning [ ] e) Classroom shared learning [ ].

2. Which among the disciplines is most important during interprofessional team functions?

a) Dental Laboratory [ ] b) Dietetics [ ] c) Medical Laboratory [ ] d) Medicine [ ]

e) Nursing [ ] f) Pharmacy [ ] g) Physiotherapy [ ] h) Radiography [ ].

Multiple answers can be selected for number 3 - 4.

3. Which among the disciplines did you receive training on their roles and responsibilities?

(a) Dental Laboratory [ ](b)Dietetics[ ] (c) Medical Laboratory[ ] (d) Medicine[ ]

(e) Nursing [ ](f) Pharmacy [ ](g) Physiotherapy [ ] (h) Radiography[ ]

4. Which among the disciplines do you wish to know more about their scope of practice?

(a) Dental Laboratory [ ] (b) Dietetics [ ] (c) Medical Laboratory [ ] (d) Medicine [ ]

(e) Nursing [ ] (f) Pharmacy [ ] (g) Physiotherapy [ ] (h) Radiography [ ]

5. Is there benefits of having radiographers on interdisciplinary team function? a) Yes [] (b) No []. *If you answered YES to question number (6):*

i) What are their benefits a)_____

b)_____

Section C (Relationships, Knowledge, Readiness, Perceptions and Attitude)

Please indicate your level of agreement with each of the following statements. Use the scale SD = strongly disagree; D = disagree; N = neutral; A = agree; SA = strongly agree.

STATEMENT:	SD	D	N	A	SA
Relationships Among Healthcare Professionals					
1. Radiographers have a good understanding about our roles/responsibilities.					
2. Radiographers are usually willing to take into account our convenience when planning their work.					
3. Radiographers cooperate with the way we organize our health care plans.					
4. Radiographers do not usually ask for our opinion.					
5. Disagreement with radiographers often remains unresolved.					
6. Radiographers think their work are important than the work of other healthcare					
7. I feel that patient treatment and care are not adequately discussed among health professionals.					
Knowledge of Interprofessional Practice	SD	D	N	A	SA
1. I do place the interests of patients at the centre of interprofessional health care.					
2. I do respect the unique cultures, values, roles/responsibilities, and expertise of other healthcare professions.					
3. I do act with honesty and integrity in relationships with patients, families, and other team members.					
4. I do communicate effectively my roles and responsibilities clearly to patients, families, and other professionals.					
5. I do engage in continuous professional development programmes.					
6. I do avoid discipline-specific terminology when possible					
7. I do listen actively, encourage ideas and opinions of other team members.					
8. I do share accountability with other professions, patients, and communities for outcomes relevant to prevention and health care					
9. I do reflect on my individual performance for my improvement.					
10. I do maintain competence in my own profession appropriate to my scope of practice.					

Readiness for Interprofessional Learning	SD	D	N	A	SA
1. Learning with other professionals will make me a more effective member of a health care team.					
2. Patients would ultimately benefit if healthcare professionals worked together.					
3. Shared learning with other health care professionals will increase my ability to understand clinical problems.					
4. Communications skills should be learned with other healthcare professionals.					
5. Team-working skills are vital for all healthcare professionals.					
6. Shared learning will help me to understand my own professional limitations.					
7. Shared learning will help me think positively about other healthcare professionals.					
8. For small-group learning to work, professionals need to respect and trust each other.					
9. I don't want to waste time learning with other health care professionals.					
10. It is not necessary for postgraduate healthcare professionals to learn together.					
11. Clinical problem solving can only be learnt effectively with professionals from my own organization.					
12. Shared learning with other healthcare professionals will help me to communicate better with patients and other professionals.					
13. I would welcome the opportunity to work on small group projects with other healthcare professionals.					
14. I would welcome the opportunity to share some generic lectures, tutorials or workshops with other healthcare professionals.					
15. Shared learning and practice will help me clarify the nature of patients' or clients' problems					
16. Shared learning before and after qualification will help me become a better team worker					
17. I am not sure what my professional role will be/is					
18. I have to acquire much more knowledge and skill than other professionals in my own organization					

Perception and Attitude Towards Interprofessional Learning	SD	D	N	A	SA
1. Developing an interprofessional patient/client care plan is excessively time consuming.					
2. The interprofessional approach makes the delivery of care more efficient.					
3. Developing a patient/client care plan with other team members avoids errors in delivering care and limits patients' readmission.					
4. Working in an interprofessional environment keeps most health professionals enthusiastic and interested in their jobs.					
5. Healthcare professionals working as teams are more responsive than others to the emotional and financial needs of patients/clients.					
6. I have prejudices or make assumptions about health professionals from other disciplines.					
7. Prejudices and assumptions about health professionals from other disciplines get in the way of health care.					
8. I consistently receive feedback from other healthcare professionals in my setting.					
9. Teamwork with other health professions is not important in my ability to manage clients/patients.					
10. Colleagues from other discipline make inappropriate patient referral to me.					
11. I view part of my professional role as supporting the role of others with whom I work.					
12. Colleagues from other health profession do not treat me as an equal.					
13. I am not willing to sacrifice a degree of autonomy to support interprofessional cooperative problem solving.					
14. I utilize formal and informal procedures for problem-solving with my colleagues and other health professionals.					
15. My organization creates a positive climate for interprofessional collaboration.					
16. My organization creates opportunity for staff work evaluation.					
17. Hospital patients who receive interprofessional team care are better prepared for discharge than other patients.					

APPENDIX B

INFORMED CONSENT

Institution: Swiss School of Business and Management Geneva.

Purpose: DBA Dissertation.

Research topic: 'Interprofessional learning dynamics: characteristic features on healthcare management in South-Eastern Nigeria'.

I confirm that I have read and comprehend the information regarding the research project as provided in the participant information sheet date ___/__/____

I confirm that I have had the opportunity to ask a question, and the study has been informed to me by the researcher.

I also believe that my participation in the study is entirely voluntary, and I can withdraw at any moment.

I understand that any information gathered in the survey will remain confidential and no information that identifies me will be disclosed publicly.

I consent to the use of the data in research, publications, sharing, and archiving as stated in the participant information sheet.

I agreed to take part in this study.

Participant name: _____

Signature: _____ Date: _____

Researcher name: _____

Signature: _____ Date: _____

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