



## **Perceived Impact of Inter-professional Collaboration on the Quality of Care in Surgical Units among Healthcare Professionals in UNIOSUN Teaching Hospital**

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### **ABSTRACT**

**Background:** one of the concepts required to enhance the performance of healthcare providers is inter-professional collaboration, which entails cooperation between many healthcare professionals from various fields. **Objectives:** This study aims to assess the perceived impact of inter-professional collaboration on quality of care, to determine the extent of collaboration among healthcare workers to also identify the contributors to effective collaboration as well as the factors that hinder effective collaboration. **Methodology:** This is a descriptive cross-sectional study that used a self-designed questionnaire, 120 copies were administered and the same retrieved, the data collected was analyzed using statistical software package version 21. Informed consent was taken from participants before data collection. **Results:** the results show that 60% of the respondents are females, which illustrates that there is a high presence of physicians, accounting for 91.7% and 93.3% of nurses, 71.7% of the respondents perceive a strong collaboration among the healthcare professions, 96.67% of respondents have a positive perception that the strong collaborations among the healthcare providers positively influence the efficiency and efficacy of care rendered which is rendered to the patients and lastly, 87.5% of the respondents strongly agree and agree that lack of clear and timely communication is a barrier. **Conclusion / Recommendation:** The study adopts the assumption that healthcare providers have a significant amount of positive perception and strong collaboration. It also highlights the elements that are most important for productive teamwork: clear communication, comprehension of language, mutual respect and trust, rewards and recognition, a designated area and resource base.

**Keywords:** Cross-sectional study, healthcare provider, collaboration (SDG 17), patient care.

### **Introduction**

Challenges within healthcare systems have drastically changed over the last decades as patient care is becoming more complex (Frenk et al., 2022). The increasing rates of comorbidity among patients and the complexity of care have warranted the need for collaboration among different health professionals as an essential component of the healthcare structure (Ansa et al., 2020). The healthcare workforce of any nation is regarded as an essential component of the

country's functioning health system. Inter-professional rivalry and conflict among health workers especially in Nigeria, results in poor health delivery to the population. Available evidences suggests that such rivalry affects intra and inter-sectoral collaboration in patient care. Team collaboration has been shown to improve patient outcomes. Nevertheless, it is unknown if professionals in other departments collaborate to the same extent or whether this collaboration has any bearing on

the standard of patient care. Developing an inclusive social identity, accepting diversity, having a common language, inter-professional abilities, and overcoming stereotypes through inter-group interactions are the fundamental prerequisites for inter-professional cooperation (Kauff et al., 2023). Relational, processual, organisational, and contextual factors all affect professional collaboration (Dahlke et al., 2020). Relational issues include factors such as professional power and socialization that affect professional relationships. Processual issues refer to factors such as professionals having the time and space to collaborate. The organizational issues refer to factors (e.g., access to resources) within local organizations that influence how professionals collaborate. The contextual difficulties are presented as broader social (e.g., ageism), political, and economic issues that affect how professionals collaborate. It also includes culture, diversity, gender, political will and economics (Dahlke et al., 2020). Inter-professional collaboration as a vital component of achieving a good work value in the healthcare setting has maximum advantages. Inter-professional collaboration helps to alleviate existing challenges and speedup the achievement of the healthcare goals. It can help improve the health of staff in the workplace (Vaseghi et al., 2022). Inter-professional collaboration promotes mutual respect within the healthcare team and providers' ability to make optimal patient care decisions. It reduces the time and costs of hospitalization, decreases hospitalization and readmission rates (Ansa et al., 2020). Inter-professional collaboration presents unique challenges that can cause a gap in communication. Some of these challenges are differing routines of the professionals, different knowledge and identities, professional hierarchies, time constraints, ineffective communication, power imbalance and distinct professional domains (Ansa et al., 2020).

## **Methodology**

### *Study design*

The study was carried out using a descriptive cross-sectional design.

### *Sample size determination*

The sample size for this study was determined using Taro Yamane's formula,

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

a 10% non-response rate was added, and the sample size amounted to 120.

### *Sampling technique*

The multistage sampling technique was utilized and was carried in out three stages including purposive sampling, systematic sampling and finally, random sampling and a total of 120 healthcare professionals were selected across different professions.

### *Study instrument*

Data was collected using quantitative research instruments to obtain relevant information required for this study from the participants. A self-designed standardized questionnaire was used in the data collection.

### *Pretesting of research instrument*

The research instrument was tested at State Specialist Hospital, Asubiaro, Osogbo.

### *Data collection and management*

The researchers received appropriate permission from the rightful authorities of the Teaching Hospital, and visited the hospital for the administration of the questionnaire. After selection, the participants were asked for verbal agreement before being given the questionnaires along with an explanation of the goals of the study. The questionnaire-filling process was appropriately directed to the respondents. The questionnaires which were administered were retrieved on the same day. Over two weeks, 120 questionnaires were utilized to collect data, and they were all delivered for appropriate data management and analysis.

### *Statistical analysis*

The data collected were checked for consistency, filtered and arranged. The Statistical Product and Service Solutions (IBM-SPSS) version 21 was used in the analysis of data. Findings were summarised using descriptive statistics like frequency count and percentage. Tables and figures

were used to present the results. A significance level of 0.05 was chosen.

**Results**

Among all 120 participants subjected to the study, 60.0% of the respondents were females, 39.2% were younger than 25, and 39.2% of them fell into the 25-34 age group. Nurses are the largest group, making up 42.5% of the workforce, and this aligns with the statement that out of all the healthcare professions, the nursing workforce is the largest, about four times larger than the physician workforce (Flaubert et al., 2021). In terms of religion, 62.5% of the respondents identify as Christians. Finally, talking about ethnicity, the largest group is Yoruba. 91.7% of the respondents answered that they have

large numbers of physicians and nurses in their healthcare team while there was minor presence of other professions such as radiologists, nutritionists, and anesthetists (Table 1). Exploring the relationship between the level of inter-professional collaboration and the quality of care rendered to surgical patients at UNIOSUN Teaching Hospital, 53.5% of the respondents indicated that inter-professional collaboration impacted patient safety in a reasonable manner, 54.2% indicated that inter-professional collaboration impacts the effectiveness of treatment, and 45.0% indicated that inter-professional collaboration impacts communication and understanding of treatment plans (Table 2).

Table 1: Sociodemographic data of the respondents

Variable		Frequency (n =120)	Percentage (%)
Gender	Male	48	40.0
	Female	72	60.0
Age	Under 25	47	39.2
	25-34	47	39.2
	35-44	16	13.3
	45-54	9	7.5
	55-64	1	.8
Profession	Doctor	43	35.8
	Nurses	51	42.5
	Physiotherapist	5	4.2
	Health assistance	5	4.2
	Anaesthetist	5	4.2
	Paediatricians	1	.8
	Cardiologist	1	.8
	Optometrist	1	.8
	Dentist	3	2.5
	Psychiatrist	1	.8
	Social worker	3	2.5
	Dietician	1	.8
Religion	Christianity	75	62.5
	Islam	45	37.5
Ethnicity	Hausa	9	7.5
	Igbo	21	17.5
	Yoruba	90	75.0

Table 2: Perceived impact of inter-professional collaboration on the quality of care rendered to surgical patients in UNIOSUN teaching hospital

Variable		Frequency (n =120)	Percentage (%)
How do you perceive the quality of patient care in your workplace?	Poor	1	.8
	Fair	23	19.2
	Good	70	58.3
	Very Good	17	14.2
	Excellent	9	7.5
Does inter-professional collaboration impact patient safety	Poor	2	1.7
	Fair	12	10.0
	Good	64	53.3
	Very Good	33	27.5
	Excellent	9	7.5
Does inter-professional collaboration impact Patient satisfaction	Poor	4	3.3
	Fair	17	14.2
	Good	65	54.2
	Very Good	24	20.0
	Excellent	10	8.3
Does inter-professional collaboration impact the efficiency of care	Poor	4	3.3
	Fair	14	11.7
	Good	55	45.8
	Very Good	33	27.5
	Excellent	14	11.7
Does inter-professional collaboration impact the effectiveness of treatment	Fair	11	9.2
	Good	65	54.2
	Very Good	29	24.2
	Excellent	15	12.5
Does inter-professional collaboration impact communication and understanding of treatment plans	Poor	5	4.2
	Fair	26	21.7
	Good	54	45.0
	Very Good	26	21.7
	Excellent	9	7.5
Does inter-professional collaboration impact and reduce healthcare costs and resource utilization	Poor	11	9.2
	Fair	41	34.2
	Good	47	39.2
	Very Good	16	13.3
	Excellent	5	4.2
Does Inter-professional collaboration impact patient care positively	Poor	10	8.3
	Fair	15	12.5
	Good	49	40.8
	Very Good	26	21.7
	Excellent	20	16.7
Does Inter-professional collaboration impact patient care negatively	Poor	27	22.5
	Fair	29	24.2
	Good	39	32.5
	Very Good	15	12.5
	Excellent	10	8.3

In assessing the factors that contribute to effective collaboration, 53.3% of the respondents indicated that they are aware of

the obligations of other healthcare professionals involved in patient care, 48.3% prioritize collaboration and teamwork over individual approaches to patient care, 45.8% are open to learning and adopting new practices from other professions and 54.2% agreed that there is a culture of trust and respect between different professions at UNIOSUN Teaching Hospital (Table 3). For the factors that hinder effective collaboration at UNIOSUN Teaching Hospital, 50% of the respondents agreed to lack of clear and timely communication between different healthcare professionals, 30% agreed to difficulty understanding terminologies used by colleagues from other professions, 37.5% strongly agreed to insufficient opportunities for team discussions and information sharing, 33.3% agreed to difficulty for nurses and other professionals to contribute their expertise effectively, 48.3% agreed to high workload and time pressures that limit collaboration opportunities and 51.7% strongly agreed to insufficient staffing (Table 4).

### **Testing research hypothesis**

#### *Hypothesis 1 and inferences*

**H1:** There is no significant relationship between the extent of collaboration and the overall level of perception between different healthcare professions involved in managing surgical cases at UNIOSUN Teaching Hospital. The hypothesis aimed to investigate the extent of collaboration and overall level of perception between different healthcare professions in managing surgical cases at UNIOSUN Teaching Hospital. The Pearson Chi-square test was employed for this analysis, with the degrees of freedom (Df) being four and a computed Chi-square value of 2.364. The resulting p-value was found to be less than  $<0.669$ .

However, since the p-value did not drop below the accepted significance level of 0.05, the null hypothesis is not rejected. Therefore, there is no significant relationship between the extent of collaboration and the overall

Table 3: Factors that contribute to effective collaboration in UNIOSUN teaching hospital

level of perception between different healthcare professions involved in managing surgical cases at UNIOSUN Teaching Hospital.

#### *Hypothesis 2 and inferences*

**Null H:** There is no significant relationship between the overall level of perception and the profession of different healthcare workers involved in managing surgical cases at UNIOSUN Teaching Hospital. The hypothesis test aimed to investigate the extent of collaboration and overall level of perception and the profession of different healthcare workers involved in managing surgical cases at UNIOSUN Teaching Hospital. The Pearson Chi-square test was employed for this analysis, with the degrees of freedom (Df) being 11 and a computed Chi-square value of 10.947. The resulting p-value was found to be less than  $<0.448$ . However, since the p-value is below the conventional significance level of 0.05, we reject the null hypothesis. As a result, there is a strong correlation between the various healthcare professionals that manage surgical cases at UNIOSUN Teaching Hospital and their general level of perception.

### **Discussion**

The complexity of healthcare has increased recently (Kauff et al., 2023). Lowering this will require the collaboration of a diverse workforce, which includes physicians, nurses, social workers, and other healthcare professionals (Vaseghi et al., 2022). As a result, collaboration amongst health professionals is more important than ever (Lutfiyya et al., 2019). According to the above findings, there are a number of important elements that go into a successful collaboration when managing surgical cases at the UNIOSUN Teaching Hospital. These include timely communication, comprehension of terminologies, chances for team discussions, trust and respect, recognition and rewards, specialised space and resources, and adequate staffing levels.

Variable		Frequency (n = 120)	Percentage (%)
I understand the roles and responsibilities of other healthcare professionals involved in patient care.	Strongly agree	64	53.3
	Agree	52	43.3
	Neutral	2	1.7
	Disagree	1	.8
	Strongly disagree	1	.8
I prioritize collaboration and teamwork over individual approaches to patient care	Strongly agree	58	48.3
	Agree	54	45.0
	Neutral	7	5.8
	Disagree	1	.8
I am open to learning and adopting new practices from other professions.	Strongly agree	55	45.8
	Agree	52	43.3
	Neutral	10	8.3
	Disagree	2	1.7
	Strongly disagree	1	.8
There is a culture of trust and respect between different professions at UNIOSUN Teaching Hospital.	Strongly agree	39	32.5
	Agree	65	54.2
	Neutral	11	9.2
	Disagree	5	4.2
Collaboration and teamwork are recognized and rewarded by the hospital.	Strongly agree	30	25.0
	Agree	49	40.8
	Neutral	18	15.0
	Disagree	13	10.8
	Strongly disagree	10	8.3

Table 4: Factors that hinder effective collaboration in UNIOSUN teaching hospital

Variable		Frequency (n=120)	Percentage (%)
lack of clear and timely communication between different healthcare professionals	Strongly agree	45	37.5
	Agree	60	50.0
	Neutral	7	5.8
	Disagree	5	4.2
	Strongly disagree	3	2.5
	Strongly agree	22	18.3
	Agree	36	30.0

Are difficulty understanding terminologies used by colleagues from other profession factors that cause communication barriers?	Neutral	24	20.0
	Disagree	27	22.5
	Strongly disagree	11	9.2
Are insufficient opportunities for team discussions and information sharing the factors that cause communication barriers?	Strongly agree	45	37.5
	Agree	44	36.7
	Neutral	19	15.8
	Disagree	9	7.5
	Strongly disagree	3	2.5
Feeling pressure to follow surgeon's lead even if concerns exist.	Strongly agree	29	24.2
	Agree	42	35.0
	Neutral	33	27.5
	Disagree	12	10.0
	Strongly disagree	4	3.3
It is difficult for nurses and other professionals to contribute their expertise effectively.	Strongly agree	22	18.3
	Agree	40	33.3
	Neutral	31	25.8
	Disagree	19	15.8
	Strongly disagree	8	6.7
A sense of separation and competition between different professions.	Strongly agree	36	30.0
	Agree	54	45.0
	Neutral	14	11.7
	Disagree	10	8.3
	Strongly disagree	6	5.0
Limited responsibilities of each other roles and responsibilities.	Strongly agree	23	19.2
	Agree	52	43.3
	Neutral	25	20.8
	Disagree	13	10.8
	Strongly disagree	7	5.8
Difficulty in establishing trust and respect across different disciplines.	Strongly agree	22	18.3
	Agree	60	50.0
	Neutral	17	14.2
	Disagree	14	11.7
	Strongly disagree	7	5.8
High workload and time pressures that limit collaboration opportunities.	Strongly agree	58	48.3
	Agree	47	39.2
	Neutral	10	8.3
	Disagree	4	3.3
	Strongly disagree	1	.8
Lack of dedicated space for team meetings and communications.	Strongly agree	44	36.7
	Agree	56	46.7
	Neutral	12	10.0
	Disagree	7	5.8
	Strongly disagree	1	.8
Insufficient staffing levels hinder effective collaboration.	Strongly agree	62	51.7
	Agree	43	35.8
	Neutral	10	8.3
	Disagree	2	1.7
	Strongly disagree	3	2.5

Table 5: Relationship between the extent of collaboration and the overall level of perception

Variables	Pearson Chi-square		
	Df	Value	p-value
The extent of collaboration	4	2.364	<0.669

Inter-professional communication, addressing professional roles and responsibilities, conflict behaviour, and inter-professional values and ethics are among the essential abilities needed to improve IPC (Claus & Wiese, 2019). Relationship, procedural, organisational, and contextual difficulties also impact professional collaboration (Dahlke et al., 2020). The study's data showed that the following are major obstacles or factors that affect effective collaboration in the management of surgical cases at UNIOSUN Teaching Hospital: inadequate staffing levels, lack of dedicated space and resources, difficulty understanding terminologies, insufficient recognition and rewards, and fewer opportunities for team discussions. The use of interprofessional collaboration is influenced by leadership, system/ organizational, and personal aspects (Djहारuddin, 2023).

Collaboration amongst professionals is known to increase effectiveness and care quality. Nonetheless, Dahlke et al. (2020) note that it is linked to difficulties including professional hierarchies, time restrictions, and professionals having different routines, identities, and levels of knowledge. According to Tan et al. (2023), three themes were shown to have an impact on role expectations, sociocultural factors in collaborative practice, and the use of the IPC style of communication. The results of this study also show that healthcare professionals work well together. The significance of inter-professional teamwork in delivering efficient healthcare is becoming increasingly recognised (Sirrka, 2019). IPC encourages respect among healthcare professionals and their capacity to decide how best to care for patients (Ansa et al., 2020). Finally, this research suggests that the high calibre of IPC

has a beneficial effect on the calibre of care provided to surgical patients at the UNIOSUN Teaching Hospital in Osogbo. One measure of the calibre of hospital medical services is patient safety. To do this, the hospital must work to develop a system that can reduce mistakes and unforeseen circumstances that could endanger patients (Abdurrouf et al., 2021).

**Nursing implications of the study**

This study emphasizes the strong collaboration and positive perceptions among most respondents regarding the various healthcare professions involved in surgical case management at UNIOSUN Teaching Hospital. It also underscores critical factors contributing to effective collaboration, including communication, terminology comprehension, opportunities for team discussions, trust and respect, recognition and rewards, dedicated resources and space, and adequate staffing levels. These factors collectively enhance the quality of care provided to surgical patients at UNIOSUN Teaching Hospital.

Therefore, nurses should foster a culture of open communication and teamwork through regular team discussions and meetings; they should provide opportunities for interdisciplinary education and training to enhance understanding of terminologies and roles across healthcare professions, promote mutual respect, trust, and recognition among healthcare professionals to improve collaboration and morale and to advocate for policies that prioritize patient-centred care, safety protocols, and quality improvement initiatives.

### Conclusion and recommendations

The study at UNIOSUN Teaching Hospital shows strong collaboration among healthcare professionals in surgical case management. Key factors include communication, terminology comprehension, team discussions, trust, recognition, resources, and staffing. Nurses should foster open communication, interdisciplinary education, and mutual respect to improve collaboration and morale.

### Limitations of the study

Certain constraints are inevitable; among them are time and finances. Another limitation was reluctance and unwillingness on the part of nurses and physicians to fill out the questionnaire to obtain data, which was later addressed by persuading them

### Ethical considerations

The study proposal was submitted to the Ethics and Research Committee in UNIOSUN Teaching Hospital and was approved with reference number UTH/REC/2024/05/942. All participants were asked for and granted their informed consent.

### Acknowledgements

The authors of this work specially acknowledge the lecturers of the Department of Nursing Science, Fountain University, Osogbo, as well as all the respondents at UNIOSUN Teaching Hospital, Osogbo, for their immense contribution to the success of this work.

**Conflict of interest:** We declare no potential conflict of interest.

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**Citation:**

Bamigboye, T. L., Taiwo, O. A., Adegoke, J. I., & Adeleke, E. A. (2025). Perceived Impact of Inter-professional Collaboration on the Quality of Care in Surgical Units among Healthcare Professionals in UNIOSUN Teaching Hospital. *Fountain Journal of Basic Medical and Health Sciences (FUJBMHES)*, 1(1), 76 – 85.