

## INTERPROFESSIONAL COLLABORATION AMONG HEALTHCARE PROFESSIONALS IN THE MATERNITY AND CHILD HEALTH CLINICS

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**Abstract:** *Collaboration is the cornerstone of success in any health care team. It is a symbol of highly successful health care efforts especially when looking for innovative strategies to meet the needs of patients. At the time when the system is becoming complex, collaboration offers the mean to provide optimal care through integration of health care professionals from more than one discipline to work together in a collaborative team. Such practice is needed in critical areas such as in the care of pregnant women and child birth as statistics show a decline in the number of live birth from year to year. The discussion on this has been done a lot, however, recent works highlighted the need to explore the area in a more meticulous aspect. Considering this gap, this study aims to evaluate the collaboration between health care professionals pertaining to core collaborative competencies and information exchange process in the Maternity and Child Health Clinics of selected public facilities in Malaysia. Pure quantitative approach will be employed with the aid of self-administered questionnaire. All participants, healthcare professionals, who are involve in the care of patients in the clinics will be recruited to assess their perception of interprofessional collaboration with other professionals. The finding of the study is expected to contribute significant value to the existing body of knowledge, health care industry, educational institutions, professionals and the community as a whole.*

**Keywords:** *Health care Professionals, Information Exchange, Interprofessional Collaboration, Interprofessional Competencies*

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### 1.0 Introduction

Interprofessional collaboration (IPC) remains an area of focus since health care professionals are challenged to provide a quality health care delivery with the complexity of health care system. This team-based strategy has been cited as a key strategy to improve health care outcomes by many works. Attention's gap exists to how practiced professionals should initiate and maintain the interprofessional relationship in the industry (Wener & Woodgate, 2016). This is because, traditional health care models and professionals are educated, trained and practiced in silos in which can affect the quality of care.

This lacking is a challenge to the implementation of collaboration among professionals. Felix, Bode, Giesler, Heinzmann, Kruger and Straub (2016) argued that, the absence of training in the education level could be substituted with acquiring necessary skills during the real work. Thus, to response to this challenge, WHO has introduced interprofessional education (IPE) as a significant tool for preparing the future collaborative workforce through acquiring necessary competencies and skills for interprofessional collaboration during the undergraduate program.

However, IPC continues to be a threat in health care especially in the maternity health. A continual increase in the maternity health problem and decrease in the child birth rate received the attention from all. An integrated practice among healthcare professionals including nurse-midwives, obstetrician, gynecologists and other related professional is best required to meet the changing maternity needs (Tekoa, Russell & Julian, 2012). Argote (2006) argued that, resources available within a team will not utilize if information exchange does not occur. It is a crucial process in teams where it encompasses individuals interacting to share ideas and information related to circumstances. This statement supports Himmelman (2005) where he defined collaborating as a process of exchanging information sharing information that develops mutual benefits for achieving a common purpose. Many past works are done on defining and determining the antecedents of IPC. Only a few focused-on efforts to explain the process of IPC. Considering information exchange as the medium between core collaborative competencies and IPC, therefore, the main purpose of this study is to address the IPC issue by linking interprofessional collaborative competencies, information exchange and IPC with other professionals. The following are the main objectives of the study:

(1) To determine the relationship between interprofessional collaborative competencies with the interprofessional collaboration with other professionals.

(2) To determine the mediating role of information exchange in the relation between interprofessional collaborative competencies and interprofessional collaborative with other professionals.

## **2.0 Literature Review**

### **2.1 The Relationship between Interprofessional Collaborative Competencies and Interprofessional Collaboration (IPC)**

IPC has been discussed in education, business organizations, manufacturing, biotechnology, and pharmaceutical. However, it has been a major discussion in health care industry in recent years. Researchers in health field often uses the term IPC to address the issue of collaboration between two or more different professionals. The review indicates that, it is commonly used interchangeably with few other terms including interdisciplinary collaboration, interdisciplinary team, multidisciplinary collaboration, interdisciplinary teamwork, interdisciplinary practice and teamwork.

Barr, Koppel, Reeves, Hammick and Freeth (2005) defined IPC as a situation where professionals from different background, skills and knowledge communicate and decide on a common goal that is based on patient health. This is matched with the definition by WHO (2010) and has been referred by many researchers over time. In maternity care, IPC is said to occur when physicians, midwives and nurses work together to meet the needs of maternal care in the community (Munro, Kornelsen & Grzybowski, 2013). It offers a tool to improve health outcome by improving professionals' job satisfaction and enhancing the effectiveness and efficiency of health care delivery to patients.

Evidence shows that trained health professionals are performing better than those who are not (Jacobsen & Lindqvist, 2009; D'Amour & Oandasan, 2005). Strong relational skills enable professionals to work with others from different disciplines and fields. There is sufficient evidence to conclude that effective skills enable effective collaboration among professionals. This highlighted that

IPE and IPC are closely interrelated where the competencies are required by all professionals to guide and assist them in the educational institution in order to function and collaborate well in an interprofessional team (The Expert Panel, 2011).

It is believed that, the competencies are the key antecedent in predicting IPC and it may shape the IPC capabilities for not only the health care graduates, but also professionals in the industry (Souza, Peduzzi, Silva & Carvalho, 2016). Until now, there is much research conducted to evaluate graduates' capabilities on this, however, little research is done among professionals who already practice in the industry.

## 2.2 The Process of Information Exchange

Despite a growing number of research, IPC continues to be a threat to the health care industry. Review of past works identify that the study of IPC is mainly centered on the role of determinants (Carvalho, Peduzzi, Mandu & Ayres, 2012) and not the concept of measuring the IPC. Therefore, in order to understand the interaction of professionals, it is utmost important to address the work processes in the creation of IPC.

Gucciardi, Espin, Morganti and Dorato (2016) argued that, collaboration involves an exchange of views and ideas. At time, information exchange is regarded as a medium to foster collaboration. Professionals with skills to interact with others will be able to exchange information effectively. It helps professionals to interpret information to share information with others. As result, the effective information exchange will lead to a respectable collaboration of professionals (O'Daniel & Rosenstain, 2008). Research findings that linked information exchange to interprofessional collaborative core competencies and IPC have been contradictory. For this reason, the present study will identify the role of information exchange as the mediating variable of the relationship between interprofessional collaborative core competencies and IPC.

## 2.3 Theoretical Basis

Prior studies have examined IPC through the application of the systems theory, Input-Process-Output (IPO) model, the collaboration framework and organizational theory, structuration model of interprofessional collaboration, model of team effectiveness, the Framework for Action on Interprofessional Education and Collaborative Practice and a few more. However, only a few are focusing on explaining the process in collaboration. To explain the research framework, the systems theory will be applied. Developed by von Bertalanffy, a biologist in 1950, the theory is an interdisciplinary theory about the nature of complex system. It describe how a group of objects work together to produce some result. It is a valuable concept for evaluating the human interaction. In fact, the theory provides the foundation to interpret human experiences, perceptions and the actual phenomenon.

The theory is proposed driven by the needs to understand the system's complex nature. Across years, the theory has continued to become an approach of explaining the organizational perspectives especially related to team effectiveness. The systems theory agreed upon an aspect that "input" will lead to the formation of "output" through "processes". The components of systems theory include inputs (raw materials, labor, finance and commitment), system/processes (operations, methods, employee activities, management activities), outputs (goods and services, information), feedback and environment (consumers, competitors, government, suppliers). However, this study will focus on the three main components; inputs, processes and outputs.

Based on the theory, inputs are representing by the resources hold in either at the individual level, group level or environment level. Individual' skills, personalities and attitudes are the example of factors to represent the individual level, work structure and group characteristics capture group level factors and organizational structures such as culture, task and reward system explain factors at

environment level. These factors can be manipulated throughout the process and output stage. The second component is processes. Von Bertalanffy designed processes as the mediating mechanism that will convert inputs to outputs. It explains a range of group interaction process such as communication, motivation and information exchange that is influenced by inputs in hand and will affect the outputs later. On the other hand, outputs refer to the group's outcome. It can be measured in either group performance or member reactions. Group performance measured the degree of achievement set by the group while member reactions capture the perception of satisfaction with the group processes.

## **2.4 Research Variables**

The research framework is based on the systems theory developed by von Bertalanffy, a biologist in 1950. The framework suggests that level of interprofessional collaborative competencies (inputs) would convert to the IPC (outputs) with other professionals through an information exchange process (processes). This study includes three variables; collaborative competencies, information exchange and interprofessional collaboration. Based on the theory, the collaborative competencies formed the inputs component that will ultimately influence IPC among group of health care professionals. These competencies are then linked to the information exchange behavior that represents the processes component. This is the process where professionals apply individual competencies to achieve the group outcomes which will be measured through member reaction of the individual perception towards group climate, influence of others and personal motivation in the group.

## **3. METHODOLOGY**

### **3.1 Study Design**

This study will utilize quantitative methodology. The researcher will employ the use of a questionnaire as the research instrument. The data collection procedure will be based on face-to-face or by-hand questionnaire distribution to the participants. The questionnaire will be adapted from preceding literature and will be thoroughly selected to accumulate enough information pertaining to the objectives of the study.

### **3.2 Sample**

The researcher will seek voluntary participants of health care professionals in the Maternal and Child Health Units of Kedah State Health Clinics, Malaysia. The participants will be recruited by the researcher in-person to complete a set of close-ended questionnaire that should take approximately 30 minutes. The participants for this study will be selected in accordance with the multi-stage cluster sampling procedure. They will be recruited in cluster and randomly selected Maternal and Child Health Units in 12 districts of Kedah state, Malaysia. The participants of this study will include males and females, all health care and health allied professionals in the units. All the participants who are attending to the study are working in the units at the time of the study and at least three months with the clinics.

### **3.3 Research Instrument**

The survey method will be followed accordingly to collect data from the participants. The instrument is a set of questionnaires adopted and adapted from Dow, DiazGranados, Mazmanian and Retchin (2015), Strype, Gundhus, Egge and Odegard (2014) and Tschaut and Rack (2012). To ease and assist the participants' understanding, the questionnaire will be prepared in bi-language; English and Malay. The questionnaire will be divided into four parts. Part A will ask about the participants'

profile such as gender, marital status, hospital's region, experiences in profession and experience in current hospital work area. Part B will be designed to learn about participants' perception on their level of interprofessional collaborative competencies and contains 39 statements. Part C includes participants' perception on the interprofessional collaboration with other professionals and contains 12 statements. Part D includes 5 statements on the professionals' perception of the process of information exchange that took place. Participants' response in part B, C and D will be represented by a five-point Likert scale ranging from strongly agree = 1 to strongly disagree = 5.

### **3.4 Data Collection Procedure**

The researcher will seek voluntary participation of health care professionals in the setting. All participant will be recruited by the researcher in-person to complete a set of close-ended questionnaire that should take approximately 30 minutes.

### **3.5 Plan for Data Analysis**

In accordance with the proposed objectives and based on the types of variables, the study's data will be analyzed by using Partial Least Squares-Structural Equation Modeling (PLS-SEM), version 3. Since the study's instrument is still in the development process, therefore PLS-SEM is a useful tool to conduct validity and reliability of the study's measurements. Besides, it is a commonly used tool in behavioral sciences study and enables the researcher to be able to achieve a high level of statistical power with a small number of sample size.

### **3.6 Ethical Consideration**

Three approval stages will be guaranteed; the National Medical Research Register (NMMR), the public hospitals' management and participants. The NMMR is a unique tool, designed to support the National Institutes of Health (NIH) of the Ministry of Health (MOH), Malaysia on research-related activities conducted in the MOH. It is compulsory to get the approval from NMMR because the study's population involves clinics under the MOH obligation. As for now, this study has received the approval with the reference number of NMMR-17-44835099 (IIR). Next, an application letter together with the approval letter from NMMR will be sent to selected clinics to convey the purpose of the study. This is a must because, the researcher should consider the viewpoint of every selected public hospital since they represent a unique entity compared to others. Last, but not least, to ensure voluntary involvement and indicate agreement by the participants, an inform consent will be given to each target participant to get their approval, so that, the study will only involve those who are willing to participate.

### **4.0 Expected Results**

Proper selection of research objectives and research methodology is important to guarantee the finding of new results. The anticipated results of this project include a benchmark for where the health care system, specifically in Malaysia may re-structure it team-based health care activities to improve the current health status. This result also will be used to create a roadmap for improving the professionals' satisfaction by reducing their work hour and unnecessary work. The private sector may also aspire to reuse this methodology for assessing their capabilities for the same objectives. From the methodology aspect, this study will improve the instrument validation and contribute to the number of instrument availability that can be used in the field of IPC.

## 5.0 Conclusion

This study will investigate the role of information exchange as the mediating variable in the relation between collaborative core competencies and IPC. The systems theory will be used to examine the process that shapes collaborative practice in Malaysian health care system. It is anticipated that, the study enables to raise some key points that will be of interest to health care professionals, providers as well as the researchers in the field. Researchers should realize that, the collaboration of professional must be considered from many aspects, not only on the individual effort but also on the human process. This study speaks to a push to achieve a superior comprehension of IPC and create future lines of research efforts.

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