

A Review of the Clinical Interdisciplinary Collaboration among Nurses and Physicians

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Abstract

Background: Care is a team effort that its continuity is not possible by a person alone. Nurses and physicians should have collaboration with other professions to solve care complex problems. **Aim:** We conducted a review of the literature to evaluate clinical nurses collaboration with other disciplines examined by qualitative approach. **Method:** We searched all articles that published from 1995 to 2014 in both English and Persian which had been performed interdisciplinary collaboration processes in the clinical nursing. These articles were done with qualitative approach for nurse's collaboration with other disciplines. We searched using databases of Proquest, Scopus, pub Med, Science Direct, and Iranian databases of Sid, Magiran, Iran Medex. This review was performed using keywords matching with MESH terms such as interdisciplinary relations, nurse-physician relations, care team, collaboration, and their Persian equivalents at the first separately and then with AND/OR as combination. In most studies, the main structure was three components of collaboration process, context of collaboration and consequences that they were emphasized. **Results & Conclusions:** However context and processes were different but most studies reported outcomes similarity of interdisciplinary collaboration. Thus to achieve common goals between different disciplines working together is essential for effective care in clinical settings.

Keywords

Collaboration, Care Team, Interdisciplinary Relations, Nurse-Physician Relations

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1. Introduction

In health care settings, collaboration between nurses and other professionals is critical for effective practice [1]. Care is a team effort that its continuity is not possible by a person alone. Coordination, communication and working together are essential and inevitable for effective care and to achieve common goals between different disciplines including nursing [2]. Nurses should have collaboration with other professions to solve care complex problems [3]. Professionals which interact with each other to achieve the objectives create better supportive and educational environment to obtain skills of caring and medical [4]. The absence of a favorable environment for cooperation between clinical members of the group will be followed by irreparable damage for individuals, groups, and organizations and possibly leads to struggle and conflict and the loss of social and organizational capital [5]. The difficulties in collaboration force the nurses and physicians to make decisions and carry out treatments without access to the full range of relevant information that is available about their patients and cannot obtain effective practice.

Most of The reports based on the lack of collaboration between the professions of health care and its negative effects on the health and medical system and patients is increasing [6]. Evidence shows that there is challenge in professional communication and collaboration between physicians and nurses in most cases [7]. One study found that only 13.4% of nurses had good interaction with doctors [8]. Because nursing is a profession that deals with generality of the patient and human values with regard to that collaboration in care is based on human interaction and is a social process, qualitative study is the appropriate approach for studying this phenomenon [9].

Qualitative researches are noteworthy in some cases such as depth exploring in the processes and complexity, poorly understood phenomena, and discovering the problem [10]. In clinical field many studies were conducted with quantitative approach but there are limited studies especially in our country with qualitative method. Therefore, evaluation of the qualitative studies about care and clinical collaboration leads to that the care team will achieve to more correct understanding of different dimensions of this phenomenon and will inform them about processes, backgrounds, and affecting condition and the outcomes in order to use the results in clinical practice and decision-making.

This article provides a review of the published literature to evaluation how clinical nurses collaboration with other disciplines which had examined by qualitative approach.

2. Method

In this study, we evaluated all studies with qualitative approaches which had published in the clinical interdisciplinary collaboration between nurses and other disciplinary. We removed duplicate papers with screened titles and abstracts independently and read all retained papers. The Decision to exclude or include papers was agreed by consensus with discussion and consultation for decreasing bias. This study was analyzed by narrative approach because these studies were done with qualitative methodology.

2.1. Questions Research

The research questions were: 1) What are the concepts of clinical interdisciplinary collaboration? 2) How is the structure of clinical collaboration? 3) What is the outcome of clinical collaboration?

2.2. Strategy Research

We considered all articles and theses published from 1995 to 2014 in both English and Persian which had been done with qualitative approach for nurse's collaboration with other disciplines. Were searched using databases of Proquest, Scopus, Pub Med, Science Direct, and Iranian databases of SID, Magiran, Iran Medex. This review was performed using keywords matching with MESH terms such as interdisciplinary relations, nurse-physician relations, care team, collaboration, and their Persian equivalents at the first, separately and then combination of key words were used by using AND/OR for example "interdisciplinary relations and nurses" or "interdisciplinary relations and physicians", "nurses collaboration", "nurses and physicians collaboration" or relation and so on.

2.3. Inclusion Criteria and Exclusion Criteria

In this study the full text of articles or theses, the studies that have Clinical Nurses participation and qualitative

approach, and the studies in English and Persian languages were included. Exclusion criteria were Abstracts of the studies and the articles or theses that were not related to clinical nursing.

For data extraction and synthesis, articles had been read by one of the reviewers with the framework and data extraction form and qualitative checklist that were designed by the researchers based on the objective of the study. All articles were evaluated and recorded by two independent reviewers based on inclusions criteria from aspect objects, study design, methodological characteristic, participants, concepts, and structure, processes, outcomes of interdisciplinary collaborations (Table 1). The most important points of the articles were summarized and finally findings were reported based on the research questions. For increasing the study accuracy, extracted data were controlled and reviewed through reviewing the process by other researcher. In this search, a total of 5563 papers and theses were found. Among these, 327 articles were in Persian extracted from internal databases. 1437 studies due to no participation of nurses in the process of collaboration and 1513 studies due to collaboration in other professional disciplines including research and education, also 125 studies due to reprinting were excluded. 1056 cases which were done with non-qualitative approaches excluded and finally, 29 full texts including 25 full-text papers and 4 nursing thesis were assessed (Figure 1). Most of the articles were published in international journals and databases only 4 articles were published in Iran.

3. Results

All studies were conducted in clinical field and were patient-oriented. Participants were nurses and other disciplines including doctors, social workers, physiotherapists, psychiatrists, psychologists that performed care and treatment of patients as a clinical discipline. In all studies, nurses were presented as one of the participants [11]-[17].

In some studies, in addition to nurses, different disciplines such as psychologists, social workers were as other participants [18] [19]. These studies were evaluated the other concepts that nearly to collaboration for example were emphasized to communication. The other concept was coordination.

The researches were performed with different qualitative approach and methodology and were different from sampling method, sample size, tools used in these studies.

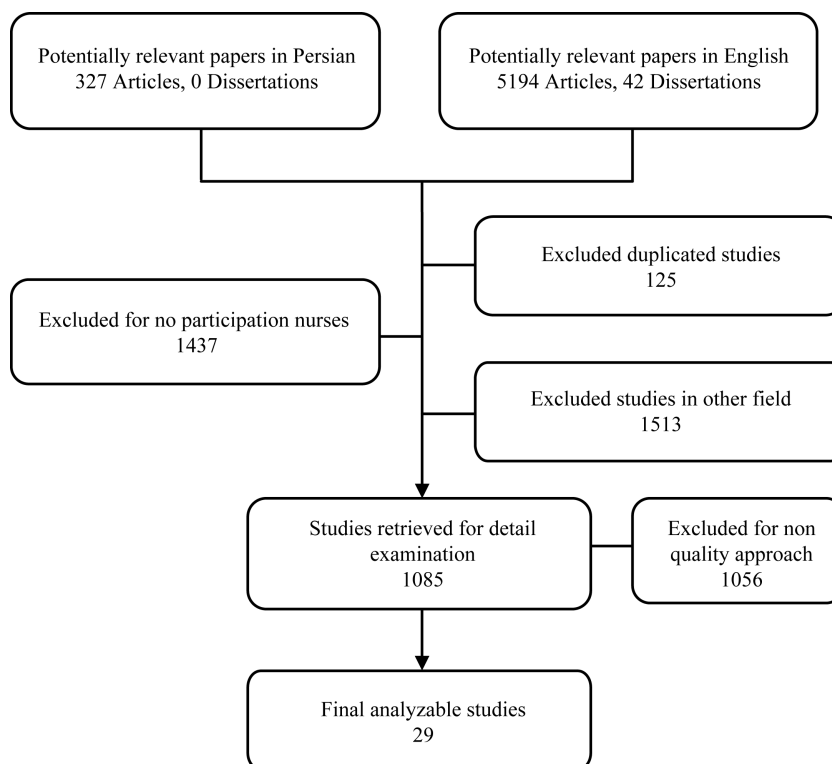


Figure 1. The process of review studies.

Table 1. The characteristics of review studies.

Concepts	Design/sample size/tools	Objectives	Author/year/country
The concepts were collaboration, affecting factors and the degree of collaboration	Qualitative/questioner	Model and hypothesis tests	Hee lim/2008/South Korea
Communication, isolation, matching doing, supporting the management were of concepts	Mixed/interview	Perception of physician-nurse collaboration	Gotlib Conn & <i>et al.</i> /2014/Canada
Specialized knowledge, technical skills, equipment, clinical domain were of important concepts	Focus group/37 person	Discovering of how teamwork interact and discuss about complex objects in ICU	Lingard & <i>et al.</i> /2004/Canada
Clinical development, creating relationship, space and resources, training of students, and management of spaces were some of the concepts	Ethnography/8/field note/observation	Evaluation of teamwork and understanding how the team work through communication	Ellingson/2003/USA
The main concepts were social change, coordination, face to face communication, the rules and norms	Interview/59 person	Development of some central themes of the relationship between doctors and nurses in hospital's environment	Sevensson/1996/Sweden
The main concepts were collaboration, authenticity, compassion, coordination	Content analysis/50/interview	Discovering the professional association of nurses in dealing with health care teams	Apker & <i>et al.</i> /2006/USA
Some concepts were improving care, reducing length of stay, specific interventions, treatment efficacy	Observation/29/interview	Identifying of multidisciplinary teamwork problems and creating a care pathway for patients with schizophrenia	Jones/2006/UK
The concepts of this model include power, background, group life, the barriers and support	Grounded theory/20/interview	Providing a model for interdisciplinary collaboration	Douglas & Machin/2004/UK
Main concepts were working together, domain, power of collaboration, the same mutual feeling	Focus group /interview/observation/63 person	Determine how to apply the power of clinical clinicians	Nugus & <i>et al.</i> /2010/Australia
Trainer, skilled practitioner, researcher director of progress, consultant, colleague	Action research/focus group/interview/field note	Providing clinical and counseling model for nurses	Manley/1997/UK
Development of collaboration, different characteristics, different expectations, changes in interactions, time compression were discussed concepts	Interview/12	Explaining the experience of doctors and nurses of working with pharmacists	Halvorsen & <i>et al.</i> /2010/Norway
The concept in this analysis was in the definition of interdisciplinary collaboration	Concept analysis	Analysis of concept based on Rogers' approach	Petri/2010/USA
The models of collaboration, consultation, coordination, parallel, interdisciplinary, integration were mentioned	Mixed/qualitative 21/quantitative 87	Assessment of validity of care centered framework	Gaboury & <i>et al.</i> /2010/Canada
Some of the concepts were self-confidence, knowledge and skills, team work, the feeling of performing good work	Phenomenology/20/interview	Describing the authority from the viewpoints of the staff of the intensive care	Wahlin & <i>et al.</i> /2010/Sweden
Data, processes and outputs were the studied concepts	Grounded theory/21/interview	Discovery and explanation of the health care experiences and facilitating and limiting factors of collaboration	Gaboury & <i>et al.</i> /2009/Canada

Continued

Communication, integration, collaboration, organizational structure, decision were the discussed concepts	Grounded theory/ workshop/unclear	Providing the model of care collaboration between physicians with some clinical areas	Boon & <i>et al.</i> /2009/Canada
Interprofessional communication, interprofessional conflict, interprofessional documents were of important concepts	Video recording/interview/ Delphi/62	Evaluation the effectiveness of integration of care pathways for discharge of patients with femoral neck fracture	Atwal & <i>et al.</i> /2002 UK
Concepts such as: patient's environment, patient's family, inter-professional team were the elements of decision model	15/Focus group/interview	Development of thought model with inter-professional approach for decision	Legare & <i>et al.</i> /2010/Canada
Working together, patient-centered, improved care, job satisfaction, confidence-control, respect-control, knowledge were of the concepts of this study	Grounded theory/20/ interview	Understanding of physicians and nurses' collaboration	Baggs & schmitt/99/USA
The central concept of working together was in line with common goal, a series of other concepts were exchange of ideas, having plan, progress control	Grounded theory/22/ interview	Understanding the process of collaboration between doctors and nurses and providing theory	Fewster Thuente/2011/USA
Seven themes were obtained: the quality of communication, maintaining relationships, skills and competencies of nurses, mutual respect and trust	Phenomenology/6/ interview	Discovery and explaining the experience of nurses from interprofessional collaboration with doctors	Faria/2009/Canada
Integration, sovereignty, mutual understanding, shared goals and visions were some concepts	Mixed/33/interview	Assessment of validity of the characteristics of collaboration model and suggesting model	DAmour & <i>et al.</i> /2008/Canada
The main concepts were adhering, engaging, share and real participation	Grounded theory/22/ interview/observation	Identifying the factors associated with participation in nursing care and determining the nature of participation	Rafie & <i>et al.</i> /2011/Iran
The main concepts were lack of respect to nurses, lack of knowledge about nurses, the absence of nurses in clinical rounds, the teamwork	Phenomenology/16/ interview	Evaluation of nurses' experience of communication challenges	Mahmodian & <i>et al.</i> /2011/Iran
Three major themes were maintaining professional realm, the medical-centered approach, poor teamwork	Content analysis/24/ interview	Exploring and describing of the challenges of interprofessional collaboration of mental health services in Iran	Erajpour & <i>et al.</i> /2012/Iran
Some concepts include attention to all aspects of the client, teamwork, client's participation, family support, activating of the nurses	Grounded theory/15/ interview	Designing of care model in multidimensional psychological rehabilitation of schizophrenic patients	Fallahkhashknab & <i>et al.</i> /2002/Iran
Mutual respect and trust, independence, work together, coordination, communication were of important concepts	Focus group/13	Understanding the experiences of collaboration between doctors and nurses	Macdonald/2001/Canada
The discussed concepts were education, trust, credibility, emotional burden	Phenomenology/12/ interview	Describing the preparation and development of the model of nurse-led follow-up care	Sally Moore/2006/UK
Some themes include respect and confidence/satisfaction/negative interactions/patient safety	Phenomenology/67/ workshop	Deep understanding of the experience of collaboration	Kathleen & <i>et al.</i> /2008/USA

7 studies (46.6%) used grounded theory methodology, 3 studies (20%) used focus group, and 3 studies (20%) used an integrated approach. Also, 2 studies (13%) had used a phenomenological approach. Ethnography and action research also had assigned one case each one (6.6%). Canada with 6 studies (40%) had devoted the highest number of publications. America with 4 studies (26.6%) was the next rank. 3 studies (20%) were obtained from England, and Iran and Germany each had published one study (6.6%).

In this review, 7 published studies (46.6%) had selected health care centers as study environment [20]-[26]. Also, some studies were done in the hospitals [27]-[29]. In most studies, the main structure was three components of collaboration process, context of collaboration and consequences that they were emphasized.

3.1. Backgrounds of Collaboration

Most of the studies had emphasized that background of collaboration was one of the major component affecting collaboration processes. As the background of collaboration organizational structure was important concept [18] [21] [23] [24] [28].

D'Amour *et al.* (2008) in defining their model structure introduced four dimensions and ten indicators; two dimensions of these four dimensions of proposed model were related to the organization. The formalization of the organization and governance were two dimensions of model [23]. D'Amour and colleagues in their proposed model asserted that in this model, people can continue collaboration in complex and heterogeneous conditions, this model was limited to the primary health care centers, and with regard to the approach and methodology of the study, it cannot be generalized to clinical settings. In the study of Douglas *et al.* (2004) 6 categories were extracted that one of these categories was background. The researchers believed background is the group of condition such as the professional aspects, broad organizational and managerial aspects that affecting the outcomes [18]. In the study of Douglas and colleagues, context was effective on all group aspects such as organizational of professional aspects. In this study, from 6 extracted categories, 4 categories were related to contexts, and the concepts such as power, support, barriers and context are evoking of cooperation context. Unlike D'Amour's study, this study was conducted in the clinical setting. In other study, Collins *et al.* (2011) had pointed to tools, environmental concepts, barriers and facilitators as the background of collaboration framework [29]. In this study the concepts related to context such as environment, tools, facilitators and barriers were directly effective on the process of exchange of information and communication and orientation to the goals and interaction. This study was conducted in the ICU. In the other study had assessed cultural and social factors as context variables [19]. Fallah *et al.* were essentially seeking to offer a model of cooperation that emerged from the internal cultural and medical contexts. The authors claimed that the offered care model is based on the needs of clients and location's conditions and type and number of human resources and social activities. This study was done with grounded approach; therefore it does not have generalizability.

In a study, three basic parts that field of work such as beliefs, values, organizational authority and hierarchical management had been presented of these factors [26]. In this study, contexts such as shared ideas and beliefs open non hierarchical management and organizational authority were of the basic elements of it. Admittedly, these contexts are effective on the individuals' organizational role which the researcher is seeking to define and clarify.

One study mentioned the environment as the general background including the organizational routines, organizational structure and social norms [20]. In this study, the proposed integrated model had three levels that the macro level and meso-level were related to the contexts. Macro level included health practices, the social contexts and professional organization, and meso-level included the public environment, government policy, resources, cultural values and roles. In this study, the importance of contexts is well discussed.

3.2. Process

The process of clinical interdisciplinary collaboration was focused in all of studies. Most researchers determine effective collaboration elements and indicators of the effectiveness of group work to understand the process of collaboration [30]. Fewster (2011) noted that the process of collaboration was based on performance and believed that this process cannot be determined with review studies and should be done by experimental studies in the presence of the participants [9]. In this study the derived categories and concepts do not hint to the contexts, and causal conditions are not observed in the process.

In the study of Baggs & Schmitt (1999) the main question was about the interaction between doctors and

nurses [28]. In this study the concept of working together was discussed as the core of process. In the study of Legare *et al.* (2011) also the process of collaboration in organization was emphasized [20]. In the model suggested by Boon *et al.* (2004) the philosophy, process and structure, values were showed as four key elements in development of the model [24].

In a study, the process of collaboration had been discussed in 1) respecting to the opposed ideas and important decisions based on the results; 2) reducing the independence of practitioners; 3) dimensions including 1-the process of increasing communication [21]. The process of collaboration was included concepts of communication, barriers, patient's referral, and power of relations, in the model of inter-professional collaboration [22].

In a study, three variables of time restrictions, the unbalance of power between health professionals, lack of resources were presented as the barriers of collaboration and mutual understanding of interdisciplinary roles, education, and motivation to obtain an inter-professional approach as the facilitator [20]. In another study had suggested high level of management as external and internal factors in the promotion of collaboration [23].

In the study of Hee lim (2008), two hypotheses were assessed. The first hypothesis was that the characteristics of team members and context variables have a direct effect on the process of collaboration. The second hypothesis was that the characteristics of team members and context variables have a direct effect on the degree of collaboration. In this study, both two hypotheses were rejected, but the model was edited and modified after the test [30].

3.3. Outcomes of Collaboration

Outcomes of interdisciplinary collaboration of clinical nursing were reported positive in the most of the studies. In the theory of working together, Core category of theory was towards a common goal, in this theory, 9 main categories had determined the formation process of collaboration [9]. Nurses and doctors can use this theory as a guide in clinical setting.

Doctors and nurses' satisfaction, controlling costs, reducing clinical errors, patient's safety and improving care were consequences of this theory. In the model of collaboration between the physician and nurse, working together as a core variable was presented. A set of antecedents such as availability (place, time, knowledge) and acceptance (interest, discussion, active listener, openness, questioning, respect and trust) were concepts of this model. To promote quality of care, satisfaction, better learning and controlling costs were outcomes of the model [28].

Patient and nurse's satisfaction as the outcome were emphasized in some other studies [9] [21] [31]. An important factor that some researchers had implied was cost effectiveness [9] [24]. Some authors have noted that one of the concepts was improved the quality of care [24] [27]. In the multi-dimensional model, client and family of the client were model's center [19].

Some studies had suggested that their model's indicator is patient-oriented [23] [29]. In another study, one of the concepts of showed model was care continuity [27]. In the study by Manley (1997) the final outcome of collaboration framework was the quality of services provided to patients [26]. In this study, the process emerged in the form of 9 themes. Unfortunately, this process was not determined by means of analytical paradigm. The outcomes of this process were development and increase of personnel's power, development of nursing performance and transmission of culture, and ultimately to provide quality services to the patients.

Reduced length of hospital stay was another consequence of the studies [31]. In some of studies the patient's safety had been referred as outcome [29]. Exchange of information and knowledge also were reported by some authors [9] [21] [23].

4. Discussion

Nurses participated as the main members of health care team in all these models and frameworks. Nurses as the main elements were considered and discussed as a meta-paradigm in the models and frameworks.

In the study of Herrman and Zabramski (2005) the size of hemisphere assigned among doctors and nurses in clinical practice was equivalent. This shows major and extensive participation of nurses in the field of training before and after surgery, training of patients' discharge program, and attending in rounds other elements of structures in these studies were different, this is justified according to the different backgrounds and approaches. In these studies, the structures were organized based on the social and symbolic interactions and most of them

discussed the phenomenon of collaboration from social dimensions. In the structures, three components of backgrounds, process and consequences were discussed from various angles.

Working together towards a common purpose was the base of the process of nurse and physician collaboration as a social process. The steps of this process are organized in the form of a set of categories such as becoming one, finding honesty in a people, attention to needs, the exchange of information and ideas, knowing that with whom negotiations are done, planning, being in the same situation, making the situation, and monitoring the process [9].

In this study, authors used an appropriate approach to assess the process of collaboration between nurses and physicians, but all the necessary tools such as observation and writing remembering were not mentioned. In the interview form, there were some questions assessing the ideas and attitudes of the participants. For example, it was asked that what is your opinion about collaboration? Or whether you believe that collaboration should be done face to face.

In the study of Baggs & Schmitt (1999), the tools of observation, field notes and memos were not used and only semi-structured interview was used for data gathering. In other study, the collaboration process was assessed in 3 dimensions of knowledge exchange, managing participation among members of the team, conflicts related to inter-professional collaboration that it seems that except the first concept, the physician acceptance and the other ones are often in the form of textual variables. In this study, three major concepts were as core of the collaboration process. The first was working together as a team. The second extracted concept was partnership. The last concept which names as the heart of working together was patient-oriented. Authors had selected grounded approach to study the process of collaboration. Feeling better in the job, better learning, controlling costs, improving patient care were as the outcome [21].

In one study, in addition to the process of collaboration, the degree of collaboration and factors affecting this process were also discussed. In this study, the researcher used the tools of questionnaire for assessment of the process and the tools of interview and observation of field notes were not used, while the questions were less about the process [30]. Since the studies of Douglas *et al.* (2008) and Manley (1997) were action research, the tool of observation in these researches were of particular importance, while these researchers had only used the interview as data gathering and the processes were tested. In the study of Douglas, the central concept of this process was the project momentum. In this process, it was not clear what strategies people use to manage the condition and achieve outcomes, and the authors had less maneuvering on the outcomes of the process.

In this review, the backgrounds were different. Some studies had properly considered the backgrounds and conditions and Prerequisites in order to form concepts of paradigm and development of the model [9] [28] [30]. A study had pointed out the organizational structure as a background. Of course, the researchers only considered a small dimension of organizational dimensions including roles and hierarchy [24]. While D'Amour and *et al.* (2008) reported that internal and inter-organizational areas were in a wider scope.

The other one study had been considered the environment as a total context including social norms, cultural values, organizational structure, and organizational regulates [20]. These concepts were in accordance with the concepts related to the study of Douglas *et al.* (2004) and Manley (1997) as well as Gaboury *et al.* (2010) that assessed the collaboration in the form of system input.

What Fewster (2011) had suggested as a consequence of collaboration between doctors and nurses was very close to the outcome of the study of Baggs & Schmitt (1999) These concepts were similar to the findings of the studies of Gagliardi (2011) and Patterson (2003) that were done with different approaches. Thus, although these studies had different backgrounds and conditions, but had very similarity in terms of the outcomes.

Since nursing is an international profession and the structure and professional relationships have functional patterns very close together, it can be assumed acceptable. Because health care providers with any conditions and structures are seeking for a common goal and to achieve this important, they will use all the tools and capacity. In Fallahikhesknab *et al.* (2002) results teamwork, client and family-oriented, client self-sufficient, powerful relationship of members, coordination with the roles of the nurse were the characteristics and the outcomes of multidimensional rehabilitation nursing model. Regarding the purpose of the study, these concepts are considered unique outcomes of this study.

Limitations of our study are: 1) the studies were related to the clinical fields; 2) in this study, the gray literature was not considered; 3) we didn't have access to all thesis especially in Persian language; 4) studies were limited in English and Persian languages.

5. Conclusions

In this review backgrounds were different. Some studies had properly considered the backgrounds and conditions and antecedents in order to form concepts of paradigm and development of the model. While the others had pointed out the organizational structure as a background reported that internal and inter-organizational areas were in a wider domain. Organizational structure was important concepts that many studies had discussed as the background of collaboration and the affecting conditions. Some studies had assessed social and cultural factors as contextual variables. In other studies the environment was considered as a total context including social norms, cultural values, organizational structure, and organizational routines. Although these studies had different backgrounds and conditions, but were very similar in terms of the outcomes.

Focus of all studies was on the process of clinical interdisciplinary collaboration. In all studies nurses were considered as the essential elements and they were discussed in the studies as a meta-paradigm. Since nurses have most clinical collaboration and interaction with physicians, most studies had selected the physician as one of the other participants. However, context and processes were different but most studies reported the outcomes similarity of interdisciplinary collaboration. Thus to achieve common goals between different disciplines working together is essential for effective care in clinical settings.

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Conflict of Interest Statement

In this study there was no conflict of interest.

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