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Review Article

What is an Appropriate Nursing Care Model in Critical Care Units: Domestic or International Models

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Abstract

Critically ill patients are characterized as those who survive the initial episode of critical illness but remain dependent on critical care therapies**.** Models of care delivery to guide care of critically ill patients are valuable resources to optimize care and promote the well-being of these patients in acute hospital settings. The purposes of this review article were 1. What are appropriate characteristics of an appropriate model for application in critical care unit (CCU)? 2. What are the effects of application nursing care models (NCMs) on the daily nursing practices? 3. What are the effects of application NCMs on the patients' outcomes? The University of York center for Reviewers and Dissemination Guidance approach was used for searching seven databases (Science direct, Ovid, Cochrane, Ebsco Host, Scopus, Pub med, and SID) with 10 key words from the 1983 to the June 2014. Lastly, 25 full texts analyzed for responding to the research questions. Additional responding to the three research questions, the core concepts of international NCMs were partnerships**,** evaluation the current models in CCU, better understanding of critically ill patients**,** and staff satisfaction from caring in CCU, however, domestic NCMs had more focused on the NCMs in CCU and in the majority ones, the staff satisfaction and selecting appropriate steps as a model were not assessed. Considering the appropriate features of domestic NCMs, it is recommended that these models carefully reviewed and adjusted to CCUs' needs.

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Introduction

With the growing demand for critical care services, there is continual pressure to ensure timely access to the critical care unit (CCU) for critically ill patients [1]. Critically ill patients are characterized as those who survive the initial episode of critical illness but remain dependent on critical care therapies [2].

Despite the CCUs' primary accentuate on recovery and surviving, many patients also end their lives there. A chart review explained that for a 12-month period, 87% of 1327 patients survived to be discharged from CCU, and 13% died before transfer to the ward. About 79% of the dying patients died within about 4 h after treatment was withheld or withdrawn. This may indicate that patients' lives sometimes are upheld by advanced treatments that only lengthen their process of dying [3].

These patients' trajectories are defined by frequent relapses and the need for critical care therapies and skilled nursing care, coupled with an uncertain outcome [2] to take advantage of advanced technology and nursing care [3].

Major advances in technology have significantly impacted on clinical practice and care delivery in CCU, requiring nurses to continually update their knowledge and skills to assume additional accountability for managing this technology within the clinical environment. The impact of new technology is connected to an increased level of patient acuity and workload, and at times immolations essential nursing care. Moreover, career opportunities in the face of frequent night rotations also prompted discussions to review models of care delivery to attract experienced CCU nurses to remain at the bedside [1].

Models of care delivery to guide care of critically ill patients are valuable resources to optimize care and promote the well-being of these patients in critical hospital settings. It is important to note that the models of care that have been generated do not all focus on the same aspects of care. Some models have been enhanced to guide care exclusively in the in-patient hospital settings and others may have different goals [4].

To communicate the needs of the critically ill patients, several domestic and international models of care have emerged, including nurse-led special care units with managed care, mobile nursing teams led by advanced practice nurses, dedicated weaning centers and shared governance, a specific care program in a traditional CCU [5], continuous care model [6, 7], partnership caring [8], and family-centered empowerment [9].

The key point in application of nursing care model is congruency between foundation and different steps of the model with contextual variables of hospital that is planned to apply the model. In this regards, domestic models have more chance than international ones to select in order to apply. The purposes of present study were three folds. 1. What are appropriate characteristics of an appropriate model for application in critical care units? 2. What are the effects of application nursing care models on the daily

nursing practice? and finally 3. What are the effects of application nursing care models on the patients' outcomes?

Methods

The present study was a review article. The University of York Center for Reviewers and Dissemination Guidance approach was used as research framework [10]. This approach has seven steps. First step was formulation research question. The research question of the study was "what is an appropriate nursing care model in critical care units: Domestic or international models" with three purposes including 1. What are appropriate characteristics of an appropriate model for application in critical care units? 2. What are the effects of application nursing care models on the daily nursing practices? and finally 3. What are the effects of application nursing care models on the patients' outcomes? Second step was search strategy. The strategy of present study was searching seven databases (Science direct, Ovid, Cochrane, Ebsco Host, Scopus, Pub med, and SID) with searching key words including "care delivery model", "nursing care model", "nursing work life model", "nursing care delivery model", "model of nursing care", "model of delivery nursing care", "model of nursing care delivery", "delivery nursing care", "nursing practice model", and "combinations of aforesaid words". For finding more correlated articles, the references of searched articles were investigated and 74 new articles were found. Key words in selected databases utilized in title, abstract and key words domains. Third step was inclusion and exclusion criteria. The present criteria for including the article were: literature from 1983 to the June 2014; literature in English and Persian languages; published research articles in valid peer-reviewed scientific journals; congruency between topics and the study; application of the model in adult critical care units; and originality of the paper. According to the third step, 24948 articles found including 107 articles in Science direct, 3496 articles in Ovid, 37 articles in Cochrane, 659 articles in Ebsco host, 13 articles in Scopus, 19566 articles in Pub med, and finally 1070 articles in Scientific information database. According to the including criteria, the only 53 Persian articles and 35 English articles were remained in the research process. Fourth step was quality survey of articles. Furthermore, a check list is designed according to the inclusion criteria and the articles were assessed based on. Fifth step was application of the checklist. Moreover, the articles were investigated according to the full text. After quality investigating of articles, the only 25 Persian articles were remained in the research process. Sixth step was deriving the question's responses from the remained articles. Seventh step was combination of derived data in relation to response the question "what is an appropriate nursing care model in critical care units: domestic or international models". Figure 1 demonstrated the flow diagram of selected articles.

Results

From 24948 articles in the first step, the only 25 articles remained in the last step [Table 1]. The core concepts of international care nursing models were partnerships [1, 11], evaluation the current models in critical care unit [4, 11, 12], better understanding of critically ill patients [5], and staff satisfaction from caring in critical care unit [2, 13]. The additional concepts of international nursing care models in CCU were related to selecting appropriate steps as a model to improve the staff satisfaction and better caring from patients. However, domestic nursing care models had more focused on the application of nursing care models in CCU and in the majority ones, the staff satisfaction and selecting appropriate steps as a model were not assessed [6-9].

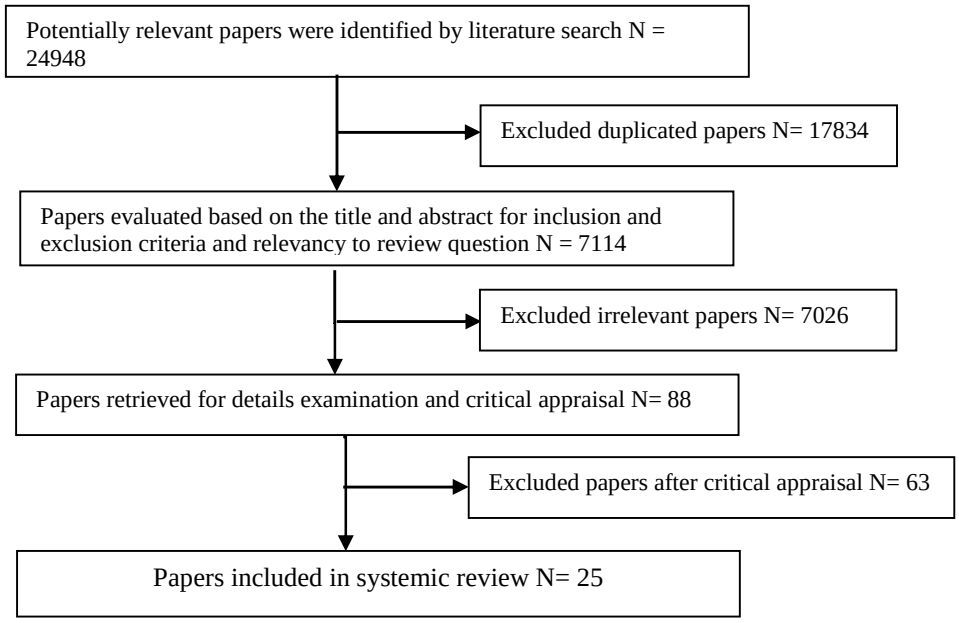

Figure 1. Flow diagram of selected articles

Table 1. Summary of selected articles in last step

Ref	Author	Abbreviated title	Tool	Journal	Methodology	Samples	Main Results
6	Rahimi et al	Effects of CCM* on perceived quality of life	PQOL Questionnaire	Eastern Mediterranean Health Journal; 2009	Semi-experimental	Spouses of haemodialysis patients	Mean scores on the physical, social and cognitive dimensions, as well as happiness and total scores significantly increased after the intervention
7	Rahimi et al	Effects of CCM on Depression, Anxiety, and Stress	DASS-21Questionnaire	Nephrology Nursing Journal 2007	Quasi-experimental	Patients on hemodialysis	There was a significant relationship between applying the Continuous Care Model and DASS-21 scores. According to the findings, applying this care model can improve the lives of patients on hemodialysis
14	Sadeghi et al	Effect of CCM on sleep quality	Pittsburg Questionnaire	Iranian Journal of Critical Care Nursing 2010	Semi-experimental	Patients on hemodialysis	Performing the continuous care model has positive effect on sleep quality of hemodialysis patients. Training nurses in using this model can affect the improvement of sleep quality of hemodialysis patients
15	Sadeghi et al	Effect of CCM on quality of life	MNHD-Q Questionnaire	Iranian Journal of Critical Care Nursing 2009	Clinical trial	Patients post Coronary Artery Bypass Graft	Performing the continuous care model could improve the quality of life of Coronary Artery Bypass Graft patients.
16	Khankeh et al	Effect of CCM on quality of life	QLS Questionnaire	Nursing research 2009	Quasi-experimental	Discharged schizophrenic patients	Performing the continuous care model hadn't significant effects on the scores of quality of life and its dimensions in intervention group
17	Rahimi et al	Effect of CCM on the quality of life	KDQOL-SF Questionnaire	Razi Journal of Medical Sciences 2005	Quasi-experimental	On hemodialysis patients	Performing the continuous care model had significant effects on the scores of quality of life and its dimensions in intervention group
18	Rahimi et al	Effect of CCM on the depression	BDI Questionnaire	Pajohandeh 2006	Quasi-experimental	On hemodialysis patients	Performing the continuous care model could improve the depression score of hemodialysis patients.
19	Salari et al	Effect of CCM on the quality of life	SGRQ Questionnaire	Kosar medicine journal 2009	Clinical trial	On chemical injuries with chronic bronchiolotis	Performing the continuous care model could significantly improve the quality of life.
20	Ahmadi et al	Effect of CCM on the rehospitalization and chest pain	Questionnaire	The journal of Qazvin university of medical sciences2005	Clinical trial	On patients with coronary artery disease	Performing the continuous care model could significantly improve the chest pain and rehospitalization rate.
21	Rahimi et al	Effect of CCM on the blood pressure and weight control	Checklist	Rehabilitation 2005	Quasi-experimental	On hemodialysis patients	Performing the continuous care model could significantly improve Weight control and blood pressure of patients.
22	Rahimi et al	Effect of CCM on the blood tests	Checklist	Tehran University Medical Journal 2008	Quasi-experimental	On hemodialysis patients	Performing the continuous care model could significantly improve blood tests including potassium, phosphorus, BUN and creatinine.
23	Rahimi et al	Effect of CCM on the stress, anxiety, and depression	DASS Questionnaire	Research in medicine 2006	Quasi-experimental	On hemodialysis patients	Performing the continuous care model could significantly improve the score of stress, anxiety, and depression
24	Rahimi et al	Effect of CCM on the self-esteem	Cooper smith Questionnaire	The journal of Zanjan university of medical sciences 2007	Quasi-experimental	On hemodialysis patients	Performing the continuous care model could significantly improve the score of self-esteem.

25	Mahdizadeh et al	Effect of CCM on the quality of sleep	PSQI Questionnaire	Hayat 2010	Clinical trial	On chemical injuries with chronic bronchiolitis	Performing the continuous care model could significantly improve the score quality of sleep.
26	Sadeghi et al	Effect of CCM on the quality of life	Minnesota Questionnaire	Journal of Behavioral Sciences 2009	Clinical trial	On heart failure patients	According to no exact treat of chronic diseases, applying of effective care models such as continuous care model can positively affects the quality of life in heart failure patients
27	Saie et al	Effect of CCM on the adequacy of hemodialysis	Questionnaire and laboratory tests	Journal of military medicine 2012	Clinical trial	On the adequacy of hemodialysis patients	Performing the continuous care model could significantly improve the adequacy of hemodialysis.
28	Sanaie et al	Effect of FCE** in self efficacy and self esteem	questionnaire	Journal of Research Development in Nursing & Midwifery 2013	Clinical trial	In patients undergoing coronary bypass graft surgery	Family-centered empowerment care in patients undergoing CBG is practically feasible , and it can be helpful in improving self-efficacy and self- esteem
29	Vahedian-azimi et al	Effect of FCE model on the life style	Questionnaire	Iranian journal of critical care nursing 2009	Clinical trial	In Myocardial infarction patients	Performing family-centered empowerment model for patients with myocardial infarction ispractically feasible and associated with improvement or modification of patients and his or her families' lifestyle.
30	Khoshnevis et al	Effect of PCM*** on the life quality	SF-36 Questionnaire	Iranian journal of critical care nursing 2009	Clinical trial	In chemical injuries with chronic bronchiolitis patients	Implementation of care models such as collaborative care model on chemical injuries with bronchiolitis promote their quality of life
31	Borhani et al	Effect of PCM on the quality of life	Questionnaire	journal of critical care nursing 2012	Clinical trial	In patients with heart failure	The study findings demonstrated a significant improvement in the mean quality of life scores in all the three dimensions in the experimental compared to the control group
32	Azadi et al	Effect of PCM on the quality of life	SF-36 Questionnaire	Nursing research 2006	Clinical trial	In patients with coronary artery disease	The study findings demonstrated a significant improvement in the mean quality of life scores in intervention group that control group.
(33)	Khoshab et al	Effect of PCM on the depression and anxiety	BDI Questionnaire	Journal of evidence based care 2012	Clinical trial	In patients with heart failure	Applying partnership care model can reduce level of anxiety and depression in heart failure patients
(34)	Mohammadi et al	Evaluation of PCM in the control of hypertension	Questionnaire	International Journal of Nursing Practice 2006	Clinical trial	In patients with high hypertension	the partnership care model is effective in hypertension control and is recommended as a model to replace previous approaches in hypertension control
(35)	Mohammadi et al	Evaluation of PCM in the quality of life	SF-36 Questionnaire	Journal of American Science *2011*	Clinical trial	In patients with diabetic	The results indicated that the mean scores of the quality of life after intervention significantly increased in the intervention group
(8)	Mohammadi et al	PCM: theory of high blood pressure	---	*International Journal of Nursing Practice* 2002	Grounded theory	In patients with high blood presssure	Based on these processes, a partnership care theory was developed that provides an appropriate context for the active participation of patients, nurses and physicians in the control of hypertensive disease. This theory can be utilized in the control of hypertension as well as other chronic diseases

* Continuous care model (CCM); ** Family-centered empowerment model (FCEM); *** Partnership caring model (PCM).

Regarding to the first question, what are appropriate characteristics of an appropriate model for application in critical care units, the majority authors believed that one of the most important elements is based on the context. In other words, the success rate of a nursing care model is directly dependent to place, where the model want to apply [4]. Although some more famous nursing models like Orem and Roy 36] are very acceptable in more context 37], in the majority areas, the domestic ones are more acceptable than international ones [38]. Another most important component of appropriate characteristics of model for application in critical care units is, having clinical judgment element and adaptation with this concept. Any model for adaptation with clinical judgment should be five general features including clinical judgments are impacted by the context in which the situation happens and the culture of the nursing care unit [39-41]; sound clinical judgment rests to some degree on knowing the patient and his or her typical pattern of responses, and also an engagement with the patient and his or her concerns [42]; clinical judgments are more impacted by what nurses bring to the situation than the objective data about the situation at hand [43]; reflection on practice is often commenced by a breakdown in clinical judgment and is critical for the development of clinical knowledge and enhancement in clinical reasoning [44]; and lastly nurses use a variety of reasoning patterns alone or in combination [42]. Furthermore, when a model has appropriate characteristics that able to determine that mean and variance of the aforesaid features. In other words, a model established on these attributes emphasizes the role of nurses' background, the context of the situation, and nurses' relationship with their patients as central to what nurses notice and how they interpret findings, respond, and reflect on their response; nonetheless, hov and et al (2007) reported that good nursing care depended on several basic conditions: continuity, knowledge, competence and cooperation, and included clear goals to give appropriate life-saving or end-of-life treatment and care. Cornerstones in good nursing care were nurses' verbal communication and nurses' use of their hands [3]. Other authors like Jost and et al (2010) declared that care delivery models are an integral component for delivering patient care. Although models may be abstract, nursing care delivery models need to be evolving and reality-based, as they serve to organize the allocation of nursing resources. How nursing resources are allocated is associated with patient and professional nurse satisfaction, nurse perceived autonomy, and quality outcomes. Care delivery models must be evolving within today's dynamic healthcare environment and must be structured within the context of a professional practice model [45]. Moreover, Walter and et al (1994) suggestion that appropriate characteristics of nursing care model is corresponding to rationales for choosing a nursing delivery model; because the increased complexity of medicine, the imperative of reducing health care costs, and the goals of improving quality and patient satisfaction require that we rethink current models of practice. Such reevaluation will receive additional impetus from workforce changes within medicine and the specialty. Furthermore, as chronic disorder care becomes more complex, it may increasingly be provided within a specialty setting [46]. The reasons for introducing a nursing delivery model in the critical care settings include the following: the need to provide more holistic care to patients with increasingly complex nursing needs; the desire to introduce quality initiatives into practice; the need to measure and achieve certain patient outcomes; the necessity for better utilization of resources; and [5] the implementation of other cost-containment measures. Whatever the rationale for implementing a delivery model, it is important to allow adequate planning time for practice transition and to establish measures for model evaluation [47].

The response to second question, what are the effects of application nursing care models on the daily nursing practice, was similar between domestic and international models. In this regards, some authors strongly believed that as the science of nursing builds its knowledge base, professional frameworks and models of care are used to guide practice. Practice models, as a blend of professional behaviors and clinical leadership, are a foundation that allows for mutual goal setting and facilitates the prioritization of patient care by the entire healthcare team [48]. There were an agreement in this question and all of the documents demonstrated increasing satisfaction levels in nurses, increasing functional independence as measured by activities of daily living, increasing medication knowledge [49], more access to professional development and the availability of information [2], decreased rates of absenteeism and turnover that may be explained by greater nursing autonomy, which has been associated with increased job satisfaction and professional development [50, 51]. In this regards, Roulin and Spirig (2006) [5] described the difficulties nurses face when caring for critically ill patients without application of a nursing care models by using an action research study aimed at improving the nursing care of critically ill patients. These difficulties, identified during a brainstorming session with 19 health professionals, were categorized into 2 groups: problems due to patient characteristics and problems due to organizational/nursing characteristics. Patient characteristics included physical problems (including impaired communication, slow weaning, immobility, sleep disturbances, muscle wasting, and diarrhea) and mental problems (including concentration difficulties, depression, memory loss, and delirium). Organizational and nursing characteristics included the loss of information over time, poor coordination of care, lack of competencies in specific techniques, and focus on a fast-paced recovery rather than a steady rehabilitation. These factors led to feelings of frustration and dissatisfaction among nurses. Each of these perceived difficulties were addressed in the design and implementation of a patient-centered care program. A nurse, using a practice development framework, led these programs. Practice development seeks to foster effective patient-centered care by engaging health-care practitioners to develop their skills and transform the context of care [52]. Other characteristics were declared by some authors and they agreed that when a clear model guides practice, nurses can articulate the influence of nursing care. Use of

such structures helps foster autonomous decision making; consistent nursing care high-quality; job satisfaction; professional identity; improved patient and family outcomes; and interdisciplinary communication [48].

The response to question three, what are the effects of application nursing care models on the patients' outcomes, like question two had congruency between domestic and international models and in the majority ones, level of caring from patients were improved and level of patients' satisfaction were enhanced [Table 1]. A recent systematic review of research on the link between nurse staffing and patient outcomes in hospitals commissioned by the Agency of Healthcare Quality and Research concluded that a strong evidence base connects better nurse staffing to better outcomes [53]. Three large recent studies show that better-educated hospital nurse workforces are associated with lower patient mortality [54-56]. Lower rates of medication errors and wound infections [57], enhancing patient outcomes including functional independence and knowledge of medication regimes, increased patient satisfaction with nursing care provided [49], lower patient mortality [53] are outcomes of implementation of nursing care models. In this regards, Laschinger and Leiter (2006) reported that patient safety outcomes are related to the quality of the nursing practice work environment and nursing leadership's role in changing the work environment to decrease nurse burnout [58]. However, Shortell et al (2000) reported that there is a need to examine further the relationships among individual professional skills and motivations, decision support processes, specifically tailored interventions, group and micro system team processes, and organization-wide culture, and incentives. Assessing the impact of such multifaceted approaches is an important area for further research [59].

Discussion

Health care delivery models are undergoing rapid transformation in response to market, regulatory, and demographic trends. Many of the new models of delivery are centrally planned structures with attributes dictated by statute. An understanding of these models is essential if physicians and nurses wish to retain an influential voice in patient care [60]. The main question of the study was "what is an appropriate nursing care models in critical care unit? Domestic or international models" with three purposes including characteristics of an appropriate models, effects of models on the daily nursing practice and ultimately effects of models on the patients' outcomes. Extensive review of literature showed that domestic models for having good characteristics and more matching with situations, have more chance to apply in specific care. There are three famous domestic nursing care models (Continuous Care Models [6, 7], Partnership caring models [8], and Family-centered empowerment model [9]) with different application in different critical care units, although these models have similarity and overlapping in application in targeted units. Three well-known domestic models were explained briefly in the following.

Continuous Care Model

Using a qualitative study by triangulation method, Ahmadi (2001) [61] developed a Continuous Care Model in Iran that is a native model for that society. The aim of this model is to establish and maintain a dynamic and continuous care relationship so as to raise awareness and caring performance and to improve and promote the quality of life of the clients. Continuous and effective care relationship refers to a dynamic, interactive, and mutual relationship that has been developed between the nurse, the patient, and the patient's family. In the development of such a relationship, both the quality of a caring relationship and the content, method, and the nature of offered services come to the forefront (Ahmadi, 2001). The Continuous Care Model consists of 4 stages: orientation, sensitization, control, and evaluation. Approaches and aspects of the Continuous Care Model are dynamic/flexible, client/family oriented, expected oriented, existing/desired based, critique oriented, empowerment/self-able, holistic view, collaborative based, and independent based. The process proceeded in 4 phases: familiarization, sensitization, control and evaluation [Figure 1].

The familiarization phase aimed at an accurate diagnosis of problems, motivating the clients and determining their needs for the care process. The researchers coordinated a meeting which lasted 15–30 minutes during which the patient and his/her family were familiarized with the process, briefed on mutual expectations and advised about the continuation of the care treatment relationship.

The sensitization process aimed to engage the patient and the family in the application of the continuous care approach. Negotiating this phase is critical to the success of the plan. The participants take part in counseling sessions, group discussions, presentations and question and answer sessions about the nature and diversity of needs and problems facing patient and his/her family to diagnose new problems, and to sensitize and motivate the clients to persevere with the process. There were 4–6 sessions lasting 1–2 hours. When the problem was not within the scope of the researchers' knowledge and expertise, the patient and the family were referred to a specialist.

The remaining time was devoted to the continuation of the caring process (control phase), and weekly sessions were held with the participants. Problem checklists were completed regularly with the aim of reviewing and dealing with new care problems, considering the dynamic nature of health and disease, and starting the sensitization phase for new problems. The fourth step was the evaluation, which continued throughout all stages of the model.

Partnership Care Model

The partnership care model using a qualitative study method, mohammadi (2001) developed a partnership care model. The partnership care model is divided into four executive and operative stages including motivation, readying, involvement, and evaluation [8, 34)]

Motivation is the first step in this model. To motivate the patients for intervention, the investigators disposed and provided the comprehensive health assessment questionnaire based on the model. The questionnaire was provided to determine the patients' caring problems and

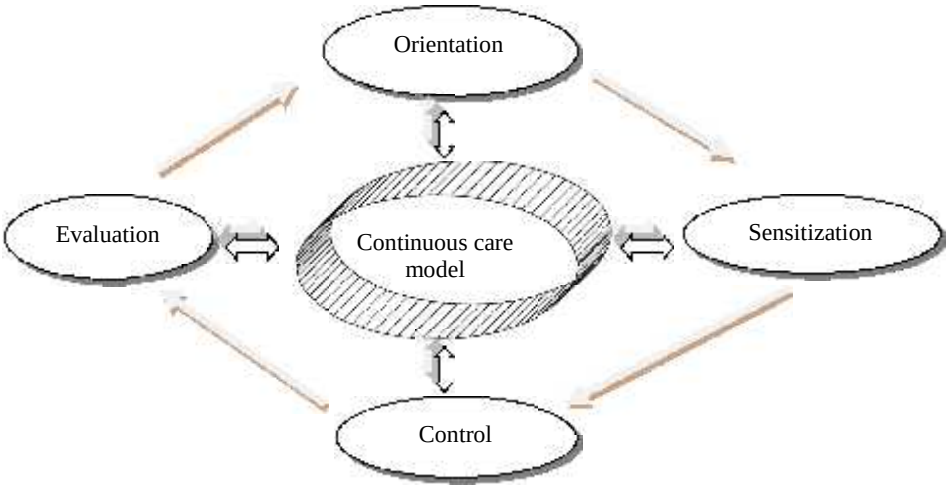

Figure 1. Four steps of continuous care model

their educational needs. Subjects completed the questionnaire and obtained data were analyzed for determining the patients' caring problems and educational needs. To motivate the patients, determined caring problems and educational needs were offered to them. The specialist nurse and physician explained the patients' problems and needs and the necessity of care to control the disease. Reading is the second step of the model. After motivation, the patients should be prepared to participate. Based on the partnership care model, reading can be accomplished by planning and implementing of the educational partnership meetings. These meetings were formed by the partnership care team. The members of the team include five-seven patients who have mutual problems and conditions, the specialist nurse, and physician. These members were fixed members. These meetings were done in three-four sessions for 45-60 minutes. The goals of the meetings included giving information about the nature and complications of the disease and empowerment of the patients in activity adjustment and autonomy in self care. These meetings were directed by the specialist nurse and physician together.

Involvement means the continuous cooperation of all the meetings by actively participating and patient compliance of the principles of the self care, which can be accomplished during the follow up partnership meetings. To involve the patients, the partnership follow up meetings and educational meetings were planned and done monthly. These educational monthly meetings were according to the patients' educational health care needs and were formed by the partnership care team. The members of the team include five-seven patients who have mutual problems, specialist nurse, and physician. The educational meetings were discussion-based, and the physician and nurse answered to patient questions. At the start of each class, the specialist nurse, as leader of the partnership care team, measured the patients' awareness by asking them some questions about previous meetings and explained the patients' problems more, if necessary. The physician guided and supported the discussion.

Evaluation is final stage. Before implementation of program, the participants completed a questionnaire and were examined by research team member. Pre and post tests were measured by the principal investigator and a research team member. According to the statistical procedures, significant differences between two groups before and after intervention were determined.

4.3 Family-centered empowerment model

The family-centered empowerment model was designed in 2003 by Dr. Fatima Alhani for chronic patients in Iran and accordingly it was executed for different chronic diseases [9]. The main aim of this model is empowering the family system (patient and all family members) to promote the health level. This model is the result of a qualitative research belonging to the grounded theory which has passed through the stages of creating the practical model of concepts formulation, development of concepts, identification of the social-psychological process of problem and deducing the central concept (family-centered empowerment), and has been executed for promoting the chronic patients' quality of life (iron-deficiency, thalassaemia, hemophilia, diabetic, asthma, epilepsy, Multiple Sclerosis, chemotherapy-receiving patients) and life style (MI patients) [29]. The family-centered empowerment model on the basis of the four stages of the model (perceived threat, problem solving, educational participation and assessment) was as follows.

The first stage consists of two concepts including the perceived intensity and the perceived sensitivity. The aim of the perceived intensity (the awareness and cognition of the individual about the disease) is that the individual perceives the complications brought about by the disease and at the same time perceives the rate of its seriousness and feels threatened by it. The aim of the perceived sensitivity (the individual's attitude toward their affliction with the disease) is that the individual perceives threat by knowing their situation and status and gaining a correct definition of health by virtue of the disease process and considers their own affliction as likely. At this stage, certain issues were dealt with through group-discussion sessions for 45 to 60 minutes, including of the participants'

psychological, spiritual and physical conditions, the patients' attitude toward the nature, definition, risk factors, symptoms, medical and nursing cares, pre-awareness and the complications resulting from the disease.

The aim of second stage, self-efficiency, is that the individual gets belief in that they can do a special task. In other words, self-sufficiency alludes to the individual's expectation of themselves and the ability to do action. This concept originates from resources like the individual's achievements and failures, observation of the success or failure of others, who resemble them and verbal encouragement. To this aim, problem-solving sessions were held in groups of 3 to 5 individuals for patients and they were practically faced with their problems and the problem-solving process. The patients discussed with each other and under the continuous and direct supervision of the researcher by mentioning objective examples from their own condition and talking about what they have already done for improving their condition. Accordingly, they exchanged their own thoughts and experiences practically about choosing solutions. The aim of stage three is to clarify and identify the level of approval, acceptance and merit that the individual feels they have. This feeling may be in comparison with or independent from others. When the level of self-esteem decreases, feelings of weakness and inability are formed in the individual; in contrast, when the level of self-esteem goes up, the feelings of capability and merit are revived in the individual and certain positive changes appear in the individual, including increase in professional progression, further effort for gaining success, having self-confidence, being important, willingness toward having better health, enjoying communicating with others and predicting positively about further successes. At this stage, patients reached practical, easy and functional results and solutions through using the results problem-solving results of the previous stage which had been attained via exchanging their experiences and thoughts with each others. Meanwhile, these solutions were more operational and acceptable for the patients because they had arisen from their own ideas and experiences.

Two types of assessment have been included in the stage four of the model including the formative and the summative assessments. The aim of the formative assessment is to encourage the patients more toward internalizing their locus of control. The individuals who have a low self-esteem, have an external control locus (believing in chance, fortuity and being under the control of external forces) while those who have a high self-esteem, have an internal locus of control (believing in self-sovereignty, governing over their own destiny and control their lives from within). The formative assessment has been done throughout the execution of intervention with pre-set goals. The aim of the summative assessment is to evaluate the effectiveness of this model on modifying, balancing and improving different aspects of patients which was conducted by re-filling out the research instrument after 3 months (dependent to research purpose).

5. Conclusion

Regarding to care delivery models must be evolving within today’s dynamic healthcare environment and must be structured within the context of a professional practice model, the need to provide more holistic care to patients with increasingly complex nursing needs; the desire to introduce quality initiatives into practice; the need to measure and achieve certain patient outcomes; the necessity for better utilization of resources; and the implementation of other cost containment measures, domestic nursing care models than international ones, have more adjust to Iranian context. Furthermore, different aspects of application nursing care models on the enhancing patients' care quality and improvement in nursing daily works, carefully review and critique domestic models is so necessary and must be the first matter for applying these models in critical care units.

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