

# Comparing the Effect of Continuous Care Model and Partnership Care Model on the Sleep Quality: A Systematic Review

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## **Authors' contributions**

*All authors have Contribution at all stages of the article, such as study concept and design, study supervision, drafting of the manuscript, and critical revision of the manuscript for valuable intellectual content. The final manuscript was approved by all authors.*

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## **ABSTRACT**

**Background:** Sleep quality is one of the important variables that effectson the individual health status. For this reason, the present study aims to investigate the effect of CCM and PCM on the patients' sleepquality.

**Methods:** All interventional articles about the effect of CCM and PCM on sleep quality status were searched with the keywords of CCM, PCM, partnership care model, continuous care model and sleep quality at the Iranian scientific databases such as SID, Magiran, IranMedex and ISC, and the international databases such as Pubmed, Science Direct, Cochrane, Scopus and Web of Science. Then, after reviewing the entry and exit criteria and qualitative evaluation of the articles, Excel software was used to analyze the data.

**Results:** In this study, all published article about CCM, PCM and Sleep quality were reviewed. All of the articles were conducted as clinical trial and the diagnostic tool of them were Pittsburg, in this

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instrument lower rate indicate less sleep disorder. The sample size of the study was 540 patients. According to the findings, the implementation of both models of CCM and PCM improved the sleep quality of patients.

**Conclusion:** Considering the more positive effect of CCM and PCM in improving the status of sleep quality in patients, so the implementation of this model is recommended to improve the patients' sleep quality.

*Keywords: Continuous care model; partnership care model; sleep quality; systematic review.*

## 1. INTRODUCTION

Sleep quality is one of the important variables influencing the individual health status [1]. Using pharmaceutical and non-pharmaceutical methods is one of the ways to increase the sleep quality of patients [2]. pharmaceutical treatments have many complications and costs for the patients, therefore, using non-pharmaceutical treatment is more effective in improving the status of sleep quality in patients [3,4]. Non-pharmaceutical treatments include music therapy [5], mind-body intervention [6], nurse-led intervention [3], yoga [7], collaborative care model or partnership care model (PCM) [8] and continuous care model (CCM) [9]. Using a more compatible intervention within a culture of society has a greater role in improving the health status of patients [9]. Among the interventions, localized models such as CCM and PCM are more compatible with the culture of Iran [10,11].

CCM is an Iranian localized care model that has been designed and developed by Dr. Ahmadi [12-14]. Continuous care model is a regular process for effective, interactive, and consistent communication between patients and care facilitators [11]. The main purpose of this model is to design a plan that can be used in continuous care [15]. The CCM consists of four stages of orientation (with the aim of identifying the patients, the family, and nurses and explaining the steps of model), sensitization (involving the patients and their family to implement continuous care approach), control (institutionalization and continuity of health behavior), and evaluation (evaluating the care process, reviewing achievements and failures, measuring and comparing control indicators) [9,16,17]. This model was performed within 12 weeks including two stages of familiarization and sensitization (during 3 weeks) and control and evaluation stages (during 9 weeks) [18].

Another Iranian localized model is PCM [19,20]. In PCM the quality of the kind of relationship and the existing quality between two sides of research is important, and it considers the significance of patients participatory role in their treatments more than their individual role [10]. Furthermore, this model includes four stages of motivation (stimulating the patient and informing people about the condition of the disease), readiness (planning for the individual's awareness and performing the duties), involvement (including three visits to educational partnership and two visits to follow-up partnership in evaluating the positive and negative outcomes of the undertaken trainings and actions), and evaluation. The PCM model was performed during 3 months and 5 visits [21,22]. In several studies, this model has been used to improve mental health status [10], quality of life [23], stress, anxiety and depression [24], and has improved the health status of patients.

Considering the fact that these two models are indigenous models of Iran and have been studied in different aspects of sleep quality, but neither of the studies have compared their overall impact on the sleep quality status. Hence, the present study has performed with the aim of determining the effect of CCM and PCM on the status of sleep quality in patients.

### 1.1 Aim

This study is a systematic review (SR) that examines the effect of CCM and PCM on the status of sleep quality in patients.

## 2. METHODS

### 2.1 Study Protocol

Published articles were searched from the foundation of these two models until June 2019 (17 years). The search was performed with

keywords of CCM, PCM, partnership care model, continuous care model, collaborative care model and sleep quality in the Iranian scientific databases such as SID, Magiran, IranMedex and ISC, and international databases like Pubmed, Science Direct, Cochrane, Scopus, Web of Science, as well as google scholar.

## 2.2 Search Strategy

Researchers collected all the articles that were performed with the aim of CCM and PCM effect on the status of sleep quality in patients. The entry criteria in the research include having a similar program to CCM and PCM, test and control groups, measurements of

sleep quality before and after the intervention and using the PSQI sleep quality questionnaire. The exit criteria include duplication studies and presenting inadequate data (Fig. 1).

## 2.3 Inclusion and Exclusion Criteria

In this study, searching articles was done by two familiar researchers with the CCM and PCM models. If there was a controversy among the researchers about the context of performed searchings, the third professional author in this field evaluated the searchings and verified them.

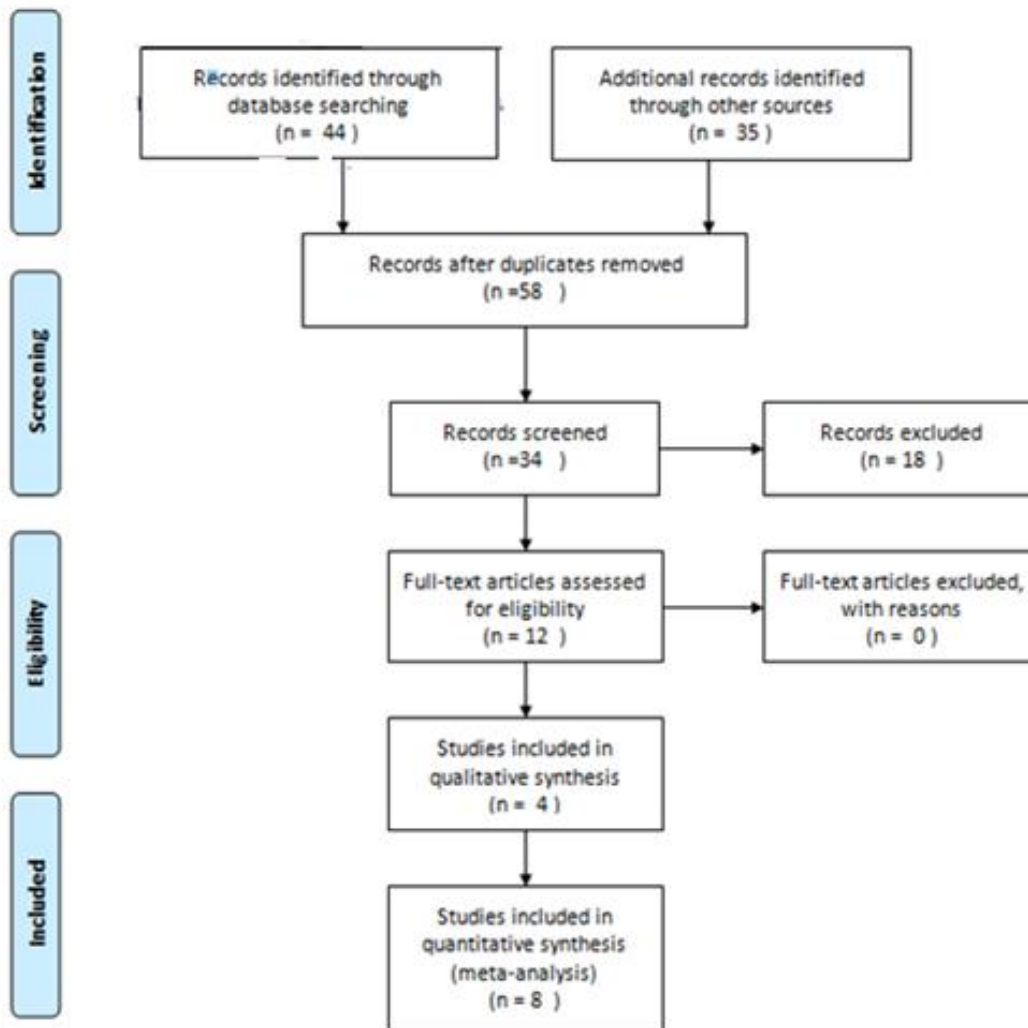


Fig. 1. The PRISMA diagram

**Table 1. Characteristics of the studies which underwent final analyses**

First Author (Ref)	Type of intervention	City	Year	Type of disease	Sample size	Control	experimental	questionnaire
Golafrooz [27]	CCM	Sabzevar	2014	type 2 diabetes mellitus	80	40	40	PSQI
Khosravan[28]	CCM	Gonabad	2015	type 2 diabetes mellitus	68	34	34	PSQI
Mehdizadeh [29]	CCM	Tehran	2010	Chemical Warfare Victims with Bronchiolitis Obliterans	62	32	32	PSQI
Otaghi [30]	CCM	Ilam	2016	hemodialysis	56	28	28	PSQI
Alamdarloo [31]	PCM	Shiraz	2015	undergoing Coronary Artery Bypass Graft Surgery	60	30	30	PSQI
Nayeri [25]	PCM	Sabzevar	2015	heart failure	102	50	52	PSQI
Fahahmi	PCM	Ilam	2018	Cardiovascular Patients	60	30	30	PSQI
Lashkari [26]	PCM	Ahvaz	2013	hemodialysis	52	26	26	PSQI

## 2.4 Quality of Studies

The researcher has categorized the extracted information based on the first author's name, the type of intervention, year of publication, the studied patients, sample size, number of patients in the control group, number of patients in the test group, the average age of patients and the type of questionnaire.

## 2.5 Data Analyses

Excel software was used to analyze the data.

## 3. RESULTS

In this study, all published article about CCM, PCM and Sleep quality were reviewed. All of the articles were conducted as clinical trial and the diagnostic tool of them were Pittsburgh, in this instrument lower rate indicate less sleep disorder. The sample size of the study was 540 Patients, the highest and lowest sample size were Nayyeri et al [25] with 102 Patients and Lashkari et al. [26] With 52 Patients, respectively. Table 1 shows the characteristics of the studies which underwent final analyses.

## 4. DISCUSSION

The findings of the study showed that the implementation of CCM and PCM models as a non-pharmaceutical intervention increased the sleep quality in patients. In previous studies, performing educational intervention which was carried out in accordance with a regular protocol, improved the patients' sleep quality. So that in the systematic review study by Zou et al. with the aim of determining the effect of mindfulness-based (Baduanjin) exercise on the status of chronic patients' sleep quality, the findings showed that the implementation of this non-pharmaceutical intervention had increased the sleep quality of patients[32].

According to the findings of the present study, the implementation of PCM as a non-pharmaceutical intervention improved the sleep quality in the patients, that is in consistent with the results of the studies with the aim of examining the effect of non-pharmaceutical intervention in the status of sleep quality. So that in a systematic and meta-analysis review by Hwang et al., aimed at influencing 12 interventional articles on the effects of aromatherapy, it was shown that the implementation of aromatherapy improved the

status of sleep quality in patients [27]. Furthermore, Yang et al. reviewed the effects of sports interventions on the sleep quality status of middle aged and older adults with sleep disorders, the results showed that implementation of these non-pharmaceutical interventions improves the status of sleep quality among patients [33], which is in consistent with the results of the present study with the aim of PCM effect on the sleep quality of patients.

## 5. CONCLUSION

Considering the more positive effect of CCM and PCM in improving the status of sleep quality in patients, so the implementation of this model is recommended to improve the patients' sleep quality.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. Murthy VS, Nayak ASJlpj. Assessment of sleep quality in post-graduate residents in a tertiary hospital and teaching institute. 2014;23(1):23.
2. Giménez S, Clos S, Romero S, Grasa E, Morte A, Barbanoj MJJP. Effects of olanzapine, risperidone and haloperidol on sleep after a single oral morning dose in healthy volunteers. 2007;190(4):507-16.
3. Malek NM, Zakerimoghadam M, Esmaili M, Kazemnejad AJCcnq. Effects of nurse-led intervention on patients' anxiety and sleep before coronary artery bypass grafting. 2018;41(2):161-9.
4. Hu RF, Jiang XY, Chen J, Zeng Z, Chen XY, Li Y, et al. Non-pharmacological interventions for sleep promotion in the intensive care unit. 2015;(10).
5. Huang CY, Chang ET, Hsieh YM, Lai HLJ Ctim. Effects of music and music video interventions on sleep quality: A randomized controlled trial in adults with sleep disturbances. 2017;34:116-22.
6. Neuendorf R, Wahbeh H, Chamine I, Yu J, Hutchison K, Oken BSJE-BC, et al. The effects of mind-body interventions on sleep quality: a systematic review; 2015.
7. Halpern J, Cohen M, Kennedy G, Reece J, Cahan C, Baharav AJATHM. Yoga for improving sleep quality and quality of life for older adults. 2014;20(3):37-46.

8. Alamdarloo A, Hosseini M, Khanke H, Norouzi K, Rezasoltani P, Mozakka SJJJoRR. The effect of collaborative care model on sleep quality of patients' undergoing Coronary Artery Bypass Graft Surgery. 2015;1(4):49-59.
9. Otaghi M, Bastami M, Borji M, Tayebi A, Azami MJN-um. The effect of continuous care model on the sleep quality of hemodialysis patients. 2016;8(3).
10. Shamsi A, Amiri F, Ebadi A, Ghaderi MJDR, treatment. The effect of partnership care model on mental health of patients with thalassemia major. 2017.
11. Mohamad M, Rahimi F, KhoshFetrat M, Zarchi AAKJJoMM. A review of 17 years of application of a continuous care model on the consequences of acute and chronic diseases: Describing and assessing the quality of methodology of papers. 2018; 20(1):27-55.
12. Rahimi A, Ahmadi F, Gholyaf M. Effects of applying continuous care model on depression in hemodialysis patients; 2006.
13. Abedi H, Arefi S, Ahmadi F, Faghihi-Zadeh S, Ghofranipour FJJQUMS. Effect of continuous consultation care model on re hospitalization and chest pain in patients with coronary artery disease. 2005;35(9): 99-103.
14. Ghavami H, Ahmadi F, Memarian R, Entezami H. Effects of applying continuous care model on fasting blood glucose & HgbA1c levels in diabetic patients; 2005.
15. Khosravan S, Alami A, Rahni SGJ, Ijocbn, midwifery. Effects of continuous care model based non-pharmacological intervention on sleep quality in patients with type 2 diabetes mellitus: A randomized controlled clinical trial. 2015; 3(2):96.
16. Rahim A, Alhani F, Ahmadi F, Gholyaf M, Akhoond MJE-EMHJ. Effects of a continuous care model on perceived quality of life of spouses of haemodialysis patients. 2009;15:944-950.
17. Salehi M, Motaghi MJJoFM, Toxicology. The effect of continuous care model on care burden and coping behavior of diabetic older adults' caregivers in Poldokhtar City. 2018;12(2):204-9.
18. Okhovat F, Abdeyazdan Z, Namnabati MJJlon, research m. Effect of Implementation of continuous care model on mothers' anxiety of the children discharged from the pediatric surgical unit. 2017;22(1):37.
19. Molazem Z, Rezaei S, Mohebbi Z, Ostovan MA, Keshavarzi SJAA. Effect of continuous care model on lifestyle of patients with myocardial infarction. 2013;9(3):186.
20. Azadi F, Mohammadi EJNSJ. Evaluation of partnership care model on quality of life in patients with coronary disease. 2007;1(2): 23-9.
21. Alijany-Renany H, Tamaddoni A, Haghighy-zadeh M, Pourhosein SJJJoSUoMS. The effect of using partnership care model on the quality of life in the school-age children with  $\beta$ -thalassemia. 2012;14(1):41-9.
22. Mohammadi E, Khoshab H, Kazemnejad AJANR. Activities of daily living for patients with chronic heart failure: A partnership care model evaluation. 2016;30:261-7.
23. Rezapoor P, Shahriari M, Sanei H, Moeini MJJocbn, midwifery. Effects of collaboration care model on the quality of life in patients after coronary angioplasty: A randomized controlled clinical trial. 2017; 5(2):112.
24. Parastoo R, Mohsen S, Mahin M, Hamid SJMSNJ. Evaluation of the effect of collaborative care on depression, anxiety and stress of patients after coronary angioplasty. 2016;5(2):59-66.
25. Nayyeri S, Golafruz M, Sadaghi H, Amini S, Zarrabi L, Rakhshani M. The effect of the partnership care model on the quality of sleep among patients with heart failure. Quarterly Journal of Sabzevar University of Medical Sciences. 2015; 22(2):289-99.
26. Lashkari F, Shariati A, Baraz S, Latifi M. Collaborative Care Model effect on the patients' sleep quality with maintenance hemodialysis. Jundishapur Journal of Chronic Disease Care. 2013;2(1-2).
27. Golafruz M, Sadeghi H, Mousavi SQ, Tabaraee Y. The effect of using continuous care model on sleep quality in people with type 2 diabetes; 2014.
28. Khosravan S, Alami A, Rahni SG. Effects of continuous care model based non-pharmacological intervention on sleep quality in patients with type 2 diabetes mellitus: A randomized controlled clinical trial. International Journal of Community Based Nursing and Midwifery. 2015;3(2): 96.
29. Mehdizadeh S, Salaree M, Ebadi A, Aslani J, Naderi Z, Jafari Varjoshani N. Effect of using continuous care model on sleep quality of chemical warfare victims with

- bronchiolitis obliterans. Hayat. 2010;16(2): 5-14.
30. Otaghi M, Bastami M, Borji M, Tayebi A, Azami M. The effect of continuous care model on the sleep quality of hemodialysis patients. Nephro-urology monthly. 2016; 8(3).
31. Alamdarloo A, Hosseini M, Khankeh H. The effect of collaborative care model on sleep quality of patients undergoing coronary artery bypass graft surgery. Iranian Journal of Rehabilitation Research in Nursing. 2015;1(4):1-14.
32. Nayyeri S, Golafrooz M, Sadaghi H, Amini S, Zarrabi L, Rakhshani MJQ, JoSUoMS. The effect of the partnership care model on the quality of sleep among patients with heart failure. 2015;22(2):289-99.
33. Zou L, Yeung A, Quan X, Boyden SD, Wang HJljoer, health p. A systematic review and meta-analysis of mindfulness-based (Baduanjin) exercise for alleviating musculoskeletal pain and improving sleep quality in people with chronic diseases. 2018;15(2):206.

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