The Effect of Family Visit Management on Anxiety Levels Among Patients in the Intensive Care Unit: A Scoping Review

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Abstract : Several studies identified the effect of family visits on reducing patient and family anxiety levels. However, until now there has been no review that synthesizes the results of these studies on this population. This review aimed to identify the effect of family visit management on the anxiety level of patients and families in the ICU. This Study used a scoping review method using CINAHL, PubMed, Science Direct and search engines Google Scholar. The keywords used in English were "family visitation OR visits" AND "anxiety disorders OR anxiety OR generalized anxiety disorder" AND "ICU OR intensive care unit OR critical care." The criteria for selecting the articles included full-text articles in English and published in 2013-2023. The study selection process used the PRISMA-ScR flow chart. We found 11 articles discussing the management of family visits to the anxiety of ICU patients. Based on the results of the analyzed studies, it shows that there are several types of scheduled visit management (in and out hours), flexible family visitations, limited visits, regular visits, and online methods. In general, participants in the studies analyzed showed reduced levels of anxiety and most studies indicated that flexible visits were positively related to satisfaction with the services provided in the ICU. Furthermore, it is advised that the visiting policies in ICU be modified and that families be given the option to participate in patient care through schedule attendance and involvement.

Keywords: anxiety, critical illness, Intensive Care Unit, visit management

INTRODUCTION

Anxiety is an unpleasant experience felt by patients and their families undergoing treatment in the Intensive Care Unit (ICU). According to Harlan et al., (2020), treatment in the ICU causes frustration, anxiety, irritability, isolation in patients, and depression in the caring family. These facts are caused by many factors, such as invasive procedures, family separation, immobility, lack of privacy, ventilator procedures, pain, confusion, lack of familiarity with medical or nursing staff, and sleep disturbances (Alasad et al., 2015). Therefore, because of this problem, the policy of visiting hours opening within 24 hours is recommended as a non-pharmacological intervention to reduce negative experiences for patients and families in the ICU (Pun et al., 2019).

Several previous studies recommended that visiting hours in the ICU be more flexible (Akbari et al., 2020; Rosa et al., 2019). The policy on family visit hours in the ICU divided into three categories: absence of visit hours, limited visit hours, and open visits within 24 hours (Da Silva Ramos et al., 2013). Unfortunately, there are still many agencies in several developed countries that implement a limited visit policy, such as in several countries, namely the Netherlands (87%), the US (68%), the UK (68)%, Italy (86%), and Iran (90%) (Giannini et al., 2013). The same policy still applies in many hospitals in Indonesia. It is inseparable from ICU managers who tend to have still wrong conventional assumptions. Flexible family visits are considered detrimental to patients, such as increasing the risk of infection and making patients lack rest (Akbari et al., 2020).

Research studying the effect of family visits on the anxiety level of patients in the ICU due to treatment procedures is still controversial. Some studies mention the benefits of family visits (Kamali et al., 2020b; Kurtoglu Celik et al., 2013), and some say there are no benefits manfaat (İşlekdemir & Kaya, 2016; Sağlık & Çağlar, 2019). The benefits of flexible visit hours include reducing anxiety levels,

increasing patient satisfaction and well-being, and increasing the bond between staff and family (Bélanger et al., 2017). Whereas another study conducted in Belgium said that with an open visit system, many nurses felt that the visit harmed mood changes (50%), felt controlled (40.6%), and was afraid of making mistakes when taking action (37 .5%) (Giannini et al., 2013).

Nurses have an essential role in accepting policies related to patient care (Arabi et al., 2014). Especially, if nurses do not convey reasonable opinions, the council will fail to implement a new policy (Ghrbani et al., 2018). Nurses have a closer relationship with patients and families than other health workers. Thus, the implementation of visiting hours highly depends on attitudes and beliefs and nurse satisfaction in implementing these policies (Cappellini et al., 2014). Therefore, this scoping review aims to identify the effect of family visit management on the anxiety level of patients and families in the ICU

METHODS

Study Design

This Study uses the scoping review method, conducted and reported based on the guide checklist from the Preferred Reporting Items for Systematic Review and Meta-Analysis Extention for Scoping Review (PRISMA-ScR).

Search Method

The databases used for the article search are PubMed, CINAHL, ScienceDirect, Sage Journals, and the Google Scholar search engine. The Keywords are a combination between OR and AND boolean operators. The keywords used were "family visitation or visits" AND "anxiety disorders or anxiety or generalized anxiety disorder" AND "ICU or intensive care unit or critical care."

Eligibility Criteria

Research questions and eligibility criteria for research articles using the PCC (Population, Concept, and Context) approach.

    P (Population)   : Patients treated at the ICU
    C (Concept)   : Anxiety level
    C (Context)   : Visit Management

The inclusion criteria in this study were full-text articles in English with experimental, quasi-experimental, RCT, and observational study designs published in 2013-2023. In addition, this review excludes studies with secondary research, paid articles, and articles other than English and Indonesian.

Data Collection and Analysis

The study selection process followed the PRISMA-ScR flow and was analyzed using qualitative thematic analysis. Search results on databases and search engines using predetermined keywords obtained 180 articles. There are 3 duplicates and 177 articles selected based on title and abstract. The screening results obtained 19 articles which were then reviewed again with a focus on population, intervention, and language. A total of 11 articles were analyzed and reported in this scoping review. Data extraction from this review used tabular form to describe all the results of the synthesis related to the topics discussed. The table contains data related to Author, Year, Country, Outcome, Method, Sample, Instruments, Visit Method, and Result to make it easier for the authors to describe the results.

RESULTS

Study Selection

Based on the search results, we found 180 articles from the database and search engines. The authors

screened 177 articles and excluded 158 that did not meet the inclusion criteria. A total of 11 articles were analyzed and included in this scoping review. Figure 1. is a PRISMA flowchart that illustrates the study analysis process.
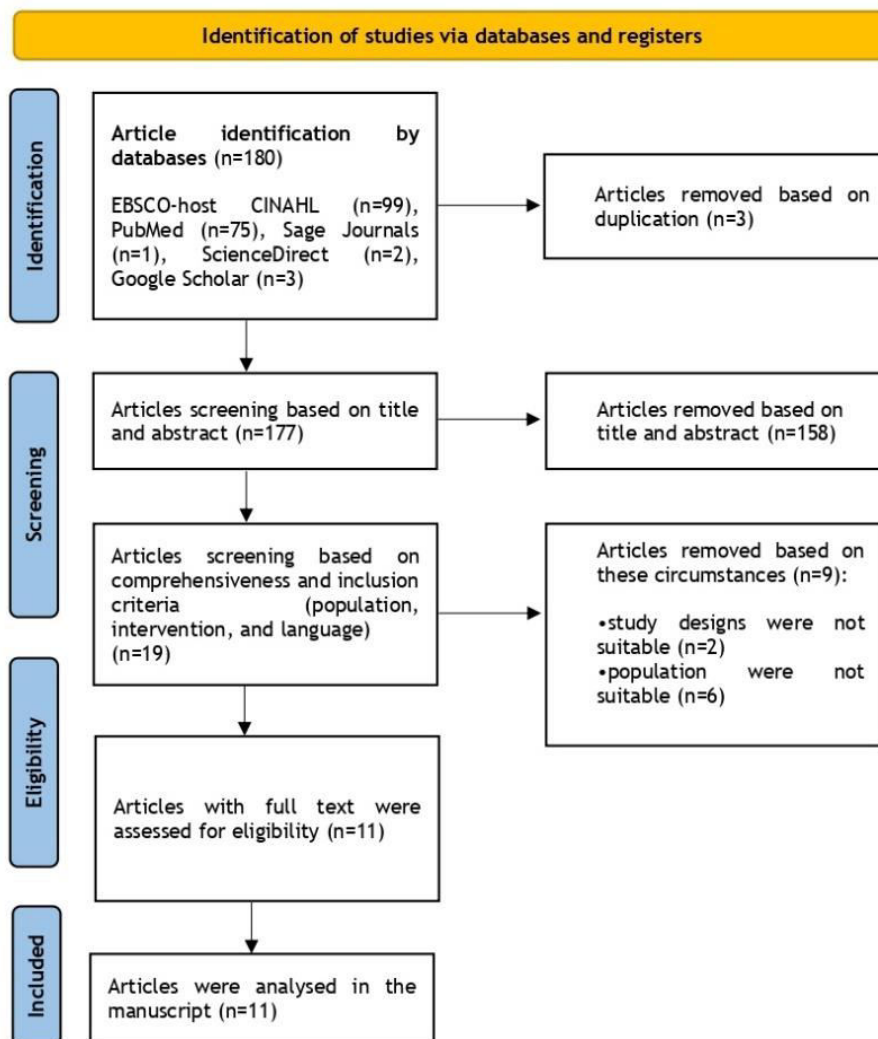

Figure 1. PRISMA Flowchart

Study Characteristics

We analyzed a total of 11 studies in this scoping review, and the results obtained were that studies came from 6 countries, including Brazil (n=2), Iran (n=3), South Korea (n=2), Canada (n=1), Spain (n=2), and UK (n=1). The majority of studies published in 2022 will be observational by design. A total of 18,934 research samples consisting of patients and their families with characteristics such as critically ill with delirium problems, coronary heart disease (ACS, Dysrhythmias, Diagnostic Procedures), COVID-19, to critical patients who have entered the ventilator weaning stage, including in the scoping review analysis. More detail see table 1.

Table 1. Study Characteristics

Author/Year/ Country	Outcome	Method	Sample
Author: (González-Martín et al., 2019) Country: Spanish	Decrease anxiety, depression, and satisfaction	Randomized Clinical Trial	**Samples**: 38 patients • Intervention group: 19 patients • Control group: 19 patients
Author: (Rosa et al., 2019) Country: Brazil	Occurrence of delirium, anxiety, and depression.	Cluster-Crossover Randomized Clinical Trial	**Samples**: 1685 patients, 1295 families, and 826 physicians.
Author: (Kamali et al., 2020) Country: Iran	Patient and family anxiety	Experimental Study	**Samples**: 80 patients and families • Intervention group: 40 patients and families. • Control group: 40 patients and families.
Writer: (Fumis et al., 2015) Country: Brazil	Satisfaction rate, anxiety and depression in families of ICU patients	Prospective Study	**Samples:** 471 families from 22 ICU beds
Writer: (Kim et al., 2022) Country: South Korea	Delirium and its type, anxiety levels of patients in the ICU	Retrospective Observational Study	**Samples:** 1514 patients Delirium Group • Kelompok restrictive visiting: 455 • Non-visiting groups: 157 Non-Delirium Group • Kelompok restrictive visiting: 656 • Non-visiting groups: 246
Writer: (Suh et al., 2023) Country: South Korea	Quality of Life, depressive symptoms, and emotions of the families in the ICU before and after the COVID-19 pandemic	Cross-Sectional Descriptive Survey	**Sample:** 99 COVID-19 patients families in the ICU
Writer: (Moss et al., 2022) Country: Canada	Psychiatric problems	Population-Based Retrospective Cohort Study	Samples: 14,344 patients Received visits: 13,771 No visits: 573
Writer: (Rose et al., 2022) Country: UK	Levels of distress, depression, anxiety, and stress of families of COVID-19 patients who were admitted to the ICU and undergoing virtual visits	Observational Cohort Study	Samples: 2166 ICU patients family in in 37 hospitals in the UK
Writer: (Biabani et al., 2021) Country: Iran	Anxiety levels	Quasi Experiment	**Samples:** 48 CICU patients Control group: 24 Intervention groups: 24
Writer: (Nouri et al., 2021) Country: Iran	Levels of anxiety and agitation	Randomized Clinical Trial	**Sample:** 70 patients • Intervention group: 35 patients • Control group: 35 patients
Writer: (Iglesias et	The psychological impact, coping influences, and other factors	Cohort Study	**Samples:** 104 from 63 patients

Author/Year/Country	Outcome	Method	Sample
al., 2022) Country: Spanish	involved		

Types of Family Visit Management

We found several types of visit management applied by the ICU management team based on the 11 articles obtained (Table 2). Based on results, the average management used a limited visit of 1 day or two visits for 15-30 minutes.

Table 2. Types of Family Visit Management in ICU

Study	Instrument	Visits Management	Outcome
(Fumis et al., 2015)	1. Critical Care Family Needs Inventory (CCFNI) 2. Hospital Anxiety and Depression Scale (HADS)	Visit 24 hours a day (no time limit day/night), with a maximum of 1 visitor but no restrictions on taking turns. However, two visitors are allowed from 15.00 to 17.00 and 21.00 to 22.00.	1. Anxiety and depression levels reached 34% and 17%, respectively. The level of family satisfaction is relatively high, with a median value of 13 (12-14), and 5% of families are dissatisfied. 2. The average visit reaches 10-2 hours per day, namely at 08.00-22.00 3. There is a positive relationship between visiting hours and family satisfaction, characterized by lower levels of anxiety and depression in families.
(Rosa et al., 2019)	1. Confusion Assessment Method for the ICU (CAM-ICU) 2. HADS 3. CCFNI 4. Maslach Burnout Inventory	Flexible Family Visitation with 12 hours per day and Health Education	1. There was equality between the Flexible Family Visits policy and standard visiting hours limited to delirium, staff burnout, anxiety, and depression in families.
(Kim et al., 2022)	1. CAM-ICU 2. Richmond Agitation-Sedation Scale (RASS) 3. Delirium Motor Subtype Scale (DMSS) 4. State-Trait Anxiety Inventory (STAI-6)	Visits are limited to 1 to 2 times per day.	1. There was no statistical difference in the prevalence of delirium after PSM at no visits or limited visits (27.4% vs 30.9%). 2. Mixed type and hyperactivity were higher in the no-visit group than in the limited-visit group 3. The anxiety level was higher in the no-visit group than in the limited-visit group (53.46% vs 52.22%)
(Kamali et al., 2020)	1. STAI	Visit one day twice at 10.00 and 17.00 with a maximum duration of 15 minutes.	1. The patient's planned family attendance method in the Coronary Care Unit (CCU) is essential in reducing the anxiety of the patient and his family.
(Suh et al., 2023)	1. WHO QOL-BREF 2. CESD (Center for Epidemiologic Studies Depression) 3. VAS (Visual Analogue Score)	Limited visits with Video Call (VC) features and direct visits only for patients with the End of Life care.	1. Families mentioned that during the pandemic, the sadness and anxiety felt due to family members being admitted to the ICU increased quite a bit (54.66% and 53.86%). 2. As many as 86.9% of families are satisfied with the visit restriction system implemented. However, only 50.5% of families were satisfied with the amount of information about their family's condition provided by health workers.
(Rose et al., 2022)	1. Distress Thermometer 2. Depression, Anxiety, and Stress Scale (DASS)-21	Visit online with the aTouchAwayTM online platform	1. The average (SD) score of the virtual pre-visit Distress Thermometer was 7 (2.6), with 62% of participants

Study	Instrument	Visits Management	Outcome
			reporting severe pressure. While the post-visit score of 35% participants point was lower 1.6 (3.2) than the pre-visit. 2. Of the participants who experienced many visits, 22% continued to report severe difficulties. The DASS-21 score was 18 (2–42) in 1754 participants. Severe depression (14%), anxiety (18%), and stress (9%)
(Biabani et al., 2021)	1. STAI	Visits are limited to twice a day at 07.00 and 17.00 with a maximum duration of 30 minutes.	1. There was a decrease in anxiety levels in the control and intervention groups after three days of treatment in the CICU. However, the reduction was more significant in the intervention group (56.29 decreased to 46.43).
(González-Martín et al., 2019; Moss et al., 2022; Nouri et al., 2021)	1. HADS 2. Impact of Event Scale-Revised (IES-R) 3. CCFNI 4. Family Satisfaction with Care in the Intensive Care Unit (FS-ICU) 5. RASS	Regular visit	1. A visit before hospital admission does not seem to change anxiety or depression, but it can interfere with patient satisfaction in the ICU. 2. More than one-third of patients receive a diagnosis of psychiatric disorder post-one years after discharge from the ICU. 3. The majority of patients were diagnosed with anxiety and depression. In-person visits to 13,731 patients were associated with a lower diagnosis of mental disorders one year after discharge (RR, 0.79; 95% CI, 0.68-0.92). 4. There was a significant change in anxiety levels in patients who were accompanied by family when the first step was not anxious (77.1%) increased in Step 7 (94.3%), mild anxiety (17.1%) decreased to (5.7%), and moderate anxiety decreased from 5% to 0%
(Iglesias et al., 2022)	1. Brief Coping Orientation Problems Experienced Inventory 2. STAI 3. Beck Depression Inventory 4. CCFNI	Extended visit from 11.00 to 21.00	1. At admission to the ICU, 104 family members studied had high psychological distress (72% had anxiety, 45% had depression, and 42% had both). However, there was a decrease when they went home (34% experienced anxiety, 23% had depression, and 21% experienced both).

DISCUSSION

This review aims to identify the effect of the family visit method on the anxiety level of patients and families treated in the ICU. We found mixed results regarding family visits' impact on the anxiety level of patients and families treated in the ICU. Most studies show that patient visits in the ICU have no significant effect on the patients and families anxiety. However, visits significantly affect the level of satisfaction with the services provided in the ICU. Different results were obtained from studies conducted in the CICU, where the presence of a scheduled family significantly reduced the level of

anxiety in patients (Biabani et al., 2021). A study conducted by Bashti et al., (2016) also showed positive results, where the anxiety level of patients with angina decreased when there were scheduled family visits. Differences influence differences in research results in the application of the duration and frequency of visits, as well as differences in the timing and recording of physiological and anxiety indicators (Roth et al., 2020).

Being admitted to and treated in the ICU is traumatic for patients and family members (Johansson et al., 2018). Previous studies reported that most ICU patients had sleep disorders, fear, and anxiety within 48 hours after admission caused by some stressors, such as being in an unfamiliar environment, fear of the future, and lack of information about the treatment. Occurred, and the death of another patient (Zanetti et al., 2013). This situation is stressful and frightening for the patient and their family (Hunter et al., 2010; Whitton & Pittiglio, 2011). Aspects of family health can be affected by the health status of sick members (Kamali et al., 2020a). Other factors, such as the intubation procedure and the use of restraints when the patient starts to get anxious, also directly affect the patient's anxiety level (Kim et al., 2022)). Therefore, by implementing a more flexible visit method, it is hoped that families can provide emotional support and facilitate a sense of comfort, even if it takes a relatively short time (Choi et al., 2020).

Flexible visit management is considered to produce a better approach between health workers and family members to reduce symptoms of anxiety and depression during treatment (Akbari et al., 2020). However, several things must be prepared by the room management, namely the duration of the visit, the number of formal conferences, the presence of the family during the procedure, to providing media about the ICU itself (Da Silva Ramos et al., 2013). In addition, given the relatively high workload of nurses in providing care to patients in the ICU, it is necessary to form a communication team or liaison consisting of non-ICU health professionals to communicate with families, especially during virtual management visits (Rose et al., 2021).

In several studies with a minimum visit duration of one hour per day, there was a decrease in physiological indicators, which was assumed to be the impact of a reduction in the patient's anxiety level (Roth et al., 2020). When the break from visiting hours was extended, anxiety levels also increased. The results in less significant visits with anxiety levels for patients and families are caused by the short duration set by the management team (Kim et al., 2022). On average, in one day, the number of patient visits is only around 1-2 hours, making it challenging to facilitate interactions between patients and families in providing emotional support. Therefore, the frequency of visits must be considered. The results of this review recommend that several studies suggest that at least one day, three visit schedules can be applied (Rahmani et al., 2013).

Currently, the hospital visit method is quite innovative so that visits do not always have to be face-to-face. Research conducted by Waszynski et al., (2018) states that a visit, even though only in the form of a video message (Video Call), is enough to increase the patient's psychological comfort apart from physical proximity, which is less applicable. Then, system barriers often occur, the need for a more memorable time for VC by nurses, difficulties in connectivity with the network in the room, and lack of training for officers (Rose et al., 2021). Although most results in this study show that family visits do not provide significant results on the level of anxiety about caring management in the ICU, the flexible visit method can still be applied in the room to increase patient and family satisfaction with ICU care so that it can help improve quality service. In addition, the results of this scoping review are expected to trigger nurses to conduct research with the same focus but with more applicable methods..

CONCLUSIONS

The results of this review illustrate that the effect of family visit management on the anxiety level of patients and families in the ICU has quite mixed results. However, most studies have found that family visit management is quite significant in reducing anxiety in patients in the ICU. However, the results of this review prove that many studies say that family visit management is directly related to patient and family satisfaction during treatment in the ICU. Nonetheless, improving the family

visit management system to be more flexible for 24 hours is still recommended because it is considered to produce a better approach between health workers and family members in reducing symptoms of anxiety and depression during treatment.

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