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NURSES' PERCEIVED DISTRESS DURING COVID-19

Descriptive literature review

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<p>The purpose of this thesis was to provide the client organization Kuopio University Hospital with information about the psychological burden of nurses during the Covid-19 pandemic. The aim of the thesis was to present, through the research results, how to reduce the psychological burden of nurses in abnormal working conditions. In this thesis the core objectives were to assess psychological burden during Covid-19 of the nurses who got quick supplementary training to intensive care unit(ICU), to assess the need and quality of the support for those nurses who got supplementary training during Covid-19 pandemic, to bring up ways to reduce nurses' psychological burden during a global pandemic or under abnormal working conditions and to assess the impact of quick supplementary training and Covid-19 pandemic on psychological burden. The purpose of the thesis was also to give development suggestions on how to support the psychological well-being of the nurses in the future.</p> <p>The thesis was implemented as a descriptive literature review. To analyze the data, content analysis was used, specifically thematization. The literature search was performed in two different databases, Pudmed and Cinahl Ultimate. A total of 14 studies were found suitable for the literature review.</p> <p>The results of the literature review showed that Covid-19 pandemic had a negative effect on the psychological well-being of nurses who received quick supplementary training on the ICU, but also on the psychological well-being of nurses who work permanently in the ICU. In the literature review, 12 themes that caused psychological stress for nurses emerged. Out of these 12 themes, the new work environment and poor supplementary training in new work tasks caused the greatest psychological burden. As a conclusion the Covid-19 pandemic caused psychological burden for nurses.</p>	
Keywords Covid-19 pandemic, Nurses, Intensive care unit nurses, Psychological burden	

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1 INTRODUCTION

According to Nummelin (2008, 20–22) a change in the clinical nursing work can cause stress for a employee. The intensity of the stress response is also affected by the amount of support available to the person experiencing the change. People react differently to stress, and the symptoms can be mental or physical. These symptoms may include feeling anxious, irritable, worry, fearful and tense. (Nummelin 2008. 20–22.) The results are consistent with Nuikka`s study "sairaanhoitajien kuormittuminen hoitotilanteissa". Accordings Nuikka`s study, the nurses coping with difficult and distressing situations occasionally erupted as physical symptoms such as fatigue and headaches and neck pain. (Nuikka 2002, 17).

In an article by Haravuori et al. (2021, 340–345) it emerged that those who treated Covid-19 patients need more support than those who had not participated in the treatment of Covid-19 patients. A study by Feddeh and Darawad (2020, 514) revealed that workload increased the stress and mental strain of nurses the most. The results also show that suspicion of one`s own skills causes stress. These results are consistent with Nuikka and Nummelin. (Nuikka 2002; Nummelin 2008.)

Covid-19 has brought more workload to nurses. Feddeh and Darawad (2020) study reveals that the workload as well as the work tasks that are required in intensive care increase the stress of nurses the most and thus the psychological burden. Suspicion of one`s own professionalism also increases the psychological burden. I feel that it is important to study how psychological burden has increased, especially in nurses who got quickly supplementary trained in intensive care unit (ICU). In addition to the new work environment, nurses also faced a new group of patients, Covid-19 patients. I also feel that the research topic is important because the topic has not been researched much yet because the Covid-19 pandemic is quite recent.

2 THEORY BASE

2.1 Covid-19 pandemic

Coronaviruses are a group of common viruses that usually cause mild airway inflammation in humans. In December 2019 a new human coronavirus was founded and caused epidemic starting from Wuhan, China. The pathogen virus is named SARS-CoV-2 virus, officially called Covid-19. Covid-19 has spread worldwide, and the World Health Organization declared the coronavirus epidemic as a pandemic on 11th March in 2020. (Terveyskirjasto 2021.)

Covid-19 causes airway inflammation. Most common symptoms are fever, cough, shortness of breath, muscles pain, fatigue, sniffles, nausea and diarrhea. Changes in taste and smell are also one symptoms of Covid-19. (Terveyskirjasto 2021.) The Covid-19 virus can also cause a serious form of the disease. The more common symptoms here are pneumonia, acute respiratory distress syndrome and other complications. Coronavirus infection also increases the tendency of the blood to clot, which can lead to deep vein thrombosis, pulmonary embolism, or cerebrovascular accident in the patient. In a severe form of the disease, the condition can rapidly deteriorate. It is common for the condition to get worse about a week after the onset of symptoms. Severe Covid-19 disease often results in intensive care and can also lead to dead. Some of those who have been hospitalized due to Covid-19 need long-term hospitalization. Sufferers of acute respiratory distress syndrome may need ventilator therapy, which may predispose them to bacterial infections. In hospital, patients with severe disease are treated symptomatically. Patients with severe Covid-19 disease receive mainly oxygen and fluid therapy. (Terveyden ja hyvinvoinnin laitos, THL 2022.)

Intensive care is needed when a patient has a survival disorder that threatens their survival but is estimated to have a chance of good recovery. The task of the intensive care is to monitor and support patient`s vital functions. If the patient`s vital functions need to compensation to the causes of the disorders these are treated. The aim of intensive care is to prevent a life-threatening person who has been assessed as temporary and to recover from a serious illness or injury. A patient who needs intensive care is critically ill. This places high ethical demands on staff who are working in the intensive care unit. (Suomen Teho- ja hoitoyhdistys, STHY 2019.)

2.2 Psychological distress and resilience

The work of the individual consists of both psychological and physical burden and some components that regulate the overall psychological burden. Psychological burden means using an employee`s mental qualities and functions in their daily work. (Koivisto 2002, 206–207.) Anxiety refers to a fearful or anxious state of emotion that is partly related to a certain or unconscious worry about an event related to the present or the future. (Terveyskirjasto 2018.) Stress refers to a situation where

a person is faced with so many challenges and demands that the resources available for adaptation are tight or exceeded. Many researchers believe that any positive or negative change can affect an individual stressfully. (Terveyskirjasto 2018.)

Mental capacity covers a person's resources that enable them to cope with everyday challenges and crisis situations. Mental capacity is also related to mental health, psychological well-being and life management. Mental functioning also includes the ability to receive and process information. Part of mental functioning is also the ability to make considered decisions and to cope with the challenges of the social environment. (THL 2022.)

2.3 Intensive care unit

Intensive care is the prevention, treatment and diagnostic of life-threatening organ dysfunctions related to diseases or injuries. Working in intensive care requires multi-professional expertise and advanced technology. The need for intensive care increases with the increase in medical treatment options and during epidemics requiring intensive care. The number of intensive care places is limited, and these limited resources must be allocated to treating life-threatening patients. In intensive care, justice, cost-effectiveness and humanity must be realized in the treatment of the patient. (Suomen lääkäriliitto 2021.)

At KUH ICU also treats cardiovascular and neurosurgery patients who need intensive care after surgery. Patients can be transferred flexibly between the intensive monitoring unit and ICU, depending on the severity of the treatment they need. In Kuopio University Hospital (KUH), the area of responsibility of the ICU includes, in addition to the hospital's resuscitation and trauma team activities, Medical Emergency Team (MET) activities. The MET team consists of a doctor and a nurse in the ICU, and it can be alerted to different departments of the hospital when the patient's condition suddenly deteriorates. The goal is to identify a sudden deterioration in the patient's condition and speed up the initiation of supportive treatments. (Pohjois-Savon hyvinvointialue (psshp) n.d.)

2.4 Nurses work during Covid-19 pandemic

Nurses are the largest occupational group working in health care sector. The competence of nurses plays a key role in the patients' holistic treatment of health and illness, in the prevention of illness in the guidance of the patient and patients loved one. Development is an integral part of a nurses' competence, but also nursing work based on researched evidence. (Sairaanhoitajaliitto n.d.)

In Finland, the Emergency Preparedness Act was introduced in March 2020, which made it possible to postpone or cancel nurses' holiday, work overtime, extend the period of notice and change jobs. The emergency law was in force until mid-June, after which the government has sought to combat the coronary virus through standard legislation. The purpose of the Emergency Preparedness Act is

to protect the population in exceptional circumstances and to safeguard its livelihood and the country's economic life, uphold the rule of law, fundamental rights, and human rights and safeguard the territorial integrity and independence of the empire. (Valmiuslaki, 2011/1552 § 1).

3 PSYCHOLOGICAL BURDEN IN NURSING WORK DUE COVID-19

3.1 The effect of change on the work front on psychological burden

A change in the work front can cause a stress reaction for a person. The amount of change and duration of the change lasts affect the intensity of the stress reaction. The intensity of the stress response is also affected by the kind of support available to the person experiencing the change, as well as the individual factors of the person. It is important to be able to respect these individual reactions because people create personal significance for change. During the change phase, the uncertainty of the personnel is significantly influenced by the influence they themselves have in the event of a change. If many change phases pile up on top of the other creating a phenomenon of the accumulation of change stress, in which case the employees have not yet begun to adapt to the previous change when a new change is already coming. In this case, the motivation for a new change is weaker. The ideal change situation is one in which the personnel have been involved already in the planning phase of the change. Well-managed change respects people's feelings and supports them at all stages of the change process. (Nummelin 2008. 17–20.)

Conflicts and challenging situations may arise more sensitively in a changing situation than in a normal situation. The reason for this is that the uncertainty and stress brought about by change make people more vulnerable to such situations. If an employee comprehends the change as understandable and necessary, the employee can accept that easier. The need for evidence-based information and the importance of the flow of information is growing in changing situations. In a changing situation in working life, it is good if the employee realizes what the goal of the change is and what is the next step towards the goal. (Nummelin 2008. 17–20)

The amount of work and the quality of the work affect the workload experience. In a suitable demanding job, the employee finds their job sufficiently challenging and the workload suitable. The work should include suitably challenges and the challenges should be such that the employee feels control of their job. If there is too much work or its quality is too challenging it overburden employee. (Nummelin 2008. 69.)

3.2 Prevention of the psychological burden caused by change

When the workload is appropriate and the workload is suitably challenging, the work does not overburden employee. Even if the job is mentally challenging, a sense of control can be maintained

when the employee has sufficient skills to do their job and the ability to regulate the pace of work and planning the work schedule. (Nummelin 2008. 69)

Orientation involves all measures to familiarize the new employee with the new job. Orientation is an important part of staff development. Orientation increases the competence of personnel, supports coping at work and improves the quality of work. If in working life there are rapid changes, the importance of orientation increases as a promoter of well-being at work. If the employee has to work without the supplementary training required by the job, harmful work stress will arise, and an experienced employee will also be exposed to exhaustion. (Nummelin 2008, 102–103.)

The organization and its culture affect the well-being of employees at work. If the organization and its culture are perceived as weak, employees will experience more stress, exhaustion and sick leave will increase. The organization and its culture are perceived as supportive of employees when it treats employee fairly and values their work and also takes care of the well-being of its employees. (Nummelin 2008, 125.)

According to Nuikka's (2002) research, nurses felt insecure in situations where they had to handle something new. These new things can be examples: a new study, a new device or new medication. This study also revealed emotional experiences that describe the psychological burden of nurses. These emotional experiences were nervousness, fatigue, anxiety and dissatisfaction. The study also shows that the load is increased by new treatments learned in a hurry. Insufficient own information and uncertainty about own skills were also felt to be a burden. According to the results, difficult and distressing situations occasionally erupted as physical symptoms such as fatigue, headache and neck pain. Difficult and distressing situations were also experienced as a learning process. (Nuikka 2002, 17.)

Haravuori, Suvisaari, Pellikka, Junttila, Haapa & Laukkala (2021) article deals with the psychological burden of Helsingin ja Uudenmaan sairaanhoitopiirin kuntayhtymä (HUS) personnel in the early stages of a covid pandemic. The article shows that most personnel groups had undergone changes in their job description. Mental symptoms were assessed with the Mental Health Index-5 (MHI-5 meter), insomnia with the Insomnia Severity Index (ISI) meter and depression risk screen with the measure of depressive symptoms (PRIME-MD meter). These revealed that nurses had at least a mild insomnia and significant workload. Individuals who have treated Covid-19 patients reported at least one traumatic experience. Nurses who had been treated for Covid-19 patients felt more in need of psychological support than those who had not been treating Covid-19 patients. (Haravuori et al. 2021.)

In their article, Turale, Meechamnan and Kunaviktikul (2020) pointed out that a serious problem during the Covid-19 pandemic has been poor planning, preparation, organization and management of some governments and health care systems. One of the issues raised in the article was the inability to ensure an adequate stock of necessary medical supplies. (Including protective equipment.) Turale et al. (2020) pointed out that these issues have had an impact on the moral issues surrounding the global public health crisis and the ensuing human rights issues. The article also reveals that the Covid-19 pandemic is comparable to the Severe Acute Respiratory Syndrome (SARS) that

erupted in 2003, in which workers suffered a post-traumatic stress disorder. Turale et al. (2020) assume that the Covid-19 crisis will cause psychological trauma to nurses and other forefront health professionals. People react differently to stress. (Nummelin 2008. 75)

A study by Feddeh and Darawad (2020) also reveals that the workload increased the stress to nurses the most. The results of the study also revealed that the high number of work and demanding tasks of intensive care units are considered to be one of the biggest stressors. The results also show that professional suspicion causes stress to nurses. (Feddeh & Darawad 2020.) These results are consistent with Nuikka (2002) and Nummelin (2008). Research by Szkody, Stearns, Stanhope and Mckinney (2020) reveal that concern about Covid-19 is negatively related to mental health. The results also show that social support was positively associated with mental health during Covid-19.

4 PURPOSE AND OBJECTIVES

The purpose of this thesis is to provide the client organization, KUH with information on the psychological burden of nurses in the middle of the Covid-19 pandemic. The aim of this thesis is to present, through the research results, possible operating models that reduce the psychological burden of nurses in abnormal working conditions. The aim of this literature review was to describe the psychological burden of nurses during the Covid-19 pandemic. The review examines the psychological burden of nurses working in the ICU. The review also examines how the quickly implemented supplementary training to the intensive care unit affected the mental workload of nurses. Based on the thesis results will be provided with recommendations on how promote the mental well-being of nursing staff in the future.

In this thesis core objectives are:

- To assess psychological burden during Covid-19 from nurses who quickly implemented supplementary training in ICU
- To assess the need and quality for support from these nurses got quickly implemented supplementary training during Covid-19
- To bring up ways to reduce nurses mental strain during a global pandemic or under abnormal working conditions
- To assess the impact of quickly implemented supplementary training and Covid-19 pandemic on psychological burden

5 IMPLEMENTATION OF THE LITERATURE RETRIEVAL

Descriptive literature retrieval is one of the most used types of literature retrieval. In a narrative or descriptive literature retrieval, the goal is to tell or describe all previous studies on the topic, their scope, depth and quantity. The literature retrieval begins with defining its purpose and objectives. It is important when choosing a topic that the researchers have a genuine interest in the topic and the identification of possible presuppositions. The purpose is to produce as objective information as possible on the researched topic. (Stolt, Axelin, & Suhonen, 2016.)

The thesis has been implemented as a descriptive literature retrieval. The thesis started with choosing a topic and working on the theory part of the thesis. The choice of topic was influenced by my own interest in the topic. I became interested in the topic when I was working in the cohort department during the covid pandemic. I worked at the bed ward level and because of this I limited the literature review to ICU nurses so to produce objective information and the reliability of the research is maintained.

5.1 Inclusion and exclusion criteria

A good literature retrieval question includes the setting of inclusion and exclusion criteria. (Mäkelä, Kaila, Lampe & Teikari 2007.) The inclusion criteria are based on the research question and other conditions that have been set for the material to be included. Before searching for information, you must also define the exclusion criteria that determines the material to be rejected (Kääriäinen & Lahtinen 2006, 39–40.) In current literature review, I have limited the research question in such a way that the question excludes the psychological burden of nurses other than those who treated corona patients in the intensive care unit. The research question also limits only nurses as a professional group. The literature review excluded research's that dealt with nurses who worked during the Covid-19 pandemic elsewhere than in the ICU, or the research`s concerned other health care personnel than nurses. Research`s that not conducted in English were also excluded from the literature retrieval. Inclusion criteria and exclusion criteria are tabulated in figure 1.



Figure 1. Inclusion and Exclusion criteria

5.2 Implementation of the literature retrieval

In the literature retrieval, a descriptive literature review was used. Search words and phrases were thought about together with the Savonia`s library staff. Cinahl Ultimate and Pubmed were selected as databases.

In PubMed, the search phrase selected: covid-19[tw] AND nurse*[tw] AND ("Psychological Distress" OR "Stress, Psychological" OR "Job Satisfaction" OR "psychological burden" OR " Occupational Stress" OR "Stress, Occupational") AND ("Critical Care"[tw] OR "intensive care"[tw]). In PubMed, the same restrictions regarding language and year were used as in Cinahl Ultimate.

PubMed search results yielded 79 studies. 61 studies were excluded based on irrelevant titles and abstracts. 16 studies went for full text reading from PudMed. The exclusion was influenced by the fact that the studies did not concern nurses working in the adult intensive care unit during Covid-19 or that the study focuses on nursing care other than during Covid-19. On these 16 studies four focused on work of other nurses than ICU nurses and two studies focused on the work of nurses other than during Covid-19 pandemic. After final analyzing the data 10 studies were selected from Pudmed for the final material. The flow chart of the selection process from PudMed is depicted in figure 2.

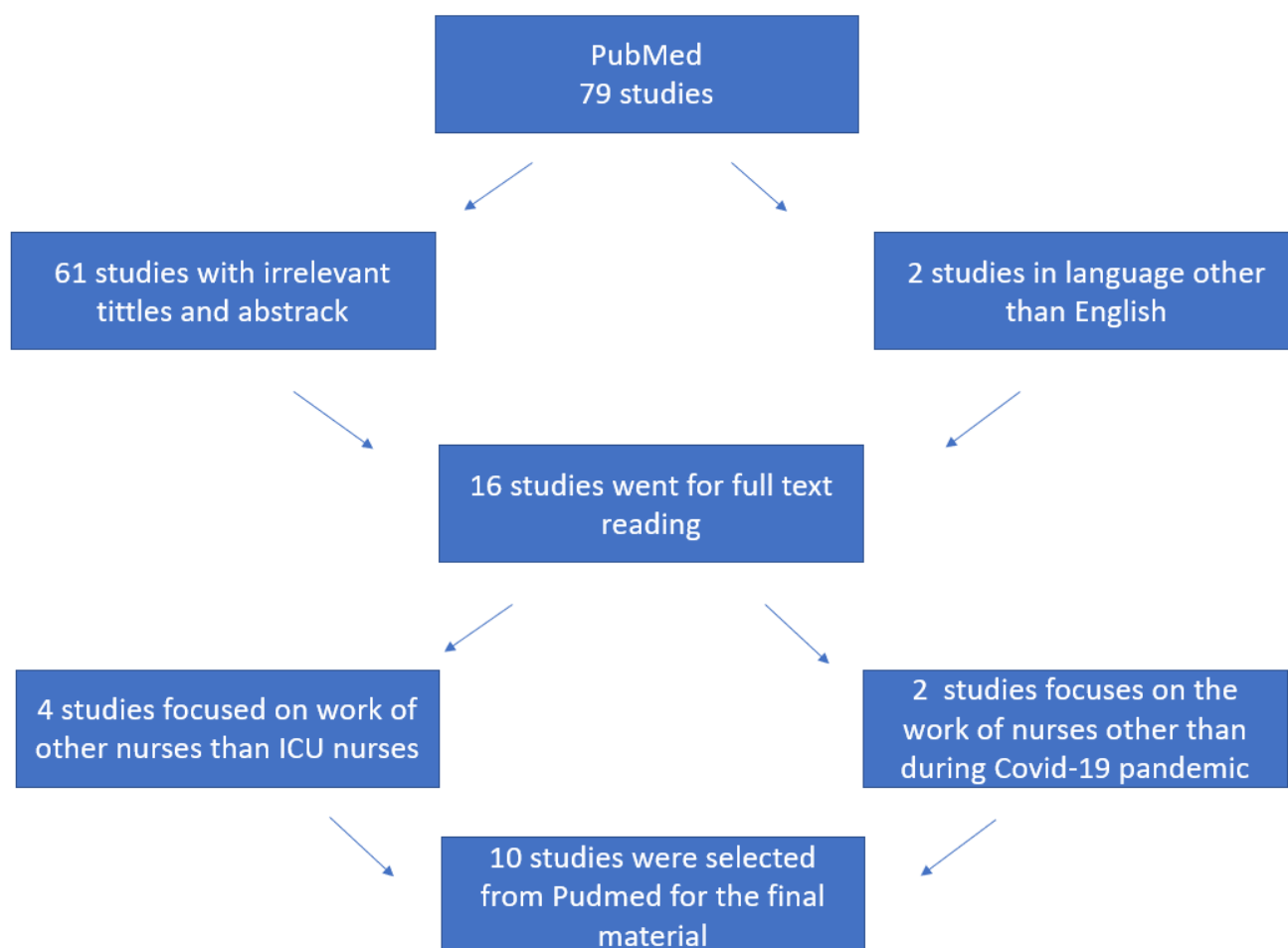


Figure 2. Flowchart of the inclusion/exclusion process for articles retrieved from PubMed

The search phrase selected in Cinahl Ultimate was: covid-19 AND nurse* AND ("Psychological Distress" OR "Stress, Psychological" OR "Job Satisfaction" OR "psychological burden" OR " Occupational Stress" OR "Stress, Occupational") AND ("Critical Care" OR "intensive care"). The literature search was limited to 2019-2022 and the search language was limited to English.

Cinahl Ultimate search yielded 82 studies, of which 72 studies were excluded based on the title and abstract. Typical reasons for excluding research were that they did not concern nurses working in adult ICU during Covid-19 or the study focuses on nursing work other than during Covid-19. From Cinahl Ultimate 10 studies went for full text reading. On these 10 studies two studies focused on work of nurses other than ICU nurses, two studies focused on work of nurses other than during Covid-19 pandemic and two studies was same than in PubMed search results. After the final analysis, 4 studies on Cinahl Ultimate were selected for the final material. The flow chart of the selection process from Cinahl Ultimate is depicted in figure 3.

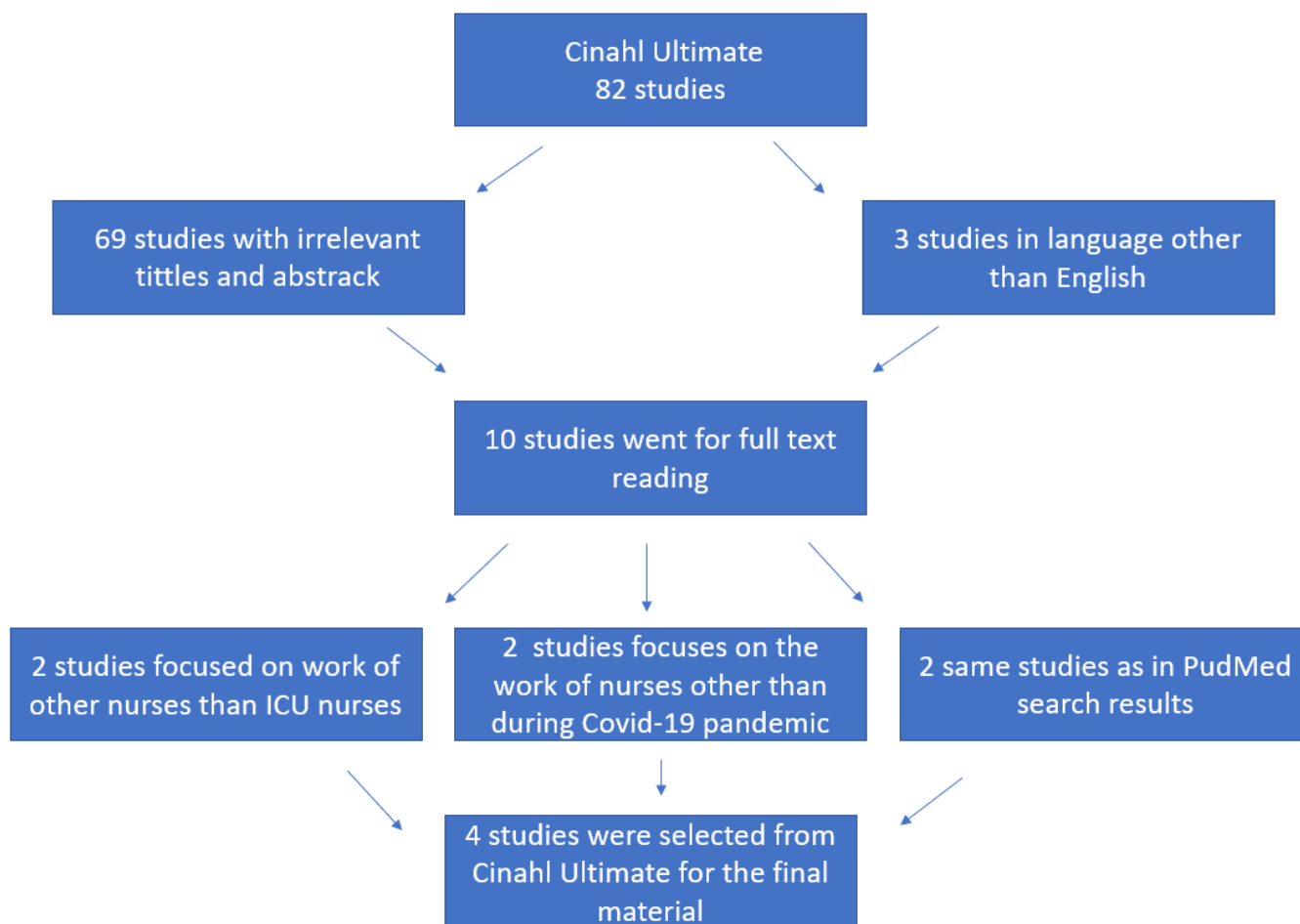


Figure 3. Flowchart of the inclusion/exclusion process for articles retrieved from Cinahl Ultimate

5.3 Content analysis and theming

The analysis phase includes reading and coding the selected material, after which the material is classified. The purpose of the phase is therefore to look for similarities and differences in the studies, group them and compare and interpret them. (Stolt et al. 2016, 30–31).

The material has been analyzed using content analysis. Content analysis is a basic data analysis method. With the help of content analysis, it is possible to analyze different materials and describe them at the same time. The aim of the content analysis is a broad but concise presentation of the phenomenon. (Kankkunen & Vehviläinen 2017. 165–167.)

Theming can be considered as one form of content analysis. In theme planning, the material is highlighted from the point of view of the research, as well as frequently occurring typical features. Fragments of the research material, quotes, are usually presented in connection with the treatment of themes. The purpose of these quotations is to illustrate the thematization and give the reader precise traces of what the researcher bases his thematization on. (FSD n.d.)

My method of analysis in this thesis, was using content analysis, more specifically thematization. In the analysis phase, factors that have emerged from studies that increase psychological burden among intensive care unit nurses during the Covid-19 pandemic were collected. The results of the

research selected for the literature review were collected from the perspective of the research. Through these similarities, 12 themes were formed, which emerged in several studies as increasing the psychological burden of nurses. Figure 3 shows the thematization of the three themes that emerged.

Original expression	Reduced expression	Theme
"Isolated patients died alone without family <u>members</u> and this deeply affected the nurses' psychological well-being."	Death of patients without family members	Patients dies alone
"In addition, experienced intensive care nurses described how their workload increased as they constantly had to introduce and help new colleagues."	Advising new colleagues increases the workload	Colleagues don't have ICU knowledge
"Most of the participants reported worry over becoming ill themselves or bringing the virus home to their families. "	Fear of getting infection and spreading the virus	Fear of spreading the virus to family

Figure 3. An example about thematization

6 THEMES THAT EMERGED FROM THE LITERATURE REVIEW

As a result of the analysis, 12 different themes were formed to describe the psychological burden of nurses during the Covid-19 pandemic. The content of these themes has been opened using direct quotations from the studies that were analyzed for this literature retrieval.

These themes were 1) The patient dies alone, 2) Colleagues don't have ICU knowledge, 3) Excessive workload, 4) Limited resources, 5) Clinical uncertainty, 6) Deteriorated quality of patient`s nursing, 7) Rapidly changing situations, 8) Unclear communication, 9) New work environment, 10) Fear of spreading the virus to family, 11) Poor quality of supplementary training and 12) Poor support from management.

6.1 Patients dies alone

The first theme was the patients dies alone. The results revealed that family members could not be present when the patient died due to the Covid-19 pandemic. Patients had to die without the presence of family members. In many situations, nurses were by the patient's side when they died. The

theme includes the psychological burden that a dying patient cannot be with their family members in the last moments and the nurse is the ones who fulfills the role of this family member at the last minute of the patient life. Because patients dies alone caused a psychological burden for the nurses.

“Every time I had to accompany a patient as they took their last breath, so they would not die alone because their family couldn’t come to the hospital.” (Romero-García, Delgado-Hito, Galvez-Herrer, Angel-Sesmero, Velasco-Sanz, Benito-Aracil, & Heras-La Calle, 2022, 4).

“ Isolated patients died alone without family members and this deeply affected the nurses’ psychological well-being.” (Gordon, Magbee, & Yoder, 2020, 6).

“The nurses also shared that many patients were dying alone because family members were not allowed on the unit due to risk of COVID-19 transmission” (Levi & Moss 2022, 3).

6.2 Colleagues don’t have ICU knowledge

Another theme which emerged from the results was colleagues limited ICU experience. From the results emerged the lack of experience of the colleagues affected the workload and coping ability of the permanent staff. A nurse with only limited experience could not manage the psychological load in the same way as permanent staff.

“Insufficient time to provide proper care or teach inexperienced colleagues.” (Romero-García, et al. 2022, 4).

“Multivariate analyses indicated that working in an academical hospital, fear of infecting relatives and insufficient number of trained personnel were significantly associated with increased risk for symptoms of anxiety, depression, PTSD and NFR. Having been on holiday after the first surge was associated with reduced symptoms of depression and work fatigue” (Heesakkers, Zegers, Van Mol, & Van den Boogaard, 2021 3).

“In addition, experienced intensive care nurses described how their workload increased as they constantly had to introduce and help new colleagues.” (Bergman, Falk, Wolf, & Larsson 2021,4).

6.3 Excessive workload

When Covid-19 came, it brought an excessive workload for nurses. This emerged as one of the main themes in the analysis. In the analysis of the material of the literature review, fatigue caused by excessive workload, heavy work shifts, shortage of skilled personnel and the increased number of patient were identified under excessive workload. The results showed that over workload increased the nurses' psychological burden.

"No leave of absence, shortage of nursing workforce and heavy shifts indicated the excessive workload in nurses providing care for COVID-19 patients." (Moradi, Baghaei, Hosseingholipour & Mollazadeh 2021, 4).

"In addition, experienced intensive care nurses described how their workload increased as they constantly had to introduce and help new colleagues." (Bergman et al. 2021, 4).

6.4 Limited resources

In the analysis of the material of the literature review, limited resources emerged as one theme. Poor preparation to train new colleagues, too many patients with one nurse, long working hours and a lack of competent staff emerged in the analysis and formed this result.

"High working hours and number of patients per nurse, heavy workload and failure in patient treatment were significantly associated with the moderate level of stress among intensive care nurses." (Sanlıtürk 2021, 1).

"Scores for moral distress varied based on ventilator shortages, ICU experience, PPE shortage, and perceived support from administration." (Guttormson, Calkins, McAndrew, Fitzgerald, Losurdo & Loonsfoot 2022, 4).

6.5 Poor information

In the analysis, poor information about the new hospital regulations related to the Covid-19 pandemic emerged. The analysis also revealed the lack of prognostic information, the lack of specific medicines and the uncertain route of infection. These categories formed the clinical uncertainty theme. The literature review shows that Clinical uncertainty increased the psychological burden of nurses during the Covid-19 pandemic.

"The ICU nurses also discussed the lack of knowledge regarding ever-changing hospital policies concerning COVID-19, especially for proper PPE and visitation." (Levi & Moss 2022, 4).

"Based on the nurses' experiences, the unknown nature of the disease due to the lack of knowledge on the prognosis, lack of specific medications, unknown transmission route, unclear clinical presentation and lack of a specific vaccine was one of the causes of a vague and uncertain situation." (Moradi et al. 2021, 5).

"There is a level of anxiety because there's a lot of unknowns about the disease." (Gordon, Magbee, & Yoder 2021, 2).

6.6 Deteriorated quality of patient`s nursing

In the analysis, it emerged that the nurses were not able to offer their patients the usual interaction and support. During the analysis phase, it also emerged that the nurses were not able to respect the patients' values and beliefs. Covid-19 also brought with it new ways of working in nursing work, and this came up in the analysis phase as something that made it difficult to satisfy the patients' needs. These contents formed the theme deteriorated quality of patient`s nursing. This theme had a in-crease impact on nurses' psychological burden.

"They found that the "COVID-nurses" struggled to support patients' emotional wellbeing and mental health, and felt that they were unable to provide usual levels of support, reassurance, and interaction with patients. They also felt a lack of maintaining dignity and respect for patients' values and beliefs" (Nilsson, Odom-Forren, Ring, Van Kooten, & Brady 2022, 7.)

"In the interviews, psychological distress was described as anxiety, worry, distress and fear related to: 1) rapidly changing policy and information, 2) overwhelming and unclear communication, 3) meeting patient care needs in new ways while staying safe, and 4) managing home and personal commitments to self and family." (Crowe, Fuchsia Howar, Vanderspank-Wright, Gillis, McLeod, Penner & Haljan 2021, 4).

6.7 Rapidly changing situations

As a result of the analysis, rapidly changing situations emerged as one theme. This theme includes the contradiction of information in rapidly changing situations, rapid changes in the work community, rapid changes in the condition of Covid-19 patients, and ignorance of hospital procedures for using personal protective equipment and visiting rules during the Covid-19 pandemic. With these results, we can state that the rapidly changing situation increased the nurses' psychological burden.

"Participants described information that was rapidly changing as policies were updated, and the new versions often conflicted with earlier iterations." (Crowe et al. 2021, 6).

"The interviews also highlighted the changes in the composition of their clinical teams that occurred rapidly. For example, HAU staff received rapid online training to enhance their knowledge to allow for blending with the ICU and to enable their staff to care for ventilated patients. While some HAU staff were excited to receive the additional training, others felt by blending the two teams, they lost their identity." (Crowe et al. 2021, 6.)

"The ICU nurses also discussed the lack of knowledge regarding ever-changing hospital policies concerning COVID-19, especially for proper PPE and visitation." (Li, Zhang, Li, Yi, Hao & Bi 2021, 4).

6.8 Unclear communication

Unclear communication emerged as one of the main themes in the analysis. This theme consisted of information excessive amount and the timeliness of information. Uncertainty about work tasks also came under this theme. Unclear communication increases the psychological burden on nurses` because there is too much new information every week and uncertainty about the work tasks.

"I feel like there's new interventions every week." (Gordon et al. 2020, 4).

"There too much information coming out, but not the right information that we needed or wanted" (Crowe et al. 2021, 4).

"Unique structure of ICU, characteristics of patients, workload, physical environment and uncertainty about tasks are the factors that increase occupational stress levels of nurses" (Sanlıtürk 2021, 4).

6.9 New work environment

In the analysis phase, working in the ICU without sufficient experience, unfamiliarity with people and things, and a lack of professional and clinical knowledge formed the theme new work environment. The ICU is a workplace that requires special skills. Without this competence, working in the ICU affect psychological burden for nurses. The new work environment increased the psychological burden of nurses during the Covid-19 pandemic because the nurses who transferred from other units did not have these special skills to work in the ICU.

"Anxiety and depression levels were higher among temporary ICU personnel than among permanent ICU staff, with these differences being statistically significant" (Romero-García et al. 2022, 4).

"Isolating and alone. I've definitely been having feelings of depression and lots of anxiety. I feel very grouchy and overreacting to things ... I feeling lack of control and in limbo... I'm being thrown into a different areas, redeployment, and not knowing the people or where stuff is that is stressful too" (Crowe et al. 2021, 6.)

"Insufficient experience in critical illness may lead to a lack of professional knowledge and unskilled clinical skills, resulting in a psychological burden on nursing COVID-19 patients, leading to job burn-out" (Li et al. 2021, 4).

6.10 Fear of spreading the virus to family

In the analysis, the theme fear of spreading the virus to family came up. This theme is formed by worry about getting infected yourself and worry about spreading the virus to family members. The nurses were worried about the virus spreading to the home. This concern was present in everyday life, so this increased the psychological burden of nurses during the Covid-19 pandemic.

"Most of the participants reported worry over becoming ill themselves or bringing the virus home to their families." (Crowe et al. 2021, 6).

"Worrying about getting infected and passing the virus on to family members, lack of critical care experience and being unable to go home were the other stressors in our study" (Sanlıtürk 2021, 4).

"Fear of getting infected with the disease and transmitting it to the family had led to a kind of insecurity and ambiguity in the nurses' lives." (Moradi et al. 2021, 6).

6.11 Poor quality of quick supplementary training

In the analysis phase, poor quality to supplementary training emerged as one theme. This theme included poor quality of orientation, lack of qualifications, lack of control, uncertainty about tasks in a new work environment, and experience in nursing work.

"The nurses transferred to the ICU during the pandemic described how they received little or no introduction to their new workplace (normally a designated COVID-19 ICU). Many expressed how they lacked competence and experience and thus often felt insecure or alone." (Bergman et al. 2021, 4.)

"Unique structure of ICU, characteristics of patients, workload, physical environment and uncertainty about tasks are the factors that increase occupational stress levels of nurses" (Sanlıtürk 2021, 4).

"The nurses transferred to the ICU during the pandemic described how they received little or no introduction to their new workplace (normally a designated COVID-19 ICU). Many expressed how they lacked competence and experience and thus often felt insecure or alone." (Bergman et al. 2021, 4.)

6.12 Poor support from management

As a result of the analysis, one of the themes is poor support from management. This theme includes support received from management for prioritizing treatment, financial support received from management, and psychological support received from management.

"Scores for moral distress varied based on ventilator shortages, ICU experience, PPE shortage, and perceived support from administration (Table 4 and 5)." (Guttorms et al. 2022, 4).

"Nurses also expressed that there was a lack of support from ICU management. Thus, many decisions about prioritizing nursing and medical interventions had to be done by the nurses themselves." (Bergman et al. 2021, 4.)

7 RESULTS

From the results of the literature review, 12 themes emerged that increased the psychological burden of intensive care unit nurses during the Covid-19 pandemic. In the next chapter, the results are presented one theme at a time.

These themes were that the patient dies alone, colleagues don't have ICU knowledge, excessive workload, limited resources, clinical uncertainty, deteriorated quality of patient's nursing, rapidly changing situations, unclear communication, new work environment, fear of spreading the virus to family, poor quality of supplementary training and poor support from management.

7.1 Patient dies alone

In Romero-García et al. (2022) research Moral distress, emotional impact and coping in intensive care unit staff during the outbreak of COVID-19 the ethical problems brought by Covid-19 in the treatment of patients in the ICU come to the fore. These ethical problems can lead to moral stress. The death of patient alone without family members emerged as an ethical problem in this study. Similar results emerged as well in Gordon et al. (2021) study.

Due to the Covid-19 restrictions, family members could not visit on hospital their loved ones and because of this, many patients died alone. In these situations, nurses were by the patient's side at the time of death. (Levi & Moss 2022, 3.) The psychological well-being of nurses was greatly affected by the fact that patients died alone without their family members. In addition to mental symptoms, the nurses had physical symptoms, which were e.g. sleep disturbances and exhaustion. (Gordon et al. 2020, 3–6.)

7.2 Colleagues don't have ICU knowledge

In Heesakkers et al. (2021) and Stocchetti, Segre, Zanier, Zanetti, Campi, Scarpellini, Clavenna & Bonati. (2021) studies results show that untrained staff added to the anxiety and stress. Colleagues limited work experience of working in the ICU added challenges to the working environment. This caused anxiety and stress for experienced nurses. (Gordon et al. 2020 3–6.) Colleagues stress and anxiety caused nurses to have similar feelings themselves. (Crowe et al. 2021, 6).

Staff working permanently in an ICU felt that they had to constantly help and familiarize new colleagues and this was also a cause of physical and mental stress. Furthermore, the amount of work increases without experienced staff. (Bergman et al. 2021, 5–6.)

7.3 Excessive workload

In Bergman et al. (2021) results show that excessive workload regarding Covid-19 cause physical and mental stress. This also arise Moradi et al. (2021) and Heesakkers et al. (2021) studies results. In Sanlitürk (2021) results of the study show that a excessive workload causes prolonged fatigue and increases the stress level.

The workload was increased by the demands of the patients and the large number of patients. Excessive workload caused exhaustion of nurses. (Levi & Moss 2022, 7). Long working days, a shortage of skilled workers and heavy work shifts were an indication of excessive workload. (Moradi et al. 2021.) Too much work and the resulting lack of energy burdened the nurses' conscience, as they could not devote themselves to their families as much as they would have liked. (Nilsson et al. 2022, 7).

7.4 Limited resources

Romeo-Garcia et al. (2022) study results show that limited resources can lead to stress. Limited resources included lack of protective equipment, lack of material resources, e.g. beds and insufficient staff resources. The results of the Sanlitürk (2021) showed similar resource deficiencies. From the results of the Sanlitürk (2021) study, it emerged that limited resources caused stress from unsuccessful treatment. Guttormson et al. (2022) results of the study highlighted the stress caused by the lack of personal protective equipment.

The lack of protective equipment and sufficiently competent personnel increased the stress of nurses from the point of view of treatment failure. The stress of the nurses was also increased by the lack of equipment and patient beds. (Sanlitürk 2021, 4.)

7.5 Clinical uncertainty

Levi & Moss (2022) results show that constantly changing concepts regarding Covid-19 treatment and ignorance about the disease cause a psychological burden for ICU nurses. Romero et al. (2022) and Moradi et al. (2021) studies results show that the lack of information about the new disease (Covid-19) caused psychological burden and stress for nurses in the ICU.

Ignorance of the disease caused changing guidelines and practices. The instructions changed regarding the use of personal protective equipment. This increased the nurses fear of contracting the virus. (Levi & Moss 2022, 6.) The unknown of the disease was due to the lack of prognostic information, the lack of specific drugs, the unknown route of transmission and the lack of a vaccine. The

stress caused by Covid-19 appeared as fear, worry, restlessness, depression, confusion, anxiety, nervousness and aggression in nurses. (Moradi et al. 2021, 5.)

7.6 Deteriorated quality of patient`s nursing

Nilsson et al. (2022) results the worry about being able to provide patients with appropriate and in quality of patient`s nursing the ICU during the Covid-19 pandemic increased the stress of nurses. Romero-García et al. the results of the study show that time is not necessarily enough for quality of patient`s nursing increased the risk of moral stress. Also Gordon et al. (2020) results showed that stress rises when there are no resources to provide the highest quality of patient`s nursing. Crowe et al. (2021) results showed that psychological distress was described as worry, anxiety and fear. Concern about the quality of patient`s nursing was one factor that caused psychological distress. Quality was of patient`s nursing negatively affected by the lack of treatment equipment and patient beds, as well as the lack of protective equipment. The lack of these caused the risk of treatment failure, which increased the stress factors of nurses. (Sanlıtürk 2021, 4–5.)

Quality of patient`s nursing also got lower by following the hospital's procedures to minimize the risk of Covid-19 infection. Such practices included wearing personal protective equipment and the time spent on them, as well as reducing the time spent at the patient room to minimize the risk get the Covid-19 infection. (Levi & Moss 2022, 7.)

Poor emotional support of patients also emerged as a factor reducing quality of patient`s nursing. In their opinion, the nurses were not able to offer Covid-19 patients the usual support and patient interaction. Nurses also felt that respect for human dignity and patients' values was lacking. (Nilsson et al. 2022, 7.)

7.7 Rapidly changing situation

Li, et al. (2021) results show that the rapid changes in the treatment of Covid-19 patients increase the psychological load of ICU nurses. The Levi & Moss (2022) study also shows that rapidly changing practices cause stress for nurses. Crowe et al. (2021) study results show that rapidly changing situations cause anxiety, fear and worry.

The rapid changes were also visible in the composition of the working teams. Some of the nurses felt that they lost their identity in these rapid changes. Constantly changing situations caused stress because they left nurses unsure of what practices they should follow to reduce the spread of Covid-19. The rapid changes in the composition of the nursing teams also caused a psychological burden because some of the nurses had only received a quick online supplementary training on the care of patients with respiratory failure. Rapid changes in workplaces also caused a lack of sense of control

and uncertainty among nurses. The unfamiliarity of co-workers and working tools were stressful in a rapidly changing work unit. (Crowe et al. 2021, 5–6.)

7.8 Unclear communication

Crowe et al. (2021) the results of show that unclear communication is one thing that causes worry, fear and anxiety. The results of the Moradi et al. (2021) research also show that unclear communication can cause challenges when working with Covid-19 patients.

Unclear communication caused conflicting situations. Responding to conflicting practices was particularly stressful and frustrating for nurses because the situation remained uncertain as to which practices should be followed in order to reduce the risk of contracting Covid-19. (Crowe et al. 2021, 5–6.)

7.9 New work environment

Studies results showed that stress increased because the nurses did not have sufficient expertise to work in the ICU. Stocchetti et al. (2021) the study results showed that nurses who had not worked in the ICU before the Covid-19 pandemic had difficulties adjusting to the new work environment. With this, fatigue and anxiety increased, and the risk of burnout also increased for these nurses who worked in a new work environment. In addition to Crowe et al. (2021), Romero-García et al. (2022) and Heesackers et al. (2021) the results of the studies revealed that the new work environment causes stress and psychological burden for nurses. The results of Sanlıtürk (2021) study show that the stress level of those who worked less in the ICU was statistically significantly higher than those who had already worked in the ICU before the Covid-19 pandemic.

ICU nurses reached a moderate level of moral anxiety and depression already during the first wave of the pandemic. Nurses transferred from other units to the ICU reached a higher level of moral distress and depression than those working permanently in the ICU. (Romero-García et al. 2022, 4.)

Nurses who were relocated due to Covid-19 found it difficult to adapt to the new work environment. (ICU) Fatigue and anxiety increased in these nurses and the risk of burnout increased. (Stocchetti, et al. 2021, 6.) The risk of burnout was also increased by the lack of clinical skills and experience working in the ICU. (Li et al. 2021, 3). With the new work environment, nurses felt that they lacked qualifications and experience, and as a result, they often felt insecure and lonely. (Bergman et al. 2021, 6).

7.10 Fear of spreading the virus to family

Levi et al. (2022), Moradi et al. (2021), Asadi, Salmani, Asgari, & Salmani 2022, 3. (2022), Ahmed et al. (2021) and Sanlitürk (2021) results of the studies reveal nurses' fear of the impact of the Covid-19 virus on family members. The nurses in the ICU were afraid of spreading the virus to their family members, and this increased psychological anxiety.

When treating Covid-19 patients, nurses knew they were exposing themselves to the Covid-19 virus. By exposing themselves to the virus, they realized there was a chance to take the virus home to their families. This was perceived as a source of stress. (Gordon et al. 2020, 5.)

Worrying about the virus spreading to the family also caused psychological distress, which was expressed as anxiety, worry and depression. (Crowe et al. 2021, 6). The fear of getting infected and spreading it to family members led to uncertainty and ambiguity in the lives of nurses. (Moradi et al. 2021. 3–6.)

7.11 Poor quality to supplementary training

Bergman et al. (2021) results show that nurses who moved to the ICU from other wards received little or no introduction to the new work environment. These nurses felt lonely and insecure because they lacked the qualifications to work in the ICU. The results also revealed that what made the situation stressful was not being able to influence their work environment themselves, but the nurses were assigned to a new work environment. Asadi et al. (2022) results of the study showed that the alarm fatigue of nurses trained in the ICU was significantly lower than that of nurses who did not receive quality supplementary training in the ICU. Alarm fatigue occurs when a nurse is exposed to noise pollution during their working day, for example in ICU, to the sounds of patient monitors. The results of the Romero-García et al. (2022) study revealed the effect of haste on supplementary training. There was not enough time for a quality supplementary training and this caused a psychological burden for both the trainees and the trainers. Gordon et al. (2021), Heesackers et al. (2021) and Sanlitürk (2021) studies results show a stress-increasing connection with poor supplementary training. Li et al. (2021) results showed that connection amount of education and supplementary training with depression. The higher the education and higher quality supplementary training the nurses had, the less they fell ill with depression. Ahmed et al. (2021) results show that working without proper supplementary training affects the amount of stress.

Protection against the Covid-19 virus increased exhaustion, shortness of breath and discomfort. Adequate training, for example in wearing protective gear, reduced the psychological burden. (Gordon et al. 2020.) Poor induction caused a lack of control and uncertainty in the nurses because the colleagues and work environment were unfamiliar. (Crowe et al. 2021, 6).

ICU nurses with a university of applied sciences degree have better overall thinking ability than those with junior degree or below. (Li et al. 2021, 4). ICU nurses with quality supplementary training had significantly lower alarm fatigue than nurses with poor supplementary training. Alarm fatigue is caused by noise pollution from the monitoring and medical devices used in the ICU. (Asadi et al. 2022, 3.)

During the pandemic, the nurses who were transferred to the ICU described that they did not get an supplementary training to the new work environment at all or the supplementary training was minimal. This caused uncertainty and loneliness among nurses. (Bergman et al. 2021, 6.)

7.12 Poor support from management

Guttormson et al. (2022), Moradi et al. (2021) and Bergman et al. (2021) the studies results show that the poor support received from the administration and management caused psychological burden and stress for the nurses. The organization's poor resource management caused moral stress in nurses. Moral stress can lead to mental health problems in these nurses. (Romero-García et al. 2022, 4.) Inadequate support from management included non-remuneration of staff and lack of financial support from the hospital demonstrated. These show poor support for ICU nurses during the covid-19 pandemic. (Moradi et al. 2021, 3.)

The lack of support from the management became apparent when patient safety and the quality of care were compromised, and the nurses felt that they did not receive sufficient support from the management of the ICU. Because of this, nurses had to make prioritization decisions themselves. (Bergman et al. 2021. 4)

8 REFLECTION AND CONCLUSIONS

The purpose of this thesis is to provide the client organization, KUH with information on the psychological burden of nurses in the middle of the pandemic. The aim of this thesis is to present, through the research results, possible operating models that reduce the psychological burden of nurses in abnormal working conditions.

In this thesis core objectives are to assess psychological burden during Covid-19 from nurse`s who got supplementary training in ICU, to assess the need and quality for support from these nurses who got supplementary training during Covid-19, to bring up ways to reduce nurses` mental strain during a global pandemic or under abnormal working conditions, to assess the impact of quick supplementary training and Covid-19 pandemic on psychological burden.

Based on the results of the literature review, the ethical problems brought by Covid-19 were highlighted when patients were in ICU. The death of patients without family members was one of these

ethical problems. Based on the results of the literature review, the nurses were the one on the patient's side when they died. The results also show that the fact that the patients died alone without their family members greatly affected the nurses' psychological well-being. In addition to psychological symptoms, the nurses had sleep disorders and exhaustion.

The literature review brought up the ethical problems that affect the work of nurses during Covid-19. One of these ethical issues was patients dying alone without their family members. Even without a pandemic, it was knowing that when patient need of ICU treatment patient is critically ill, and this places high ethical demands on the staff working in the ICU. (STHY 2019). The Covid-19 pandemic is a recent research topic and there was no previous research data to support this result of the literature review. Patients are at the center of nurses' work, it is no wonder that the death of a patient alone without family members causes a psychological burden for nurses. Psychological stress was also manifested as physical symptoms. Patients are at the center of nurses' work, it is human that the death of a patient alone without family members causes nurses a psychological burden.

The results of the literature review show that inexperienced staff increased anxiety and stress in both who got supplementary trained and who got poor supplementary trained nurses. The colleagues' limited experience of working in the ICU increased the workload of the permanent staff, which increased stress and anxiety. Permanent employees also had to constantly get to know new colleagues and help them, because they had no experience working in the ICU. This caused mental and physical stress.

A change on the work front can cause a stress reaction in a person. The amount of change and how long the change lasts affect the strength of the stress reaction. (Nummelin 2008, 17–20.) The Covid-19 pandemic caused changes in work arrangements in the ICU, which has been one factor that has caused a stress reaction in nurses. The Covid-19 pandemic brought with it its own stressors, and when you add to this the changes taking place in the work team, the stressors for one person become high, even too high. Due to the Covid-19 pandemic, the reorganization of nurses has affected the nurses assigned to the new work environment psychologically and physically, but we should not forget the nurses who work permanently in the ICU even before the pandemic. The rearrangements have also affected their physical and psychological well-being. Supplementary training of new employees under a heavy workload, which Covid-19 brought, understandably increased the psychological burden of the ICU staff, because in addition to their own work, they had to give quality supplementary training. Nurses in supplementary training easily felt that they were a burden in this situation and thus the psychological burden increased.

Based on the results of the literature review, the workload was increased by demanding patients and a large number of patients. Long days, a lack of skilled nurses and heavy shifts were a sign of excessive workload. The extra workload caused nurses to be overloaded. The amount and quality of work affect the perception of workload. The work must include challenges, but the challenges must be such that the employee feels in control of their work. When there is too much work or its quality is too challenging, the employee is overworked. Even if the work is mentally challenging, the feeling of control is maintained when the employee has sufficient skills to do their job and the ability to reg-

ulate the pace of work and work planning. (Nummelin 2008, 69.) Lack of planning work or regulation of the pace of work did not materialize for nurses in the ICU during the Covid-19 pandemic. This is because of how unpredictable and new the disease was to begin with. Added to this is the mental challenge of the work of nurses in ICU. The nurses in the ICU were burdened with both physical and mental workload.

The results of the literature review support previous research on the workload caused by Covid-19. Haravuori et al. (2021) results show that the nurses had mild insomnia and a significant workload caused by the Covid-19 pandemic. Nurses who treated patients with Covid-19 also felt more psychological burden than nurses who did not treat patients with Covid-19. The results of the literature review also support the results of Feddeh and Darawah (2020) study that the workload increased the stress of nurses.

Based on the results of the literature reviews, the stress of nurses during the Covid-19 pandemic was increased by limited resources. The lack of protective equipment, the lack of professional staff, and the lack of equipment made the work of intensive care unit nurses difficult during the Covid-19 pandemic.

The inability to secure an adequate stock of medical supplies, which also includes protective equipment, has contributed to the public health crisis caused by the Covid-19 pandemic and the resulting human rights and moral issues. (Turale et al. 2020).

Limited resources brought more psychological burden to the already overburdened ICU nurses. One huge change to the daily work at the start of the pandemic for nurses in the ICU was protective clothing. Protective clothing protected nurses from that unknown virus, and the threat was that these protective equipments would run out. The threat of running out of protective equipments has affect a psychological burden on already stressed nurses. Nurses' work is challenging at times. With add limiting factors such as limited resources, the work easily becomes too challenging, both mentally and physically.

The results of the literature review are supported by previous research data. Studies by Turale et al. (2020) have highlighted that the inability to secure a stock of medical supplies has contributed to moral issues arising from human rights issues.

At the start of the Covid-19 pandemic, the disease was still new and unknown and clinical uncertainty was strongly present. The unknown of the disease was due to the lack of prognostic information, the lack of medicines and the unknown route of infection. (Moradi et al. 2021.) The results of the literature review showed that the lack of information about the Covid-19 virus caused constant changes to instructions and practices, which caused a psychological burden for nurses. In the work of nurses, one of the goals is to provide patients with the care they need appropriately. Ignorance of the disease brought uncertainty about how to treat patients in the way they need. This increased the psychological burden on nurses as they were unsure whether they would achieve their goals of providing patients with the care they needed.

Emotional experiences that describe nurses' workload include anxiety, nervousness, fatigue and dissatisfaction. (Nuikka 2002, 20–22). The results of the literature review showed that the stress

caused by the Covid-19 pandemic appeared e.g., as anxiety and nervousness. The clinical uncertainty caused by Covid-19 therefore affected the nurses' workload, the emotional experiences are similar in the stress caused by the pandemic to the emotional experiences describing the workload. The Covid-19 pandemic caused emotional experiences for nurses that describe an excessive workload.

The results of the literature review show that nurses' moral stress was increased by the concern that they could not provide patients with appropriate and quality of patient nursing. The quality of patients' nursing was negatively affected by the lack of treatment equipment and protective equipment. Various practices were followed in hospitals to prevent the spread of the Covid-19 virus, following these practices also negatively affected the quality of care. Such practices were, for example, the use of personal protective equipment and the time spent on them, as well as limiting the time spent in patient rooms. The results also show that, in the nurses' opinion, respect for human dignity and patients' values weakened during the Covid-19 pandemic. This understandably caused moral stress in the nurses.

The results of the literature review are supported by previous research data. Turale et al. (2020) results show that the Covid-19 pandemic causes psychological trauma for nurses and other healthcare professionals. One strong reason for these possible psychological traumas is certainly the fact that nurses had to compromise on the quality of patients' nursing during the Covid-19 pandemic.

Although ICU nurses are used to caring critically ill patient, rapidly changing situations caused ICU nurses a psychological burden, according to the results of the literature review. The Covid-19 pandemic brought many different rapid changes to nurses' workdays. Rapid changes were visible in e.g. in the composition of the working groups and in the practical instructions. Rapid changes in the work environment caused feelings of lack of control and uncertainty. The old familiar colleagues and tools had changed to unfamiliar.

When many change phases pile up on top of each other, the change stress phenomenon accumulates, so that employees do not have time to adapt to the new change when the next change is already coming. In such cases, the motivation for a new change is weaker. (Nummelin 2008, 17–20.) The changes brought by the Covid-19 pandemic piled on top of each other, so the nurses did not have enough motivation from one change to another. The mental load easily rises even in situations where people feel that they cannot cope with the tasks set for yourself without stress. The Covid-19 pandemic brought too huge changes to the work of nurses. This caused nurses to feel unable to manage their work as the changes piled up. This, in turn, increased the nurses' psychological burden.

According to the results of the literature review, unclear communication also caused worry, fear and anxiety during the Covid-19 pandemic. Unclear communication caused conflicting situations and because of these situations, nurses were unsure of what practices they should follow. During the pandemic, the common goal was to reduce the risk of infection. As communication was unclear, the nurses' mental load increased because they wanted to do everything possible to reduce the risk of

infection, but the practices and communication were sometimes in conflict, which made it uncertain which was the best way to protect yourself from the Covid-19.

The need for fact-based information and the importance of information flow increases in a changing situation. In a situation of change, it is good for the employee to know where we are going and what the next step is. (Nummelin 2008, 17–20.) Based on the results of the literature review, the flow of information and its quality was weak. The mental load of nurses could have been reduced by improving the availability of information. Unclear communication brought conflicting and uncertain feelings to nurses about how to act to contain the Covid-19 pandemic. This, in turn, increased the psychological burden on nurses.

With the Covid-19 pandemic, nurses were redeployed. The ICU urgently needed more staff as the Covid-19 pandemic spread, so nurses from other units were transferred to the ICU. The nurses transferred to the ICU did not have enough expertise in working in the ICU. Based on the results of the literature review, this increased the stress of nurses. Adapting to a new work environment caused fatigue and anxiety. The results also showed that nurses who were transferred from other units experienced moral anxiety and depression more than nurses who work permanently in the ICU. With the new work environment, the nurses' clinical skills were lacking, and the transferred nurses did not have the confidence in work brought by work experience. These things increased the risk of burnout and caused feelings of insecurity and loneliness in nurses.

The Covid-19 pandemic was a new and scary period of time for all of us. These nurses, transferred to the ICU from other positions, experienced not only this fear but also anxiety because they had to work in an unfamiliar work environment without experience and clinical skills and with a yet unknown group of patients. The results of the literature review supported the results of Feddeh and Darrawad (2020) research on the stress caused by professional uncertainty. Adapting to a new work environment takes time. Nurses who had to change to a new work environment because Covid-19 pandemic did not have time to adapt to the new work environment and that why experienced professional uncertainty. This increased the psychological burden on nurses.

People always wish good things to near and dear ones. When the pandemic hit, nurses worried about that they are spreading Covid-19 virus to their family members. According to the results of the literature review, worry about the virus spreading to the family caused a psychological burden. This psychological burden manifested itself in nurses as anxiety, depression and worry. The time of the pandemic was an uncertain time for many people. The fear of spreading the infection added to the uncertainty for the nurses. Do you dare to go home after your shift? Or would it be better not to expose your loved ones to the Covid-19 virus. The fear of spreading the Covid-19 virus to family members increased the psychological burden, because the nurses saw in their work in the ICU how the Covid-19 virus can affect people`s health.

The results of the literature review showed that the transferred nurses did not get a quality supplementary training to working in the ICU. Due to poor supplementary training, the nurses lacked the qualifications to work in the ICU, because of this the nurses felt lonely and insecure. Poor supplementary training affected nurses transferred from other units as well as staff working permanently

in the ICU. When poorly supplementary trained nurses did not have the qualifications to work in the ICU, tasks piled up for the permanent staff and they had to help an inexperienced colleague along with their work. The poor quality of the supplementary training was due to lack of time.

A change in the work front can cause a stress reaction in a person. The amount and duration of the change affect the strength of the stress reaction. During the change phase, the staff's uncertainty is significantly affected by their own influence on the change. (Nummelin 2008, 17–20.) The results of the literature review show that the situation was made stressful by being assigned to a new work environment. The nurses were not able to influence their work environment themselves but were assigned to new work tasks.

Supplementary training is an important part of personnel development. Supplementary training supports coping at work and improves the quality of work. If there are rapid changes in working life, the importance of supplementary training as a promoter of occupational well-being increases. If an employee must work without proper supplementary training, harmful work stress will occur, and the employee will be exposed to work burnout. (Nummelin 2008, 102–103.) There have been research results on the importance of supplementary training in the past, and the results of the literature review showed the importance of supplementary training also during the Covid-19 pandemic.

During the Covid-19 pandemic, the quality of the supplementary training was poor due to the excessive workload. Because of excessive workload there was not enough time for the supplementary training. The nurses had to work in the ICU without supplementary training, which increased their psychological burden. In an already psychological burden situation, the psychological burden could have been reduced with quality supplementary training.

The results of the literature review also revealed that poor support from management increased the psychological burden of nurses. Moral stress was caused by poor resource management in organizations. The lack of management support became apparent when patient safety and the quality of care were compromised, and the nurses did not receive support for prioritization decisions but had to make them themselves.

A change in the work front can cause a stress reaction in a person. The strength of the stress response is also affected by the support available to the person experiencing the change. (Nummelin 2008, 17–20.) The ideal change situation is one where the personnel is already involved in the planning phase of the change. A well-done change respects people's feelings and supports them in all stages of the change process. (Nummelin 2008, 17–20.) Based on the results of the literature reviews, we can state that nurses were not included enough in the change planning process during the Covid-19 pandemic. One reason for this is certainly that there was not enough time to react to the changes caused by the Covid-19 pandemic and the changes had to be made quickly. Nurses could not influence the changes. If the nurses had been able to be more involved in the planning phase, the nurses would probably have been able to adapt to the changes better and avoid the psychological burden caused by the changes.

If the organization's support is perceived as weak, employees experience more stress and burnout. An organization is seen as supporting employees when it treats its employees fairly and values their work and takes care of their well-being. (Nummelin 2008, 125.)

Previous research data on the need for support in a situation of change supported the results of the literature review on the need for support during the Covid-19 pandemic. During the Covid-19 pandemic, the need for support from management increased and management failed to respond to this.

8.1 Reliability and repeatability of literature retrieval

The criteria for assessing the reliability of qualitative research are credibility, transferability, dependability and confirmability. Credibility requires that the results are described so clearly that the reader understands how their analysis was done and what the research's strengths and limitations are. (Kankkunen; Vehviläinen-Julkunen 2017, 197–205.)

Transferability refers to the extent to which the results could be transferred to another research environment. To ensure transferability, a careful description of the research context is required. Qualitative research reports often present authentic direct quotations. These quotations aim to ensure the reliability of the research and give the reader the opportunity to reflect on the path of collecting the material. (Kankkunen; Vehviläinen-Julkunen 2017, 197–205.)

In my literature review, I have described the analysis of the results so that the reader can understand how the analysis was done. I used direct quotations from the material in the analysis, which ensure the reliability of the research and help the reader to think about the path of collecting the material.

Reflexivity means critical reflection about oneself as a researcher. This process includes one's own prejudices and preconceptions, as well as the research relationship. Reliability means the stability of study results over time. Confirmability indicates the degree of confirmation of research results, i.e. how other researchers could confirm the results. Confirmation requires that the results and interpretations are clearly derived information. (Korstjens; Moser 2018, 121-123.)

Since Covid-19 is a fairly new research topic, new research information is coming in all the time. The results of this literature review can be confirmed because the literature review highlights the psychological burden of the early stages of Covid-19 pandemic. The results have been derived as clearly as possible in order to maintain confirmability.

In the context of qualitative research, we also talk about bracketing. Bracketing means that the researcher is aware of researcher own presuppositions about the phenomenon under study and strives throughout the research process to proceed so that presuppositions do not guide the research. Research evaluation is also strongly related to the purpose of the research. (Kankkunen ; Vehviläinen-Julkunen 2017, 197–205.)

I was aware of my own assumptions as soon as I started the research. I have been able to keep my own preconceived notions in the background throughout the entire research process. Limiting the topic to nurses who working in the ICU has made it easier to exclude my own preconceptions. This increased the reliability of my thesis.

When I started my research, Covid-19 was still a new research topic, and there was not much research information available. I was aware of that and the scope of the research material can affect the reliability and confirmability of my research.

8.2 Further research topics and development proposals

Global pandemics usually rear their heads quite quickly, as was also the case with the Covid-19 pandemic. Based on the literature review, we can say that we were not ready for the pandemic from the point of view of the psychological burden on nurses. The pandemic increased the psychological burden, stress and anxiety of nurses working in the ICU. The effects of the pandemic will be visible in our society for a long time. Further research possibilities would be to investigate what kind of psychological marks the pandemic left on nurses.

From the research results of the literature review, the support received from the management in abnormal situations also emerged. Management support was felt to be too low, which increased even more the psychological burden and stress. Unclear communication was also raised as one of the factors that increase psychological burden. As a development proposal, I would raise clear communication even in abnormal and rapidly changing situations. Support according to the situation must also be arranged for the nursing staff.

According to the results of the literature review, the mental load was increased by the transfer to a new work environment and insufficient orientation. Inadequate orientation increased the psychological load of both the person who being in supplementary training and the person who give that training. A development proposal would be staff mobility even during unusual times, thus the psychological burden of working during a pandemic or other abnormal situation could be relieved if there were competent staff who could be transferred to critical units such as the intensive care unit. In this way, the psychological burden of nurses can be proactively reduced.

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