The importance of management in promoting hospital staff mental well-being during the COVID-

19 pandemic - A survey

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Aim: To describe hospital staff's experiences of management actions to promote their mental

well-being during the COVID-19 pandemic. Mental well-being was examined on the basis of four

entities; level of anxiety, support and encouragement from the manager, and the opportunity to

discuss concerns about COVID-19 with the manager.

Background: The workload of COVID-19 affects the mental well-being of staff. However, there is

limited data on managers actions to promote their mental well-being during the pandemic.

Methods: A cross sectional study was used to collect survey data (n=1995) among staff working in

two specialized medical care hospitals. To gain deeper understanding related issues, the survey

included open questions, which were answered by 178 participants.

Results: The results indicate that those staff who felt they had received support, encouragement,

and the opportunity to discuss of COVID-19 worries with a manager experienced less anxiety.

Conclusions: The study provides an insight into managers' actions to promote staff's mental well-

being during the COVID-19 pandemic.

Implications for Nursing Management: The manager's actions have a significant effect on the

anxiety levels of staff. During the pandemic, the well-being of staff is a priority that should be

visible to both hospital administrators and policymakers.

Key words: health care managers; hospital; staff; mental well-being; survey

Background

In a context of clinical and logistical complexity and a heavy workload caused by COVID-19, hospital staff face multiple causes of psychological distress and anxiety, causing further issues that impact on work satisfaction and mental well-being (Mattila et al., 2021; Veysi & Cicek, 2021). More specifically, staff have faced several unprecedented situations that have changed their work routines, have had difficulty concentrating at work, and fear getting COVID-19 in the workplace (Mattila et al., 2021; Hamama et al., 2021). In addition, concerns over the unmet needs of patients during the pandemic have had a particular impact on nurses' own well-being (von Vogelsang et al., 2021). Cumulatively, these stressors and changes have reduced work satisfaction and increased turnover intention, especially among nurses (Danielis et al., 2021; Gómez-Salgado et al., 2021; Lavoie-Tremblay et al., 2021). Therefore, health care managers should be aware of the impact of the COVID-19 pandemic on staff, and its threat to their mental well-being (Catania et al., 2020, Hamama et al., 2021).

A recent review underlined that social support may protect staff against the psychological health consequences of the pandemic (Labrague, 2021). Equally, support from colleagues and the health care organization helps nurses and other health care staff to avoid negative feelings and emotions during the pandemic (Galanis et al., 2021). Furthermore, studies indicate that there is an urgent need for accessible psychological support interventions for staff (Laukkala et al., 2021; Mattila et al., 2021; Veysi & Cicek, 2021). Therefore, with no end in sight for COVID-19, managers' actions are significant and they should demonstrate a personal involvement to relieve staff's anxiety and promote their mental well-being, as well as to create a direction for the future (Catania et al., 2020; Labrague & Santos, 2020).

In this global health emergency, a manager must reinforce and confirm opportunities and meaning in terms of being visible and available, as well as taking care of regular communication and giving a clear sign that staff's well-being is a priority (Catania et al., 2020). Furthermore, it is of utmost importance that staff are encouraged to express their feelings and sources of distress, and to openly discuss their experiences and challenges in their care of COVID-19 patients (Bianchi et al. 2021; Labrague, 2021). Consequently, when managers prioritize staff's well-being, their trust in management will increase (Jackson & Nowell, 2021; Ness et al., 2021; Vázquez-Calatayud et al., 2021).

In Finland, in the early stage of the pandemic in March 2020, the government outlined several restrictions and broad recommendations. Later, these key control measures have been seen to be successful, and Finland has coped moderately well with the effects of pandemic waves (Tiirinki et al., 2020; Pohjola et al., 2021). However, during the COVID-19 pandemic in Finland, hospitals have had to make several changes and reorganizations to ensure the continued health care capacity and patient safety (Laukkala et al., 2021; Pohjola et al., 2021). Inherently, the sudden rise in workloads has placed additional strain on staff and their work tasks and created multiple challenges for management.

Both during and beyond the COVID-19 pandemic, a health care manager's actions are vital. However, there is limited data on managers actions to promote staff's mental well-being amidst the pandemic. Therefore, this study focuses on the actions of managers and how they promote the mental well-being of staff. Here, mental well-being is examined on the basis of four entities; level of anxiety, support and encouragement from the manager, and the opportunity to discuss concerns about COVID-19 with the manager.

AIM

The aim of the study was to describe staff's experiences of their manager's actions to promote their mental well-being during the COVID-19 pandemic. The objective was to investigate the anxiety levels of staff and their association with the manager's actions (support, encouragement, discussions of COVID-19 related worries) in the early stages the Covid-19 pandemic. A further objective was to investigate the associations of background variables with the manager's actions.

METHODS

Design and data collection

A cross sectional study were used to collect survey data. The study was conducted in two specialized medical care hospitals in Finland; one university hospital (1500 beds) and one central hospital (405 beds) in an area of 775,000 inhabitants. Data was collected through an anonymous online survey between 24 April – 12 May 2020, in the early stages of the pandemic in Finland. The sampling included all staff (nursing staff, physicians, administration and office staff, service personnel) from both hospitals (N=10,425).

Survey instrument

The survey instrument was composed of demographic questions (gender, age, type of hospital, educational level, occupational group, employment and work experience, manager duty) and three questions about manager actions (support, encouragement, and discussions of COVID-19 related worries) during the COVID-19 pandemic. A 3-point survey scale was used: yes, uncertain, no. Because ready-made questions were not available, the three questions used were developed based on literature relevant for this study. The questions were pre-tested with staff (n=10) before data collection.

As an additional measure, staff's anxiety levels were measured with the Generalized Anxiety Disorder 7-item scale (GAD-7: Spitzer et al., 2006). The items are rated on a 4-point Likert-scale (from 0=not at all to 3=nearly every day) and result in four anxiety categories (normal; mild; moderate; severe) based on scores ranging from 0 to 21 (and categorised from normal; scores 0-4.99 to severe; scores 15-21). The reliability of the GAD-7 instrument has been demonstrated in earlier studies (e.g. Löwe et al., 2008; Sousa et al., 2015). In this study, the Cronbach's alpha for the GAD-7 scale was 0.92. The goal was to identify potential anxiety levels of staff and their association with the manager's action.

The survey instrument also included open questions where study participants were asked to write about their experiences of COVID-19 in their work. However, this study only considers the management related issues that were raised in the overall qualitative data. The purpose was to gain a deeper understanding of staff's experiences with the manager's actions: support, encouragement, discussions of COVID-19 related worries.

Data analysis

For the quantitative analysis, the staff were categorized into three occupational groups, five age groups, three educational level groups, and four experience groups (years). Descriptive statistics were used to analyse frequencies, percentage distributions, means, median, quartiles, and standard deviations of the sample. The associations of staff's background variables and manager's support, encouragement and COVID-19 related discussions were analysed using a Chi-Square test (χ^2). The associations of anxiety level with support from the manager, encouragement from the manager, and discussions of COVID-19 related worries were analysed using a non-parametric

Kruskall-Wallis test. Differences were considered as statistically significant with a p value of <.05 (Munro, 2005).

Qualitative data were analysed following the framework method of Gale et al. (2013). The data were in text form in an Excel matrix. The authors read the transcripts carefully and coded the data. Then, the codes were grouped together under different themes. The analytical framework was then applied, which in this analysis meant a division of the data into four themes that were based on quantitative questions: 1) Support from the manager; 2) Encouragement from the manager; 3) Worries related to the COVID-19 situation discussed with manager.

Rigour

A valid and reliable instrument, Generalized Anxiety Disorder 7-item scale (GAD-7; Spitzer et al., 2006), was used to investigate the anxiety levels of staff. The GAD-7 has been developed to assess symptoms of anxiety and has been used in earlier COVID-19 studies (e.g. Lai et al., 2020; Mattila et al., 2021). In terms of to enhance trustworthiness the qualitative data were analysed by two authors and representative quotations are included in the text.

Ethical considerations

The study received organizational approval from both participating hospitals. According to Finnish legislation, this type of research does not require approval from an official research ethics committee (TENK, 2019). Participation in this study was voluntary, and the cover letter emphasised participant anonymity and the voluntary nature of the survey. Moreover, the data did not include any sensitive or potentially harmful information about the participants. The data were

handled, stored, and processed confidentially according to ethical standards prescribed by the Medical Research Act 488/1999 of Finland.

RESULTS

Study participants

Of the target group, 19% (n=1995) responded to the survey and 178 of them responded to open questions. The majority (n=1605, 80%) of the respondents worked in the university hospital, with those from the central hospital being a minority (n=390, 20%). Most of the respondents were women (n=1731, 87%) and belonged to the nursing staff (n=1302, 66%). A smaller group consisted of physicians (n=121, 6%) and other staff (n=565, 28%). Of the respondents, the largest proportion were regular employees (n=1558, 79%). The largest age group were those aged 31–40 years (n=522, 26%), followed by those aged 41–50 years (n=503, 25%). One-third (n=605, 30%) of the respondents had worked in specialized health care for three years or less. Of the respondents, 10% (n=200) worked in a management position. (Table 1).

TABLE 1.

Association of staff's background factors to the manager's actions

In the data, men got more support (69 % vs 59%, p=0.001) and encouragement (58 % vs 47%, p <0.001) from their managers than women. Men also experienced that they had discussed their worries with their manager more than women (58% vs 47%, p <0.001). Physicians had better support (p <0.001) and encouragement (p <0.001) from their managers than nursing staff and the other occupational group. Physicians also felt that they had discussed COVID-19 related worries

better than nursing staff and other staff (p <0.001). Those staff working at the university hospital expressed lower levels of management support (59% vs 64%, p=0.004), encouragement (47% vs 54%, p=0.001) and discussion of COVID-19 related worries (48% vs 50%, p=0.003) than those working at the central hospital. Staff with a degree from a university felt that they had support (p <0.001), encouragement (p =0.001) and had discussed COVID-19 related worries (p= 0.001) better than those who had another type of degree. As work experience increased, the experience of receiving support from a manager also increased (p=0.046). Those with a work experience \geq 21 years felt that they had discussed COVID-19 related worries less than those with less work experience (p=0.001). However, the variables of work experience and manager encouragement showed no statistically significant difference. Managers received support (84% vs 58%, p <0.001) and encouragement (77% vs 45%, p<0.001) more than those who were not in a managerial position. The managers also discussed COVID-19 related worries with their own managers more than non-managers (80% vs 45 %, p <0.001). The variables of age and employment were not statistically related to the manager's actions (Table 1).

Managers actions to promote staff's mental well-being

Anxiety level

In the whole sample, the total mean GAD-7 score was 4.88 (SD 4.75, range 0-21), indicating a normal anxiety level. However, while 55% (n =1,079) of the respondents had a normal anxiety level, 30% (n=587) had mild anxiety, 10% (n = 194) had moderate anxiety, and 5% (n = 88) had severe anxiety. Notably, employees had more anxiety than managers (Mean: 5,08 vs 3,06, p<0.001) (Table 2).

TABLE 2.

Support from the manager

A total of 60% (n= 1175) of the participants perceived having support from their manager, when 27% (n= 513) did not perceive support (Table 2). Perceived support had a significant effect on the anxiety level of the participants (Mean: 3,98 vs 7,38, p <0.001). In the open-ended data, the comments were mostly negative. Positive support included perceiving manager support and listening to and acknowledging the individual staff member's life situation. It was also important that the manager was available for the staff. The staff recognized whether the manager had worked hard to reach their decisions. One participant wrote:

"It can be clearly seen, that in those parts of the hospital district where staff have been heard during the crisis, they have managed better in all possible aspects than those in other parts."

Participants perceived management negatively if they had not received support or there was not enough support, if their opinions were not heard, or their expertise was not acknowledged. They also noticed if the manager was not available, not seen, or was avoiding staff. It was also felt that the managers did not have enough knowledge of how to lead the crisis, their knowledge was limited, or they were too inexperienced for the situation. As a further perception, staff job satisfaction or well-being was not felt to be supported, either enough or at all. The participants also suggested that managers (e.g., head nurses) should have more support and information on how to lead their staff in the COVID-19 situation. Especially, instead of getting support, staff members reported experiences of managers undermining them and being arrogant in response to their worries and anxiety. One participant stated:

"I want to explain how my manager answered when I was worried about the well-being of the staff, and that we are really tired and cannot take it anymore, and I asked if we should do something to improve the situation. The answer was: 'Do you know that this is not an amusement center, we are not here to enjoy ourselves.' Yes, I know, we are not here to enjoy ourselves, but in a good working environment the work also runs smoother."

Encouragement from the manager

Almost half of the participants (n= 941, 48%) had received encouragement from their manager, but one third (n= 643, 33%) felt they did not receive encouragement. The anxiety level of those receiving encouragement was in the normal level, and those not receiving encouragement had mild anxiety (Mean: 3,93 vs 6,54 p <0.001) (Table 2). The manager's general encouragement and their positive attitude to new ways of working (for example video conferences with patients or distance working) were helpful. Especially, the genuine will to help the staff and upper management's public encouragement in social media was perceived as encouraging. One participant expressed:

"The encouraging attitude towards online meetings and distance working from managers has been positive."

But the experiences also included a lack of acknowledgement or encouragement from the manager. Especially, it was felt to be annoying if the encouragement they offered was not genuine and seen as pretending. One participant wrote:

"Appreciate your staff who have been working hard during this pandemic. The management has made the staff very dissatisfied, and they are considering changing their employer."

Discussion of COVID-19 related worries with the manager

About half of the participants (n= 939, 48%) experienced support from their managers by discussing their COVID-19 related worries with them. However, one third (n=705, 36%) did not have that support. Those who had been able to discuss issues had significantly lower levels of anxiety (Mean: 3.80 vs 6.71, p <0.001), and participants with an experience of no discussion support had averagely mild anxiety (Table 2).

Positive experiences included management being available for discussions and to listen to their staff. Also, talking about the effects of COVID-19 on the employee's work, the possibility for staff to have an impact on decisions, or the availability of clinical supervisor were seen to be important. As one of the participants expressed:

"In our unit, the mental well-being of the staff has been well taken care of. Each week we have had the possibility to participate in a "worries discussion", we have had supervision, and the managers have organised drinks and snacks for the breaks during the workday."

However, when the manager was not available, did not have enough time to listen to the staff, or was not even to be seen, the experience was decidedly negative. In particular, the staff looked for more and open discussion, information, and acknowledgement of the worries caused by

possible for them to discuss their worries within their own team, and they often received no answers to their questions. One participant wrote:

"Management interest about the well-being of the staff would have been nice. Also, some possibilities for discussion would have been appreciated."

DISCUSSION

The novelty of this study is that it provides an insight into managers' actions to promote staff's mental well-being during the COVID-19 pandemic. The GAD-7 results indicate that those staff who felt they had received support, encouragement, and the opportunity to discuss of COVID-19 worries with their manager experienced less anxiety. Similarly, participants had negative perceptions if they had not received support, their opinions were not heard, or their expertise was not acknowledged. This finding was supported within the qualitative data, which clearly indicate that that the manager's actions have a significant effect on the anxiety of staff. Thus, the results provide a firm baseline from which to further develop managers' actions to promote staff's mental well-being during and beyond the COVID-19 pandemic.

The study results show that staff noticed if the manager was not available, not seen, or was appearing to avoid the staff. At some level, the managers' role seems to have expanded or changed completely in response to COVID-19 (Jackson & Novell, 2021). Especially, the pandemic and tight restrictions have caused multiple changes to managers' work routines, and they have had to coordinate care in a context of uncertainty and under guidance that has frequently changed

(Jackson & Novell, 2021, Vázquez-Calatayud et al., 2021). Therefore, the manager may not have had enough time and opportunity to be present and to support the staff in a proper manner (Jackson & Nowell, 2021). As an example, in the early stage of the pandemic in Finland, during tight restrictions most meetings were arranged virtually, and remote working was recommended. This, in turn, was demanding for managers and posed several obstacles to them being present and available for staff.

The study results indicate that managers need to develop their crisis management competence. Respondents described that their managers did not have enough knowledge of how to lead in a crisis and considered whether managers had too limited a degree of knowledge or they were too inexperienced to handle the situation. This is consistent with earlier studies showing that managers need to have better training in disaster management, and that managers need more organizational support to minimize their own challenges during and beyond the pandemic (Ness et al., 2021). It is therefore essential that there is a clear approach to crisis management, and that lessons and experiences are used for future pandemic situations. In addition, it must be taken into consideration that managers themselves are also challenged in times of pandemic (Bianchi et al., 2021; Vázquez-Calatayud et al., 2021).

In our study, we recognized that staff experienced a lack of encouragement from their managers, and wished for more discussion, information, and an acknowledgment of their worries. The results also revealed that they did not receive answers to their questions. However, in the early stages of the pandemic, there was no information about what was to come, and the information that was available was constantly changing. In addition, the work environment was constantly evolving

because the pandemic was a new and unprecedented phenomenon for everyone, and required significant flexibility from staff (Mattila et al., 2021). According to Galanis et al. (2021) there is an on-going need to prepare nurses to cope better with the COVID-19 pandemic, including identifying the risk factors associated with burnout. Yet, it is of utmost importance that managers prioritize staff's mental well-being (Catania et al., 2020) in terms of encouraging them to express their feelings and sources of distress (Labrague, 2021).

The staff that participated in our study described the manager's positive support in terms of acknowledging their individual life-situations, or that the manager was available for the staff. However, the respondents also perceived that their job satisfaction and well-being was not supported enough, or in some cases at all. Accordingly, experiences of inadequate support may reduce the work commitment of staff, especially among nurses (Lavoie-Tremblay et al., 2021). Furthermore, a recent study conducted by Gómez-Salgado et al. (2021) suggests that during the COVID-19 pandemic, it is essential to improve staff's working conditions in order to take care of their mental health and well-being, as well as their work engagement.

According to earlier studies (Lai et al., 2020; Mattila et al., 2021), nursing staff have experienced more anxiety than physicians. Our study revealed that physicians received more support and encouragement and were also able to discuss their COVID-19 related worries more than nurses. However, nurses are sometimes urgently reallocated to a new unit, and need to deal with a range of negative feelings (Danielis et al., 2021). In addition, the unmet needs of patients cause nurses' concern (von Vogelsang et al., 2021). Hence, in this situation the need for effective nursing

management is emphasized, and according to Danielis et al. (2021), nurse managers have a key role in actively supporting nurses, in particular to waylay nurses' concerns and fears.

Limitations

There are some limitations to this study. First, the low response rate warrants consideration when interpreting these study results. As a second consideration, although our aim was to gain a sample of different professional groups, most of the participants were nurses. Therefore, additional research is needed to explore the experience of all staff groups. Third, the study data was collected from two specialized hospital organizations, and thus limits the generalization of the results. Despite these limitations, this study provides an insight into the actions of managers in promoting the mental well-being of staff during the COVID-19 pandemic, and thus provides needed evidence for the further development of hospital management in times of crisis.

CONCLUSIONS

The results of our research provide evidence that the actions of hospital managers in supporting the mental well-being of staff in the midst of a pandemic is of utmost importance. Moreover, the basics of management such as encouraging staff, listening, informing and being visible, are more emphasized and need to be closely considered during a pandemic. Suggestions for future research include an exploration of the views of managers in regard to what support they need to lead hospital units, processes and staff in times of crisis. In addition, follow-up research on the mental well-being of managers during the pandemic is needed.

IMPLICATIONS FOR NURSING MANAGEMENT

In a crisis like the COVID-19 pandemic, in addition to managing hospital structures and processes, managers need to invest in the mental well-being of staff. To help staff overcome anxiety and promote their mental well-being, discussions and building a common understanding must be part of the daily management practice, and issues that a manager pays special attention to.

REFERENCES

Bianchi, M., Prandi, C., & Bonetti, L. (2021). Experience of middle management nurses during the COVID-19 pandemic in Switzerland: A qualitative study. *Journal of Nursing Management*, 29,1956-1964. http://doi.org/10.1111/jonm.13339

Catania, G., Zanini, M., Hayter, M., Timmins, F., Dasso, N., Ottonello, G., ... Bagnasco, A. (2020). Lessons from Italian front-line nurses' experience during the COVID-19 pandemic: a qualitative descriptive study. *Journal of Nursing Management*, 29, 404-411. https://doi.org/10.1111/jonm.131944

Danielis, M., Peressoni, L., Piani, T., Colaetta, T., Masaglio, M., Mattiussi, E., & Palese, A. (2021). Nurses' experience of being recruited and transferred to a new sub-intensive care unit devoted to COVID-19 patients. *Journal of Nursing Management*, 29, 1149-1158. https://doi.org/10.1111/jonm.13253

Galanis, P., Vraka, I., Fragkou, D. & Bilali, A., & Kaitelidou, D. (2021). Nurses´ burnout and associated risk factors during the Covid-19 pandemic: A systematic review and meta-analysis. *Journal of Advanced Nursing*, 77, 3286-3302. https://doi.org/10.1111/jan.14839

Gale, NK., Heath, G., Cameron, E., Rashid, S., & Redwood, S. (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Medical Research Methodology* 13,117. http://www.biomedcentral.com/1471-2288/13/117

Gómez-Salgado, J., Domínguez-Salas, S., Romero-Martín, M., Romero, A., Coronado-Vázquez, V., Ruiz-Frutos, C. (2021). Work engagement and psychological distress of health professionals during the COVID-19 pandemic. *Journal of Nursing Management*, 29, 1016-1025. https://doi.org/j10.1111/jonm.13239

Hamama, L., Marey-Sarwan, I., Hamama-Raz, Y., Nakad, B., & Asadi, A. (2021). Psychological distress and perceived job stressors among hospital nurses and physicians during Covid-19 outbreak. *Journal of Advanced Nursing*, 00,1-11. https://doi.org//10.1111/jan.15041

Jackson, J., & Nowell, L. (2021). `The office of disaster management' nurse managers experiences during COVID-19: A qualitative interview study using thematic analysis. *Journal of Nursing Management*, 29, 2392-2400. https://doi.org/10.1111/jonm.13422

Labrague, L., & Santos, J. (2020). Fear of Covid-19, psychological distress, work satisfaction and turnover intention among frontline nurses. *Journal of Nursing Management*, 29, 395-403. https://doi.org.10.1111/jonm.13168

Labrague, L. (2021). Psychological resilience, coping behaviours and social support among health care workers during Covid-19 pandemic: A systematic review of quantitative studies. *Journal of Nursing Management*, 29, 1893-1905. https://doi.org/10.1111/jonm.13336

Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., ... Hu, S. (2020). Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA Network Open*, 3, e203976. https://doi.org/10.1001/jamanetworkopen.2020.3976

Laukkala, T., Suvisaari, J., Rosenström, T., Pukkala, E., Junttila, K., Haravuori, H., ... Jylhä, P. (2021). Pandemic and Helsinki University Hospital personnel psychological well-being: Six-month follow-up results. *International Journal of environmental Research and Public Health*, 18, 2524. https://doi.org/10.3390/ijerph18052524

Lavoie-Tremblay, M., Gélinas, C., Aubé, T., Tchouaket, E., Tremblay, D., Gagnon, MP., & Côté, J. (2021). Influence of caring for Covid-19 patients on nurse's turnover, work satisfaction and quality of care. *Journal of Nursing Management*, 30, 33-43. https://doi.org/10.1111/jonm.13462

Löwe, B., Decker, O., Müller, S., Brähler, E., Schellberg, D., Herzog, W., Herzberg, Philipp, Y. (2008). Validation and standardization of the generalized anxiety disorder screener (GAD-7) in the general population. *Medical Care*, 46, 266–274. https://10.1097/MLR.0b013e318160d093

Mattila, E., Peltokoski, J., Neva, MH., Kaunonen, M., Helminen, M., & Parkkila, AK. (2021). COVID-19: anxiety among hospital staff and associated factors. *Annals of Medicine*, 53, 237-246. https://doi.org/10.1080/07853890.2020.1862905

Medical Research Act 488/1999. Available at: https://www.finlex.fi/en/

Munro, BH. (2005). Statistical methods for health care research. Philadelphia (PA): Lippincott Williams & Wilkins Company.

Ness, M., Saylor, J., DiFusco, LA., & Evans, K. (2021). Leadership, professional quality of life and moral distress during COVID-19: A mixed-methods approach. *Journal of Nursing Management*, 29, 2412-2422. https://doi.org/jonm.101111.13421

Pohjola, P., Voipio-Pulkki, ML., Koskela, S., & Siikavirta, J. (2021). Action plan for implementing the hybrid strategy to control the Covid-19 epidemic. Publications of the Ministry of Social and Affairs and Health 2021:31 Ministry of Social Affairs and Health Helsinki 2021. Institutional Repository for the Government of Finland Valto.

Sousa, TV., Viveiros, A., Chai, MV., Vicente, F., Jesus, G., Carnot, M., ... Ferreira, PL. (2015). Reliability and validity of the Portuguese version of the Generalized Anxiety Disorder (GAD-7) scale. *Health and Quality Life Outcomes*, 13, 1-8. https://doi.org/10.1186/s12955-015-0244-2

Spitzer, RL., Kroenke, K., Williams, J., Löwe, B. (2006) A brief measure for assessing generalized anxiety disorder: the GAD-7. *Arch Intern Med*, 166, 1092-1097.

TENK (2019). TENK, the ethical principles of research with human participants and ethical review in the human sciences in Finland, Finnish National Board on research Integrity, TENK guidelines 2019. Available at:

https://www.tenk.fi/sites/tenk.fi/files/Ihmistieteiden eettisen ennakkoarvioinnin ohje 2019.pdf

Tiirinki, H., Tynkkynen, LK., Sovala, M., Atkins, S., Koivusalo, M., Rautiainen, P., ... Keskimäki, I. (2020) COVID-19 pandemic in Finland – Preliminary analysis on health system response and economic consequences. *Health Policy and* Technology 9, 649–662. https://doi.org/10.1016/j.hlpt.2020.08.005

Vázquez-Calatayud, M., Regaira-Martínez, E., Rumeu-Casares, C., Paloma-Mora, B., Esain, A., Oroviogoicoechea, C. (2021). Experiences of frontline nurse managers during the COVID-19: A qualitative study. *Journal of Nursing Management*, 30, 79-89. http://doi.org/10.1111/jnm.13488

Veysi, C., & Cicek, I. (2021). Psychological well-being, depression and stress during Covid-19 pandemic in Turkey: a comparative study of healthcare professionals and non-healthcare professionals. *Psychology, Health & Medicine* 26, 85-97. https://doi.org/10.108013548506.2020.1859566

von Vogelsang, AC., Göransson, KE., Falk, AC., & Nymark, C. (2021). Missed nursing care during the COVID-19 pandemic: A comparative observational study. *Journal of Nursing Management*, 29, 2343-2352. https://doi.org/jonm.13392

Table 1. Association of staff's background factors to the manager's actions (n=1995)*

					Ма	nager`s a	ction	<u>s</u>				
Background variable	Sup	port			Enc	ourageme	nt		Disc	ussions of	COV	/ID-19 related worries
-	%	%	%	p value	%	%	%	<i>p</i> value	%	%	%	<i>p</i> value
Gender	Yes	s, Uncertain	, No		Yes	, Uncertai	n, No		Yes	, Uncertain,	No.	
Female (n=1731, 87%)	59	14	27		47	18	35		47	15	38	
Male (n=255, 13%)	69	12	19	0.01	58	22	20	< 0.001	58	16	26	<0.001
Occupational group												
Physician (n=121, 6%)	81	6	13		67	16	17		71	8	21	
Nursing staff (n=1302, 66%)	58	13	29		47	20	33		47	16	37	
Other (n=565, 28%)	61	15	24	< 0.001	47	16	37	< 0.001	48	15	37	<0.001
Age												
18-30 (n=389, 20%)	58	15	27		47	21	33		44	17	38	
31-40 (n=522, 26%)	59	12	29		48	17	35		46	15	38	
41-50 (n=503, 25%)	60	11	29		49	17	34		49	15	36	
51-55 (n=277, 11%)	60	16	24		49	18	33		52	14	34	
56- (n= 351, 18%)	65	14	21	0.14	50	19	31	0.84	52	15	37	0.47
Type of hospital												
University (n=1605, 80%)	59	13	28		47	18	35		48	14	38	
Central (n=390, 20%)	64	16	20	0.004	54	21	25	0.001	50	20	30	0.003
Educational level												
University (n=329, 17%)	75	9	16		62	14	24		63	13	24	
University of applied sciences (n=991, 50%)	56	15	30		46	20	46		43	17	40	
Other (n=664, 33%)	60	13	27	< 0.001	46	18	36	0.001	49	15	36	0.001
Employment												
Regular (n=1558, 79%)	60	13	27		49	17	34		48	15	37	
Temporary (n=413, 21%)	63	14	24	0.37	48	22	30	0.064	48	18	34	0.24
Work experience (years)												
0-3 (n=605, 30%)	62	13	25		51	18	31		50	15	34	
4-10 (n=510, 26%)	55	15	31		44	19	37		42	15	42	
11-20 (n=510, 26%)	60	14	26		47	19	34		46	16	37	
21- (n=364, 18%)	66	11	23	0.046	52	17	31	0.16	57	14	29	0.001
Manager duty												
Yes (n=200, 10%)	84	8	8		77	9	14		80	11	9	
No (n=1778, 90%)	58	14	28	<0.001	45	19	35	<0.001	45	16	39	<0.001

^{*=}used Chi-Square test (χ^2).

Table 2. Association between manager's action and anxiety of staff during the COVID-19*.

Variables		Anxiety							
	mean	SD	median	(Q ₁ ,Q ₃)	р				
Support from manager									
Yes (n=1175, 60%)	3.98	4.12	3.00	(0.00, 6.00)	<0,001				
Uncertain (n=256, 13%)	4.07	3.87	3.00	(1.00, 6.00)					
No (n=513, 27%)	7.38	5.57	6.00	(3.00,11.00)					
Encouragement from manager									
Yes (n=941, 48%)	3.93	4.17	3.00	(0.00, 6.00)	<0,001				
Uncertain (n=354, 18%)	4.47	4.21	4.00	(1.00, 7.00)					
No (n=643, 33%)	6.54	5.39	5.00	(3.00, 9.00)					
Discussion of COVID-19 related worries with their manager									
Yes (n=939, 48%)	3.80	4.09	3.00	(0.00, 6.00)	<0,001				
Uncertain (n=398, 15%)	3.98	3.85	3.00	(0.75, 6.00)	30,001				
No (n=705, 36%)	6.71	5,35	5.00	(3.00,9.00)					
110 (11–700, 0070)	0.71	0,00	3.00	(0.00,0.00)					

Anxiety; GAD-7 scale, four anxiety categories: normal (0-4.99); mild (5-9.99); moderate (10-14.99); severe (15-21).

^{*=}used Kruskall-Wallis test