

# MISSED NURSING CARE IN THE NEW ERA AFTER PANDEMIC COVID-19: A CROSS-SECTIONAL STUDY FROM NURSES' PERSPECTIVE

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## ABSTRACT

### BACKGROUND:

The important role of being a nurse is giving a safe nursing care comprehensively and without missed caring left behind. In recent years, missed nursing care become the most significant causes of morbidity and mortality of the patient in the health services, particularly at the hospital.

### PURPOSE:

Identify and analyse the most frequent missed nursing care and its risk factors gave by the nurse at the hospital.

### METHODS:

One hundred fifty (150) nurses who worked at inpatient COVID-19 rooms, at a Public Hospital in Jakarta, Indonesia, where involved in this study. Participants were selected by random and proportional sampling by determine nurses' number in each room helped by head nurse. The inclusion criteria of the sample are nurses who have experience working in the COVID-19 room and are willing to be research respondents. Head nurse leadership questionnaire was modified from the Practice Environment Scale of the Nursing Work Index with Cronbach's alpha 0.759 and Missed nursing care questionnaire with Cronbach's alpha 0.828.

### RESULTS:

As results show there is relationship between education ( $p=0,05$ ), leadership ( $p=0,05$ ), and management function ( $p=0,005$ ) with missed nursing care. Using SEM analysis, increasing one times of leadership factor and its function will be decreasing 0,145 times missed nursing care factor. While increasing one times of management function factor will decreasing 0,298 times missed nursing care.

### CONCLUSION:

There is a significant relationship between leadership of manager, function management, and the occurrence of missed nursing care. Continuing formal education and maintaining competences of the nurses is one of how to give a comprehensive nursing care without missed. In other hand, as a nurse managers asked to become a role model for their staffs at work. Moreover, a nurse managers should participate and involve in management function such as planning, organizing, structuring, managing equipment, adjusting working environment, manpower assignment, guiding staff and providing feedback.

### KEYWORDS

nurses, missed nursing care, leadership, management function, COVID-19, pandemic.

## INTRODUCTION

COVID-19 is becoming a public health concern in the past few years. World Health Organization stated COVID-19 as a pandemic due to its characteristics of widely and rapid infection across many countries in the world. Global data shown that on September 13, 2022, there were already 606,459,140 confirmed cases of COVID-19 with 6,495,110 deaths cases. COVID-19 patients in Indonesia placed on 20 out of 223 countries and became 2nd largest in Southeast Asia after India. With this large number of COVID-19 patients', health care workers particularly a nurse became a vital role in taking care and should have high competencies and intolerable missed nursing care. The significant role of nurses is often accompanied by a shortage of human resources, leading to some care tasks being overlooked. Research exploring missed nursing care is necessary to identify the care that is often overlooked and to provide input for similar conditions in the future.

Nurses are front-liner healthcare workers in handling COVID-19. [1–3] Nurses are considered as a backbone of a health system, not only because of its large number of nurses but also because its presence and performance in health services minutes to minutes of the patients. Nurses should maintain coordination with other health care workers and ensure that every single patient receives a comprehensive health care services from the beginning till the end of treatments. [4] Nurses have many roles and functions during pandemic COVID-19 attacks which required nurses to have high skills and competences particularly in handling of COVID-19 patients. COVID-19 patients are needed supportive care such as high knowledge, skill and attitudes of the nurses. In the context of COVID-19, there is often a shortage of resources, making it difficult to carry out some care tasks due to the high workload. [3] As an impact, missed nursing care will potentially arise when there is a deficiency of the numbers of health care workers particularly nurses and its health care facilities. [5] This shortage condition often leads to factors such as medication administration errors and other neglected care tasks. [9]

Missed nursing care is a condition when necessary care nursing is postponed, partially done, or even unfinished at all. [6] Alfuhaha et al (2022) found more than 78% of nurses were facing many reasons in missed nursing care of COVID-19 patients compared to non-COVID-19 patients which was only 72% previously. [7] Most of the missed nursing care

activities are ambulation, give patient education, and give mental support to the patients and families. Same findings explained by Labrague (2022) which there are five most missed nursing care items happened at the hospital such as adequate patient surveillance, talking with patients, skin care, ambulation, and oral hygiene. [6]

There are some factors where missed nursing care happened [8] were found that staffing, material resources, severity level of the patients and health care collaboration have become the most influential factors in their research also found that characteristics and manager function impact to missed nursing care. In other hand, missed nursing care has correlation between patient's bad experiences of nursing care, increasing of urinary tract infection, fall and death. [9] Despite that, missed nursing care also has impacts to the nurse as a health care worker such as increasing of mental and physical fatigue and high intention to resign or quit from the job. [10,11] Researchers are still undergoing on the research missed nursing care factors that affect to patient safety and the service quality and performance.

Even though a lot of research has been done on nursing miss-care, the conditions of the pandemic and new post-pandemic adaptations are still relevant to explore because there are still concerns about COVID-19 infection from patient transmission. In addition, Indonesia is interesting to study considering that during the pandemic, families were not allowed to wait for patients, even though because of the culture of the family centre in Indonesia, treatment such as bathing was often assisted by the family. The question is how is the need for care such as bathing during a pandemic and the post-pandemic transition period? Is miss-nursing care a bigger problem than it was before the pandemic? The aim of this research is to fulfil and support other missed nursing care factors of nurses at COVID-19 inpatient rooms, Public Hospital X, in Jakarta, Indonesia and give recommendation for its continuous improvement of the nursing strategies and development.

## METHODS

### DESIGN STUDY AND PARTICIPANTS

This research using cross-sectional research that employs structural equation modeling (SEM) multivariate analysis. There are 150 volunteer nurses involved in this study who worked at COVID-19 inpatient rooms, at Public Hospital "X" in Jakarta, Indonesia. Participants were selected by

random and proportional sampling by determine nurses' number in each room helped by head nurse. The sample inclusion criteria were team leaders and nursing staff who work in inpatient wards and have work experience of more than six months. While the exclusion criteria from the study were nurses who were on leave, were sick, and were not willing and withdrew from the research process. Samples were asked to fill an online questionnaire which take around ten minutes to be finished. Participants were paid to compensate their internet fee of access the online questionnaire. Inputted data were safe and secure in researcher database and only be utilized for this research purposes.

## RESEARCH ETHICS

This research has been reviewed and approved by two ethical committees, one from Faculty of Nursing, Universitas Indonesia ethic committee with approval number KET-122/UN2.F12.D1.2.1/PPM.00.02/2022 and one from Hospital "X" ethic committee, Jakarta, Indonesia with approval number No. 31/KEPK/RSUDM/VII/2022. on May 11, 2022.

All respondents have signed the written informed consent and understood after research explanation. The respondents understood the purpose, benefits and procedures of the study. The questionnaires were filled out anonymously, and the team ensured confidentiality and explained the benefits of rese, which include accompanying the change of service providers with better quality and prioritizing patient safety. In publishing research data research the authors will also use ethical principles by maintaining data confidentiality as well as individual and organizational privacy.

## INDEPENDENT VARIABLE

There are some demographic questions as independent variables (age, working experience, gender, current education, career level, and working position). The head nurse leadership questionnaire was modified from the Practice Environment Scale of the Nursing Work Index (PES-NWI) consists of nurse manager leadership, skills and support to other nurse. [12] Likert scale (1-4) was used in this questionnaire which 1=strongly disagree and 4= strongly agree. Cronbach's alpha was 0.759.

Management function questionnaire was modified from [13,14] which consist of 39 statements (combined with positive and negative statements) with Likert scale (1-4). For positive statements, 1=never and 4=always then for negative statements, 1=always and 4=never. Cronbach's

alpha was 0.775. Management elements (5M) was modified from (15) and (16), (17) which consist of 17 statements (combined with positive and negative statements) with Likert scale (1-4). For positive statements, 1=never and 4=always then for negative statements, 1=always and 4=never. Cronbach's alpha was 0.623. Self-Efficacy was modified from General Self Efficacy Scale/ GSES, Indonesian version from Schwarzer & Jerusalem, 1995 and consists of 10 statements. Cronbach's alpha was 0.671. [18]

## DEPENDENT VARIABLE

The missed nursing care questionnaire was modified from [16], [19], Nursing Intervention Classification (NIC) (20) which consist of 54 statements with Likert scale (1-4). For positive statements, 1=never and 4=always then for negative statements, 1=always and 4=never. Cronbach's alpha was 0.828.

## RESULTS

Table 1 shows that there are three most frequently missed nursing cares, which are self-cleanliness, communication and giving patient's needs of play, relaxation and recreation.

Table 2 shows participants characteristics which age range 26-35 years, 2 to 5 years working experiences (52%), female (84.7%), Diploma educational background (66.7%), career path at Level 1 (66.7%), practitioner nurse (60%) and employment status as permanent workers (91.3%). Table 2 also shows strong relationship between educational background with missed nursing care. Nurses with Bachelor Nurse background have higher mean score compared to nurses with Diploma educational background.

Table 3 shows that there is relationship between management function ( $p=0,01$ ) with missed nursing care.

Table 4 shows that there is relationship between education ( $p=0,05$ ), leadership ( $p=0,05$ ), and management function ( $p=0,005$ ) with missed nursing care. Using SEM analysis, increasing one (1) times of leadership factor, and its function will decreasing 0,145 times missed nursing care factor. While increasing one (1) times of management function factor will decreasing 0,298 times missed nursing care.

**TABLE 1 MISSED NURSING CARE ITEMS IN THE NEW ERA OF COVID-19 ADAPTATION (N= 150)**

Variable	Mean	Min- Max	SD	Rank*
Safety Patient Implementation	20.42	13-24	2.44	16
<b>Nursing Care</b>				
Nursing Assessment	15.2	8-20	2.50	7
Nursing diagnosis	3.45	1-4	0.60	8
Nursing Planning	6.21	3-8	1.22	8
Nursing Implementation	5.65	3-8	0.91	4
<b>Basic Human Needs</b>				
Evaluation and documentation	6.71	4-8	1.02	14
Respiration	13.39	7-16	2.06	12
Needs nutrition and fluids	20.65	13-24	2.60	19
Elimination	6.70	4-8	1.08	13
Positioning	8.49	4-12	1.89	5
Needs sleep and rest	6.16	4-8	1.15	9
Needs in dress and work daily	3.26	1-4	0.61	10
Maintain temperature body	6.52	4-8	1.08	11
Cleanliness body	8.21	4-12	1.79	2
Safety and comfort	20.25	12-24	2.79	15
Communication	5.53	2-8	1.31	3
Worship and belief	5.81	2-8	1.38	6
Needs to productive activity	3.43	2-4	0.53	17
Needs to play and recreation	4.70	2-8	1.49	1
Needs to study	6.95	4-8	1.07	20

\*Rank stands for mean divided maximum score of the questionnaire

**TABLE 2 RELATIONSHIP NURSE CHARACTERISTICS AND MISSED NURSING CARE IN THE NEW ERA ADAPTATION (N= 150)**

Variable	n	%	mean	SD	P value
<b>Age</b>					
18-25 years old	9	6.0	159.5	16.2	0.46
26-35 years old	132	88.0	164.4	18.9	
36-45 years old	9	6.0	166.2	26.1	
<b>Working Experiences</b>					
From 6 months to 2 years	5	3.3	168.6	12.8	0.81
From 2 years to 5 years	79	52.0	175.3	4.0	
From 5 years to 10 years	60	40.0	163.3	20.1	
More than 10 years	7	4.7	170.7	21.9	
<b>Gender</b>					
a. Male	23	15.3	167.5	19.3	0.36
b. Female	127	84.7	163.6	19.1	
<b>Educational Background</b>					
a. D-III Nursing	100	66.7	162.1	17.5	0.05*
b. Undergraduate of Nursing	50	33.3	168.4	21.7	
<b>Career Level</b>					
a. Non Level	9	6.0	167.8	11.5	0.21
b. Level I	100	66.7	161.9	18.5	
c. Level II	40	26.7	169.1	21.5	

d. Level III	1	0.7	-	-
<b>Working Position</b>				
a. Nurse Practitioner	90	60	162.3	18.4 0.15
b. Team Leader /Leader of Shift	60	40	167.0	20.0
<b>Employment Status</b>				
a. Contract	9	6.0	166.3	14.3 0.14
b. Permanent Hired by Hospital	137	91.3	164.2	19.7
c. Permanent (Civil Servant)	4	2.7	159.5	5.1

TABLE 3 THE CORRELATION (N= 150)

Variabel	Missed Nursing Care	
	r	p
Leadership	0.12	0.13
Tools of management	0.13	0.10
Management Function	0.20	0.01*
Self-Efficacy	0.09	0.24

TABLE 4 MULTIVARIATE ANALYSIS WITH SEM (N= 150)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
Leadership -> Missed Nursing Care	0.145	0.150	0.076	1,962	0.056*
5M -> Missed Nursing Care	-0.041	-0.002	0.124	0.328	0.743
Management Function -> Missed Nursing Care	0.298	0.265	0.105	2,845	0.005*
Self-Efficacy -> Missed Nursing Care	-0.022	0.027	0.127	0.172	0.863

5M = Tools of Management (Man, Money, Method, Material, Machine)

## DISCUSSION

Missed nursing care is considered as a major problem at hospital services. This research involves 150 voluntary nurses at inpatient COVID-19 rooms, Hospital B, Jakarta, Indonesia with randomized proportional sampling. The aim of this research is identified missed nursing care among nurses in new adaptation era of COVID-19 with its factors. Findings of this research are there are three most missed nursing care activities, self-cleanliness, communication and giving patient's needs of play and recreation.

The first missed nursing care is self-cleanliness or known as personal hygiene. Helping patient's personal hygiene is very important to protect patient's health from unwanted macrobacteria and viruses from the environmental, including from Corona Virus which causes COVID-19 illness.

Self-cleanliness become a missed nursing care because nurses think it is a routine job that that internship student or nursing assistant at the hospital are able to conduct it to the patients. So, nurses have more time to conduct another nursing care checklists. [21] These findings are also in line with [22] research that found 43.6% nurses often missed self-cleanliness or personal hygiene to their patients. If this situation keeps going on, it will lead to the development of complication disease and increase the risk of spread infection disease (23) found that nurses who bathing their patients only reached 41% that potentially impact that impaired skin integrity and mucosa membrane and effect of patient's comfort, [24] stated that there are some fundamental principles in perform patient's personal hygiene with COVID-19, such as usage of equipment's that increase patient's independence, checked the bathroom ventilation, proper bathroom size for keep distancing and

limited to 15 minutes of bathroom usage. For patients with need bathing assistance on the bed, nurses are encouraged to use one-time wet tissue and wear a hair cap for their self-cleanliness.

For the second missed nursing care is the patient's need of play and recreation. Virginia Henderson stated play, and recreation is one of the basic needs of the patient. [25] Play and recreation could improve physical and mental patient's health. However, it is becoming a missed nursing care in the new adaptation COVID-19 era. It should be an important notice for nurses to understand and accommodate patient's hobbies. It could play an important role in patient's health recovery, relieve boredom while at the hospital. Nurses also encouraged to facilitate child patient's happiness such as bring their favourite toys [26] stated that caring child patients with fun and enjoy game increased high score of their therapeutic and contribute to speedy recovery of their health condition. This caring can reduce a bad feeling of child treated in hospital [27] found that COVID-19 patients feel anxious, stressed, worried and isolated. So, it is important for nurses know their hobbies or favourite patient's activities [28] revealed that walking around in the hospital, doing video call with family members, interact with friends in social media could prevent boredom at the hospital.

The last missed nursing care is good communication. Good communication is taking important role for nurses to identify patient's needs. In the beginning of COVID-19 pandemic, communication is one of the avoided activities among nurses whereas basic patient's needed cannot be explore without good communication. [29] Virtual communication became popular between nurses and patients. Virtual communication is communication using third party application using internet or intranet connection. In past few decades, communication between health care workers and patient conduct face to face meeting, but in the past two years, it switched to virtual communication. [30] At the hospital, communication between nurse and patient held with intercom or video call which helped nurse in exploring basic patients feels and needs.

The most factors that impact to missed nursing care is educational background, leadership and the last is management function that role in nurse manager. This research finds that educational background related to missed nursing care. Nurses with Bachelor degree do fewer missed nursing care compared to nurses with Diploma degree. As a general common that education is taking

important role of giving a comprehensive nursing care to the patients. Nurses hold an undergraduate degree have more ability to identify the problem, analyse based on evidence and use critical thinking to find the solution. Study conducted by [31] found that educational background and experiences drove nurses to understand patient situation and quickly find the alternatives solution to solve the patient's problem particularly on safety aspects. Nurses with Bachelor educational background forced nursing environment at the hospital to stay on continuous improvement in management and promote health and safety among nurses, health care workers and patients.

Another interesting finding is nurse manager's leadership became one of the factors that leads to missed nursing care. In this research found that there is a significant positive relationship between leadership with missed nursing care. It means the more good manager's leadership have, the more comprehensive nursing care given. [32] stated that contributing factors which influence missed nursing cares are that leadership of the manager who have the role to set a standard of caring patients. Standard operational procedure become an important rule to keep nurses taking care of patients without missed anything left behind.

In addition, effective leadership is needed to estimate an adequate staff and direct their performances. [33] One of another problem while COVID-19 pandemic arises was human resources management. In [34] stated that leadership has significant relationship ( $p=0.001$ ) and negative correlation ( $r=-0.35$ ) with missed nursing care, This finding means that weaker of leadership management, leads to the increasing of missed nursing care of their staffs. In his research also presented the leadership ability of nurses' manager could reduce the probability of missed nursing care. Nursing manager who performed as a charismatic leader, full of love with others and giving inspiration to the staffs through respect and empathy could reduce missed nursing care.

Besides leadership, management function also plays important roles. (Mollahadi et al., 2021) stated that with leadership and proper management function lead to giving a good health care with COVID-19 patients. The involvement of the manager to help, support and guide staffs decreases missed nursing care numbers. [34] Nurse staffs will be motivated in seeing managers at work and became their role model. Get involved in planning, organizing, structuring, supply equipment's, adjust

environmental condition, setting manpower, and provide feedback of staffs worked. This working culture became very important factors particularly in a public health crisis like the COVID-19 pandemic. (36) A good nurse manager should have a clear vision and mission that have determined by problem solving process previously. In the COVID-19 era, a leader with good educational abilities is needed, who can manage human resources, tools, and coordinate with other subsystems such as doctors. The ability of the nursing manager will also direct and implement supervision so that missed nursing care can be reduced. [3]

Management function that should have owned by nurse managers are planning, organizing, staffing, directing, and controlling. [37] Planning defined as a detail activity about what process to make an output achieved. Planning for nurses manager is the competencies to planning yearly, monthly, weekly and daily about the nursing activity. [37] In principle, planning the process of use all of the resources available and achievable by all staffs. Planning also has a realistic goal and focused on the expected result. For an example, planning in the context of missed nursing care could started on how standard operational procedures implement comprehensively start from planning on the patient's intervention until finished or called as discharge planning. [38] stated that planning strategy for nurses in pandemic COVID-19 situation could improve physical, mental and emotional health and all employees. Manage high turnover of nurses and health care workers, preparing for good recruitment and orientation and improve collaboration between health care workers in manage patient's health in receive a comprehensive health care service.

Afterwards, nurse managers should have an ability to organizing. Organizing is the process of gathering resources, classifying of duties, and giving authority and responsibility to achieved what organization is aimed. [39] The principles of organizing is managed the task, unit, command, delegation and coordination from the top of nurse management to front-liners nurses. [40] stated that the important role of coordination with COVID-19 task group. The next step is as a nurse manager should has a competencies to count an adequate staffs. [41] found missed nursing care happened due inadequate nursing staffs. Adequate staffs have positive impact to prevent death and, long period of patient's stay at hospital. An adequate staffs could identify with the numbers of patients and their characteristics.

The next is nurse manager should have the function to direct an important organization purpose. Increasing nurses' motivation that affect to their performance. Nursing supervision could increase staffs' motivation and confidence. Supervision is important to increasing motivation, enthusiasm and performance in nursing activity, including while hand over patients. [42]

For the final steps is control in management function is how to measured performance and take the corrective action to ensure organization aim. [39] Control is including coordination in various activity, decisions making at planning, organizing, directing and evaluating processes. In another context, control is also stated as taking notes, making a report, updating progress organization and use all the resources effectively. Control implements refers to local and national regulations.

### LIMITATION

This research was carried out during the transition period from the COVID-19 Pandemic to the new normal. The adaptation of several nursing care conditions was still influenced by room changes from isolation rooms to non-isolation rooms, so that some nursing actions that were missed might have been influenced by the adaptation process.

### CONCLUSION

From the multivariate analysis using SEM shows that self-cleanliness, good communication and needs of play and recreation is the most missed nursing care among nurses in the new adaptation of COVID-19 era. Statistics calculated that there is a strong relationship between nurses' educational background, leadership and management function. Nurses with Bachelor educational background have more potential to identify and critical thinking to find an alternatives solution of missed nursing care compared to nurses with Diploma educational background. Implication of study refer to the nurse manager must be aware to improve management function. As a nurses' manager maintain and improve staffs' competencies and education should implement continuously to prevent missed nursing care, particularly in the context of new adaptation of COVID-19 era. Nurse managers should has a leadership thinking and behaviour because they are becoming a role model for their staffs and could improve motivation of nurses and get involved in help, support, and guide staffs in nursing care to the patients is highly required as a role model. Thus, leadership has a significant impact

on in term of planning, organizing, staffing, directing, and controlling.

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#### CONFLICTS OF INTEREST:

All contributing authors declare no conflicts of interest.

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