

## DETERMINANTS OF MISSED NURSING CARE AMONG NURSES IN CRITICAL CARE UNITS IN SELECTED COUNTIES IN KENYA

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### **Abstract**

**Introduction:** The evolving nature of nursing and its critical nature in improving patient outcomes in critical care units affirms a broader spectrum in evaluating any underlying challenges that could limit the delivery of excellent care. There has been a high prevalence of 55-98% of nursing care missed by providers. Despite its evident impact, there needs to be a more comprehensive understanding about the factors that may contribute to missed care in critical care settings. While studies highlight staffing issues, time constraints, and workload as potential culprits, a more nuanced exploration is needed to unravel the intricate interplay of individual, unit, and systemic factors influencing missed nursing care (MNC).

**Methodology:** Descriptive cross-sectional study. The census sampling method recruited 46 nurses in the three facilities as the sample size. Data collection done using a pre-tested, standardized, structured questionnaire. Data analysis was done using descriptive and inferential analysis. The nature of MNC was calculated using a proportion of nurses who participated in the study. Univariate, bivariate, and multivariable analysis was done using binary logistic regression. Data analysis was done using SPSS version 28. The level of significance was investigated at  $p < 0.05$ .

**Findings:** The overall Missed Care reported for this study was at 37%. The commonly completed components of care included wound care, meal setup, mouth care, patient bathing, and bedside glucose monitoring. On the other hand, the least completed nursing tasks were attending interdisciplinary conferences; patients' teaching regarding the disease, handwashing, emotional reassurance to both the patient and the family.

**Conclusion:** On nurses' characteristics influencing MNC, the nurses who were aged over 40 years had a higher likelihood of experiencing missed care. The male nurses were significantly more likely to report high missed care than females, and those who were working more than 40 hours per week were associated with increased missed care.

**Keywords:** *Missed nursing care, Critical care unit, Nursing care, Miss-care tool*

## INTRODUCTION

Nursing work entails critically improving patient outcomes through a favourable focus on the needs of patients. Nursing care is vital in shaping patient outcomes; hence, it should be effectively considered to ensure quality care is provided (Mohamed Abd El-Hamed Diab & Mohamed Rashad Ebrahim, 2019). The inability to provide patient-

centred care is expected within a healthcare context shaped by diverse factors. It has also been identified that approximately 90% of nurses forget to perform essential care functions during every shift, which has a detrimental influence on patient well-being. (Mohamed Abd El-Hamed Diab & Mohamed Rashad Ebrahim, 2019). Missed care entails a critical component in care



delivery, indicating to neglect or delayed care to the patient. (B. J. Kalisch, 2006) This concept has been adopted and utilised in different clinical situations, with a critical focus on patients' needs and the existing gaps in care. (Andersson et al., 2022). A patient's well-being within a hospital context is prioritized; thus, missed care opportunities contribute to inadequate care. Reducing missed opportunities is fundamental to creating a highly elaborate emphasis on change in patient care. (Karlsson et al., 2021). Assessing the elements bestowing to missed nursing care is vital to help develop better structures to improve patients care (Tubbs-Cooley et al., 2015).

Globally, studies on factors influencing nurses' performance in intensive care units have revealed an increased rate of care missed. During COVID-19 outbreak, MNC became one of the significant challenges globally (Falk et al., 2022). The incidence of MNCs highlights the existing gap in care, mainly due to communication challenges, shortage gaps, and an unfavourable working environment (Ball et al., 2014). A recent study showed that having an MNC of approximately 10 per cent increases the risk of mortality by 16 per cent within 30 days of admission, with the risk of mortality being 51 per cent higher in hospitals with higher levels of rationing and higher nurse-to-patient ratios of up to 10 to 1 (Ball et al., 2018).

In developed nations, MNC prevalence is lower than in the rest of the world. In Sweden, MNC was due to a high number of patients as well as a high number of nurses in the critical care unit (Vogelsang et al., 2021). A study done in USA on MNC indicates patients experience low-quality care, an increase in urinary infections, an increase in mortality rate, and a rise in cases of pressure ulcers and even nosocomial

infections (Rezaei-Shahsavarloo et al., 2021). In contrast, nurses experience reduced job morale, increased job burnout, and high career turnover (Parvaiz et al., 2015).

Missed care by nurses in Africa has been significantly high because of the strained healthcare system. A recent study in Ethiopia showed that most nursing care components need to be documented, making it difficult to determine MNC components. This stipulates a common challenge in developing countries that warrants creating a more aggressive approach to nursing care management (Mihiretu et al., 2017). This explains higher patients' dissatisfaction with the care provided by the nurses (Mulugeta et al., 2019). The common challenges arising from a lack of commitment to nursing care include medication errors in 98.1% (Feleke et al., 2015). The existing studies documenting the MNC within the African context have shown that 46% of the patients, with 63% of the patients, still need to report progress notes after the first day of admission (Avoka et al., 2014).

Like other Low to Middle income countries, Kenya is heterogeneous regarding its resources and has been affected by understaffing and lack of quality or no equipment than high-income countries (Ogero et al., 2018). The Kenyan nursing care context has faced many challenges due to staffing shortages, which have led to a high workload and a higher rate of MNC (Gathara et al., 2020). This highlights a common occurrence, ranging from 10 to 72.1 percent. The underlying determinants include person-related and organization-related factors, including age, years of experience, education level, shift types, and intentional working (Blackman et al., 2018).

The broad objective for this study was to establish missed nursing care and its determinants among nurses working in selected critical care units (CCU). By

addressing this objective, researcher wants to explore the multifaceted nature of MNC in critical care settings, aiming to identify the root causes, consequences, and potential interventions. By addressing this crucial problem, we strive to improve on patient-centered quality care and whole well-being of the nurses in critical care environments.

## METHODS

Analytical cross-sectional study was used to establish the burden of MNC. It further determined nurse-related factors influencing MNC. The study was done at Murang'a, Nyeri, and Embu County and Referral Hospitals which are level 5 advanced hospitals with operational critical care units that are more active within the Mt. Kenya region. The hospitals are typically designed to offer specialized and comprehensive health-care services. The selection of these hospitals as study sites was justified due to their crucial role in serving the Mount Kenya region of Kenya, which faces an increasing burden of specific health illnesses, both communicable and non-communicable diseases. Additionally, their geographical proximity fosters collaboration in research and intervention strategies, while the availability of historical patient data allowed for a comprehensive analysis of trends over time.

The study targeted critical care unit nurses working in Murang'a, Nyeri, and Embu Level 5 County and Referral Hospitals. The distribution of essential nurses of care in the hospitals included 52 nurses from the three facilities. The study adopted census sampling. It provided intensive and in-depth information about the subject that was investigated.

The process kicked off after the researcher got a permission letter from the Kenyatta

University Ethics Committee, National Commission for science & technology (NACOSTI), and permission from the three facilities. The researcher visited each hospital where she engaged the critical care unit in-charges. The CCU in-charges assisted in identifying CCU nurses and the appropriate time to approach them. The duty roster was fully utilized during data collection. Using the duty roster, the number of respondents expected, and the dates were determined. The researcher approached CCU nurses during break time. The researcher introduced herself and highlighted the study's significance and the consequences of involving in the study. The researcher then administered an informed consent form. The participation was purely voluntary. Those who participated were encouraged to ask questions, and the researcher addressed their concerns throughout the study period. There was no participant who requested not to continue during data collection from the 3 study facilities.

The questionnaire was self-administered. The respondents were requested to provide accurate and honest answers regarding their approach to nursing care based on the questions outlined. They were required to provide demographic and nurse-related characteristics. Further, the respondents also responded to the MISSCARE tool. The PI guided respondents while completing the questionnaires to ensure high quality. Data was collected consecutively until the sample size was attained. Means and standard deviation were used to describe the characteristics of the participants while proportions and frequencies were used to describe categorical data.

The MNC was calculated as all sample sizes proportion. This included an assessment of

missing nursing roles investigated using the MISSCARE tool.

The proportion of each component on the tool was also investigated and summarized using frequencies and percentages.

Thus, to obtain the average scores, we added the total scores for all the components of miss-care (24). The scores were then changed to percentages, where denominator was 96, which is the maximum score; the numerator was the total score of every respondent, i.e, if a respondent had a score of 56, then the percentage score will be  $(56/96) * 100$ . The mean score was calculated, and this formed the basis of MISSCARE.

Either Pearson's chi-square or Fisher's exact were utilized to investigate the relationship between nurses' characteristics with MNC. Utilization of student t-tests was done to analyze significant differences between continuous patient characteristics with MNC. Regression was utilized to explore determinants of MNC. The significance level was assessed at  $p < 0.05$ .

#### *Miss-care scoring*

To determine the MNC, the questionnaire consisted of 24 items. Respondent's responses were rated on a four-point Likert Scale from rarely missed (1), occasionally missed (2), frequently missed (3), always missed (4). The mean scores were calculated for each component with a total population of forty six (46).

#### *Categorization of missed vs not missed*

The answers were then changed into a dichotomous scale; those who rarely missed and occasionally missed (options 1 and 2) were regarded as having not missed care, while those who frequently missed and those who always missed (options 3 and 4) were

regarded as having missed care for each component.

#### *Overall Missed care*

The scores of each item were added up for each missed domain. Each score was then converted into a percent score. Less than 60% scores were considered no missed care, while above 60% were considered high MNC (Diab et al., 2019).

#### *Data Quality Control*

All questionnaires had unique numbers to avoid duplication of results. Data was collected and cross-checked for all the questionnaires. The collected data is stored in a password-protected format.

## RESULTS

### *Nurses' characteristics that influence MNC*

Mean age summed up to 39.7 [SD]±6.8 years. Out of the 46 participants, 60.9% (n =28) were aged ≤40 years. Regarding gender, 30.4% (n =14) were male, and 69.6% (n = 32) were female. In terms of professional cadre, the majority of the participants were Kenya Registered Critical Care Nurses (KRCCN) at 71.7% (n =33). Most of the respondents had between 0 and 5 years of experience. Most of the participants worked ≤40 hours per week, accounting for 76.1% (35) as shown in table 1.

#### *MNC in the selected CCUs*

To determine the MNC, the questionnaire consisted of 24 items. The respondent's responses were rated on a four-point Likert Scale from rarely missed (1), occasionally missed (2), frequently missed (3), and always missed (4). The mean scores were calculated for each component with a total population of 46.

Table 1: Nurses' characteristics contributing to MNC

| Characteristics                              | Frequency | Percent |
|----------------------------------------------|-----------|---------|
| <b>Age (Mean, SD)</b>                        | 39.7±6.8  |         |
| ≤40 years                                    | 28        | 60.9    |
| More than 40 years                           | 18        | 39.1    |
| <b>Gender</b>                                |           |         |
| Male                                         | 14        | 30.4    |
| Female                                       | 32        | 69.6    |
| <b>Professional cadre</b>                    |           |         |
| Bachelor of science in Nursing (BScN)        | 11        | 23.9    |
| KRCCN                                        | 33        | 71.7    |
| Master of Science in Nursing (MScN)          | 2         | 4.3     |
| <b>Years of expertise</b>                    |           |         |
| 0 - 5 years                                  | 26        | 56.5    |
| 6 - 10 years                                 | 16        | 34.8    |
| >10 years                                    | 4         | 8.7     |
| <b>Received any training on patient care</b> |           |         |
| Yes                                          | 23        | 50.0    |
| No                                           | 23        | 50.0    |
| <b>Hours worked per week</b>                 |           |         |
| Less than or equal to 40 hours per week      | 35        | 76.1    |
| More than 40 hours per week                  | 11        | 23.9    |

Components with the least missed care included patient bathing 45 (97.8%), 1 (2.2%), vital signs assessment 40 (87.0%), 4 (8.7%), complete documentation 40 (87.0%), 4 (8.7%), bedside glucose monitoring 40 (87.0%), 5 (8.9%) and patient assessments 39 (84.8%), 6(13.0%). On

the other hand, tasks such as ambulation three times per day or as ordered had a high rate of MNC 6 (13.0%), patient teaching about illness 13(28.3%), emotional support 13(28.3%), and attending interdisciplinary care conferences 14, (30.4%).

Table 2:Nursing components showing MNC

| Nursing Care components                                                         | Rarely missed n (%) | Occasionally missed n (%) | Frequently missed n (%) | Always missed n (%) | Mean $\pm$ SD  |
|---------------------------------------------------------------------------------|---------------------|---------------------------|-------------------------|---------------------|----------------|
| Patient bathing                                                                 | 45(97.8)            | 1(2.2)                    | 0                       | 0                   | 1.07 $\pm$ 0.4 |
| Vital signs were monitoring.                                                    | 40(87.0)            | 4(8.7)                    | 2(4.3)                  | 0                   | 1.17 $\pm$ 0.5 |
| Complete documentation                                                          | 40(87.0)            | 4(8.7)                    | 2(4.3)                  | 0                   | 1.17 $\pm$ 0.5 |
| Bedside glucose monitoring                                                      | 40(87.0)            | 5(10.9)                   | 1(2.2)                  | 0                   | 1.15 $\pm$ 0.4 |
| Patients' assessments every shift.                                              | 39(84.8)            | 6(13.0)                   | 1(2.2)                  | 0                   | 1.17 $\pm$ 0.4 |
| Wound care                                                                      | 37(80.4)            | 9(19.6)                   | 0                       | 0                   | 1.20 $\pm$ 0.4 |
| Intake/output monitoring                                                        | 37(80.4)            | 8(17.4)                   | 1(2.2)                  | 0                   | 1.22 $\pm$ 0.5 |
| Oral care (minimum twice a day)                                                 | 34(73.9)            | 12(26.1)                  | 0                       | 0                   | 1.26 $\pm$ 0.4 |
| Drug administration within 60 minutes before or after the scheduled time        | 30(65.2)            | 14(30.4)                  | 2(4.3)                  | 0                   | 1.39 $\pm$ 0.6 |
| Timely patient feeding                                                          | 29(63.0)            | 10(21.7)                  | 7(15.2)                 | 0                   | 1.52 $\pm$ 0.8 |
| Timely meals set-up meals for patient who feeds themselves                      | 28(60.9)            | 18(39.1)                  | 0                       | 0                   | 1.39 $\pm$ 0.5 |
| Intravenous/central line site care and assessments according to hospital policy | 27(58.7)            | 16(34.8)                  | 3(6.5)                  | 0                   | 1.48 $\pm$ 0.6 |
| Response to call within 5 min.                                                  | 26(56.5)            | 9(19.6)                   | 9(19.6)                 | 2(4.3)              | 1.72 $\pm$ 0.9 |
| Assessment of medications effectiveness.                                        | 23(50.0)            | 11(23.9)                  | 11(23.9)                | 1(2.2)              | 1.78 $\pm$ 0.9 |
| Focussed patient's reassessments                                                | 22(47.8)            | 22(47.8)                  | 1(2.2)                  | 1(2.2)              | 1.59 $\pm$ 0.7 |
| Patients turning every 2 HOURS                                                  | 20(43.5)            | 18(39.1)                  | 7(15.2)                 | 1(2.2)              | 1.76 $\pm$ 0.8 |
| Assist with toileting needs within 5 minutes of request.                        | 19(41.3)            | 20(43.5)                  | 7(15.2)                 | 0                   | 1.74 $\pm$ 0.7 |
| Patient discharge planning                                                      | 18(39.1)            | 21(45.7)                  | 7(15.2)                 | 0                   | 1.76 $\pm$ 0.7 |
| PRN* medication requests acted on within 15 min 3                               | 17(37.0)            | 23(50.0)                  | 6(13.0)                 | 0                   | 1.76 $\pm$ 0.7 |
| Hand washing                                                                    | 15(32.6)            | 13(28.3)                  | 18(39.1)                | 0                   | 2.07 $\pm$ 0.9 |
| Patient teaching about illness, tests and diagnostic studies                    | 13(28.3)            | 12(26.1)                  | 20(43.5)                | 1(2.2)              | 2.20 $\pm$ 0.9 |
| Patient and family emotional support                                            | 13(28.3)            | 20(43.5)                  | 11(23.9)                | 2(4.3)              | 2.04 $\pm$ 0.8 |
| Attend interdisciplinary care conferences                                       | 14(30.4)            | 13(28.3)                  | 19(41.3)                | 0                   | 2.11 $\pm$ 0.8 |
| Ambulation three times per day or as ordered                                    | 6(13.0)             | 22(47.8)                  | 10(21.7)                | 8(17.4)             | 2.43 $\pm$ 0.9 |

### Rating of missed nursing care

The answers were then changed into a dichotomous scale where those who rarely missed and those who occasionally missed (options 1 and 2) were regarded as having not missed the care, while those who frequently missed and those who always missed (options 3 and 4) were regarded as having missed care. Key nursing components with minimal

missed care included wound care 46 (100%), setting up meals 46 (100%), mouth care 46 (100%), monitoring intake/output 45 (7.8%), patient bathing 45 (97.8%), medication administration within 60 minutes 44 (95.7%), vital signs assessment 44(95.7%), complete documentation 44 (95.7%) and bedside glucose monitoring 45 (97.8%) as shown in Table 2.

Table 3: Nature of Missed Nursing Care

| Nursing components                                                        | Not missed<br>n (%) | Missed<br>n (%) |
|---------------------------------------------------------------------------|---------------------|-----------------|
| Wound care                                                                | 46(100)             | 0               |
| Meals set-up for patients who feed themselves                             | 46(100)             | 0               |
| Oral care (minimum twice a day)                                           | 46(100)             | 0               |
| Patient bathing                                                           | 45(97.8)            | 1(2.2)          |
| Intake/output monitoring                                                  | 45(97.8)            | 1(2.2)          |
| Timely medication administration within 60 minutes                        | 44(95.7)            | 2(4.3)          |
| Vital signs monitoring                                                    | 44(95.7)            | 2(4.3)          |
| Complete documentation                                                    | 44(95.7)            | 2(4.3)          |
| Bedside glucose monitoring                                                | 45(97.8)            | 1(2.2)          |
| Patient assessments every shift                                           | 45(97.8)            | 1(2.2)          |
| Focussed patient's reassessments                                          | 44(95.7)            | 2(4.3)          |
| Intravenous central line site care and assessments as per hospital policy | 43(93.5)            | 3(6.5)          |
| Timely PRN medication administration                                      | 40(87.0)            | 6(13.0)         |
| Patient discharge planning                                                | 39(84.8)            | 7(15.2)         |
| Feeding patients when food is still warm                                  | 39(84.8)            | 7(15.2)         |
| Assist with toileting needs within 5 minutes of request                   | 39(84.8)            | 7(15.2)         |
| Turning patients every 2 hours                                            | 38(82.6)            | 8(17.4)         |
| Response to call light is initiated within 5min                           | 35(76.1)            | 11(23.9)        |
| Assess the medications effectiveness                                      | 34(73.9)            | 12(26.1)        |
| Patient and family emotional support                                      | 33(71.7)            | 13(28.3)        |
| Handwashing                                                               | 28(60.9)            | 18(39.1)        |
| Ambulation three times per day or as ordered                              | 28(60.9)            | 18(39.1)        |
| Attend interdisciplinary care conferences                                 | 27(58.7)            | 19(41.3)        |
| Patient teaching about illness, tests and diagnostic studies              | 35(54.3)            | 21(45.7)        |

### *MNC as reported by nurses in the selected CCUs*

The total score of the tasks was summarized for each missed area. The scores were then changed into percentage score. Those who scored less than 60% were contemplated as low MC, while a scores of more than 60% .The rate of MNC were categorized as high MC. Thus, the responses highlighted that high MNC was reported among 37% (n =17) of the nurses while 63% (n =29) had low MNC.

### *Relationship between characteristics of nurses and MNC*

Findings from Fischer's exact test showed there was significant relationship between age with MNC that was observed ( $\chi^2(1) = 15.79$ ,  $p < 0.001$ ). Nurses aged 40 years or younger had high percentage of low MNC (85.7%) while those over 40 years old had high percentage of MNC (72.2%).

Gender also showed a significant influence on MNC ( $\chi^2(1) = 6.45$ ,  $p = 0.019$ ). Female

nurses reported a significantly high rate of low MNC (75%), while male nurses reported high percentage of MNC (64.3%). The relationship between professional cadre and MNC was not significant ( $\chi^2(2) = 4.38$ ,  $p = 0.112$ ). BScN degrees reported an equal distribution between low and high missed care, nurses with a KRCCN reported a higher percentage of low missed care (69.7%), and nurses with MScN degrees reported high missed care (100%). The years of experience were significantly related to MNC ( $\chi^2(2) = 6.30$ ,  $p = 0.043$ ). Nurses with 6-10 years of professional experience reported very high percentage of low MC (87.5%). Less than 5 and more than 10 years of expertise reported a more balanced

distribution between low and high-missed care (50%).

The receipt of training on patient care management didn't show a strong connection with MNC ( $\chi^2(1) = 2.33$ ,  $p = 0.221$ ). Those nurses who had received training in patient care management reported a high rate of low MNC (73.9%). On the other hand, nurses without training reported a more balanced distribution of low (52.2%) and high (47.8%) missed care. A significant relationship between hours worked per week with MNC was observed ( $\chi^2(1) = 7.94$ ,  $p = 0.010$ ). Nurses working 40 hours or fewer per week reported a high percentage of low MNC (74.3%), and nurses working more than 40 hours per week reported a high percentage of high MNC (72.7%).

Table 4: The link between characteristics of nurses and MNC

| Factors                                                 | Total | MNC                           |                                | df | $\chi^2$ | P value |
|---------------------------------------------------------|-------|-------------------------------|--------------------------------|----|----------|---------|
|                                                         |       | Low missed nursing care n (%) | High missed nursing care n (%) |    |          |         |
| <b>Age</b>                                              |       |                               |                                | 1  | 15.786   | <0.001  |
| ≤40 years                                               | 28    | 24(85.7)                      | 4(14.3)                        |    |          |         |
| More than 40 years                                      | 18    | 5(27.8)                       | 13(72.2)                       |    |          |         |
| <b>Gender</b>                                           |       |                               |                                | 1  | 6.451    | 0.019   |
| Male                                                    | 14    | 5(35.7)                       | 9(64.3)                        |    |          |         |
| Female                                                  | 32    | 24(75.0)                      | 8(25.0)                        |    |          |         |
| <b>Professional cadre</b>                               |       |                               |                                | 2  |          | 0.112*  |
| BScN                                                    | 11    | 6(54.5)                       | 5(45.5)                        |    |          |         |
| KRCCN                                                   | 33    | 23(69.7)                      | 10(30.3)                       |    |          |         |
| MScN                                                    | 2     | 0                             | 2(100)                         |    |          |         |
| <b>Years of experience</b>                              |       |                               |                                | 2  | 6.298    | 0.043   |
| 0 - 5 years                                             | 26    | 13(50.0)                      | 13(50.0)                       |    |          |         |
| 6 - 10 years                                            | 16    | 14(87.5)                      | 2(12.5)                        |    |          |         |
| >10 years                                               | 4     | 2(50.0)                       | 2(50.0)                        |    |          |         |
| <b>Received any training on patient care management</b> |       |                               |                                | 1  | 2.333    | 0.221   |
| Yes                                                     | 23    | 17(73.9)                      | 6(26.1)                        |    |          |         |
| No                                                      | 23    | 12(52.2)                      | 11(47.8)                       |    |          |         |
| <b>Hours worked per week</b>                            |       |                               |                                | 1  |          | 0.010*  |
| Less than or equal to 40 hours per week                 | 35    | 26(74.3)                      | 9(25.7)                        |    |          |         |
| More than 40 hours per week                             | 11    | 3(27.3)                       | 8(72.7)                        |    |          |         |

\* *Fischer's exact test*

### **Multivariable analysis of factors influencing missed nursing care**

After adjusting for years of experience, the multivariable analysis identified several significant factors influencing MNC in the

selected CCUs. Nurses aged above 40 years had more chances to experience high MNC as compared to those 40 years or younger, with a

conditional odds ratio (aOR) of 37.0 (95% CI: 4.02 to 355.04,  $p = 0.001$ ). Male nurses had a markedly higher likelihood of high missed care compared to females, with an aOR of 19.38 (95% CI: 2.11 to 178.31,  $p = 0.009$ ).

Nurses who worked more than 40 hours in a week were significantly associated with a high rate MNC, with an aOR of 10.88 (95% CI: 1.71 to 69.12,  $p = 0.021$ ).

Table 5: Multivariate analysis on factors influencing MNC in selected CCU

| Factors                               | aOR(95%CI)          | P value      |
|---------------------------------------|---------------------|--------------|
| <b>Age</b>                            |                     |              |
| ≤40 yrs                               |                     |              |
| More than 40 yrs                      | 37.0(4.02, 355.04)  | <b>0.001</b> |
| <b>Gender</b>                         |                     |              |
| Female                                |                     |              |
| Male                                  | 19.38(2.11, 178.31) | <b>0.009</b> |
| <b>Hours worked per week</b>          |                     |              |
| Less than or equal to 40 hours a week | Ref                 |              |
| More than 40 hours a week             | 10.88(1.71, 69.12)  | <b>0.021</b> |

## DISCUSSION

### *Overall MNC*

Overall MNC for this study summed up 37%. The commonly completed components of care included wound care, meal setup, mouth care, patient bathing, and bedside glucose monitoring. On the other hand, the least completed nursing tasks were attending interdisciplinary care conferences, patient teaching about illness, handwashing, and patient and family emotional support. A study done in America's acute and critical care settings reported missed care rates exceeding 50% in some acute settings. The most frequently missed tasks were: hygiene care, missed by ~40% of nurses, feeding assistance, missed by ~35%, and turning and ambulation of patients, which was missed by ~30% (Siela D., 2025). Documentation and patient education were also commonly missed. These

findings contrast with the present study, where hygiene-related tasks (bathing, mouth care) and feeding (meal setup) were not missed at all. This suggests prioritization of basic care. Another study done in Egypt found that the burden of MNC was at 45.2% and vital signs monitoring was least missed task (Hammad et al., 2021). Egypt's higher MNC rate could be influenced by either larger, more diverse hospital units, broader scope of nursing responsibilities, or greater variability in staffing adequacy and workload.

### *Nurses' characteristics influencing MNC*

According to this study, nurses who were aged over 40 years had a higher likelihood of experiencing missed care. This aligns with a study done in Iran, which established a

connection between age and missed care ( $p < 0.001$ ). The older nurses reported higher missed care scores (Khajoei et al., 2025). This could be due to increased responsibilities or slower adaptation to changing clinical demands. The male nurses were high likely to report high MNC than females, with an aOR 19.38 (95% CI: 2.11–178.31,  $p = 0.009$ ). This may reflect gendered differences in task prioritization, communication styles, or role expectations in clinical settings. A study from Rwanda identified gender as a significant factor influencing MNC. Although the majority of nurses were female (56.7%), male gender rated high level of MNC, particularly in tasks like responding to call alarms and patient education (Ntezimana et al., 2022). This was a comparable setting and work structure to the current study. Those who were working more than 40 hours in a week were linked to increased missed care. This was comparable with a study done in Egypt, which found that extended work hours were contributors to missed care (Gabr & El-Shaer, 2020). High workload is a significant challenge in low-income settings such as Kenya, hence contributing to high missed care.

### ***Organizational factors influencing missed nursing care***

The nurses who disagreed personal protective equipment (PPE) adequacy were five times more likely to experience MNC. A comparable study done in the Philippines found the PPE adequacy was influenced both MNC and perceived quality of care (Labrague et al., 2021). Nurses who felt PPE was insufficient were more likely to omit tasks such as patient surveillance and hygiene care. Another study done in the USA emphasized that during the COVID-19 pandemic, PPE shortages were among the top predictors to MNC, especially critical and acute settings

(Siela D., 2025). Nurses reported skipping tasks like ambulation and turning due to fear of exposure, which is a significant issue, especially when there are no PPEs

### **CONCLUSION**

The overall MNC for this study was 37% of nurses reported missing care. The highest completed care (least missed nursing care components) included wound care, meal setup, mouth care, patient bathing, and bedside glucose monitoring. On the other hand, the least completed nursing tasks (high missed nursing care components) were attending interdisciplinary care conferences, patient teaching about illness, hand-washing, and patient and family emotional support.

### **RECOMMENDATIONS**

The hospitals should implement a work-hour limits policy or mandatory rest periods for nurses working over 40 hours per week to prevent fatigue-related missed care. The hospitals should ensure the departmental age balance to address potential challenges that people over 40 years old face in completing care tasks. The hospitals should encourage and facilitate team-based care through structured interdisciplinary meetings and training to ensure all team members are aligned on patient care priorities. The hospitals should conduct quarterly audits on missed care incidents and use these findings to inform ongoing professional development sessions, ensuring that nursing staff are continuously improving care delivery.



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