

Nurse-reported perceptions of medication safety in private hospitals in Gauteng Province

Madré Paarlberg and Dr. AJ Blignaut

School of Nursing Science, North-West University, South Africa

INTRODUCTION

The goal for medication administration is to treat or prevent illness and to improve quality of life (Elden & Ismail, 2016:245; Wondmieneh *et al.*, 2020:2). Instead, patients are inadvertently being harmed and killed by administered medication (Sheikh *et al.*, 2019:7), mostly during the medication administration phase (Choi *et al.*, 2016:428; Wondmieneh *et al.*, 2020:1).

A positive safety climate is vital in hospitals as it influences the incidence of medical and medication errors, ensures safe practice and enhances patient safety, improves nurses' attitudes toward medication error reporting, improves safety performance and reduces patient mortality risk (Abbasi *et al.*, 2019:102; Farag *et al.*, 2017:15; Garroute-Orgeas *et al.*, 2016:107; Lee, 2016:511; Olds *et al.*, 2017:159; Valentin *et al.*, 2013:391). Unfortunately, hospitals do not practice/facilitate positive safety cultures to enhance latter aspects.

Blignaut (2015:67) concluded the main causes of medication administration errors to be human-, communication-, medication- and system-related causes. However, identifying and understanding these errors are not enough, all medication errors should be reported, irrespective the degree of harm it caused.

Consequently, due to the poor reporting incidence of these errors, the phenomena's contributing factors are poorly identified, understood, and addressed. Vrbnjak *et al.* (2016:162) suggest that the implementation of a non-blaming, non-fearful and non-punitive learning culture might encourage nurses to report errors more frequently.

Hung *et al.* (2016a:445) agree with You *et al.* (2015:277) and Vrbnjak *et al.* (2016:162) in accentuating that it is of utmost importance to understand nurses' perceptions regarding safety culture, incidence, causes, reporting incidence and reasons for non-reporting of medication administration errors to improve patient safety.

AIM

The aim of the study was to explore and describe the perceptions of medication administrators with regard to safety culture, incidences, causes, reporting incidence and reasons for the non-reporting of medication administration errors in private hospitals in the Gauteng Province of South Africa, and to determine any relationships between perceived variables concerned with medication administration errors (safety culture, incidences, causes, reporting incidence, and reasons for non-reporting).

METHOD

An online, self-administered survey was used for this quantitative study design. The sampling frame represented 38.10% from the study sample and consisted of all the hospitals of the three (3) main private hospital groups in this province who permitted the researcher to conduct data collection in their facilities (N=63, n=24).

Sampling took place in different stages by means of multistage cluster sampling. All medication administrators (registered and enrolled nurses) working in the medical and surgical units of these hospitals were invited as sample for the survey (N=768, n=217). The response rate was 28.26%.

The survey instrument was synthesised from the Agency of Healthcare Research and Quality (AHRQ) Hospital Survey on Patient Safety Culture, the Registered Nurse Forecasting (RN4CAST) survey, a survey list prepared from a systematic review aimed at generating a comprehensive list of medication administration error causes and the Medication Administration Error Reporting Survey from Wakefield.

Exploratory and confirmatory factor analyses were used to determine the validity and reliability of the survey. Three of the five subscales from the first part of the AHRQ Hospital Survey on Patient Safety Culture (safety climate items) were deemed unreliable and were analysed individually. The acceptable value for Cronbach's alpha scoring was 0.7. All other instruments had a Cronbach alpha score between 0.806 and 0.954 as presented in Table 1. Descriptive and inferential statistics were used to analyse quantitative data. Relationships and correlations were identified between items, subscales and biographic data by using Spearman's Rank correlations, T-Tests and ANOVAs.

This study has been approved by the Health Research Ethics Committee of the Faculty of Health Sciences of the North-West University (NWU-00217-21-A1).

REFERENCES

- Abbasi, F., Pazokian, M., Borhani, F. & Nasiri, M. 2019. Correlation between workplace culture, learning and medication errors. *Revista Latinoamericana de Hipertension*, 14(1):102-109.
- Blignaut, A.J. 2015. *Medication administration safety in medical and surgical units of the Gauteng Province*. Potchefstroom: North-West University. (Dissertation – PhD).
- Choi, I., Lee, S.-M., Flynn, L., Kim, C.-m., Lee, S., Kim, N.-K. & Suh, D.-C. 2016. Incidence and treatment costs attributable to medication errors in hospitalized patients. *Research in Social and Administrative Pharmacy*, 12(3):428-437.
- Elden, N.M.K. & Ismail, A. 2016. The importance of medication errors reporting in improving the quality of clinical care services. *Global Journal of Health Science*, 8(8):243-251.
- Farag, A., Tullai-McGuinness, S., Anthony, M.K. & Burant, C. 2017. Do leadership style, unit climate, and safety climate contribute to safe medication practices? *JONA: The Journal of Nursing Administration*, 47(1):8-15.
- Garroute-Orgeas, M., Flaatten, H. & Moreno, R. 2016. Understanding medical errors and adverse events in ICU patients. *Intensive Care Medicine*, 42(1):107-109.
- Hung, C.C., Chu, T.P., Lee, B.O. & Hsiao, C.C. 2016a. Nurses' attitude and intention of medication administration error reporting. *Journal of Clinical Nursing*, 25(3-4):445-453.
- Lee, E. 2016. Safety climate and attitude toward medication error reporting after hospital accreditation in South Korea. *International Journal for Quality in Health Care*, 28(4):508-514.
- Olds, D.M., Aiken, L.H., Cimiotti, J.P. & Lake, E.T. 2017. Association of nurse work environment and safety climate on patient mortality: A cross-sectional study. *International Journal of Nursing Studies*, 74, 155-161.
- Sheikh, A., Rudan, I., Cresswell, K., Dhingra-Kumar, N., Tan, M.L., Hakkinen, M.L. & Donaldson, L. 2019. Agreeing on global research priorities for medication safety: an international prioritisation exercise. *Journal of Global Health*, 9(1):1-11.
- Valentin, A., Schiffinger, M., Steyrer, J., Huber, C. & Strunk, G. 2013. Safety climate reduces medication and dislodgement errors in routine intensive care practice. *Intensive Care Medicine*, 39(3):391-398.
- Vrbnjak, D., Denieffe, S., O'Gorman, C. & Pajnikhar, M. 2016. Barriers to reporting medication errors and near misses among nurses: A systematic review. *International Journal of Nursing Studies*, 63,162-178.
- Wondmieneh, A., Alemu, W., Tadele, N. & Demis, A. 2020. Medication administration errors and contributing factors among nurses: a cross sectional study in tertiary hospitals, Addis Ababa, Ethiopia. *BMC Nursing*, 19(4):1-9.
- You, M.-A., Choe, M.-H., Park, G.-O., Kim, S.-H. & Son, Y.-J. 2015. Perceptions regarding medication administration errors among hospital staff nurses of South Korea. *International Journal for Quality in Health Care*, 27(4):276-283.

RESULTS AND DISCUSSION

With regard to perceptions on safety culture, the non-punitive response to errors had undesirable responses. 70.70% (n=152) of respondents felt they are working in "crisis mode" trying to do too much in too little time whereas 61.57% (n=133) of the respondents worried that mistakes they make are kept in their personnel file. Furthermore, more than half of the respondents (57.67%, n=124) agreed that staff in their units worked longer hours than what was best for patients' care. Figure 1 illustrates how safety climate factors are perceived to influence medication administration safety.

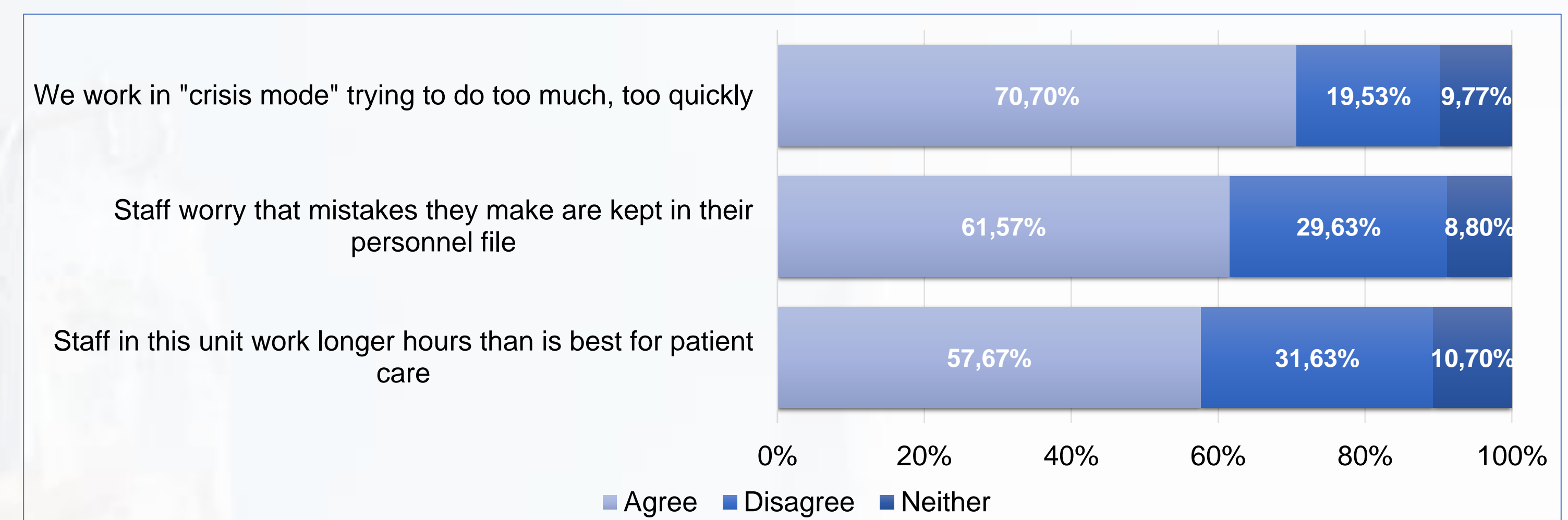


Figure 1: Perceptions of the safety climate factors influencing medication administration safety.

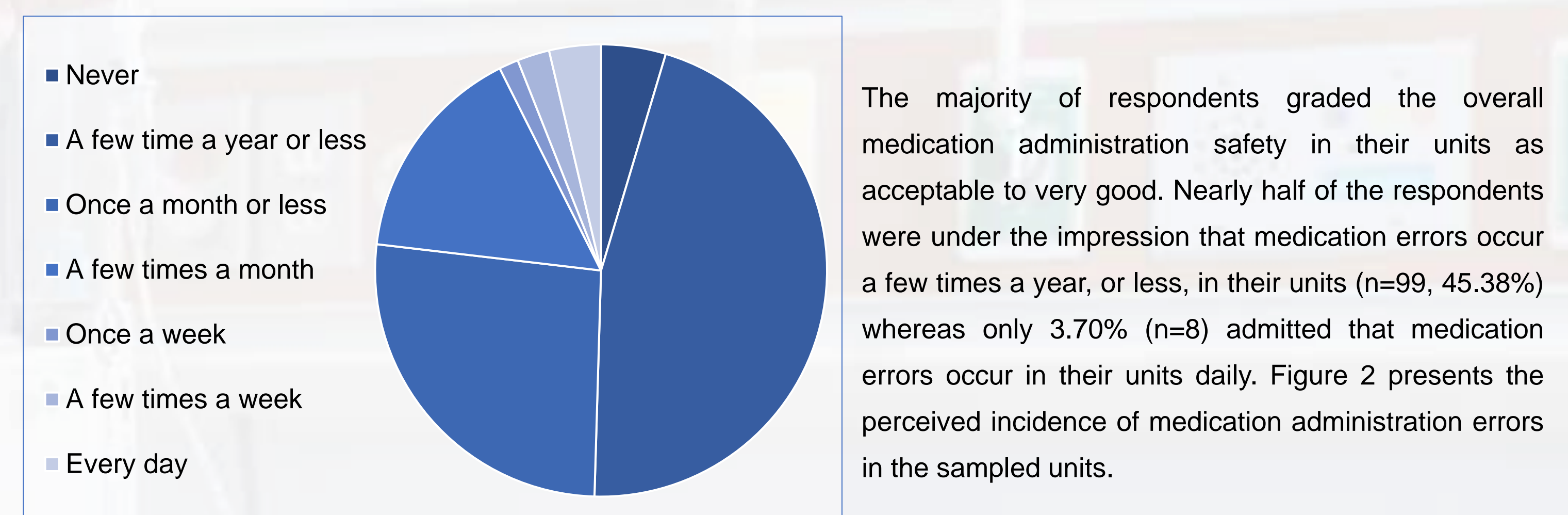


Figure 2: Perceived incidence of medication administration errors.

As perceived by the participants, the following causes of medication administration errors stood out (presented in Figure 3):

- Communication-related: illegible prescriptions and incomplete prescriptions.
- Human-related: psychological factors (e.g., being stressed or emotionally exhausted), when administration documentation didn't take place directly after medication administration, and inexperience.
- Environmental-related: work overload, high patient-to-nurse ratio, and inadequate staffing levels.
- Medication-related: stock distribution problems by which certain medications were not available at their institution, wrong medication provided by the pharmacy and generic substitution of medications (different names for one medication).

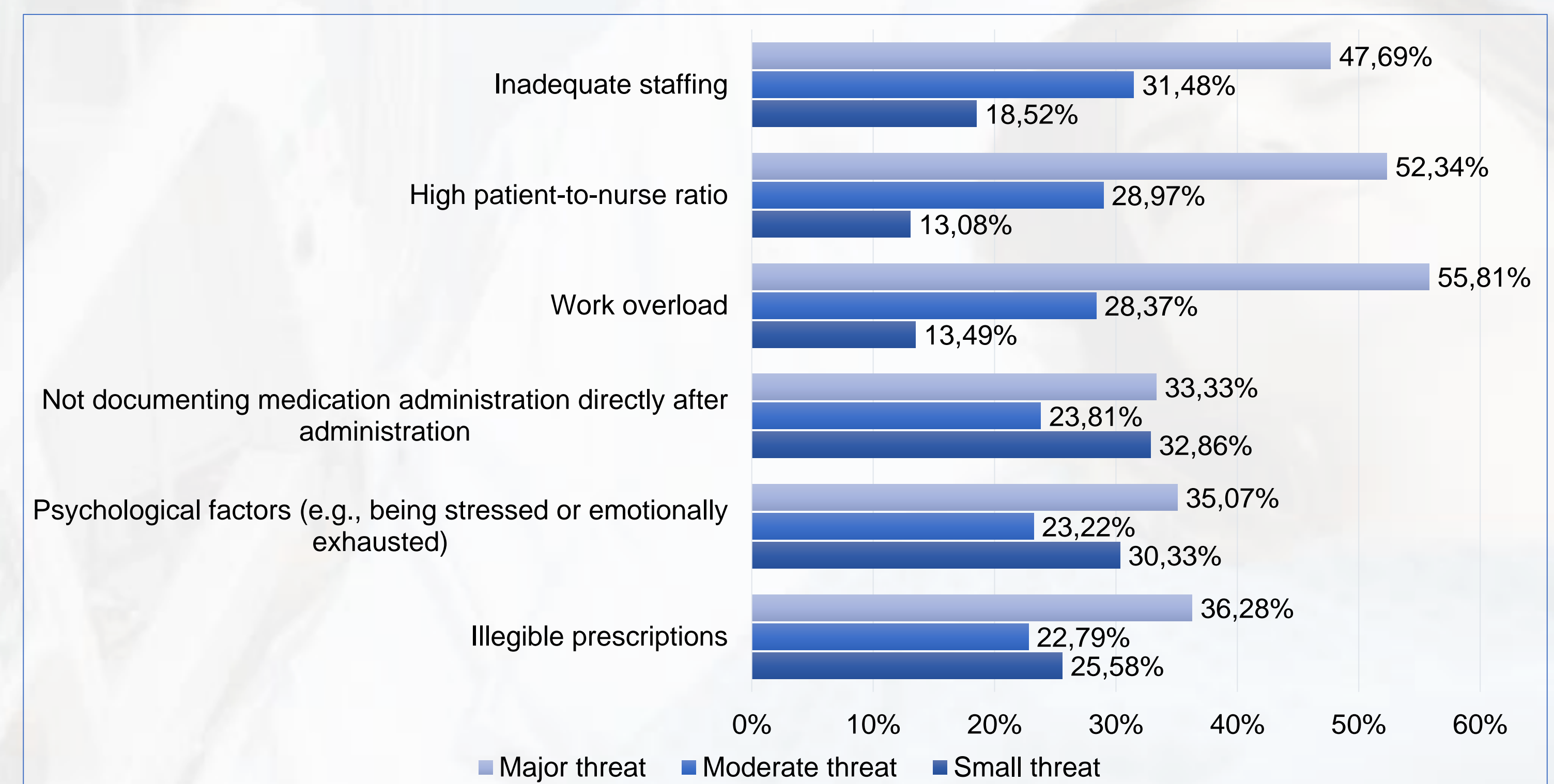


Figure 3: Perceived causes of medication administration errors.

Participants claimed to report medication administration errors most of the time, irrespective the degree of harm caused. Fear and administrative response to errors were the major reasons why medication administration errors were not reported of which the following were highlighted: nurses did not report medication errors as they believed they could be blamed if something happened to the patient resulting from a medication error, no positive feedback was given to them for passing medications correctly, and that nursing administration rather focused on the individual rather than looking at the systems as a potential cause of the error.

The following significant correlations were identified amongst variables:

- Error incidence with the overall grade on medication administration safety;
- Non-punitive response to errors with "We work in "crisis mode" trying to do too much, too quickly", reporting effort, fear and administrative response to errors; and
- All the subscales that measured reasons of non-report (definition of a medication error, reporting effort, fear, and administrative response to errors) correlated with each other.

CONCLUSION

Harm caused by medication administration errors is underestimated. Errors should be addressed in a less punitive manner. Staffing levels and working hours should be managed to prevent role and work overload. Communication lapses should be addressed to minimise error incidence. Nursing staff should be encouraged to report all medication errors, whether harm was caused or not.

