ABSTRACT

Background

Blood transfusion–related adverse events are increasing in low-income settings, influenced by staff and system factors. At Teaching Hospital, Batticaloa (THB), the competency of nursing officers during transfusions has not been evaluated. Preventable adverse events are reported due to poor competency level, contributing to morbidity, prolonged hospitalization, legal consequences and higher healthcare costs. This study assessed nursing officers' transfusion competency and associated system- related factors at a tertiary hospital in Eastern Sri Lanka.

Methods

A hospital-based cross-sectional study was conducted among 423 nursing officers at THB from October–November 2025, with a response rate of 90.5%. Data were collected via a structured self-administered questionnaire, key informant interviews, and checklists. Quantitative data were analyzed using descriptive and inferential statistics (ANOVA, independent sample T-test) in SPSS version 25, with significance at $p < 0.05$. The competency score of nursing officers and their association with system-related factors has been assessed. Staff and system-related factors were further explored by using key informant interviews.

Results

Most participants were female (82.5%), aged 25–34 years (65%), with ≤4 years of professional experience (44.9%). Most held a diploma in nursing (76.1%) and most(54.1%)had performed ≤4 blood transfusions in the past six months. The mean overall competency score was 74.84, with 88.4% exhibiting moderate competency. Competency score was increased with total years of experience ($p = 0.007$) and

years of experience completed in current working unit(p=0.000), but not with gender, age, working unit and qualification. Only 17.5% of participants had received in-service training, and surprisingly, nurses those who had not participated in such training scored slightly higher than those who had (p = 0.002). System-related challenges (understaffing, high workload, poor access to SOP, and communication gaps) were reported. Lack of facilities and blaming culture are significantly associated with competency scores (p = 0.003 and p = 0.000, respectively). The majority of nurses (97.4%) expressed a need for further training, particularly in adverse reaction management and transfusion administration, emphasizing practical drills, SOP display, and regular competency assessment.

Conclusion and Recommendation: Nursing officers showed moderate competency level in blood transfusion practices, competency score is associated with years of experience rather than demographics. High workload, understaffing, communication gap among staff are identified as system related challenges. The lack of facilities and blaming culture are associated with competency score. It is recommended to conduct in-service training programme and continuous professional sessions among nursing officers regarding patient safety practices during blood transfusion.

Key words: Patient safety practices, Blood Transfusion, Adverse Events, Staff and System-related factors, Competency Score, Nursing officers,Batticaloa