

## Enhancing Patient Safety: Medication Administration Related Knowledge, Practices and Associated Factors among Nurses at Colombo South Teaching Hospital, Sri Lanka

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Ensuring patient safety is paramount in healthcare settings, where nurses' expertise and precision in medication administration play critical roles. This study delved into the knowledge, practices, and associated factors related to medication administration at Colombo South Teaching Hospital (CSTH). A descriptive cross-sectional study was conducted among 100 randomly selected nurses working in the medical and surgical wards at CSTH after obtaining ethical approval from the Ethics Review Committee, KAATSU International University, Sri Lanka. Data were collected using an interviewer-administered questionnaire and analyzed using SPSS version 25. The mean age was  $31.51 \pm 6.014$  years. The majority were female ( $n = 84, 84\%$ ), Sinhalese ( $n = 97, 97\%$ ), and married ( $n = 61, 61\%$ ). There were significant deficiencies in nurses' knowledge despite consistent adherence to essential practices such as reading the BHT/medication administration record ( $n = 100, 100\%$ ) and routinely checking medication expiration dates ( $n = 87, 87\%$ ). Notably, 60% ( $n = 60$ ) of nurses exhibited inadequate knowledge of pharmacology, while an alarming 92% ( $n = 92$ ) lacked proficiency in medication dilution, storage, management, and drug dose calculations. These shortcomings were reflected in the mean knowledge scores:  $51.41 \pm 19.63$  for pharmacology,  $43.02 \pm 10.72$  for drug management, and  $56.02 \pm 19.26$  for dose calculations. Pharmacological knowledge was significantly associated with participation in recent drug management courses ( $p = 0.000$ ), while no significant correlations were observed with gender ( $p = 0.824$ ), education level ( $p = 0.669$ ), religion ( $p = 0.581$ ), or race ( $p = 0.338$ ) at a 95% confidence interval. Although nurses adhered to medication administration protocols, critical knowledge gaps in pharmacology underscore the necessity for targeted educational interventions to enhance patient safety.

**Keywords:** *knowledge, practice, medication administration, nurses, CSTH*