

EXTRAVASATION MANAGEMENT AWARENESS IN NURSING STAFF IN A TERTIARY CARE HOSPITAL

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Background and Importance

Extravasation of cytotoxic agents is a serious cancer treatment complication requiring prompt management. Nurses administering vesicant chemotherapy must stay updated on the latest evidence for prevention and treatment. As patient advocates, their expertise is vital for early identification, proper management, and documentation of extravasation, ensuring patient safety through vigilant, evidence-based care.

Aims and Objectives

This study aimed to evaluate the level of awareness among nursing staff handling cytotoxic and biological anticancer agents, focusing on their knowledge and practices in managing extravasation.

Materials and Methods

- **Study design:** Prospective, unicentric, cross-sectional survey.
- **Study period:** November 2023 – September 2024.
- **Participants:** Nursing staff handling cytotoxic and biological agents in a tertiary hospital.
- **Method:**
 - **Anonymous 10-item questionnaire** assessing knowledge and experience with extravasation during the mandatory cytotoxic drug handling training session by clinical pharmacists.
 - **Data collected:** Years of practice, experience with extravasation cases, extravasation risk factors and symptom recognition, familiarity with high-risk agents and antidote knowledge.
 - **Data analysis:** Descriptive statistics were used to evaluate responses using MS Excel and OpenAI ChatGPT 4.0

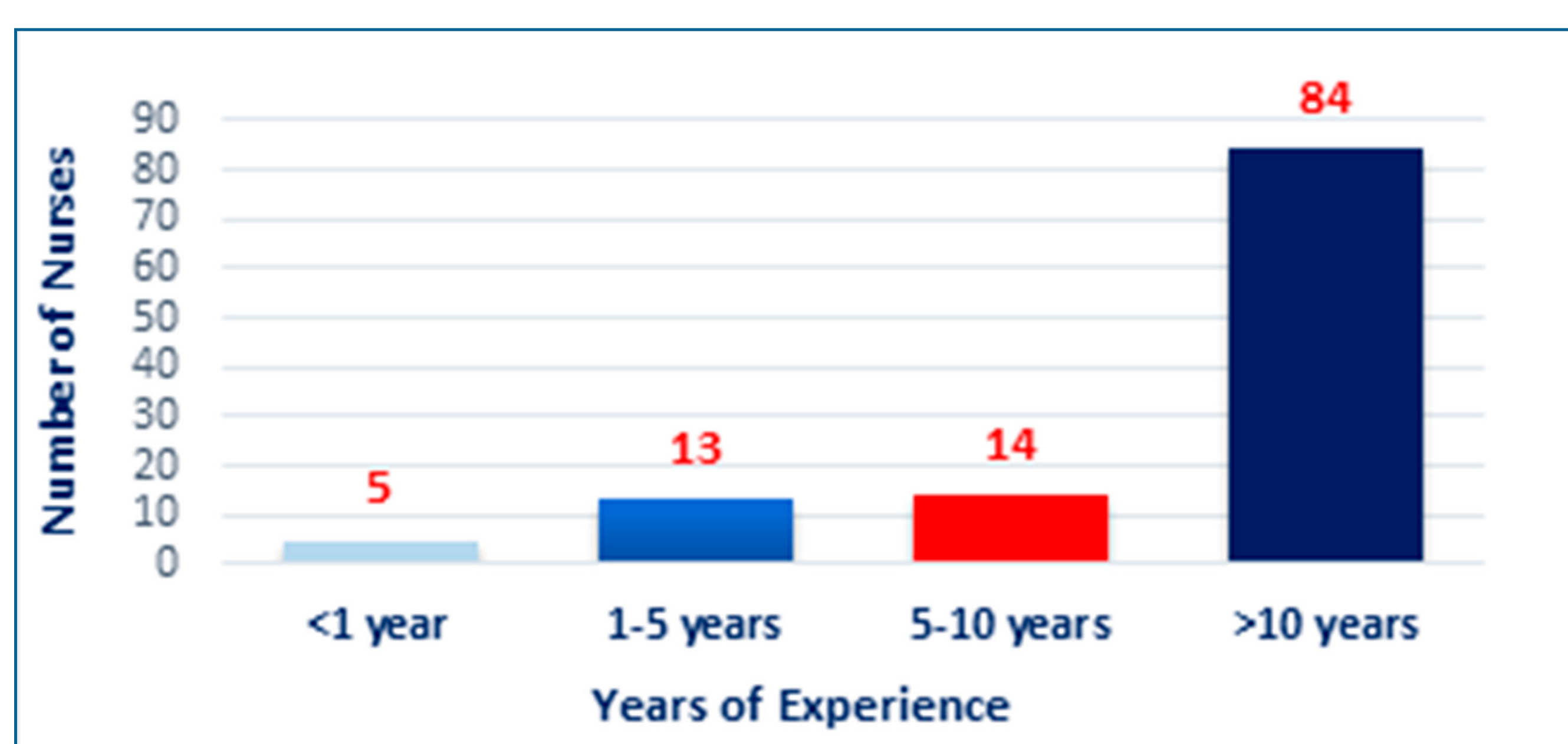


Figure 1: Distribution of Respondents per Years of Experience in Healthcare (n=116)

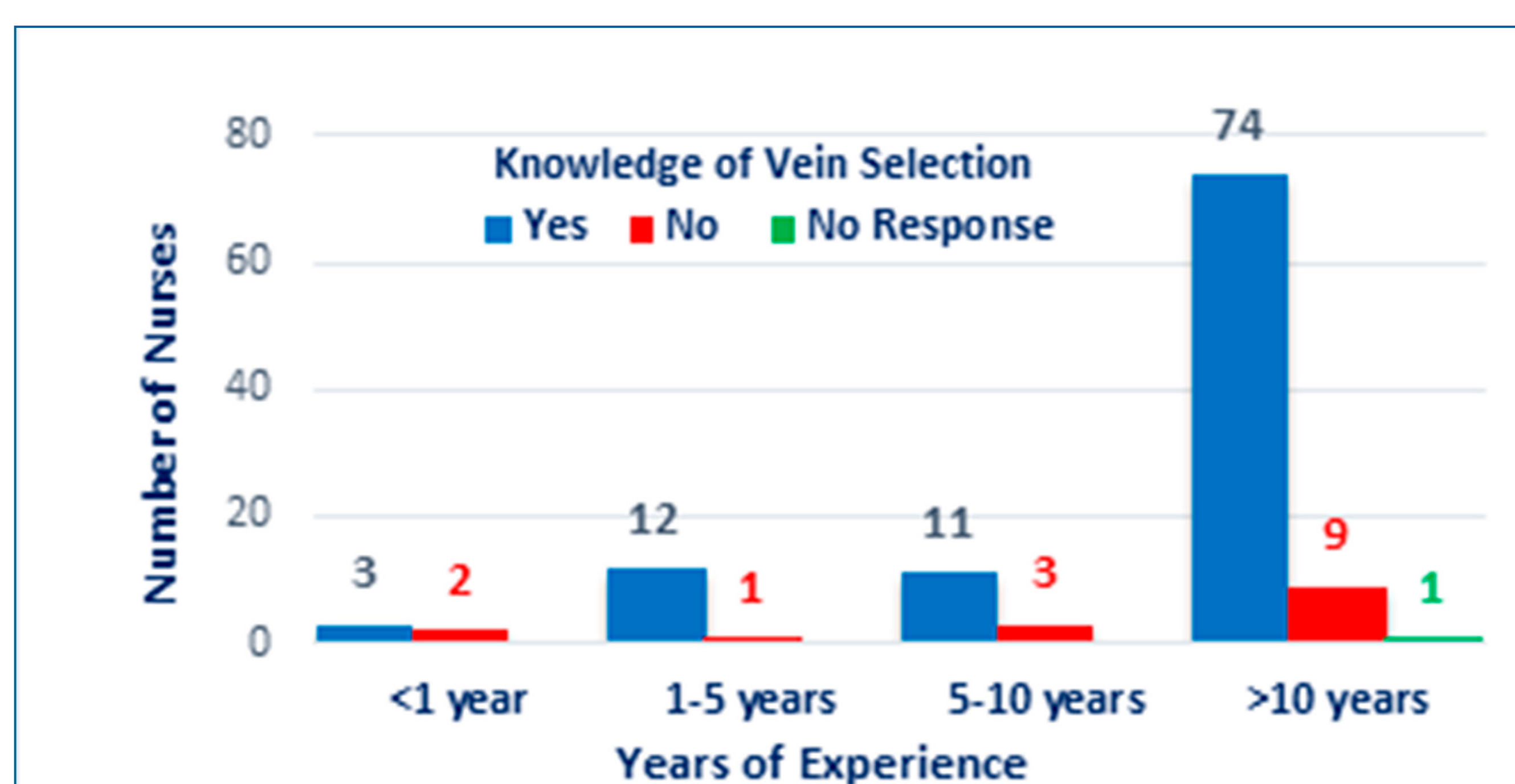


Figure 2: Nurses' Knowledge of Vein Selection for Cytotoxic Drug Administration (n=116)

Results

• Experience & Exposure

- A total of **116 nurses** participated in the survey, with the majority (**72.4%**) having **10+ years of healthcare experience** (Fig. 1). Despite this, **57.8%** had **never encountered an extravasation** case, suggesting limited practical exposure. Since 2020, only 14 cases of extravasation have been officially reported in our institution to date.

• Knowledge & Confidence in Venous Access

- The vast majority of nurses (**86.2%**) expressed confidence in their ability to select appropriate veins for the administration of cytotoxic drugs. (Fig.2)

• Awareness of Risk Factors & Symptom Recognition

- Nearly all nurses (**93.1%**) of nurses demonstrated **partial knowledge of risk factors**, such as repeatedly cannulated veins, lymphedema, and prolonged infusion duration (Fig. 3).
- Only **38.1% nurses with 10+ years of experience** (n=84) could fully **describe extravasation symptoms**.

• Patient Education Practices

- Only **8.6%** (n=10) nurses acknowledged that they **do not educate** patients about the risks and symptoms of extravasation.

• Knowledge of Antidotes

- **Only half of respondents** recognized **DMSO 99% + cold compresses** as the antidote for anthracycline extravasation as dexrazoxane is not available in our institution.
- Merely 7.8% nurses (n=9) correctly identified **hyaluronidase + warm compress** as the appropriate antidote for vinca alkaloid extravasation.

• Antidote Availability

- Over two-thirds of nurses were aware of the antidote storage locations; however, **25% were unsure**. Additionally, only 10% of nurses were confident that antidotes are available on a 24/7 basis.

Conclusion

Despite established protocols, gaps in nursing staff awareness of cytotoxic agent extravasation persist, particularly in symptom recognition, patient education, and antidote administration. To enhance patient safety, regular training sessions have been introduced to reinforce best practices in extravasation management.

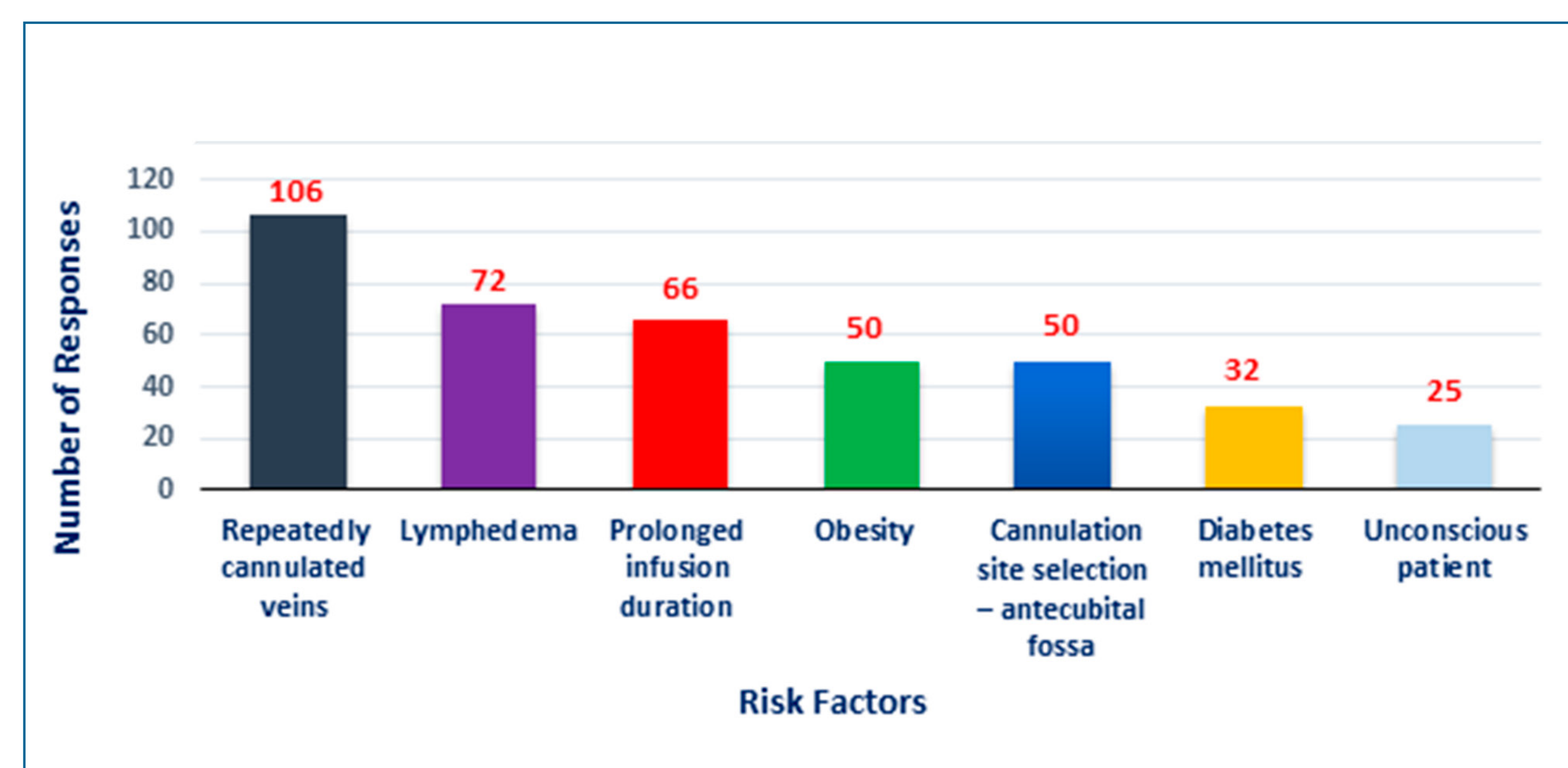


Figure 3: Risk Factors Predisposing Patients to Extravasation (n=116 respondents)
N.B. Multiple answers allowed, each item is a known risk factor.

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Disclosure of Interest: None to declare

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