

Oncology nurses' beliefs and attitudes towards the double-check of chemotherapy medications: a cross-sectional survey study

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Abstract

Background: Double-checking medications is a widely used strategy to enhance safe medication administration in oncology, but there is little evidence to support its effectiveness. The proliferated use of double-checking may be explained by positive attitudes towards checking among nurses. This study investigated oncology nurses' beliefs towards double-checking medication, its relation to beliefs about safety and the influence of nurses' level of experience and proximity to clinical care.

Methods: This was a survey of all oncology nurses in three Swiss hospitals. The questionnaire contained 41 items on 6 domains. Responses were recorded using a 7-point Likert scale. Multiple regression analysis was used to identify factors linked to strong beliefs in the effectiveness of double-checking.

Results: Overall, 274 (70%) out of 389 nurses responded (91% female, mean age 37 (standard deviation = 10)). Nurses reported very strong beliefs in the effectiveness and utility of double-checking. They were also confident about their own performance in double-checking. Nurses widely believed that double checking produced safety (e.g., 86% believed errors of individuals could be intercepted with double-checks). In contrast, some limitations of double-checking were also recognized, e.g., 33% of nurses reported that double checking caused frequent interruptions and 28% reported that double-checking was done superficially in their unit. Regression analysis revealed that beliefs in effectiveness of double-checking were mainly associated with beliefs in safety production ($p < 0.001$). Nurses with experience in barcode scanning held less strong beliefs in effectiveness of double-checking ($p = 0.006$). In contrast to our expectations, there were no differences in beliefs between any professional sub-groups.

Conclusion: The widespread and strong believe in the effectiveness of double-checking is linked to beliefs about safety production and co-exists with acknowledgement of the major disadvantages of double-checking by humans. These results are important factors to consider when any existing procedures are adapted or new checking procedures are implemented.

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