

Double checking high-risk medication administration from a Safety-II perspective: deviations and considerations in daily practice

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Administration of high-risk medication

- High-risk medication significantly increase the risk of adverse events due to their complexity and immediate effect
- The **'five rights'** of safe medication administration
- Double-check entails an independent check of the medication before administration, by a second qualified health care professional, who is present at the bedside of the patient at the administration time
- **Low compliance** with the double-check. However, most high-risk medication administrations are performed **safely**

Research objectives

1. Investigating the **process of preparing and administrating** high-risk medication and examined which **variations** occur in daily practice.
2. Investigating which **considerations** were taken into account when **deviating from the guidelines**.

FRAM and work related ETTO rules

FRAM

- WAD model based on interviews with 8 nurses per ward
- WAI model based on hospital guidelines
- Construct a ward-overarching WAD model
- Construct a WAI model based on the Dutch guidelines

Work related ETTO rules

- Coding of transcripts based on the work related ETTO rules

Differences WAI vs. WAD

- WAD showed four variations on the administration of high-risk medication and the double-check
 1. A double-check during the administration by a second nurse at the bedside. To speed up the process, nurses share information about the medication or administration.
 2. No double-check is performed. The nurse administers the medication alone.
 3. A double-check is performed after the administration. In this variation, a second nurse visits the patient sometime after the administration.
 4. The administered medication is not checked during the administration, however, it is double-checked during shift changes.
- When deciding how the double-check will be performed, multiple factors were taken into consideration during a risk-assessment.

Risk-assessment

- Factors differed between wards, but also between nurses of one ward
- Factors considered during the risk-assessment
 - Patient's complexity
 - Familiarity with the medication
 - Medication route
 - Type of medication
 - Availability of a colleague

'Sometimes the medication seems very simple and straightforward. However, the patients we take care of are very ill. Their bodies just work differently, so you always need to be precise. All medications become very complex, especially with instable patients.'

'I am less strict with some medications we use frequently. In my opinion, the guidelines can be too rigid with some medicines, since those medicines are very simple and the consequences are not severe when an incident happens.'

Work related ETTO-rules

Deviating out of time pressure

- *'In the night shift, every nurse is responsible for fifteen patients. Most times, when a high-risk medication has to be administered at night, no other nurse is available. However, my patient still needs their medicine at that moment.'*

Deviating out of habit

- *'All nurses think more lightly about high-risk medication. Most of the medications are administered without the double-check, and it's done out of habit. It has become the standard procedure.'*

Trust in own expertise

- *'I know what I'm doing, and I do it during every shift. So why bother one of my colleagues with a double check when it is not necessary?'*

Trust in expertise of a colleague

- *'Especially with colleagues that I know for a long time or work frequently with, we do not always check each other's work. I trust they did everything right, and they trust me.'*

The medication has already been checked

- *'The medication has been double-checked during the preparation, so I see no added value for checking it again during administration.'*

Not important

- *'I have to admit, I don't always know the added value of the double-check. The checks the system gives, decrease the risk significantly, and the few things the system cannot check, are checked during the shift changes. Not knowing the added value makes it difficult to motivate myself to execute the double-check.'*

Conclusion

- Most deviations are present during the administration of the high-risk medication, mostly due to the double-check.
- Eventhough nurses often do not comply with the protocol, most high-risk medication administrations are performed without incidents.
- Hospital ward specific alterations should be made to adjust to the daily practice of that ward, while maintaining patient safety.

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