

Medication administration evaluation and feedback tool design and validation

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BACKGROUND:

The purpose of this study was to design and test the reliability and acceptability of a medication administration evaluation and feedback tool (MAEFT). Medication administration errors contribute to patient harm. There are no medication administration assessment tools that are valid, reliable.

METHODS:

The study design has four components:

Phase 1 - Design of a tool using an expert panel to determine the item and scale content validity.

Phase 2

Part 1 - To test the intra-rater and inter-rater reliability, agreement of the MAEFT in a simulated environment.

Part 2 - To test the inter-rater reliability, agreement and acceptability of the MAEFT in a clinical environment observing nurses administer medications.

Part 3 - A longitudinal cohort observational intervention following up nurses using the MAEFT to determine if there was any change in medication administration practice.

RESULTS:

The expert panel determined that the MAEFT was clear, concise, observable and generic for use in any setting universally, and by any profession administering medications. The overall Fleiss' Kappa intra-rater reliability was 0.72, and for inter-rater reliability was 0.68 which was good. Part 3 - Mean scores were 93% at both time points, indicating no significant difference in nursing practice when followed up.

CONCLUSION:

The designed MAEFT demonstrated reliability in a simulated and clinical environment. Nurses and observers found the process positive, useful and evaluated the skills, knowledge and attitude of the nurse's usual medication administration practice. Though there was no significant difference in practice over time, the nurses base evaluation was already high on reflection and observation of practice. Improved medication administration standard compliance, would minimise the risk of harm to patients from avoidable medication errors.

FURTHER RESEARCH:

Further research is planned developing an education plan and evaluating the impact of using the MAEFT has on nursing and other health professionals medication administration practice. With the aim of reducing preventable medication errors and patient harm.

References:

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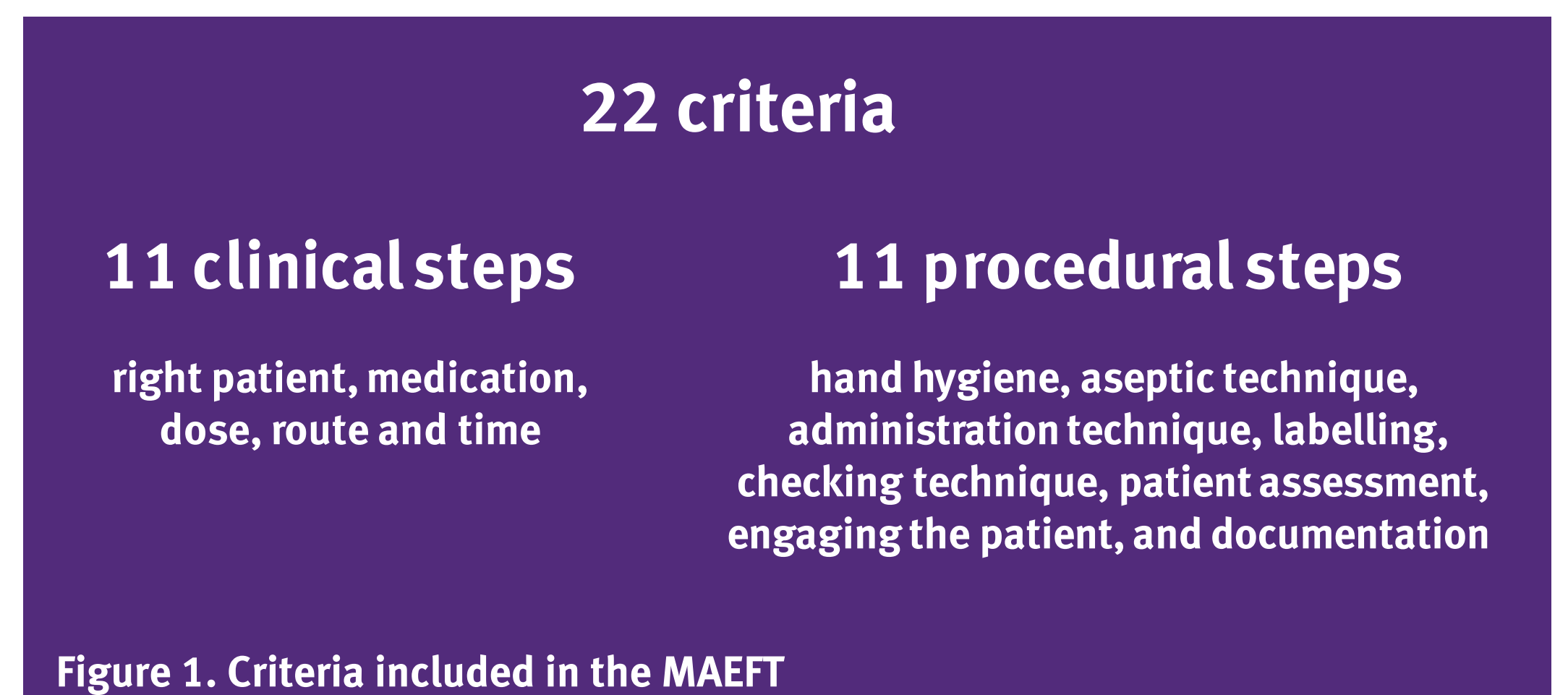


Figure 1. Criteria included in the MAEFT

Date	Nurse:	Years of experience	Ward:	Observer:	
Category	Check		Self Assessment	Checked	If not, example and comment
Right Patient	1. Ask the patient to state their name and date of birth (DOB).		Rarely	Yes / No / N/A	
			Sometimes		
			Usually		
			Consistently		
			Rarely	Yes / No / N/A	
			Sometimes		
			Usually		
Right Medication	2. Check the patient name, DOB and the hospital record number (HRN) against the identification (ID) band and the medication record ID.		Rarely	Yes / No / N/A	
			Sometimes		
			Usually		
			Consistently		
			Rarely	Yes / No / N/A	
			Sometimes		
			Usually		
Right Medication	3. Ask the patient if they have any allergies or previous adverse drug reaction (ADRs) to any medicines and checked the patient response against the allergies section on the medication record and confirmed they are not allergic to the medicine or similar class of medicine.		Rarely	Yes / No / N/A	
			Sometimes		
			Usually		
			Consistently		
			Rarely	Yes / No / N/A	
			Sometimes		
			Usually		
Right Medication	4. If required, update the allergies section of the medication record and / or discussed discrepancies with the prescriber.		Rarely	Yes / No / N/A	
			Sometimes		
			Usually		
			Consistently		
			Rarely	Yes / No / N/A	
			Sometimes		
			Usually		
Right Medication	5. Checked the medication against the medication order and confirmed the medication name and formulation are correct.		Rarely	Yes / No / N/A	
			Sometimes		
			Usually		
			Consistently		
			Rarely	Yes / No / N/A	
			Sometimes		
			Usually		
Right Medication	6. Confirm the medication is indicated for the patient diagnosis and checked there are no duplicate orders of the medicine or of similar class of medicine.		Rarely	Yes / No / N/A	
			Sometimes		
			Usually		
			Consistently		
			Rarely	Yes / No / N/A	
			Sometimes		
			Usually		
Right Medication	7. Checked the medication expiry is within date.		Rarely	Yes / No / N/A	
			Sometimes		
			Usually		
			Consistently		
			Rarely	Yes / No / N/A	
			Sometimes		
			Usually		

Figure 2. Example of a section of the MAEFT

Comparison	Detail	Percent agreement			Fleiss' Kappa			*Evaluation
		Expected due to chance	Observed	95% CI	Kappa	95% CI		
All	30 nurse observer pairs	0.58	0.90	0.88 0.93	0.77	0.71 0.82	Excellent	

* Poor = k<0.40; fair = k 0.40-0.59; good = k 0.60-0.74; excellent = k > 0.74 (Polit & Beck, 2006)

Table 1. Inter-rater Reliability Percentage Agreement and Fleiss' Kappa (n=30)

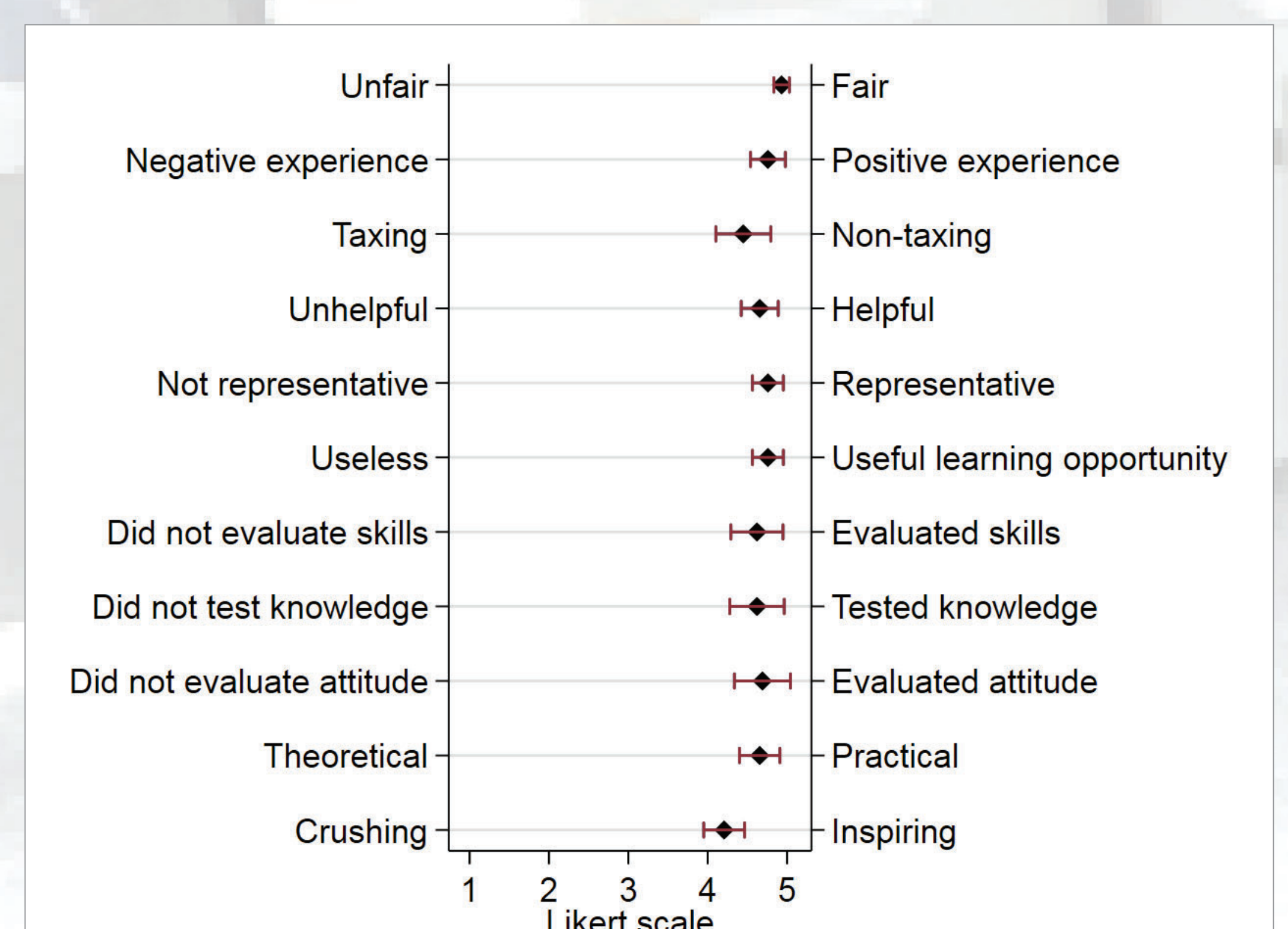


Figure 3. Nurse Clinical Evaluation Survey Results (mean and 95% confidence intervals) n=29