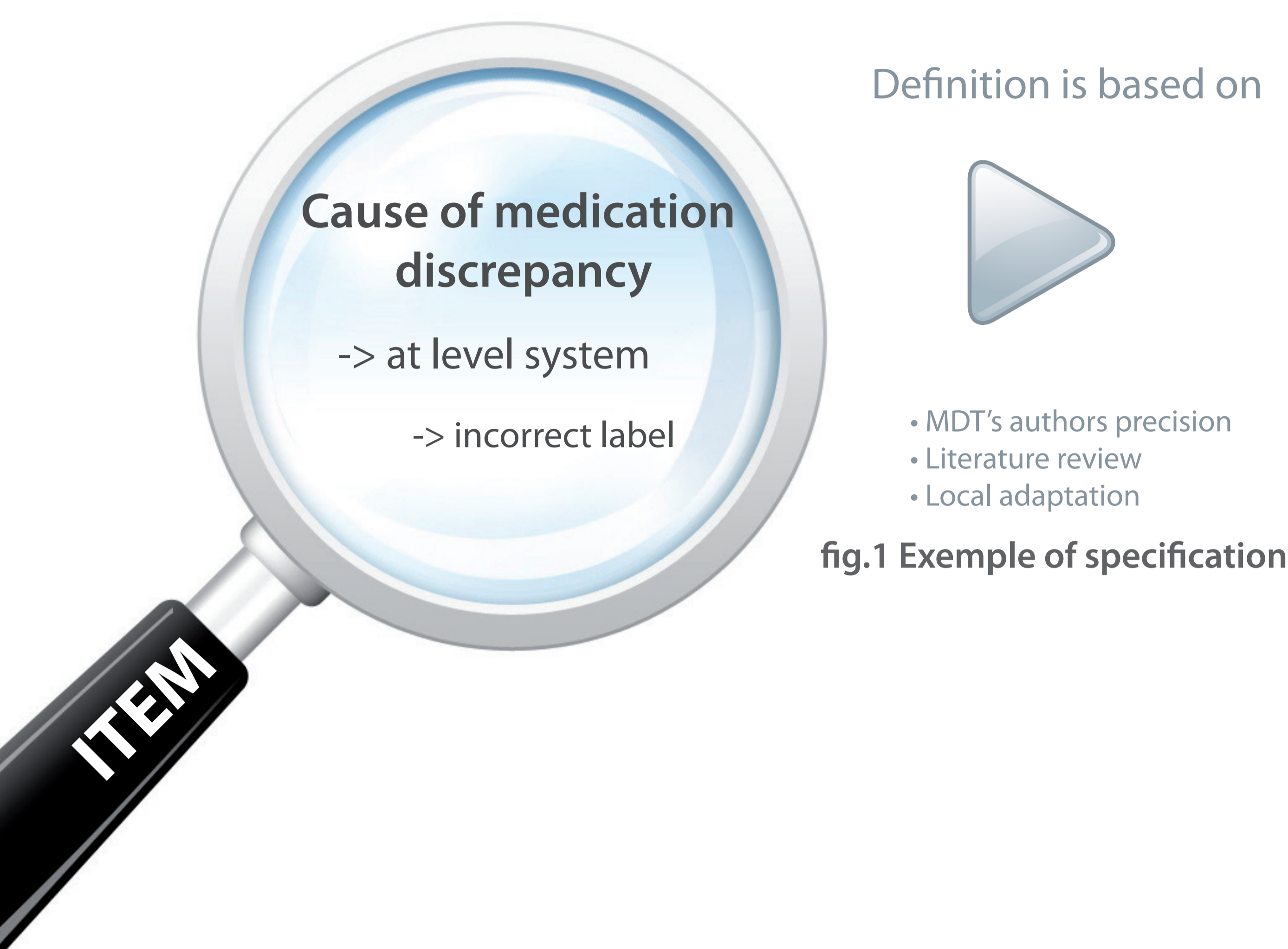# Content validation of a modified translated version of the medication discrepancy tool

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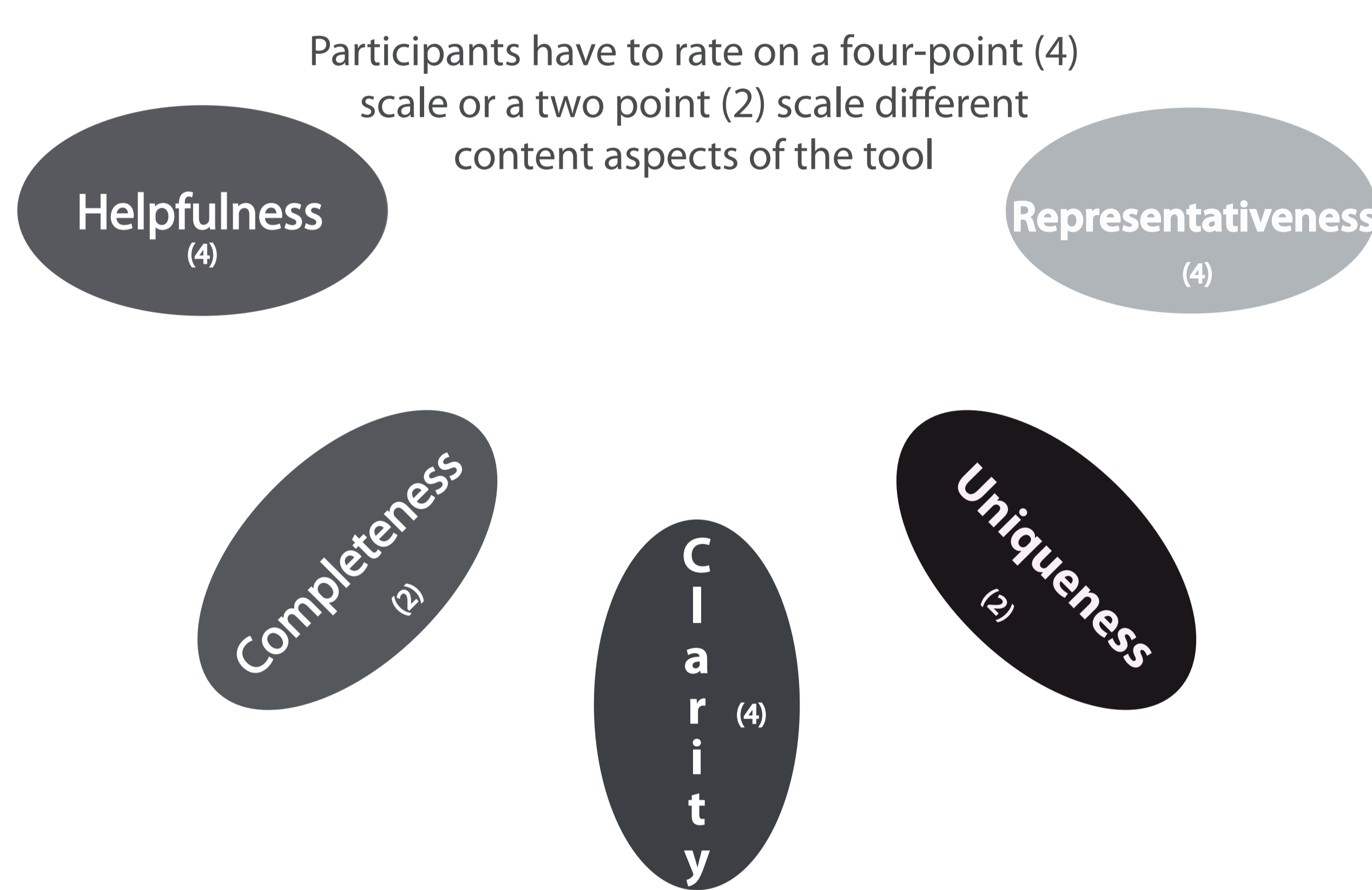
Background and Objective

Medication discrepancies are specific medication errors related to the transfer of patients between different settings of care. The only validated tool to identify and categorize such discrepancies is the medication discrepancy tool (MDT; Smith, 2004)[1]. However, the interrater reliability was modest. This could be improved with detailed specifications **(fig.1)**. Content validation of this new version of the MDT is then necessary.

Cause of medication discrepancy

-> at level system

-> incorrect label

Definition is based on

• MDT's authors precision
• Literature review
• Local adaptation

ITEM

fig.1 Exemple of specification

Incorrect label: a misprint of the pill bottle conflicts with the prescription in dosage, name or directions. Mainly for pharmaceutical forms prepared in pharmacy or directions for use specified by pharmacist on the drug packaging.

Design

The MDT was translated in French and specifications were introduced. Content validity consists of a two-stage process (development and judgment quantification)[2]. For the first stage, modifications of the new version of the instrument were based on a literature review to determine if additional items or sections should be included in the tool. For the second stage, a panel of experts was recruited to assess different aspects of the content of the tool **(fig.2)**. The Content Validity Index (CVI), a measure which indicates the proportion of members who endorsed an element as content valid, was determined. It was calculated at item-(I-CVI) and tool-level (S-CVI)[3]. Average deviation mean index (ADm) was used to evaluate interrater agreement[4]. A second round was conducted to assess modifications of the instrument resulting from the first validation round.

fig.2 Content aspects of the modified translated version to assess

Participants have to rate on a four-point (4) scale or a two point (2) scale different content aspects of the tool

Helpfulness (4)

Representativeness (4)

Completeness (2)

Clarity (4)

Uniqueness (2)

Setting

Eleven health care professionals (HCPs) (nurse, doctors and pharmacists) interested in the field of patient transfer or having clinical experience in managing patient transition were recruited as experts for the first validation round. Three HCPs (nurse, doctor, and pharmacist) participated in the second round.

Main Outcome Measures

I-CVI, S-CVI and ADm to determine items to revise or to discard and items to add to the instrument.

Results

A total of 45 items were comprised in the three sections of the modified instrument (type of discrepancy, cause, and intervention). Items to describe type of discrepancy were added. A definition was given to each section and each item was described with a definition and an example **(fig.3)**. One example describing the use of the tool was also added. After the first content validation round of this new version of the instrument, several modifications were made, including: definitions of the three sections were modified, 9 items were pooled with another item, 2 items were added, and 30 items were modified at title-, definition- or example-level **(fig.4)**. The second round enabled us to validate these modifications.
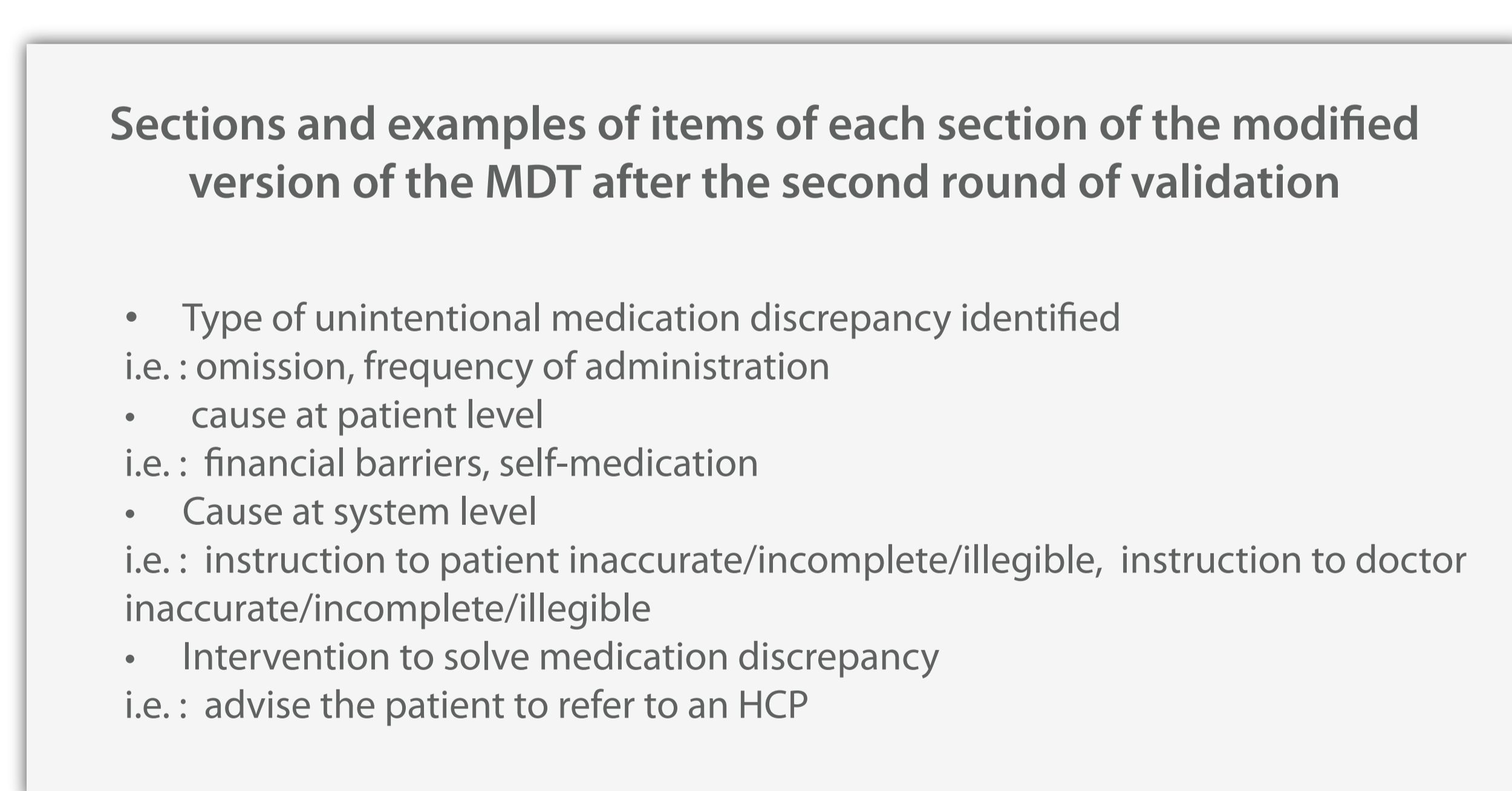
Sections and examples of items of each section of the modified version of the MDT after the second round of validation

- Type of unintentional medication discrepancy identified
  i.e. : omission, frequency of administration
- cause at patient level
  i.e. : financial barriers, self-medication
- Cause at system level
  i.e. : instruction to patient inaccurate/incomplete/illegible, instruction to doctor inaccurate/incomplete/illegible
- Intervention to solve medication discrepancy
  i.e. : advise the patient to refer to an HCP

fig.3

NAME OF ITEM	REPRESENTATIVENESS OF ITEM (n = 11)				CLARITY OF THE NAME OF ITEM				CLARITY OF DEFINITION (n=11)				UNIQUENESS OF ITEM (n=11)		COMMENTS OF EXPERTS
Score	1	2	3	4	1	2	3	4	1	2	3	4	1	2	
Incorrect label	0	0	3	8	1	0	3	7	1	1	0	9	5	6	E1 : I don't very well understand the sense of item. E2 : Scarce E3 : Is this item is not covered by item «conflicting information from different informational sources» ? E4 : the name of item could be replace by « instruction to patient inaccurate ». But this is the same that item «conflicting information from different informational sources»… E5 : included in item « delivery error »?
I-CVI	1				0,9				0,81				0,45		Conclusion : item "incorrect label" will be pooled with another item of the section "cause of medication discrepancy at system level"
ADm (p-value)	0,39 (0,02)				0,69 (0,1)				0,74 (0,16)				0,49 (1)		

fig.4 Results of content validation by 11 HCPs for the item «incorrect label»

Conclusion

Content validation of the modified translated MDT was realised. The next objective will be to calculate the interrater reliability of this new version of the instrument.

References

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3. Polit, D.F. and C.T. Beck, *The content validity index: are you sure you know what's being reported? Critique and recommendations.* Res Nurs Health, 2006. 29(5): p. 489-97.
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