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Phases of medical consultation : multimodal analysis of transitions

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THEORETICAL FRAMEWORK

Studies on interactions

- Interactions are structured [1]
- Interactions are contextual [2]
- Interactions are multimodal [3]
- Speakers-listeners mutually influence each other [4]

Sequential organisation

- Medical consultation is structured in phases [5,6]
- The phases are : Opening, Taking history, Examination, Diagnosis, Treatment and Closure [7]
- Previous study shows phases for breaking bad news are slightly different (see Analysis and Results 2.).

Transitions

- All the interlocutors participate to the transitions from one phase to another [8]
- One can refuse a transition to the next phase [9]
- Transitions are multimodal [10]

CORPUS

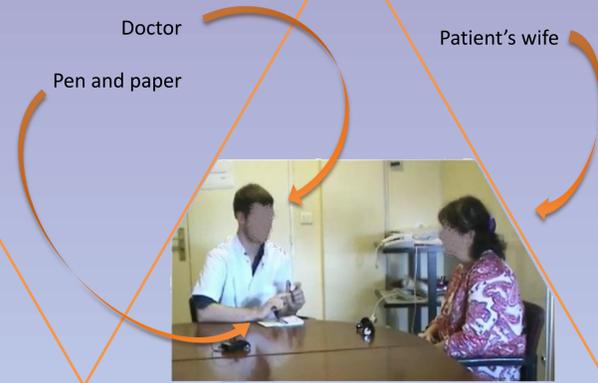
Some figures

- 7 interactions
- 7 doctors
- 2 actors
- 1 scenario
- 1 h. 32 min. 24 s. video

Doctors found the patient had an intestinal obstruction. They did a surgery to open the duodenum but while the patient was asleep some stomach liquids find their way to the lungs causing respiratory distress. The patient is now in intensive care emergency, unconscious. The doctor has to break the news to the patient's wife or son.

More information

- The corpus was made and belong to the Institut Paoli-Calmettes (Marseille, France)
- The interactions are simulation of breaking bad news consultations
- The interactions are part of a training to teach doctors how to break bad news



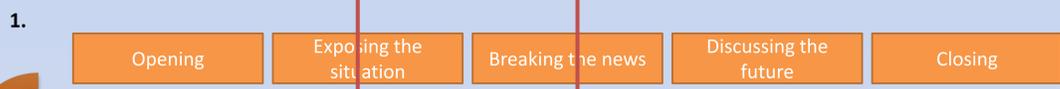
RESEARCH QUESTIONS

Which modalities are involved in transitioning from one phase to another?
How do they participate to the transition ?

ANALYSIS

AND

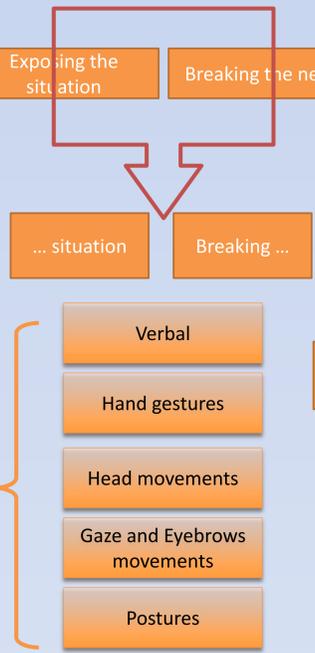
RESULTS



Focus on the transition between the « breaking the news » phase and the one before (usually « exposing the situation »)

Description of the transition with different modalities

Doctors AND Patients' relatives



Logical operator	occurrences	used by	Starts ... phases
\	13	pat / med	4
Donc - so	6	med	2
Mais - but	7	pat / med	3
et (puis) - and (then)	4	pat / med	2
Voilà	4	pat / med	2
Malheureusement - unfortunately	3	med	1
bon là - well here	1	pat	2
par contre - however	2	med	1
Merci - thank you	1	pat	
Actuellement - currently	1	med	
ça va - fine	1	pat	
en plus - moreover	1	med	
en pratique - in practice	1	med	
parce qu'en plus - because moreover	1	med	

Doctor								
	Logical operator	Pause	Pause duration	Hand Gesture	Head movements	Gaze	Posture	Else
IPC1	Par contre - however	before	896	beat	none	elsewhere	no change	/
IPC2	Malheureusement - unfortunately	after	913	beat	single nod	toward interlocutor	no change	/
IPC3	Mais - but	before	649	none	none	elsewhere	no change	/
IPC4	Malheureusement - unfortunately	before	1088	none	none	elsewhere	no change	extra communicative gesture
IPC6	Malheureusement - unfortunately	before / after	352 / 474	beat	none	elsewhere	no change	/
IPC7	Par contre - however	before	760	interactive	single nod	elsewhere	no change	/

Table 1. Features occurring with trigger which marks the swift from one phase to the breaking the news phase, per videos - doctor production.

Patient's relative								
	Logical operator	Pause	Pause duration	Hand Gesture	Head movements	Gaze	Posture	Else
IPC1	Par contre - however	no speech	/	none	none	toward interlocutor	no change	extra communicative gesture
IPC2	Malheureusement - unfortunately	no speech	/	none	single nod	toward interlocutor	no change	extra communicative gesture
IPC3	Mais - but	no speech	/	none	tilt	toward interlocutor	no change	extra communicative gesture
IPC4	Malheureusement - unfortunately	no speech	/	none	none	not visible	no change	/
IPC6	Malheureusement - unfortunately	no speech	/	none	none	toward interlocutor	no change	/
IPC7	Par contre - however	no speech	/	none	none	toward interlocutor	no change	/

Table 1. Features occurring with trigger which marks the swift from one phase to the breaking the news phase, per videos - patient's relative production.

CONCLUSION

- In this study :
- We wondered which modalities were used for the transition from one phase to another
 - We analysed the logical operator used to start the next phase and found that :
 - Most of the phases starts with **no operator**
 - Most of the operators are used to start two or more phases
 - "**malheureusement**" (unfortunately) and "**par contre**" (however) are the only operators used several times but only to start one type of phase, the "**breaking the news**" one.
 - Regarding the previous results, we focused our analysis on transitions to the "breaking the news" phase and found that :
 - Most of the doctors **pause right before** they produce the logical operator and **do not gaze** at their interlocutor
 - The only one doctor gazing at his/her interlocutor is also the only doctor pausing right after the logical operator
 - The **patient's relatives are inactive** during this transition, but gaze at their interlocutor

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