Doctor’s eye contact and patient’s response in geriatric triadic encounters

A study on verbal and nonverbal interaction

Joan, Shu-fen, Cheng
Introduction
Motivation

• Eye contact is an essential ingredient for establishing a personal relationship and for conveying your interest in the patient and his or her story. … Also, don’t let note-taking or your attention to a written medical record or a computer screen prevent crucial visual engagement with the patient.

Billings and Stoeckle, 1999, p. 15
Motivation

(Left to right: doctor, companion, patient)

The companion is the doctor’s addressee $\rightarrow$ doctor-companion dyad.
Research Questions

• What is patients’/companions’ response rate when doctors gaze towards patients versus towards companions or records?

• In what ways do doctors’ different degrees of gaze towards patients affect patient responses to doctors’ first open-ended questions?

• Is the silence correlated with doctors’ reading/writing medical records?
## Functions of Gaze

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Notes</th>
<th>Authors</th>
<th>Year</th>
<th>Notes</th>
</tr>
</thead>
</table>
| Abele             | 1986 | 1. monitoring feedback  
2. regulating the flow of communication |
| Beebe & Masterson | 2000 |       |         |      |       |
| Knapp & Hall      | 2006 |       |         |      |       |
| Heath             | 1986 | 1. display of recipiency:  
a. encourage the recipient to display the second action in reply  
b. begin an action without following the previous action produced by the performer |
| Robinson          | 2001 | 1. engagement framework: show the availability and actual engagement in collaborative action |
| Vertegaal et al.  | 2000 | 1. gaze as a predictor of conversational attention |
## Effects of Doctors’ Reading/Writing Records

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Effects</th>
</tr>
</thead>
</table>
| Frankel         | 2005 | 1. Facilitator: maintaining eye contact by intermittently reading/writing records  
                          2. Barrier: reading/writing records for a long time with little verbal activity |
| Greatbatch et al. | 1995 | 1. Doctors utter with pause in the midst of utterance, delay their utterance, or provide only minimal units in reply to patients’ utterance.  
                          2. Topic shift |
| Heath           | 1982 | 1. Patients may not only withhold their utterances but also delay their actual contents of utterance.  
                          2. Doctors may miss some detail information produced by patients, and even make the consultation little longer |
| Robinson        | 1998 | 1. ‘patients inscribed’ as diminished engagement |
| Ruusuvuori      | 2001 | 1. ‘patients inscribed’ as doctor-centered care  
                          2. Patients condense their story into one keyword resulting in omitting some relevant history information |
Methodology
Data collection

- 24 videotaped medical encounters
  - 24 patients: mean age of 73.25 years old;
  - 10 doctors: mean age of 32.5 years old
- Each patient with one companion is visiting the doctors for the first time
- in the family medicine department of a teaching hospital in southern Taiwan
Analysis Framework-Q1

• Doctors’ gaze patterns versus patients’/companions’ response rate
  – Gaze patterns: towards P (patient), C (companion), P&C, R (records) (within one turn of doctors’ question)

• How many responses are elicited from doctors’ questions with specific gaze patterns
Example of Analysis-Q1

- Gaze towards P, P response
  - two patient responses to doctor’s gaze towards the patient

- Gaze towards R, C response
  - one companion’s response to doctor’s gaze towards records

(Left to right: C, P, D)
Analysis Framework-Q2

• Doctors’ degrees of gaze towards patients versus patient response length and participation amount (to D’s 1st open ended-question)
  – Doctors’ degrees of gaze: doctors have their eye contact with patients for more than 60 percent of the response time, less than 40 percent of the response time, no eye contact
  – Patient Response: length (seconds), amount (syllables)

• The time span between the doctor’s 1st open-ended question and his/her second question

• How long do patients spend and how many syllables do they provide in reply to the doctors’ questions along with their different degrees of gaze
Example of Analysis-Q2

- Response length
  - 11 seconds
  - 10 sec. eye on record (90.9%)
  - 1 sec. eye to P (9.1%)

- Participation amount
  - 18 syllables

Less than 40% of the response time

(Left to right: C, P, D)
Analysis Framework-Q3

• Doctors’ gaze towards records versus silence
  – Gaze towards records: doctors’ head orientation toward the medical records
  – Silence: pause for 3 seconds or longer

• How many instances of silence co-occur with doctors’ reading/writing activities
Example of Analysis-Q3

• The doctor’s reading/writing activity: 2 instances
• Silence: 1 instance
Results & Discussion
Q1-What is the patients’/companions’ response rate when doctors gaze towards patients versus companions or records?

- The ratio of patients’ and companions’ response

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gaze towards patients</td>
<td>Gaze towards</td>
<td>Gaze towards</td>
<td>Gaze towards</td>
</tr>
<tr>
<td></td>
<td></td>
<td>companions</td>
<td>patients and</td>
<td>records</td>
</tr>
<tr>
<td>Response from</td>
<td>464 (97.7%)</td>
<td>18 (35.3%)</td>
<td>41 (87.2%)</td>
<td>264 (85.2%)</td>
</tr>
<tr>
<td>patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response from</td>
<td>114 (24%)</td>
<td>51 (100%)</td>
<td>39 (83%)</td>
<td>125 (40.3%)</td>
</tr>
<tr>
<td>companions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q1 - What is the patients’/companions’ response rate when doctors gaze towards patients versus companions or records?

- The ratio of patients’ and companions’ response directing to

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gaze towards patients</td>
<td>Gaze towards records</td>
</tr>
<tr>
<td>1</td>
<td>Response from patients</td>
<td>464</td>
</tr>
<tr>
<td></td>
<td></td>
<td>114</td>
</tr>
</tbody>
</table>

Response from patients:
- Gaze towards patients: 464 (97.7%)
- Gaze towards companions: 51 (100%)
- Gaze towards records: 39 (87.2%)

Response from companions:
- Gaze towards patients: 114 (24%)
- Gaze towards companions: 125 (40.3%)
- Gaze towards records: 264 (85.2%)
Discussion-Q1

• Eye contact as an indicator of who the next speaker might be
  – display the recipiency (Heath, 1986), establish the engagement framework (Robinson, 2001), signal the channel is open (Argyle and Dean, 1965)
• ➔ seek information or monitor feedback
Q2-In what ways do doctors’ different degrees of gaze towards patients affect patient responses to doctors’ first open-ended questions?

- The Overall View of Patients’ Responses Length and Participation Amount

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>60% ↑ (7 encounters)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length (seconds)</td>
<td>136</td>
<td>19.4</td>
</tr>
<tr>
<td>Participation (syllables)</td>
<td>323</td>
<td>46.1</td>
</tr>
<tr>
<td><strong>40% ↓ (13 encounters)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>175</td>
<td>13.5</td>
</tr>
<tr>
<td>Participation</td>
<td>285</td>
<td>21.9</td>
</tr>
<tr>
<td><strong>0% (3 encounters)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>44</td>
<td>14.7</td>
</tr>
<tr>
<td>Participation</td>
<td>1</td>
<td>0.3</td>
</tr>
</tbody>
</table>
Discussion-Q2

• **Eye contact as a nonverbal strategy in encouraging patients’ elaboration**
  
• The longer of the time doctors direct their gaze towards patients, the greater of the time and participation amount patients might contribute to their responses.
Q3-Is the silence correlated with doctors’ reading/writing medical records?

• Silence Distribution

<table>
<thead>
<tr>
<th>Silent moments</th>
<th>Instances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silence occurs when doctors have their gaze towards patients</td>
<td>3 (3.3%)</td>
</tr>
<tr>
<td>Silence occurs when doctors have their gaze towards records</td>
<td>89 (96.7%)</td>
</tr>
<tr>
<td>Total instances of silence</td>
<td>92 (100%)</td>
</tr>
</tbody>
</table>

10% of doctors’ reading/writing records takes up the majority (96.7%) of silences observed.

• Silence distribution in doctors’ reading/writing medical records

<table>
<thead>
<tr>
<th>Doctors’ reading/writing medical records</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctors’ reading/writing medical records without silence</td>
<td>800 (90%)</td>
</tr>
<tr>
<td>Doctors’ reading/writing medical records with silence</td>
<td>89 (10%)</td>
</tr>
<tr>
<td>Total</td>
<td>889 (100%)</td>
</tr>
</tbody>
</table>
Discussion-Q3

• Absence of eye contact as a potential cause to discontinue the conversation

  – “at least and not more than one party talks at a time” (Sacks et al., 1974): it is abnormal and rare when silence occurs
Conclusions
Conclusions

- Eye contact as an indicator of who the next speaker might be
  - Triadic: the participants include patients and companions
- Eye contact as a nonverbal strategy in encouraging patients’ elaboration
  - Before-physical-examination (information-seeking stage): for patients to freely present their information.
- Absence of eye contact as a potential cause to discontinue the conversational flow
  - Especially for those reading/writing activities lasting for more than 21 seconds. (p. 48-51)
  - Suggestion: intermittently reading/writing medical records in a short time
Conclusions

Doctors’ gaze towards patients

Important!!