Empathy in the Realm of Evidence-Based Medicine

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A Key Question

Can empathy be considered as an element in the domain of “evidence-based medicine?”
The answer would be: “Yes, if the following conditions are met:

1. Empathy could be operationally defined.

2. Empathy could be measured by a psychometrically sound instrument.

3. Empirical evidence confirms significant associations between empathy and clinical competence.

4. Empirical evidence shows significant associations between empathy and tangible patient outcomes.

Condition 1: Definition of Empathy in the Context of Patient Care

Empathy is predominantly a cognitive attribute which involves an understanding of experiences, concerns, and perspective of the patient, combined with a capacity to communicate this understanding, and an intention to help.”

Thus, empathy can be operationally defined.

Condition 2: Measurement of Empathy in Medical Education and Patient Care

The Jefferson Scale of Empathy
(S-Version, HP-Version, and HPS-Version)

- Contains 20 Likert-type items (7-point scale).

- Data support its validity (construct, criterion-related, convergent, and discriminant), and reliability (internal consistency: coefficient alpha; and score stability: test-retest).

The JSE has been translated into 47 languages so far, and been used in more than 70 countries.

SAMPLE ITEMS

From the S-Version:
“It is difficult for a physician to view things from patients’ perspectives.”

From the HP-Version:
“It is difficult for me to view things from my patients’ perspectives.”

From the HPS-Version:
“It is difficult for a health care provider to view things from patients’ perspectives.”

Thus, empathy can be measured by a psychometrically sound instrument.
Condition 3: Empathy and Clinical Competence

371 third-year medical students were rated by faculty on their clinical competence (High Honors, Excellent, Good, Marginal) on six core clinical clerkships (family medicine, internal medicine, obstetrics/gynecology, pediatrics, psychiatry, and surgery).

Students were grouped based on the number of highest ratings (High Honors), and lowest ratings (Good & Marginal).

Hojat, et al., Medical Education, 36, 522-527.

Results

Mean Empathy Scores and Ratings of Global Clinical Competence in Medical Students

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Honors Ratings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>115.0</td>
<td>11.0</td>
<td>&lt; .05</td>
</tr>
<tr>
<td>1 or more</td>
<td>119.0</td>
<td>10.0</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>Good or Marginal Competence Rating</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>120.0</td>
<td>11.0</td>
<td>&lt; .01</td>
</tr>
<tr>
<td>1 or more</td>
<td>116.0</td>
<td>10.0</td>
<td>&lt; .01</td>
</tr>
</tbody>
</table>
Thus, empathy is significantly associated with faculty’s ratings of medical students’ clinical competence.

Condition 4: Physician Empathy and Patient Outcomes

Two key studies in the U.S. and Italy


Purpose of the studies:

To test the hypothesis that physicians' empathy is associated with positive clinical outcomes for diabetic patients.

First Study in the U.S.

Data and Methods:

- 891 patients with diabetes mellitus treated by 29 physicians from Jefferson Department of Family and Community Medicine
- Physicians were categorized into 3 groups: high, moderate, and low empathy scorers

Patient outcomes:

- Hemoglobin A1c categorized as good control (<7.0%); poor control (>9.0%)
- Low density lipoprotein cholesterol (LDL-C) categorized as good control (<100); poor control (>130)
Primary care physician empathy scores and Hemoglobin A1c for patients with diabetes mellitus

<table>
<thead>
<tr>
<th>Empathy Level</th>
<th>High empathy</th>
<th>Moderate empathy</th>
<th>Lower empathy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor (&gt; 9.0%)</td>
<td>15%</td>
<td>16%</td>
<td>26%</td>
</tr>
<tr>
<td>7.0% - 9.0%</td>
<td>29%</td>
<td>35%</td>
<td>34%</td>
</tr>
<tr>
<td>Good (&lt; 7.0%)</td>
<td>56%</td>
<td>49%</td>
<td>40%</td>
</tr>
</tbody>
</table>

Primary care physician empathy scores and low-density-lipoprotein cholesterol (LDL-C) for patients with diabetes mellitus

<table>
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<tr>
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<th>High empathy</th>
<th>Moderate empathy</th>
<th>Lower empathy</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 130</td>
<td>14%</td>
<td>17%</td>
<td>24%</td>
</tr>
<tr>
<td>100 - 130</td>
<td>27%</td>
<td>30%</td>
<td>32%</td>
</tr>
<tr>
<td>&lt; 100</td>
<td>59%</td>
<td>53%</td>
<td>44%</td>
</tr>
</tbody>
</table>
Second Study in Italy

Data and Methods:
- **20,961** patients with type 1 or type 2 diabetes mellitus.
- Enrolled with one of **242** primary care physicians for the entire year of 2009.

Patient Outcome
- Occurrences of **acute metabolic complications** (diabetic ketoacidosis, hyperosmolar state, coma) in diabetes patients hospitalized in 2009.

Association Between Empathy Scores of Physician Participants (n = 242) and Disease Complications in Their Diabetic Patients (n = 20,961) Parma, Italy

![Bar chart showing the rate of acute metabolic complications per 1,000 diabetic patients for different empathy levels: High empathy (4.0 per 1,000), Moderate empathy (7.1 per 1,000), Lower empathy (6.5 per 1,000).]
Thus, physician empathy can predict tangible patient outcomes.

Final Remark

Based on the provided evidence, empathy should be considered as an element in the domain of “evidence-based medicine.”
Empathy in a Child’s Mind