Empathy and Osteopathic Medical Education

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Empathy as a Myth

Empathy may *not even exist* in reality after all (Lane, 1986).

Empathy should *be eliminated* and replaced by a less ambiguous term (Levy, 1997).

Empathy is *difficult to define* and *hard to measure* (Kestenbaum et al., 1989).
Empathy as a Reality

A concept that can be operationally defined and measured cannot be a myth.
Empathy is a predominantly cognitive (rather than emotional) attribute which involves an understanding (rather than feeling) of experiences, concerns, and perspective of the patient, combined with a capacity to communicate this understanding, and an intention to help.”

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 43 languages so far, and been used in over 60 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.”
Selected Highlights of Research Findings

Empathy and Academic Performance

• Empathy scores are *significantly correlated* with global ratings of *clinical competence* in medical school.

• Empathy scores are *not correlated* with performance on objective *examination of knowledge* in both basic and clinical sciences.

Physician empathy and gender:

Women in medical school, nursing school, dental school, and in medical practice tend to obtain higher empathy scores than men.

Physician empathy and specialty:

Physicians in “people-oriented” specialties (e.g., psychiatry, family medicine, internal medicine, pediatrics, obstetrics and gynecology, emergency medicine, and medical subspecialties) obtained higher empathy scores than their counterparts in “technology/procedure-oriented” specialties (e.g., anesthesiology, pathology, radiology, surgery and surgical subspecialties).

Physician Empathy and Patient Outcomes

Two key studies in the U.S. and Italy
Physicians' Empathy and Clinical Outcomes for Diabetic Patients

Mohammadreza Hojat, PhD; Daniel Z. Louis, MS; Fred W. Markham, MD; Richard Wender, MD; Carol Rabinowitz; Joseph S. Gonnella, MD


Purpose of the study
To test the hypothesis that physicians' empathy is associated with positive clinical outcomes for diabetic patients.
Data and methods:

- 891 patients with diabetes mellitus treated by 29 physicians from Jefferson Department of Family and Community Medicine
- 100% response rate among the physicians in completing the Jefferson Scale of Empathy
- 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%)
- LDL-C categorized as good control (<100); poor control (>130)
Primary care physician empathy scores and Hemoglobin A1c for patients with diabetes mellitus

- High empathy: 56% Good, 29% 7.0% - 9.0%, 15% Poor
- Moderate empathy: 49% Good, 35% 7.0% - 9.0%, 16% Poor
- Lower empathy: 40% Good, 34% 7.0% - 9.0%, 26% Poor

Legend:
- Red: Poor (> 9.0%)
- Yellow: 7.0% - 9.0%
- Green: Good (< 7.0%)
Primary care physician empathy scores and low-density-lipoprotein cholesterol (LDL-C) for patients with diabetes mellitus
The Relationship Between Physician Empathy and Disease Complications: An Empirical Study of Primary Care Physicians and Their Diabetic Patients in Parma, Italy

Stefano Del Canale, MD, PhD; Daniel Z. Louis, MS; Vittorio Maio, PharmD, MS, MSPH; Xiaohong Wang, MS; Giuseppina Rossi, MD; Mohammadreza Hojat, PhD; Joseph S. Gonnella, MD

(Academic Medicine, 2012, 87, 1243-1249).

Purpose of the Study

To test the hypothesis that scores of a validated measure of physician empathy are associated with tangible clinical outcomes for patients with diabetes mellitus.
- 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.
- 80% response rate.

**Patient Outcome:** Occurrence 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

Rate of acute metabolic complications per 1,000 diabetic patients:
- High empathy: 4.0 per 1,000
- Moderate empathy: 7.1 per 1,000
- Lower empathy: 6.5 per 1,000
Erosion of Empathy in Allopathic Medical Schools

Empathy scores of students in allopathic medical schools **decline** significantly during clinical phase of medical education (third year).

Our Empirical Study of Change in Empathy in Osteopathic Medical Students

- Supported by a grant from the American Osteopathic Association (AOA).
- Conducted at Ohio University, Heritage College of Osteopathic Medicine (in 2011-2012 academic year).
- Research participants included 373 medical students.
- Manuscript on major findings is under review by the Journal of American Osteopathic Association (JAOA)
Research Instruments

1. Jefferson Scale of Empathy (20 items).


3. Integrative Care Attitude Scale (10 items).

4. A survey on osteopathic experiences prior to medical school.
## Study Participants by Year of Medical School in 2011-2012 Academic Year

<table>
<thead>
<tr>
<th>Year</th>
<th>n</th>
<th>% women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>109</td>
<td>47%</td>
</tr>
<tr>
<td>Year 2</td>
<td>94</td>
<td>57%</td>
</tr>
<tr>
<td>Year 3</td>
<td>101</td>
<td>56%</td>
</tr>
<tr>
<td>Year 4</td>
<td>69</td>
<td>51%</td>
</tr>
<tr>
<td>Total</td>
<td>373</td>
<td>53%</td>
</tr>
</tbody>
</table>
Osteopathic-Related Experiences Prior to Medical School

- 98% volunteered for medical or community services.
- 93% had observed patient care rendered by osteopathic physicians.
- 53% of students or their family members received medical care from a D.O.
- 12% had a D.O. in their family.
- 12% had received OMT.
## Correlations Among Scales

<table>
<thead>
<tr>
<th></th>
<th>JSE</th>
<th>JSAPNC</th>
<th>ICAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>JSE(^1)</td>
<td>1.0</td>
<td>.42**</td>
<td>.55**</td>
</tr>
<tr>
<td>JSAPNC(^2)</td>
<td></td>
<td>1.0</td>
<td>.36**</td>
</tr>
<tr>
<td>ICAS(^3)</td>
<td></td>
<td></td>
<td>1.0</td>
</tr>
</tbody>
</table>

\(\ast \ast p < .01.\)

\(^1\) The Jefferson Scale of Empathy (JSE).

\(^2\) The Jefferson Scale of Attitudes Toward Physician-Nurse Collaboration (JSAPNC).

\(^3\) Integrative Care Attitude Scale (ICAS).
Mean Scores of the Jefferson Scale of Empathy in Allopathic and Osteopathic Medical Schools (Cross-Sectional Studies)

<table>
<thead>
<tr>
<th>Year</th>
<th>BUSM (Allopathic)</th>
<th>OUHCOM (Osteopathic)</th>
</tr>
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<tbody>
<tr>
<td>1st Yr NS</td>
<td>111.8</td>
<td>113.6</td>
</tr>
<tr>
<td>2nd Yr NS</td>
<td>115.7</td>
<td>116.7</td>
</tr>
<tr>
<td>3rd Yr</td>
<td>110.9</td>
<td>114.4</td>
</tr>
<tr>
<td>4th Yr</td>
<td>110.7</td>
<td>113.9</td>
</tr>
</tbody>
</table>

*P = .02 for 3rd Yr
*P = .09 for 4th Yr
Some Specific Features of Osteopathic Medical Education Which We Speculate Can Promote Empathic Engagement

- Holistic nature of osteopathic medical education?
- Osteopathic manipulative treatment (OMT)?
- Osteopathic apprentice learning model?
- Better role models among clinical faculty?
- Greater interest in primary care (people-oriented) specialties?
- Greater interest in serving underserved population?
- Less influences by the “hidden Curriculum?”
- Personal characteristics of those who choose osteopathic medical schools?
- Other factors?
Ongoing Longitudinal Study of Changes in Empathy in Osteopathic Medical Students

• We are currently undertaking a longitudinal study to examine changes in empathy, attitudes toward interprofessional collaboration, and attitudes toward integrative care.

• A cohort of 78 students who matriculated at Ohio University Heritage College of Osteopathic Medicine in 2010 are participants of this longitudinal study.

• We expect to complete this longitudinal study in 2014.
Future Research