## +Model EDUMED-232; No. of Pages 9

## ARTICLE IN PRESS

Educ Med. 2017;xxx(xx):xxx-xxx



# Educación Médica



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## **ORIGINAL**

## Assessing empathy among medical students: A comparative analysis using two different scales in a Brazilian medical school

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Received 3 May 2017; accepted 14 July 2017

## **KEYWORDS**

Empathy; Medical education; Humanism

#### Abstract

*Purpose*: The authors aimed to compare two different empathy scales across the six-year medical course, among undergraduate medical students attending a school of medicine that was established nine years ago in the Brazilian city of São Paulo.

Method: Cross-sectional study. The authors evaluated a sample of 296 students. The empathy evaluation was performed using the Jefferson Scale of Physician Empathy (JSPE), version for medical students, and Davis's multidimensional Interpersonal Reactivity Index (IRI-Brazilian version), applying both to each student simultaneously. The students were divided into three groups, according to their year on the medical course: Basic Group (1st and 2nd years), Clinical Group (3rd and 4th years) and Clerkship Group (5th and 6th years). Socio-demographic data and empathy scores, for both scales, were compared between these three groups using the Chi-square test and the Kruskal-Wallis test, as applicable.

Results: the JSPE scores were similar among the students from the Basic, Clinical and Clerkship groups (p = 0.53). On the other hand, the affective dimension of IRI-Brazilian version revealed a significantly lower score in the Clerkship Group (p < 0.01).

*Conclusions*: The authors suggest that the level of empathy can change, and in this case, the affective dimension was most affected during medical school.

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http://dx.doi.org/10.1016/j.edumed.2017.07.019

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Please cite this article in press as: Moreto G, et al. Assessing empathy among medical students: A comparative analysis using two different scales in a Brazilian medical school. Educ Med. 2017. http://dx.doi.org/10.1016/j.edumed.2017.07.019

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## ARTICLE IN PRESS

G. Moreto et al.

## PALABRAS CLAVE

Empatía; Educación médica; humanismo Evaluación de la empatía entre los estudiantes de medicina: análisis comparativo utilizando dos escalas diferentes en una escuela de medicina de Brasil

#### Resumen

Objetivo: El objetivo de los autores fue comparar dos escalas diferentes de empatía a lo largo de la carrera de medicina de seis años, entre los estudiantes que asistían a una escuela de medicina fundada nueve años atrás en la ciudad brasileña de São Paulo.

*Método*: Estudio transversal. Los autores evaluaron una muestra de 296 estudiantes. La evaluación de la empatía se realizó utilizando la Escala de Empatía de los Médicos de Jefferson (JSPE), versión para estudiantes de medicina, y el Índice de Reactividad Interpersonal multidimensional de Davis (IRI-versión brasileña), aplicando ambos de manera simultánea a cada estudiante. Se dividió a los estudiantes en tres grupos, con arreglo a su curso de carrera de medicina: Grupo básico (1er y 2º años), Grupo Clínico (3rº y 4º años) y Grupo de Prácticas (5º y 6º años). Se compararon los datos socio-demográficos y las puntuaciones sobre empatía entre estos tres grupos, utilizando las pruebas  $\chi 2$  y Kruskal-Wallis, según el caso.

Resultados: Las puntuaciones JSPE fueron similares entre los estudiantes de los grupos básico, clínico y de prácticas (p = 0,53). Por otro lado, la dimensión afectiva de la versión brasileña de IRI reveló una puntuación inferior en el Grupo de Prácticas (p < 0,01).

Conclusiones: Los autores sugieren que el nivel de empatía puede cambiar y que, en este caso, la dimensión afectiva se vio más afectada durante la enseñanza de medicina.

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## Introduction

Some studies suggest that a drastic change takes place in the medical student during their training process. In the early years of medical training, most students are thrilled with the idea of becoming a physician, and are more sensitive to patients' suffering. 1,2 During the medical course, this idealism can decrease, along with a process of "dehumanization", 3 in which the patient takes a secondary role in the medical practice.

One point that is acknowledged is that the medical student is exposed to a huge amount of scientific information that monopolizes their educational time, <sup>4</sup> and rarely leaves room to address issues relating to the understanding of patients' expectations. <sup>5</sup> To provide quality care, skills are needed to help the doctor not only to know about the disease, but also to understand the human being who is sick. Among these skills, empathy has proven to be crucial. <sup>6</sup> Studies show that empathy among physicians is associated with better patient satisfaction, <sup>7,8</sup> better adherence to treatment, <sup>8,9</sup> more favorable clinical outcomes, <sup>10–13</sup> and a decrease in the number of malpractice claims. <sup>14</sup>

The word empathy originates from the Greek word *empatheia*, meaning appreciation of the feelings of another person. The English term empathy was introduced by the psychologist Edward Titchener Bradner, and is used to mean the ability to understand another human being. Years later, Elmer Ernest Southard used the concept of empathy in the context of the doctor and patient, as a facilitator of diagnosis and therapy. <sup>15</sup>

There is disagreement among psychoanalysis scholars regarding the attributes involved in empathy. Some authors consider empathy to be a predominantly cognitive attribute, <sup>16,17</sup> linking it to an understanding of the patient's

experiences and concerns, combined with the ability to communicate.<sup>18</sup> Other authors see empathy essentially as belonging to the affective dimension, determined by the ability to experience the feelings of the other person.<sup>19</sup> In this case, it is a consequence of the ability to be empathic, and it implies a spontaneous feeling of identification with the sufferer, in a process that involves emotion.

Some tools have recently been described to measure empathy. These include: the Interpersonal Reactivity Index (IRI) developed by Davis<sup>20</sup> with a version validated and adapted for Brazil (*Escala Multidimensional de Reatividade Interperssonal* – EMRI),<sup>21</sup> the Hogan Empathy Scale<sup>22</sup> and the Measure of Emotional Empathy developed by Mehrabian and Epstein.<sup>23</sup> The Jefferson Scale of Physician Empathy (JSPE) was specifically created for the patient care and medical education context.<sup>24</sup> Authors who have used some of these instruments have shown that during the training of different health professionals, empathy can provide positive or negative changes.<sup>6</sup>

A cross-sectional study by Chen et al., <sup>25</sup> identified a low empathy score (measured through the JSPE scale) among 3rd year medical school students, compared to 2nd year students. A cohort study by Hojat et al., <sup>6</sup> identified an erosion of empathy (using JSPE as a tool to assess empathy) occurring in medical school, with the lowest scores among 3rd year students.

Understanding and assessing the degree of empathy of medical students during medical school is an important issue to be addressed during medical training. The aim of this study was to evaluate the degree of empathy among medical students in different years of the course at the Private University of São Paulo, using two different instruments: the JSPE (to assess the principally cognitive dimension of empathy for specific medical students within the medical

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