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Empathetic Orientation in Dentistry students from Latin America. Literature review.

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Abstract: Empathy, defined as *'the capacity to relate to someone else's perspective or mental state,'* has a strong impact on the physician-patient relationship and has the potential to improve the quality of health care. *The Jefferson Scale of Empathy* (JSE) measures empathy in terms of quantity. It was created to assist medical students, physicians, and people related to health care in general and it has been validated into Spanish showing adequate psychometric properties. The concern for empathy in dentistry students is related to the need for training not only technically, but also socially skilled professionals, since social abilities have a strong impact on performance as well as in the patient's appreciation and satisfaction. The goal of this report is to show all the studies using the JSE scale for measuring empathy in dentistry students from Latin America. The reviewed studies show the empathy levels vary in Latin-American dentistry students when comparing gender and class year variables. Also, there is a tendency to find higher empathy levels when it comes to women's performance and that of those soon to be graduate. However, the criteria did not account for more than 20% of the variance of empathy in these studies. Therefore, it would be necessary to keep researching in this field, taking different predictor variables into consideration in order to understand what factors are associated with the presence and intensity of empathy, and their impact in clinical practice. **Keywords:** Empathy, students, dentistry.

Orientación empática en estudiantes de odontología de Latinoamérica. Revisión de la literatura.

Resumen: La empatía, definida como la *"Identificación mental y afectiva de un sujeto con el estado de ánimo de otro"* tiene un fuerte impacto en la relación médico-paciente y tiene el potencial de mejorar la calidad de la atención en salud. *La Jefferson Scale of Empathy* (JSE), es una escala que mide cuantitativamente la empatía. Fue creada para estudiantes de medicina, médicos y estudiantes y trabajadores de otras carreras de la salud y fue validada al idioma castellano demostrando propiedades psicométricas adecuadas.

La preocupación por la empatía en los estudiantes de odontología se relaciona con la necesidad de formar profesionales competentes, no sólo en el aspecto técnico, sino también en las habilidades sociales, las que tienen un gran impacto en el rendimiento, así como en la apreciación y satisfacción del paciente. El objetivo de la presente revisión es presentar todos los estudios en que se ha aplicado la escala JSE en estudiantes de odontología de Latinoamérica. Según lo encontrado, la empatía presenta un comportamiento variable en los estudiantes de odontología latinoamericanos, al comparar variables sexo y año de la carrera, existiendo una tendencia a mostrar mayores niveles de empatía en el sexo femenino y en los cursos superiores, sin embargo, en ninguno de los estudios estas variables explicaron más allá del 20% de la varianza de la empatía. Por lo mismo, resulta necesario seguir investigando sobre este tema, considerando otras variables predictivas a fin de entender qué factores están asociados a la presencia e intensidad de la empatía y su impacto en la práctica clínica. **Palabras clave:** Empatía, estudiantes, Odontología.

Introduction.

The Royal Spanish Academy defines empathy as *"a mental and emotional identification with somebody else's mood"*. In psychological terms, empathy is connected to concepts such as communication or relationship between subjects and areas such as the cognitive and emotional, which are included in a wider intersubjectivity vision². Though this connection has always been present, it was not until early this century that Theodor Lipps named it *Einfühlung* in German, which translates as empathy

or endopathy. Since then, its development has been characterized by dissent of the different disciplines attempting to address its study²⁻³.

It has been suggested that empathy has two aspects: *emotional*, the ability to react to or share somebody else's feelings and *cognitive*, the ability to put oneself in somebody's place or take his/her point of view. The first perspective would have a phylogenetic and ontogenetic primacy in humans and other species, which is manifested in the so-

called "*emotional contagion*"⁴. From a neurobiological point of view, research has identified a number of brain mechanisms which trigger following one after another to activate specific brain areas and produce neurotransmitters. Thus, empathy is not an exclusive psychological phenomenon, but has a biological correlate to enhance its comprehension³⁻⁴.

Empathy is related to understanding the patient's feelings and, not surprisingly, patients who feel understood tend to fully explain their symptoms and to engage in a physician-patient relationship⁵.

The cognitive aspect of empathy, which is related to understanding the patient's emotions and showing an effective emotional response to these feelings when communicating with the patient, is a flexible quality to train. Therefore, it is an important mission for medical schools to care for and improve their students' empathy⁶⁻⁷.

However, empathy is not only a desirable quality in social interaction in general. It has a strong impact on medical care and the results obtained from this process are not only subjective like satisfaction, but also target patients' recovery⁸. Given that, an important line of research to better understand how empathy interacts with other factors, especially in the care offered by physicians and medical students, has been generated⁸⁻⁹. This makes it necessary to include such skill in the formation of these professionals, combining the use of its associated cognitive and emotional capacities¹⁰.

Despite achieving low development in this area of dentistry, several studies have been conducted in the regional context in recent years. The aim of this paper is to review the literature on empathic orientation among dental students from Latin America.

Empathy in health care

Interest in empathy among health professions has produced much research in the area. A search on PubMed for the terms "Empathy" and "Health Personnel" yields 2,645 results, with a peak of 186 items in 2007¹¹.

Empathy is essential in the physician-patient relationship and critical in the art of healing. A better understanding of temperamental and situational factors mediating empathy in health professionals and knowing how to decrease them could prompt effective educational strategies and ways to foster the patient's wellness and satisfaction. The ability to engage in patient knowledge and regulate one's emotions and those of others is crucial for empathy in clinical practice. These issues require further investigation for health professionals to achieve an appropriate balance between clinical distance and empathic concern⁹.

Empathy and calm resolution of cognitive problems should be recognized as important in certain contexts but also detrimental in others. Physicians should understand the inherent limitations and psychological benefits of both strategies and learn which one to use in different types of care for patients. Promoting effective balance of empathy and cognitive skills among physicians does not only depend on situational factors, but also in selecting individuals who are capable of employing cognitive and social skills in their profession. A further consideration of interpersonal skills among applicants to medical schools could help identify such individuals. One possibility to measure interpersonal skills for medical schools is by administering a validated psychological empathy evaluation during the application process. This is a low cost alternative which has great potential benefits¹². In Portugal¹³, it was also discovered that personality has a significant predictive value on empathy and is closely associated with the ability to be open to new experiences and students' kindness. This suggests paying attention to personality.

Jefferson Scale of Empathy (JSE)

Even though the study of a phenomenon such as empathy in health care can be addressed with qualitative methodology, mass evaluation of the variable requires construction and validation of tools for quantitative research. There are currently several psychometric instruments to assess clinical empathy, but the JSE is certainly the most widely used¹⁴.

The JSE was built and initially validated at the Jefferson Medical College of Philadelphia¹⁵. It is a 20-item scale with three versions: for physicians and other health care providers, for medical students and students of other health care careers. The scale has demonstrated adequate psychometric properties and been adapted and validated into more than 30 languages¹⁴⁻¹⁵.

Research using the JSE has shown differences by gender and medical specialty, has predictive value in terms of medical professionalism, is positively correlated with the patient's perception and has succeeded at differentiating empathy (more cognitive aspects) from sympathy (more emotional aspects), describing low levels of empathy in students who begin caring for patients¹⁰.

In Latin America, the scale was validated in Mexico for a sample of medical students. Cronbach's alpha was 0.74, describing three factors: perspective taking, compassionate care and "stepping into the patient's shoes"¹⁶.

Empathic orientation (EO) in Latin American dental students

In recent years, there have been several investigations on empathic orientation among dental students in various Latin American countries. Due to differences in the results of the investigations, each of them is presented separately below.

In 2011, Rivera et al.¹⁷ studied OE in 3rd to 5th-year students at Universidad Finis Terrae (Chile) using the JSE validated in Mexico¹⁶. The main results of the study indicate that women have higher OE rates and that these are more stable compared to men. OE increases in 3rd to 4th-year students and then decreases when they reach 5th year, but it drops in 3rd year. These changes are more prominent in men. In this case, these two factors, gender and class year, accounted for only 8.4% of the variance. Therefore, the authors concluded there is a need to include other variables to explain OE variation in dental students.

At the same university, a study was repeated using a similar methodology, but including students from 1st to 5th year¹⁸. Again, women displayed higher EO levels. However, there was no significant variation between class years. This study did not include other variables to explain these variations by sex.

Also in Chile, Morales¹⁹ investigated the relationship between empathy and achievement motivation in students from 4th to 6th year at the University of Concepción. A JSE Validated version¹⁶ was used. In this case, there were no differences by gender, but by class year. Accordingly, 4th-year students had higher OE levels, then, they decreased in 5th year and rose again in 6th year, but without reaching the levels of 4th year.

A study was conducted in the same university later, expanding the sample to students from 1st to 5th year²⁰. Again, women showed higher EO levels than men, but in this case, the 3rd year class showed higher empathy levels. No other variables were included to explain this behavior.

In Peru, Gutierrez-Ventura et al.²¹ assessed students from 1st to 5th year at the Universidad Peruana Cayetano Heredia, with a similar methodology as the one used at Universidad Finis Terrae¹⁷⁻¹⁸. Consequently, women and 5th-year students had higher EO levels; however, the behavior among students from 1st to 4th year was erratic. This study also analyzed each of the three factors of the JSE. "Perspective taking" was higher in 2nd and 3rd year, "compassionate care" was higher in 3rd and students from 1st, 2nd and 4th year presented higher levels in "stepping into the patient's shoes."

In Colombia, investigations on two dentistry programs have been published. Bilbao et al. conducted a study among 102 students from 1st to 5th year at the Fundación Universitaria San Martín²², using the JSE¹⁶. Women showed significantly higher empathy levels than men. It was

observed they also increased in 1st to 4th-year students and then declined in the 5th year, especially in women, but these changes were not statistically significant. Class year, sex, and their interactions accounted for only 17.2% of the variance in OE levels.

The second investigation was conducted in Colombia, at the Universidad Metropolitana de Barranquilla²³. The population was 169 students from 1st to 5th year and again the JSE¹⁶ was used to measure empathy levels. Unlike previous studies, no differences between males and females were detected, but between class year. There was an increase between the 1st and 3rd year, then a decrease in the 4th year and a sharp rise in the 5th year. In this case, sex, class year and their interactions accounted for only 1.6% of the variance.

In Argentina, Varela Villalba et al.²⁴ analyzed the levels of empathy of 189 students from 1st to 5th year at the Universidad Católica de Córdoba, using the JSE¹⁶. As in the previous study, no gender differences were found, although women showed less variation in empathy levels. Overall, a steady increase of empathy in students in the last years, with a sharp increase in the last year was observed. However, a decreased in 4th and 5th-year students was observed in the case of men.

In Central America, there are two publications in the area. Sánchez et al.²⁵ evaluated empathy levels in 225 students from 1st to 5th year at the Universidad Latinoamericana de Ciencia y Tecnología in Costa Rica. Statistically significant differences for sex and class year were found and women showed higher empathy levels. It was also seen that in 1st, 2nd and 5th year-students, empathy levels in men and women were similar, but in the 3rd and 4th year, women presented a much higher difference.

Finally, Silva et al.²⁶ studied empathy levels among 239 students from 1st to 5th year at the Universidad Central del Este in the Dominican Republic using the JSE¹⁶. In this case, no statistically significant differences between men and women were found. However, the soon to be graduates presented higher empathy levels. Both variables and their interactions accounted for only 6.7% of the variance.

Discussion.

Concern about empathy in dental students is related to the need for training competent professionals not only from a technical point of view or knowledge, but also in the so-called "soft" social skills. Such abilities have a strong impact on performance, as well as in the assessment of quality and patient satisfaction.

Students from Central and South America, who were between 1st and 6th year in the dental career, were included in the present review covering six Spanish speaking countries. In all studies, it can be observed an initial assessment of empathy, primarily focusing on differen-

tiation by sex and class year. This becomes a limitation to understand the factors associated with the presence and intensity of the OE, since in none of the studies did the sex and class year variables accounted for more than 20% of the variance in empathy.

In other countries, Jeffrey and Sherman²⁷, applying the JSE version for health professionals in dental students at the University of Washington, found that the average empathy of women was significantly higher than that of men, who had significant differences in levels of empathy depending on their class year, marital status or age, and, comparing empathy according to class year, 1st-year students had significantly higher levels than the rest. In Australia²⁸, after assessing self-reported empathy levels in students from different health careers using the same scale, it was also found that the average empathy level in women was significantly higher than the average in men and technical paramedics had the lowest reported levels.

By analyzing the results of all studies, a tendency toward higher empathy levels in women can be seen, this is consistent with the results for professions and students in health careers using the JSE¹⁴⁻¹⁵, although these differences are proportionally low and were not confirmed in all studies.

Furthermore, the relationship with class year presented a more variable behavior, but it generally tends to increase as the career progresses. The changes are most noticeable when reaching clinical courses (4th year onwards), but it not always tends to rise. There are rises and sharp drops in 4th and 5th year. Unfortunately, these studies did not analyzed other variables such as the level of stress or the burnout syndrome, which

clearly have a major impact on the relationship a professional or student develops with his/her patients²⁹.

Another point of interest is the exclusive use of the JSE¹⁵⁻¹⁶ to measure empathy. The advantage of this is that it allows direct and practical comparisons between different studies since this scale is specifically designed for health careers. However, there are other scales used for measuring empathy in students or health professionals which should be considered. Interpersonal Reactivity Index is among the options. It consists of four subscales including emotional and cognitive aspects³⁰. Also, Empathy Construct Rating and Scale Balanced Emotional Empathy Scales have been used in the medical environment and could be taken into consideration³¹.

In Chile, only studies involving two dentistry schools have been published so far, at Universidad Finis Terrae and Universidad de Concepción. This questions the representativeness of the results for this country and suggests undertaking studies in a more representative student population.

Conclusions

This review leads to the conclusion that empathy has a variable behavior in Latin American dental students, with a tendency to show higher levels in women and soon to be graduates.

Further research on the subject is needed considering other predictors of empathy, primarily those related to stress, other scales or qualitative assessments and curriculum training related to this subject. It is also suggested to assess the impact of empathy on students' clinical practice by measuring patient satisfaction.

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