INTRODUCTION

Empathy is commonly referred to as an ability to "put oneself in someone else's shoes". The problem of empathy in medical professionals was addressed for the first time in 1963 by William Osler, who claimed that doctors should objectively study patients' inner life, rather than share the suffering with them (Osler 1963). The concept has been further expanded by the members of The Society of General Internal Medicine, who defined clinical empathy as "the act of correctly acknowledging the emotional state of another without experiencing that state oneself" (Markakis 1999), to emphasize that empathy is an intellectual ability to understand and recognize other people's emotions rather than an emotion itself (Halpern 2003). This stays in line with the definition of cognitive empathy in medical practice, proposed by Hojat and colleagues: "Empathy is a predominantly cognitive (rather than emotional) attribute that involves an understanding (rather than feeling) of experiences, concerns and perspectives of the patient, combined with a capacity to communicate the understanding" (Hojat 2001). Interestingly, some authors describe empathy as a complex construct which can be understood on four levels: emotive ("The ability to subjectively experience and share in another's psychological state or intrinsic feelings"), moral ("An internal altruistic force that motivates the practice of empathy"), cognitive ("The helper's intellectual ability to identify and understand another person's feelings and perspective from an objective stance") and behavioral ("Communicative response to convey understanding of another's perspective") (Morse 1992, Mercer 2002). Importantly, it should be emphasized that empathy should not be confused with sympathy, which is defined purely on an emotional level, as experiencing sorrow for other people's distress. Some authors point out that sharing suffering with patients can lead physicians to emotional fatigue and threatens objectivity (Halpern 2003), while empathy is being regarded as a key factor for a satisfying doctor-patient relationship. According to a recent systematic review, physician empathy is related to higher levels of patient satisfaction, enhanced adherence to treatment and even improved clinical outcomes (Kelm 2014).

Empathy-related benefits for the physician include increased sense of well-being and reduced symptoms of burnout (Halpern 2003, DiLalla 2004, Larson 2005, Shanafelt 2005, West 2006, Thomas 2007). Regarding the important role of empathy in a medical career, it seems alarming that according to several studies there is a decline in students' empathy over the course of medical school (Hojat 2004, Chen 2007, Kataoka 2009), which was referred to as the phenomenon of "hardening of the heart" (Newton 2008). Empathy has also been acknowledged as gender dependent - female medical students are on average more empathetic than their male counterparts (Kataoka 2009, Suh 2012). According to our knowledge, there is a substantial lack of studies investigating empathy in medical students and professionals in Poland, therefore we decided to explore this important subject.
SUBJECTS AND METHODS

Sociodemographic characteristic of the participants

The participants were 509 voluntary respondents, 82 of which (16.1%) were medical school candidates, 331 (65%) were medical students, 50 (9.8%) were medical trainees, 32 (6.3%) were residents and 14 (2.8%) were specialists. In the group of students, 52 of them (15.7%) were during the first year of studies, 57 (17.2%) during the second, 75 (22.7%) during the third, 59 (17.8%) during the fourth, 36 (10.9%) during the fifth and 52 (15.7%) during the sixth year of medical studies. Females were predominant and constituted 77.4% of the study group (n=394). With regards to marital status, 246 (48.3%) of the respondents were single, 217 (42.6%) were in a relationship, 45 (8.8%) were married and one person (0.2%) was divorced. The vast majority of the respondents (n=493; 96.9%) was childless, 13 respondents (2.5%) had one child, 10 (2%) had two children and 3 (0.6%) had more than two children. The mean age of all the respondents was 23±5 years, the mean age of females was 22.9±4.7 years and the mean age of males was 23.3±5.8 years.

Instruments and procedures

All the respondents were asked to fill a brief sociodemographic questionnaire and the Interpersonal Reactivity Index (IRI). IRI is a self-report tool developed by Davis (1980) which consists of 28 items answered on a 5-point Likert scale. The items are divided into four subscales: perspective taking (“the tendency to spontaneously adopt the psychological point of view of others”), personal distress (“measures ‘self-oriented’ feelings of personal anxiety and unease intense interpersonal settings”), empathic concern (“assesses ‘other-oriented’ feelings of sympathy and concern for unfortunate others”) and fantasy (“taps respondents’ tendencies to transpose themselves imaginatively into the feelings and actions of fictitious characters in books, movies, and plays”) (Davis 1983). We chose the IRI as it is characterized by high internal consistency and retest reliability.

Statistical analysis

Statistical analysis was conducted with Statistica v. 12 software. Continuous variables were compared using the Mann–Whitney U test. Categorical variables were compared by Chi square test. Correlations were evaluated using Spearman’s rank correlation coefficient. A p value of <0.05 was considered significant.

RESULTS

Two main hypotheses of our study were that females are more empathetic than males and that empathy declines over the course of medical studies. The first hypothesis has been confirmed, as the overall IRI score of female participants (59.83 points) was significantly higher than of their male counterparts (51.16 points) (Figure 1). The difference remained statistically significant (p<0.05) when divided into the sub-scales of fantasy, perspective taking and empathic concern, however it was not significant for personal distress sub-scale (p=0.058).

It was also observed that the level of empathy is fluctuating over the course of the medical career, however it does not significantly increase or decline (Figure 2). Addressing known gender differences, we performed separate analyses for males and females and found that however the changes in the IRI score remain insignificant, it gradually increases in female students, while it decreases in their male counterparts (Figure 3).

Figure 1. Correlation between the IRI score and gender. P=0.0000001
We also assessed the changes in the IRI score when divided into the four subscales. No significant correlation was found in male students. However, in female students there were significant changes in perspective-taking sub-scale – this ability gradually increased over the course of medical studies.

We also conducted a detailed analysis of empathy in the group of doctors, divided into the subgroups of medical trainees, residents, and registered specialists. The overall IRI score remained at the same level, but the results for fantasy subscale differed significantly between the subgroups. The level of fantasy decreased over the course of medical career, which is also confirmed by a negative correlation between the age and the score of fantasy subscale, which means that the ability to imagine a hypothetical situation decreases with age. A negative correlation was also observed between age of physicians and the score of personal distress subscale, which means that older doctors are less susceptible to being emotionally engaged in patients’ suffering.

The secondary objective of our study was to establish whether there is a relationship between the IRI score and two sociodemographic factors – relationship status and having children. We found no correlation between those variables.

**DISCUSSION**

The vast majority of studies conducted within the last five years consistently report that female medical students and junior doctors are substantially more empathetic than their male counterparts (Magalhães 2011, Quince 2011, Tavakol 2011, Chen 2012, Bangash 2013, Hegazi 2013, Imran 2013, Mandel 2013, Wen 2013, Khademalhosseini 2014, Park 2014, Paro 2014, Shashikumar
CONCLUSIONS

Empathy, as measured with the IRI, slightly increases in women and decreases in men over the course of the medical career. However, empathy consists of several constructs. Various aspects of empathy evolve in the opposite directions: perspective taking increases, while fantasy and personal distress decline over time, which means that doctors feel less discomfort and annoyance to patients’ suffering than medical students, which is positive as it prevents emotional exhaustion and burnout. Increased perspective taking enables better understanding of patient’s complains and establishing a satisfying patient-doctor relationship. Nevertheless, as empathy is an important trait for medical professionals, there is an urgent need to adopt educational programs aimed at enhancing empathy in medical students.

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References


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