SHORT COMMUNICATION

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Perception of empathy among medical students at International Medical University: A qualitative study

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ABSTRACT

The development of empathy in professionalism is vital and certain for each medical school and medical association because there is reasonable evidence to suggest that empathic doctors can diagnose diseases more accurately. This study aimed to explore the medical students' perception of empathy during patient-doctor encounters. This was a qualitative analysis approach using a combination of an open-ended question and a focused group interview. A total of 302 undergraduate medical students were given an open-ended question. A total of 210 medical students responded to the question, and 6 were involved in a focused group discussion (FGD). Three themes and nine subthemes have emerged from both the free-text answers and focused group discussion. The themes were (i) perceived impacts; (ii) empathy mainly delivered through non-verbal communication, with subthemes of understanding, standing in others' shoes, nonverbal affirmation of feelings, and professional boundaries; and (iii) doctor can be less empathic, with subthemes of interruptions and believe. The findings presented three main perspectives: the positive impacts of having empathy during a patient-doctor encounter, how could a medical doctor expressed empathy, and the barriers to empathy expression during a patient-doctor encounter. The findings of the study provide a clearer picture of the dual route of the empathy model, including the factors that could influence empathy expression (i.e., prior knowledge and attention), and prosocial behavior (the outcome of empathy expression) could influence the doctor-patient outcome.

Keywords: Empathy, Medical student, Dual-route model of empathy, Qualitative

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INTRODUCTION

Empathy is often used interchangeably with sympathy and compassion in healthcare. Sympathy is regarded as a "self-orientated" perspective of a feeling pity or sorry for another individual by triggers varying from mild discomfort to serious suffering, while compassion was the deeper awareness of others' suffering and derived to relieve the suffering but does not necessarily result in action (1).

Different researchers have different definitions of empathy. In any case, the critical issue of empathy in medical services is that having empathy is vital for gathering correct information from patients and for a higher understanding of the patient's diseases and distress. (2) Empathy is divided into two primary types: affective empathy (which occurs following activation of mirror neurons that results in Person A "mirroring the experience" of Person B) and cognitive empathy (the ability of Person A to recognize that the perspective of Person B is different from their own and attempt to understand this "other" perspective cognitively) (3).

A systemic review of medical students' perspectives on empathy revealed that empathy is too complex and too vague as a concept for medical students in teaching and learning activities, including patient encounters. The medical students do not know exactly what empathy is, doubt its usefulness in medical practice, and confuse it with emotional control (4).

The dual-route model of empathy (5) illustrated a clearer picture of the empathy process (Fig. 1). Affective empathy (lower route) served as an efficient, automatic, and fast process with minimal involvement of consciousness. It is usually associated with experience sharing or empathic concern and described as an individual's emotional, sensorimotor, and visceral response to others' affective states. The individual captures phenomena that people automatically share the experience they observed, such as arousal, moods, and facial expressions. Affective empathy is the basic and primitive beginning of empathy (5).

Cognitive empathy (higher route) served as a slow, complex, and conscious process. It is associated with mentalizing or the theory of mind. It refers to an individual's ability to understand or explicitly reason the subjective mental states, perspectives, or intentions of others. The individual first used their awareness and effort to establish their theories or assumptions about the other individual's psychological states, and then they further adjusted and corrected the generated theories during interactions. This process requires attention and time, and misconception or "mind-blindness" can happen when there is an attentional disruption or limited time (5).

The dual-route model of empathy consists of three concepts. The first concept was both affective and cognitive empathy were influenced by each other, thereby impacting the level of empathy processing. Both affective and cognitive empathy are interdependent. An individual's ability to mentalize the other individual depends on whether the feeling was expressed. Conversely, when an individual can know about others' minds, then he/she can probably know more about others' feelings. The second was the relationship between these two routes was also affected by prior knowledge, for example, a friend and a stranger. The third was that prosocial behavior is the output from the two routes. This means that an individual who shares and understands others' minds will care about others and generate the desire to help others. In more detail, affective empathy often elicited cues like facial expressions, while cognitive empathy does not always support prosocial behavior. For example, people do not always show unhappy facial expressions to the people they do not like although people can still mentalize it (5).

The development of empathy in professionalism is vital and certain for each medical school and medical association because there is reasonable evidence to suggest that empathic doctors can diagnose diseases more accurately than doctors lacking empathy (6). This study aimed to explore undergraduate medical students' perception of empathy during patient-doctor encounters.

METHODS

A total of 302 undergraduate medical students were given an open-ended question "What is your perception of empathy?". The data was collected through an online survey using Google Forms. The text answer that is less than three words was excluded. In addition, a focused group discussion was conducted with six medical students from both the preclinical and clinical years. A list of guided questions based on the dual-route model of empathy was used to guide the in-depth interview to explore the perception of the definition of empathy, factors that influence the level of empathy, and implications of empathy. The semistructured interview started by emphasizing the study objectives, methods used, the confidentiality of data, and ground rules, followed by icebreaking to create a safe space for the participants to express their thoughts and views. The discussion was conducted online and recorded using Microsoft Team. The focused discussion lasted for 40 min and 55 s. The recorded video was then transcribed using Rev online transcription (a professional audio transcription service). Both data from open-text answers and focused group discussion were performed through manual thematic analysis using the six phases of Braun and Clarke's thematic analysis (7). Both authors double-checked with each other before finalizing the themes of the study. Ethical approval was obtained from the IMU Joint Committee, Project ID No.: CSc-Sem6(02)2022.

Rigor and trustworthiness

Several strategies were used to enhance the rigor and trustworthiness such as triangulation, peer review, audit trail, video recording and verbatim transcription, saturation of data, and member checking (8, 9). The data collected involved triangulation data sources, with combination of an open question and focused group discussion, as well as sampling that included preclinical and clinical undergraduate medical students. A lecturer who was experience in the qualitative study reviewed the guided question used in the focused group discussion. Two medical students (not the sample) were invited to a one-to-one interview as a pilot study. The focused group discussion was audio recorded using Microsoft Team, followed by verbatim transcription by a professional audio transcription service (Rex online transcription). There is only one group of focused group discussion due to the reach of saturation of data (the data show a pattern of similar answers and no news themes occurred). Both authors constantly communicate before deciding and finalizing the themes of the study.

RESULTS

Most of the participants were aged between 21 and 24 years (n = 122, 58.1%), followed by those aged between 17 and 20 years (n = 78, 37.1%), and the least were aged 25 years and above (n = 10, 4.8%). The minimum age was 17 years old, and the maximum age was 32 years old, with a mean age of 21.23 years. A total of 140 (66.7%) medical students were female and the remaining 70 (33.3%) were male. Most (n = 164, 78.1%) of the respondents were Malaysian and the remaining 46 (21.9%) were non-Malaysian (such as Singapore, Sri Lanka, India, Bangladesh, Maldives, Australia, and New Zealand). Most of the respondents (n = 77, 36.7%) are Catholic/Christian/Methodist, while the second most are Buddhist (n = 48, 22.9%), followed by respondents who are Muslims (n = 40, 19.0%) and then Hinduism (n = 33, 15.7%). The least number are Agnostic (n = 9, 4.3%) and others (n = 3, 1.4%). Most (n = 76, 36.2%) were Year 1 students (n = 77, 36.7), followed by Year 3 students (n = 64, 30.5%), Year 2 students (n = 37, 17.6%), Year 4 students (n = 19, 9.1%), and Year 5 students (n = 16, 7.6%). Most (n = 133, 63.3%) of the respondents

were preclinical years (Semesters 1 to 5) medical students, and the remaining 77 (36.7%) were clinical years students (Semesters 6 to 10) (as shown in Table 1).

Table 1: Participants' demographic

Participants' demographic		n=210
Age	17-20	78 (37.1%)
	21-24	122 (58.1%)
	>25	10 (4.8%)
Gender	Male	70 (33.3%)
	Female	140 (66.7%)
Nationality	Malaysian	164 (78.1%)
	Non-Malaysian	46 (21.9%)
Religion	Catholic/Christian/Methodist	77 (36.7%)
	Buddhist	48 (22.9%)
	Muslim	40 (19.0%)
	Hinduism	33 (15.7%)
	Agnostic	9 (4.3%)
	Others	3 (1.4%)
Year of study	1	74 (35.2%)
	2	37 (17.6%)
	3	64 (30.5%)
	4	19 (9.1%)
	5	16 (7.6%)
Pre-clinical year (Semester 1 to 5)		133 (63.3%)
Clinical year (Semester 6 to 10)		77 (36.7%)

Three themes have emerged from both the free-text answers and focused group discussion. The themes were (i) perceived impacts, (ii) empathy mainly delivered through non-verbal communication, and (iii) doctors can be less empathic.

The most coded theme was perceived impacts. Perceived impacts themes have three subthemes: (i) improved doctor-patient relationships, (ii) better clinical decision, and (iii) replaceable (as shown in Table 2). Participants perceived that empathy could improve the doctor-patient relationship by building connections, building a therapeutic relationship, building rapport, building trust, and gaining confidence with the patient; therefore, patients were more comfortable sharing more information. The participants expressed that empathy could guide the physician to act appropriately during the patient's emotional crisis, such as emotional support, attentive listening, showing care, and offering help and solutions. Participants strongly suggested that empathy could potentially impact clinical decisions positively and potentially have a therapeutic purpose. Alternatively, there were two interesting findings stating that physicians could be replaced by robots or artificial intelligence if one were without empathy.

Table 2: "Perceived Impact" Themes, Sub-themes, and Examples of participants' quotes

Themes	Sub-themes	Examples of participant's quotes
Perceived Impacts	Improved doctor-patient relationships	(Patients) feel more comfortable when they are able to express their difficulties with their physicians being attentive to their needs, allowing for patients to trust the physicians more. – T27
		"React accordingly, this includes being polite, helpful and share the feelings of others. This plays a major role in the medical field." – T40
	Better clinical decisions	"Empathy is an integral component of patient care, and without it, it would be difficult to build rapport with patients. Difficulty in building rapport with patients, could potentially affect one's ability to extract key, important information in order to arrive at a diagnosis. Therefore, without expressing empathy, it would be difficult not only to relate to a patient on a personal level, but to fulfil our responsibility and duty to treat our patients." – T173
	Replaceable	"Empathy is everything in the medical profession. We as healthcare workers are responsible to provide care and treatment. Without empathy we are just robots and will be replaced by artificial intelligence in the near future." – T73
		"Empathy is an essential character for those practicing medicine. Otherwise, we could be just replaced by robots and the job would be done as well, if without empathy." – T93

The second coded theme was empathy mainly delivered through non-verbal communication, and this theme has four subthemes: (i) understanding, (ii) standing in others' shoes, (iii) nonverbal affirmation of feelings, and (iv) professional boundaries (as shown in Table 3). The participants perceived that empathy is about understanding, including the patient's feelings, experience, perception, problem, etc. The participants were related empathy to stand in other's shoes. The participants noticed that empathy can be better expressed through validating the patient's feelings, physical touch, longer contact time, etc. Participants expressed that as a healthcare professional, one must maintain their boundaries with patients.

Table 3: "Empathy mainly delivered through non-verbal communication" Themes, Sub-themes, and Examples of participants' quotes

Themes	Sub-themes	Examples of participant's quotes
Empathy mainly delivered through non-verbal communication	Understand	"Like I'm not just trying to understand them, like in particular what they are going through, but trying to feel what their emotional feel and how does the whole situation will affect their life." – F2
	Standing in others' shoes	"One's ability to look from the perspective of others, genuinely believe in that perspective." – T172
	Non-verbal affirm of feelings	"So, if the time that we interact with the patient, it gets more so it's like easier for the patient to like open up mm-hmm so that, um, they won't be like so defensive anymore. So, like they will open up and then willing to share everything. So, the longer the time you get to another person better. So, they're more willing to share things." – F3
	Professional boundaries	"No matter what their personal feelings is towards the patient is, it shouldn't affect the type of treatment they can get." – T46

The third theme was doctors can be less empathic. This theme has two subthemes: (i) interruptions and (ii) believe (as shown in Table 4). The participants also noticed that the barriers to expressing empathy could be due to interruptions, such as environment and increased workload. The participants perceived that empathy was inborn, difficult to learn, and a burden to healthcare professionals.

Table 4: "Doctor can be less empathic" Themes, Sub-themes, and Examples of participants' quotes

Themes	Sub-themes	Examples of participant's quotes
Doctor can be less empathic	Interruptions	"I noticed like for example, in the ER, the doctor tends to like show less empathy if there's like a lot of patients." – F6
		"You really consume a lot of time because you need, spend time to know the person. You look consumes a lot of time, and also like your brain. So, it's like mentally tiring as well." – F3
	Believe	"Empathy is intangible and cannot be measured nor graded, and I believe it cannot be taught. It's an in-born character but I strongly disagree that success of a doctor is limited by the level of empathy." – T202

DISCUSSION

This study aimed to explore undergraduate medical students' perception of empathy during patient-doctor encounters. The findings presented three main perceptions: the perceived positive impacts of having empathy during a patient-doctor encounter, which believed that empathy is mainly expressed through non-verbal communication, and perceived barriers to empathy expression during a patient-doctor encounter. All the above findings were consistent with the dual-route model of empathy components, which was proposed by Yu and Chou (5).

Prosocial behavior was the outcome of empathy level, which was stated in the "Perceived impacts" themes, which emphasized that appropriate acts toward the patient's situation, such as delivering treatment explanations, providing nonspecific empathic replies, demonstrating a welcoming manner, and using non-verbal actions such as nodding, were the most often targeted behaviors (10).

Empathy is regarded as one of the fundamental tools of the therapeutic relationship between healthcare professionals and their patients and proven that empathy has a vital contribution to better health outcomes (11). The participants appreciated empathy in establishing doctor-patient relationships, for example, assisting in building connections, building a therapeutic relationship, building rapport, building trust, and gaining confidence. Interesting statements from two participants indicated the importance of empathy during a patient-doctor encounter. They stated that medical doctors could be replaceable by technology, such as AI without empathy. Understanding and standing in another's shoes are often used as definitions of affective and cognitive empathy (12-14). From the undergraduate medical students' perspective, understanding and standing in another's shoes is not solely referred to as the definition of empathy; rather, it is an action to express empathy.

Besides that, other findings were in contrast with others' study findings. Empathy could assist the healthcare providers to reduce stress and burnout (12); conversely, the participants did not appreciate that empathy benefited the healthcare providers but perceived empathy as a potential burden to them. This could be explained by compassion fatigue when healthcare personnel exaggerate empathic abilities, for example, sustained listening and attention and relentless concern for a patient's suffering (12).

Affective empathy regards the medical personnel mirroring the patient's experience, which corresponds to the theme "Stand in other's shoes." The concept of standing in others' shoes is the ability of the medical personnel to think if I were the patient and what I have been thinking, feeling, or doing. For example, if I was diagnosed with stage 4 cancer, how would the disease impact my current life?

Cognitive empathy is regarded as the medical personnel being able to recognize that the perspective of the patient is different from their own and attempting to understand the patient's perspective which was tallied with the theme of "Understanding" and "Professional boundaries." The concept of understanding particularly refers to understanding the patient's feelings. For example, medical personnel understand that the patient will be feeling shocked, depressed, sad, and denied when he is diagnosed with a terminal stage of cancer. However, the medical personnel should maintain a professional patient-doctor relationship, where the medical personnel should not emotionally be affected by the patient's emotions.

Affective empathy is used interchangeably with cognitive empathy, where to understand the patients' feelings, the medical personnel will need to stand in the patient's shoes and, therefore, understand the patient's feelings or the medical personnel could understand the patient's feelings and stand in the patient's shoe to understand the patient's perception of the situation.

The information referred to the individual perceived the other individual that they interacted with through the information gathered from verbal or non-verbal communication. A study found that senior medical trainees process a higher level of empathy when compared to junior trainees ($p = <0.05$) (10). This probably could be explained by the senior students developing higher skills in obtaining useful information from the patient and having a deeper knowledge of the disease process during the clinical year.

Prior knowledge influenced the level of empathy, as stated in the subtheme "Believe." What medical personnel perceived empathy could influence the level of empathy; for example, the medical students who believed that empathy is inborn and difficult to learn could be an obstacle for the student to express empathy. Besides that, prior knowledge of the disease could also influence empathy expression; for example, healthcare personnel can be in a higher capacity to empathize with the patient diagnosed with Reye disease, because without the patient expressing of the disorder, the healthcare personnel knew what the patient has gone through.

As stated in the subtheme "nonverbal affirmation of feelings," each doctor's interaction (e.g., eye contact, a physical touch, nodding of head) could influence the doctor-patient relationship and affect the patient to decide which information and the amount of information to provide to the doctors, either verbally or non-verbally. Attention is regarded as another factor that influences the level of empathy, as stated in the subtheme "interruptions"; for example, increased workload decreased the level of empathy; however, validating a patient's feelings and physical touch could improve the expression of empathy.

Empathy is beyond what a physician can provide to the patients; indeed, empathy serves the physician as guided professional behavior and stimulates the intention to help, therefore improving the doctor-patient relationship through better rapport, trust, and confidence and resulting in a better clinical decision (6, 15-17). The findings of the study may benefit the medical trainees who are struggling to understand and find ways to express empathy.

CONCLUSION

The findings of the study provide a clearer picture of the dual-route model of empathy (5), including the factors that could influence empathy expression (i.e., prior knowledge and attention), and prosocial behavior (the outcome of empathy expression) could influence the doctor-patient outcome. A future study among undergraduate medical trainees to explore the factors that contribute to overcoming empathy fatigue is worth studying.

Limitation

The research findings represented only the IMU medical students. Since this is a qualitative analysis based on an open-ended question, all findings were not intended for generalization or to establish cause-and-effect relationships. The research findings were potentially influenced by the researcher's perspective.

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