Original Article

Medical Students' Attitude Towards Doctor-Patient Relationship at HITEC Institute of Medical Sciences Taxila: A Cross-Sectional Study

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Abstract

Background: The doctor-patient relationship is fundamental to healthcare delivery, emphasizing communication, trust, and mutual respect.

Objective: To evaluate the attitudes of medical students at HITEC-Institute of Medical Sciences (HITEC-IMS) Taxila towards doctor-centered versus patient-centered care and to determine the association of attitude with age, gender, year of the study, residential status and parental occupation related to the medical field.

Methodology: This cross-sectional study was conducted over a six-month period after approval from the institutional review board and included 218 medical students. Patient-Practitioner Orientation Scale (PPOS) was used to assess participants' attitude. SPSS version 28 was used for data analysis. PPOS scores were calculated to determine students' orientation towards patient-centered or doctor-centered care. Chi-square test was used to determine association of attitude with demographic factors.

Results: The total number of students that returned the questionnaire were 186 making a response rate of 85.3%. The mean age was 22 ± 1.95 years; 45.7% were female and 54.3% male. Most students resided in urban areas (86%). The overall mean PPOS score was 3.5 ± 0.6, indicating a patient-centered attitude in 71.5% of students. Chi-square tests revealed significant differences in attitudes based on age (p-value = 0.014) and gender (p-value = 0.019), with younger students and female students demonstrating a stronger patient-centered orientation.

Conclusion: Most students at HITEC-IMS Taxila exhibited a patient-centered attitude, with higher scores among younger students and females. These findings highlight the need for educational strategies to enhance patient-centered care through communication skills training and empathy development throughout the curriculum.

Key words: Patient care, Attitude, Medical students

Introduction

The doctor-patient relationship is a fundamental aspect of healthcare delivery, with communication, trust, and mutual respect serving as the cornerstone of effective medical practice. Choice, competence, communication, compassion, continuity, and no conflict of interest are the six Cs of a doctor-patient relationship. To keep this relationship going, all six Cs are necessary.[1] The relationship between the physician and the patient involves trust and vulnerability.[2] By entering this relationship, the doctor basically agrees to respect the patient's autonomy, as well as their right to confidentiality, ensu-

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ring optimal standards of healthcare and unwavering support for the patients.[2] World Health Organization describes patient-centered care as the extent to which healthcare services emphasize on meeting the needs and expectations of individuals, rather than solely handling the illness.[3] Effective communication between doctors and patients is vital in establishing a strong doctor-patient relationship. As they move from didactic study to clinical practice, medical students are vital in forming this bond.[4]

Several studies have highlighted the potential benefits of strong doctor-patient relationship. According to a recent study, good communication between patients and doctors increases the likelihood of treatment adherence and leads to improved health outcomes.[5] Recent studies have shed light on the shifting attitudes of medical students toward the doctor-patient relationship, highlighting the importance of empathy, communication skills, and cultural sensitivity in providing quality patient care. According to a recent study medical students who exhibit higher levels of empathy toward patients are more likely to establish a positive rapport and provide better clinical outcomes.[6] The evolving research has confirmed variations in medical students' attitudes toward the doctor-patient relationship across different countries. Researchers have utilized the "Patient Practitioner Orientation Scale (PPOS)", a widely validated and reliable tool to assess the attitude in different settings. Globally, patient-centered care is recognized as a cornerstone of high-quality healthcare, and its emphasis on specific ways to promote patient well-being and health promotion.[7,8] Studies conducted in different regions have demonstrated varying orientations toward patient-centered care, with medical students in Saudi Arabia, Sudan, and Brazil generally exhibiting supportive attitudes toward patient-centeredness, whereas research from an Indian medical school reported a greater inclination toward a doctor-centered approach.[9,10] Similarly, studies from Pakistan and Egypt have reported a greater inclination toward doctor-centered attitudes among medical students, highlighting regional variations in perspectives on patient-centered care and underscoring the need to further explore the factors influencing these differing orientations.[11,12]

Given these findings, it is fundamental to assess the medical students' perspective on the doctor-patient relationship. The current study was designed to evaluate the attitudes of medical students at HITEC-Institute of Medical Sciences (HITEC-IMS) Taxila towards doctor-centered versus patient-centered care and to determine the association of attitude with age, gender, year of the study, residential status and parental occupation related to the medical field. By delving into these attitudes early in their education, we can identify gaps, enhance training programs, and eventually expand the quality of care provided by future physicians.

Methodology

A cross-sectional study was conducted at HITEC-IMS, Taxila, from March to November 2024 over a period of six months. The study population comprised undergraduate medical students enrolled at HITEC-IMS, Taxila. A convenience sampling technique was used for participant selection. The sample size was calculated using the RaoSoft cal-culator for an estimated population of 500 students, with a 95% confidence level, 5% margin of error, and an anticipated frequency of 50%. Based on these parameters, a total of 218 undergraduate medical students were included in the study. The total number of students that returned the questionnaire were 186 making a response rate of 85.3%.

Ethical Consideration:

The ethical approval was taken by HITEC-IMS Institutional Review Board, project number: HITEC-IRB-37-2024, dated 29th April 2024. Informed written consent was obtained and the participants were assured about the confidentiality of their data.

Inclusion Criteria: MBBS students from all academic years were included, and participation was based on willingness to respond to the survey, without imposing additional restrictions based on attendance or academic performance.

Exclusion Criteria: Students who migrated from the other medical colleges within the last six months were excluded from the survey.

English version of a pre validated tool "Patient Practitioner Orientation Scale (PPOS)" with the addition of questions related to socio-demographic profile was used for the purpose of data collection to assess the medical students' attitude towards doctor patient relationships. It is a reliable and valid tool with Cronbach's α value of 0.67.[13] The

PPOS consists of 18 items, and all are in Likert-scale format. Each item has six options strongly disagree to strongly agree. These six options on the Likert scale are arranged in a manner that strongly disagrees is on the extreme left and is given 6 points. strongly agree on the extreme right side (1 point). Three items 9, and 13, & 17 are contrary phrased and therefore the scoring of the items is reversed. Thus, a high score characterized an orientation towards patient-centeredness. PPOS describes respondents' perspective on the doctor-patient relationship with respect to sharing and caring approach. Nine items of PPOS measure each dimension of doctor-patient relationship separately. Items no 1, 4, 5, 8, 9, 10, 12, 15, & 18 on PPOS measure the Sharing score. The items 2, 3, 6, 7, 11, 13, 14, 16, and 17 are categorized as caring on PPOS. PPOS mean score ranges from 1-6, where 1 indicates an inclination towards doctor centered approach and 6 indicates an inclination towards patient-centered approach. The mean score of all 18 items on the PPOS scale was calculated to determine the overall PPOS score. Mean scores of the sharing and caring domains were computed separately by calculating the mean of the nine items addressing each domain. PPOS scores ranged from 1 to 6, with higher scores indicating a more patient-centered orientation (Figure I). The sharing and caring subscales were analyzed separately to assess attitudes related to information sharing and empathetic care.[14] Data was collected through Google Forms. Google form links were shared in the WhatsApp groups of all the pre-clinical and clinical years of MBBS. The purpose of the study was stated in the Google forms and instructions for the exclusion and inclusion criteria were also mentioned in the form. Participation in the study was entirely voluntary. Participants were informed of their right to withdraw at any stage without any academic or personal consequences.

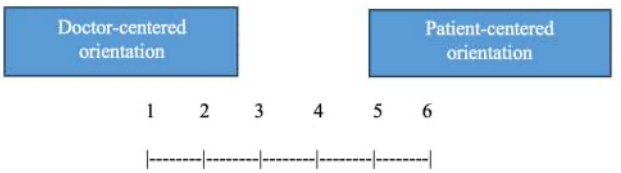

Figure I: *Interpretation of the Patient-Practitioner Orientation Scale (PPOS). The PPOS ranges from 1 to 6, with higher scores indicating a more patient-centered orientation.*

Statistical analysis

Statistical Package for Social Sciences (SPSS) version 28 was used for data analysis. Frequency and percentages were calculated for the demographic variables. Normality of quantitative variables (age and attitude scores) was assessed by Shapiro wilk test. As the data were normally distributed, mean and standard deviation were used to summarize these variables. For statistical analysis, participants were categorized using a cutoff value of 3 (midpoint of the scale) into relatively patient-centered (>3) and doctor-centered (<3) orientations. This categorization was used for descriptive and comparative purposes. Chi-square test was used to determine association of attitude with demographic factors. A p-value of < 0.05 was considered statistically significant.

Results

The study evaluated the attitudes of 186 medical students toward the doctor-patient relationship using the PPOS scale. The response rate was 85.3% (186/218).

Table I: *Mean Sharing, Caring and PPOS score of the participants (n=186)*

Mean PPOS, Sharing and Caring score	Mean ± SD	Minimum	Maximum
Sharing subscale	3.37 ± 0.81	1.56	5.33
Caring subscale	3.6 ± 0.70	2.11	5.33
Overall PPOS score	3.5 ± 0.6	1.83	5.06

n = number of participants, Patient-Practitioner Orientation Scale (PPOS)

The demographic distribution showed that 54.3% of participants were male and 45.7% were female. The mean age of participants was 22 ± 1.95 years. Most participants resided in urban areas (86%), while 14% were from rural areas. Regarding parental occupation, 40.9% belonged to the medical profession and 59.1% to other fields. Monthly parental income was less than 200,000 for 37.6% of participants, between 200,000 and 500,000 for 45.7%, and above 500,000 for 16.7%. The mean PPOS, sharing, and caring scores indicated a moderate patient-centered orientation (Table I).

The attitude assessment revealed that most of the participants had patient-centered attitudes (Figure II).

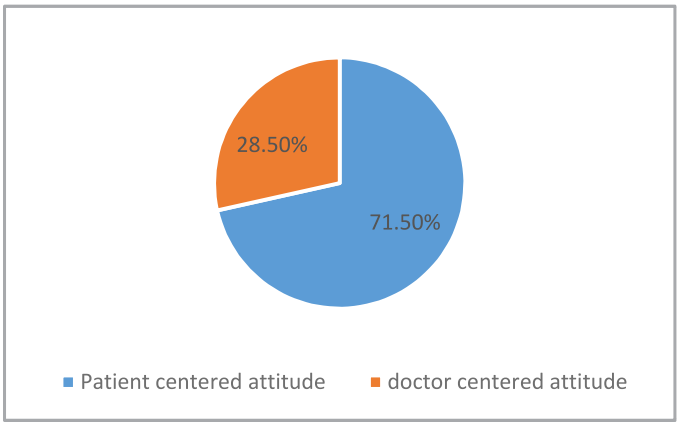

Figure II: *Attitude of students towards doctor patient relationship*

Table II: *Attitude in relation to demographics of medical students (n=186)*

Demographic variable	n (%)	Doctor-centered attitude 53(28.4)	Patient-centered attitude 133(71.5)	p-value
Age				
18-20	43(23.1)	7(16.3)	36(83.7)	0.014
21-23	111(59.6)	31(27.9)	80(72.1)	
>23	32(17.2)	15(46.9)	17(53.1)	
Gender				
Male	85(45.7)	17(20)	68(80)	0.019
Female	101(54.3)	36(35.6)	65(64.4)	
Residence				
Urban	160(86)	44(27.5)	116(72.5)	0.456
Rural	26(14)	9(34.6)	17(65.4)	
Occupation of parents				
Related to health profession	76(40.8)	24(31.6)	52(68.4)	0.439
Other professions	110(59.1)	29(26.4)	81(73.5)	
Year of study				
1st year	40(21.5)	10(25)	30(75)	0.541
2nd year	30(16.1%)	6(20)	24(80)	
3rd year	25(13.4%)	8(32)	17(68)	
4th year	48(25.8%)	13(27.1)	35(72.9)	
5th year	43(23.1%)	16(37.2)	27(62.8)	

n = number of participants, p-value calculated by Chi square test, p-value < 0.05 was considered statistically significant.

Chi-square tests indicated statistically significant differences in attitudes based on age (p-value = 0.014) and gender (p-value = 0.019). Most students in the 1st, 2nd, and 4th years exhibited a patient-centered attitude, whereas a slight increase in doctor-centered attitudes was observed among 3rd and 5th year students; however, this difference was not statistically significant (Table II). When the scores were compared across different groups, including parents' occupation, year of study, and residence, no statistically significant differences were observed.

Discussion

This study conducted in Taxila, Pakistan, aimed to assess the attitudes of medical students towards the doctor-patient relationship using the Patient Practitioner Orientation Scale (PPOS). The findings revealed that a significant majority, 71.5%, of the students exhibited patient-centered attitudes achieving a mean PPOS score of 3.51. These findings suggest that the medical curriculum at this institution effectively promote patient-centered care among the students. The attitudes observed in this study align with several international studies,[7, 9, 11, 15] showing a higher mean PPOS score. This signifies a strong inclination towards patient-centered attitude. The sharing subscale scores of this study (3.37 ± 0.8) were comparable with other reference studies.[11,15] The current study showed moderately higher scores in the sharing domain, indicating that students tend to involve patients in discussions about their care. However, when compared with studies from Canada, Sudan, and Saudi Arabia, the sharing scores were relatively lower. This difference may be attributed to variations in communication training, teaching methods, and healthcare environments across institutions.[7,9,15] The caring subscale score in the present study (3.6 ± 0.70) was comparable to that reported in other studies, with only slight variations. This indicates that participants demonstrated a positive orientation toward understanding and addressing patients' emotional needs.[7,9,11,15]

A study conducted at Alfaisal University, Riyadh, Saudi Arabia, assessed the attitudes of third-year MBBS students toward the doctor-patient relationship.[9] The study demonstrated a highly patient-centered sharing and caring attitude. The overall PPOS mean score was 4.0 ± 1.5, while the sharing and caring mean scores were 4.2 ± 1.5 and 3.8 ± 1.4, respectively, which were comparatively higher than those observed in the present study. This difference may be attributed to the fact that the Riyadh study focused on third-year students who were entering their clinical years. Moreover, no association was found with demographic variables in that study, possibly due to the small sample size and inclusion of students from the same academic year. In contrast, the present study showed a significant association of doctor-patient attitude with gender and age. Another study

conducted among medical students at Fayoum Medical School, Egypt, showed findings contradictory to our study.[12] The average PPOS score among Fayoum students was 2.71 ± 0.66, with considerable variability in scores across the sample. These students demonstrated a doctor-centered attitude. However, results from an Indian medical school study showed minor differences compared with the present study.[10] This study reported greater emphasis on the caring domain (3.68 ± 0.61) than the sharing domain (3.02 ± 0.58), with an overall mean PPOS score of 3.35 ± 0.50.[10] This variation in the results may be due to differences in educational emphasis, communication training, or cultural factors.

The current study examined the association between various demographic variables to understand their influence on medical students' attitudes toward the doctor-patient relationship and the analysis indicated a significant association with age. Younger students, particularly those aged 18-20 years, demonstrated a higher mean PPOS score compared to their older peers. This was further backed up by similar studies carried out in Canada and Italy which also showed significant association of doctor-patient relationship with age.[7,16] Moreover, gender differences were prominent in the current study, with female participants showing significantly higher patient-centered attitudes. This aligns with several international studies using the Patient-Practitioner Orientation Scale (PPOS), which have consistently shown higher patient-centered scores among females, particularly in the "caring" domain.[15,16,17,18] A similar research carried out at Federal Medical and Dental College, Islamabad, and Rawalpindi Medical University, Rawalpindi, Pakistan showed similar results. The female participants showed a much higher patient centered attitude compared to their male counter parts.[17] While the underlying reasons remain multifactorial, differences in socialization patterns and communication styles have been proposed as possible explanations for this observed variation.[19,20]

The current study found no significant differences in attitudes based on parental occupation. This suggests that the professional background of the student's parents does not significantly influence their attitudes toward the doctor-patient relationship as reported in previous studies.[11,12,21] Similarly the year of study did not significantly impact the students' attitudes toward the doctor-patient relationship comparable to previous research.[7] This consistency suggests that the inclination towards patient-centered care is established early in medical training and remains stable throughout the educational journey.[17] Early introduction of students to patient-centered principles and continuous reinforcement could explain this stability. In contrast few other studies have reported a significant association between the year of study and students' attitudes towards the doctor-patient relationship. These studies showed that senior medical students, having more clinical exposure, exhibited a more patient-centered approach compared to junior students.[11,15,18] The lack of a significant association in our study could be due to several factors, such as differences in curriculum structure, clinical exposure, and teaching methods. Further research is needed to explore how different educational strategies affect the development of patient-centered attitudes across academic years.

Conclusion

This study revealed that majority of the medical students prefer a patient-centered approach, with significant variations based on age and gender. Younger students and female students demonstrated stronger patient-centered attitudes. These findings highlight the need for educational strategies to enhance patient-centered care through communication skills training and empathy development throughout the curriculum.

Limitations and Recommendations:

As a single centered cross-sectional study using convenience sampling, the findings may have limited generalizability and are subject to selection bias. The study did not account for academic performance or attendance, which may influence students' attitudes and could be considered in future research. The cross-sectional design precludes causal inference, and self-reported attitudes may be influenced by social desirability bias. Future research employing longitudinal designs, multicenter sampling, and probabilistic recruitment methods is recommended to enhance generalizability and allow for a more robust examination of changes in patient-centered attitudes over time.

Conflict of interest: None

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Authors Contribution

All authors have critically reviewed, proofread, and approved the final version of the manuscript and accept responsibility for the integrity and accuracy of the work. Each author has contributed substantially in accordance with the ICMJE authorship guidelines.

AB: Concept, design, supervision, revision of the manu-script

RS &AM: Drafting, interpretation, writeup and revision

MR & BA: Literature search, data collection and analy-sis, writeup

AA: Writeup, interpretation and final review of the manuscript