

“Attitudes of Medical Students in Pakistan toward the Doctor-Patient Relationship”

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Abstract:

Background. We initiated this study with the aim to assess the leaning of medical students towards either a doctor-centered or a patient-centered care and explore the effects of personal attributes on it like gender, academic year etc. of the students.

Methods. A cross-sectional study was conducted between July-Sep 2013. CMH Lahore Medical and Dental College Ethical Review Committee approved the study questionnaire. The study population consisted of 1274 medical students in years 1-5 from two medical colleges. English version of PPOS was used to assess attitudes of medical students towards doctor-patient relationship. The relationship between PPOS scores and individual characteristics like gender, academic year etc. were examined by using Independent t-test and one way ANOVA.

Results. A total of 792 students formed the final sample. Characteristics associated with most patient-centered attitudes were being in 4th academic year, married, being a foreigner and belonging to a Private college ($p < 0.05$). Characteristics associated with most doctor-centered attitudes were being in 2nd academic year, divorced, having a local origin and belonging to a Govt. college ($p < 0.05$). Gender and having doctor parents had no bearing on the attitudes ($p > 0.05$).

Conclusion. Despite ongoing debate and emphasis on a patient-centered curriculum, our study suggests that current curriculum and its teachings are not producing the results they are designed to achieve. Students should be adequately exposed to the patients from the beginning of their medical education in clinical settings which are more sympathetic to a patient-centered care.

Introduction:

“A chain is only as strong as its weakest link”. In today’s healthcare system, the doctor-patient relationship is the weak link which bears the weight of all the advances of health care system and its delivery to the patient. The stronger the relationship, the better are the patient’s *compliance to the treatment*,(1) *disease outcomes* and *satisfaction*.(2,3) Just like a weak link in a chain, the doctor-patient relationship is under most strain when kept vertical (doctor-centered or paternalistic) which doesn’t allow the patient any control over the flow of information or treatment. On the other hand when it is kept horizontal (patient-centered or egalitarian) the patient is encouraged to play the role of a partner(4) and takes greater responsibility for his own health.(5) It benefits doctors by decreasing the incidence of *complaints* and *litigation*(6) and enables them to work at an optimum level to attain the four *prima facie maxims (beneficence, non-maleficence, respect for autonomy and justice)*(7) of modern medicine.

Patients in the modern era are becoming more and more autonomous,(8) a possibility never considered in prior times. But modern medicine cannot advance without incorporating this essential ethical necessity. Medical education in many parts of the world is still very much disease-oriented(9) with hours and hours of lectures dedicated to the management of diseases instead of patients as a whole. Studies have shown that good communication skills can be achieved by structured training, which runs contrary to past beliefs that good communication is an intrinsic quality of a doctor and cannot be taught.(10)

Like clay that is cast in a mould to produce beautiful sculptures, medical students are also molded in a cast, baked under intense pressures and finally come out as the healers who embody all the properties that the cast, made by medical educators, has to offer. As healers of the future it is logical to see what they think about the very foundation of modern medicine, doctor-patient relationship. A growing body of research has demonstrated that medical students around the globe show wide difference in their attitudes towards the doctor-patient relationship. Researchers have used a valid and reliable scale called the Patient Practitioner Orientation Scale (PPOS)(11) to measure this attitude in countries like Nepal,(12) Korea,(13) and Greece.(14) Medical students in Brazil have highly positive beliefs about patient centered care (PPOS score of 4.66 ± 0.44 S.D).(15), followed closely by American medical students (PPOS score is 4.57 ± 0.48 S.D).(11)

As indicated by a study in Nepal (PPOS score of 3.71 ± 0.48 S.D), medical students in Asia have a tendency towards Doctor Centered care,(11,12) which is associated with decreased patient satisfaction(16) in many of the countries this relationship has been studied. We are conducting this study to ascertain the attitudes of medical students of Pakistan, the 4th most densely populated country in Asia to see if they break the taboo of “Doctor knows best”.(7)

Methods:**Study Sample:**

Descriptive, cross-sectional study design and convenience (non-probability) sampling technique was employed. In Pakistan undergraduate medical education lasts 5 years. The attitudes of medical students of academic year 1 to 5 from two medical colleges, a Government College (Allama Iqbal Medical College) and a Private College (CMH Lahore Medical College), were assessed towards doctor-patient relationship between July 2013 and Sep 2013. A standardized

questionnaire with English version of PPOS and a series of demographic questions was used. Forms were distributed to 1274 students (858 in govt. and 416 in private) out of which 1181 responded [collective response rate 92% (91% and 94.2 % respectively)]. Out of 1181, 389 forms were discarded due to incomplete demographics and more than 3 missing responses in PPOS (final sample N=792). CMH Lahore Medical and Dental College Ethical Review Committee approved the study questionnaire

Instrument:

The doctor-patient relationship was assessed by using a reliable instrument called Patient Practitioner Orientation Scale (PPOS).(11) The PPOS contains 18-items and uses a Likert-scale format and measures the subject's leaning towards a doctor-centered or a patient-centered belief. Each item has 6 possible responses ranging from 1 (strongly agree) to 6 (strongly disagree). The scale has two subscales which measure two domains of doctor-patient relationship: *Sharing* and *Caring*. **Sharing** refers to an individual's belief that a patient should share the power, control and flow of information equally with their doctor. **Caring** refers to an individual's belief that a patient should be treated as a whole and treated with good emotional rapport rather than as a condition or disease. Both sub-scales have 9 items each. All the scores are reported as mean of the total score ranging from 1 (doctor centered) to 6 (patient centered).

Statistical Analysis:

SPSS 21 was used for analysis. The reliability of PPOS was assessed by Cronbach's α coefficient and was found to be 0.76 for this sample. Independent Sample t-tests and One-way ANOVA were used to examine the relationship between PPOS scores and factors like gender, academic year etc. Missing values in PPOS were replaced by mean of the remaining responses of individual respondent. Resulting mean was rounded off to the nearest integer.

Results:

Students from academic year 1-5 of both colleges participated in this research (N= 792). The sample distribution of gender, college and academic year is shown in **Table-1**. The average total PPOS score of the entire sample was 3.40 (\pm 0.50 S.D) and ranged from 1.61 to 5.39. Total *sharing* sub-scale score was 3.17 (\pm 0.62 S.D) and ranged from 1.44 to 5.44. Total *caring* sub-scale score was 3.62 (\pm 0.57 S.D) and ranged from 1.33 to 5.67. Our sample did not show any significant association between gender of the students and total PPOS score or any of the sub-scale scores ($p>0.05$). The distribution of total PPOS score with gender and college year is shown in **Table-1**. College year of the participants was strongly associated with overall PPOS score and *Caring* but not with *Sharing* domain. As shown in **Figure-1** the total PPOS score dropped in the 2nd year but rose steadily in the subsequent 3rd and 4th year only to fall again in the 5th year (final college year). *Caring* sub-scale scores showed the same trend. *Sharing* scores fell slightly in 2nd year and rose subsequently toward a more patient-centered attitude. As seen in **Table-2**, four demographic variables (College, Province, Relationship status and Current Clinical Rotation) had a strong association with overall PPOS score ($p<0.05$) while the rest of the variables didn't ($p>0.05$). Students from Government College scored lower than their private counterparts in total PPOS and sub-domains score. Foreign national students scored higher than their local counterparts. Relationship status of the students was another associated factor in which married students showed the most patient-centered attitudes while divorced students

showed the most doctor-centered attitudes. Students going to wards and outpatient department (OPD) scored higher than those who either didn't have a clinical rotation at the time of this study or didn't have any clinical rotation in their curriculum (1st and 2nd Year). Living in the hostel or at home and presence of any of the parents as doctors was not statistically associated with overall PPOS score or any of its sub-domains

Discussion:

Our findings suggest that Pakistani medical students very much believe in the taboo of "Doctor Knows Best".(7) They scored even lower than their Nepali counterparts,(12) except in *caring* domain, making them the most doctor-centered of those samples of medical students in several studies done around the world. Female gender, which is traditionally associated with patient-centered care and is shown to have leaning towards it(11), had statistically the same distribution of PPOS scores as males of this sample ($p>0.05$). This finding although contradictory to the studies conducted in America and Brazil is consistent with findings in Nepal (another Asian country)(11,12,15). This consistency might be due to social, religious and cultural differences present in the two continents i.e. Americas and Asia.

Students in their 1st and 2nd medical college year have no interaction with patients as their curriculum doesn't include any hospital visits which coincides with our finding of students being more doctor-centered in their 2nd college year. But as soon as students interact with patients in real-time hospital settings their attitudes shift towards more patient-centered care (in 3rd and 4th college year) which is consistent with the students of Brazil(15) but not with those of America(11). Towards the very end of their medical education, students showed a 2nd dip in their leaning towards patient-centered care even with increased hospital hours in their final college year. This paradoxical shift might be the coping mechanism to sheer stress medical students go through near the end of their course.(17)(18) Another entity which might be adding fuel to the fire could be emotional exhaustion or "Burnout" which may be due to curriculum overload, time constraints, continuous sense of competition and limited time to unwind. The *caring* domain shows the same pattern as the total PPOS score but the *sharing* scores, after their 1st dip, rose gradually indicating that the students want to share the control and power of patient's treatment with him equally.

When a cast of clay comes out of a mould it bears all the qualities of that mould. Before baking, the clay is pliable and can be bent into any shape but once it is cast in the mould and is baked then it is difficult to impart changes in it because it is shaped forever in the way that mould was designed. That's exactly what medical education does to medical students who come to this field to heal patients(19) but instead are taught to heal the disease only. The mould they are put in has no room for the development of characteristics like good communication skills etc. which are necessary for a good patient-centered care. The pressures they are exposed to (Academic, Psycho-social and Health related) further retard their shaping into a patient-centered practitioner. However this does not mean that medical students after leaving medical school cannot modify their attitudes but it is much more beneficial to the patients and healthcare system if they are taught to focus on the patient as a whole sooner than later in their medical career.

Another reason for medical students to be more doctor-centered could be due to the teachings of practicing doctors who teach them while attending to their patients. The environment they teach in is contradictory to the ideal students are taught in lecture theatres.(20) Ayesha et al. have found that Pakistani doctors didn't take consent from more than 71% patients and provided adequate confidentiality to less than 24% of their patients.(21) When medical students are taught in such a doctor-centered environment it is natural for them to embody such practices because when a student realizes that doctors, not following the *prima facie maxims*,⁽⁷⁾ are still able to have a very healthy practice then he wonders if formalities like consent or confidentiality even matter in the real world medicine. Doctors in the government owned hospital didn't take consent from more than 90% patients and provided adequate confidentiality to less than 11% of their patients.(21) Teachings of such doctors could explain our finding that medical students from government owned medical school scored lower on PPOS than of private medical school ($p < 0.05$).

Another significant finding was that of higher PPOS scores by students who had a supportive spouse than those who didn't which might be due to the role of the significant other in coping with the stress. Better performance by foreign students might be due to not sharing the Asian culture which is associated with doctor-centered care.(11)

Conclusion

If we want to produce healers who treat the patient as a whole then medical educators would have to incorporate much more space in the mould of medical education for the essential characteristics (like good communication skills, empathy etc.) necessary to achieve the *prima facie maxims* of modern medicine. Students should be adequately exposed to patients from the beginning of their graduate program and in clinical settings which are more favorable to a patient-centered care. Continuous monitoring of the students should be done to identify and mend the factors which push them away from a patient-centered caring attitude (e.g. Stress, Burnout) and patient-centered role models should be sought for students to observe and follow. Most of what is learned during the graduate program is through "Hidden Curriculum" which is a set of influences functioning at the level of organizational structure and culture.(9) This is mostly true for Pakistan since its biggest medical university (UHS) has, in recent years, introduced Behavioral Sciences as an integral part of the curriculum in 2007 which is yet to produce its effects in medical practice of Pakistan. To fight hidden curriculum both the curriculum designers and college administration would have to act to mitigate its toxic effects on the development of doctor-patient relationship.

Limitations and suggestions for future research:

Despite our efforts to completely explore the attitude of medical students towards doctor-patient relationship we strongly believe that additional factors should be incorporated into further research done in the future in this domain.

- I. Academic staff from the respective colleges and hospitals was not included in this study which could have aided in measuring the extent of the problem.

- II. An English version of PPOS was used which might have interfered with the true attitude of Pakistani medical students toward the doctor-patient relationship since the national language of Pakistani people is Urdu.
- III. We suspect that there might be some error in the scores because we observed that some of the students were very casual about the study and did not take the items seriously. This was mostly eliminated by the criterion we chose to include only those forms in our study with fully filled demographics and not more than 3 questions missing in PPOS but we aren't sure if this criterion completely eliminated the error.
- IV. We conducted our study in just one city. Further studies should include a broader sample comprising of medical students from all the four provinces and all religious and ethnic groups to see if these factors have any effect on Patient-Centered Care.
- V. Our study design was a cross-sectional design which does not show any changes in Patient-Centered Care through the college years of the same group. We suggest that future researchers employ a longitudinal design, include "Burnout", "Stress", "Empathy" and other relevant factors which may influence the Doctor-Patient Relationship.
- VI. Since PPOS just measures the orientation and not the behavior of medical students towards Patient-Centered care, future researchers should include means to see the behavior of medical students toward this entity.

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Table-1: Total and Subscale PPOS scores according to gender and college year.

Academic Year†	Number of Subjects Completing PPOS	Male*				Female*				Total		
		N (%)	Mean (S.D) Score			N (%)	Mean (S.D) Score			Mean (S.D) Score		
			Total PPOS Score	Sharing Subscale	Caring Subscale		Total PPOS Score	Sharing Subscale	Caring Subscale	Total PPOS Score†	Sharing Subscale *	Caring Subscale †
1 st Year	176	50 (28.4%)	3.22 (0.41)	2.90 (0.55)	3.53 (0.61)	126 (71.6%)	3.44 (0.39)	3.19 (0.51)	3.69 (0.45)	3.38 (.41)	3.11 (.54)	3.64 (.57)
2 nd Year	147	40 (27.2%)	3.27 (0.61)	3.17 (0.66)	3.37 (0.71)	107 (72.8%)	3.27 (0.49)	3.08 (0.65)	3.45 (0.46)	3.27 (.52)	3.11 (.66)	3.43 (.54)
3 rd Year	178	51 (28.7%)	3.35 (0.63)	3.18 (0.78)	3.53 (0.63)	127 (71.3%)	3.39 (0.48)	3.16 (0.62)	3.63 (0.55)	3.38 (.53)	3.16 (.67)	3.60 (.58)
4 th Year	186	60 (32.3%)	3.53 (0.56)	3.23 (0.65)	3.83 (0.66)	126 (67.7%)	3.47 (0.54)	3.23 (0.68)	3.71 (0.60)	3.49 (.55)	3.23 (.67)	3.75 (.62)
5 th Year	105	32 (32.5%)	3.45 (0.40)	3.31 (0.47)	3.59 (0.53)	73 (69.5%)	3.46 (0.43)	3.24 (0.52)	3.67 (0.53)	3.45 (.42)	3.27 (.50)	3.64 (.53)
Total	792	233 (29.4%)	3.37 (0.54)	3.15 (0.65)	3.59 (0.65)	559 (70.6%)	3.41 (0.48)	3.18 (0.61)	3.63 (0.53)	3.40 (.50)	3.17 (.62)	3.62 (.57)

†= p<0.05, Independent t-test and one way ANOVA.

*= p>0.05, Independent t-test and one way ANOVA.

Table-2: Total and Subscale PPOS scores according to college and other participant characteristics.					
Variables	N (%age)	Mean (S.D) score			
		Total PPOS	Sharing Subscale	Caring Subscale	
College					
AIMC	515 (65%)	3.34 (0.47)†	3.09 (0.59)†	3.59 (0.56)*	
CMH	277 (35%)	3.50 (0.53)†	3.25 (0.65)†	3.67 (0.59)*	
Gender*					
Male	233 (29.4%)	3.37 (0.54)	3.15 (0.65)	3.59 (0.65)	
Female	559 (70.6%)	3.41 (0.48)	3.18 (0.61)	3.63 (0.53)	
Province					
Punjab	735 (92.8%)	3.38 (0.49)†	3.15 (0.61)†	3.61 (0.56)†	
Other than Punjab	23 (2.9%)	3.41 (0.54)†	3.21 (0.54)†	3.61 (0.65)†	
Foreign	34 (4.3%)	3.73 (0.54)†	3.58 (0.73)†	3.87 (0.64)†	
Doctor Parents*					
Yes	200 (25.3%)	3.44 (0.54)	3.20 (0.68)	3.67 (0.62)	
No	592 (74.7%)	3.38 (0.48)	3.16 (0.60)	3.60 (0.55)	
Living Status*					
Boarder	420 (53%)	3.36 (0.49)	3.14 (0.60)	3.59 (0.57)	
Day Scholar	372 (47%)	3.43 (0.50)	3.21 (0.64)	3.65 (0.56)	
Relationship					
Single	722 (91.2%)	3.39 (0.49)†	3.17 (0.62)†	3.62 (0.56)†	
Married	21 (2.7%)	3.61 (0.43)†	3.38 (0.58)†	3.85 (0.52)†	
Engaged	40 (5.1%)	3.46 (0.48)†	3.20 (0.58)†	3.72 (0.61)†	

Divorced	9 (1.1%)	2.67 (0.57)†	2.46 (0.62)†	2.87 (0.78)†
Clinical Rotation				
None	28 (3.4%)	3.25 (0.70)†	3.13 (0.73)†	3.38 (0.74)†
OPD	63 (8.0%)	3.63 (0.56)†	3.44 (0.68)†	3.83 (0.58)†
Ward	375 (47.3%)	3.43 (0.48)†	3.19 (0.61)†	3.67 (0.57)†
Research	3 (0.4%)	2.81 (0.41)†	2.59 (0.80)†	3.03 (0.33)†
Not Applicable	323 (40.9%)	3.33 (0.47)†	3.11 (0.59)†	3.54 (0.53)†
†= p<0.05, Independent t-test and one way ANOVA.				
*= p>0.05, Independent t-test and one way ANOVA.				

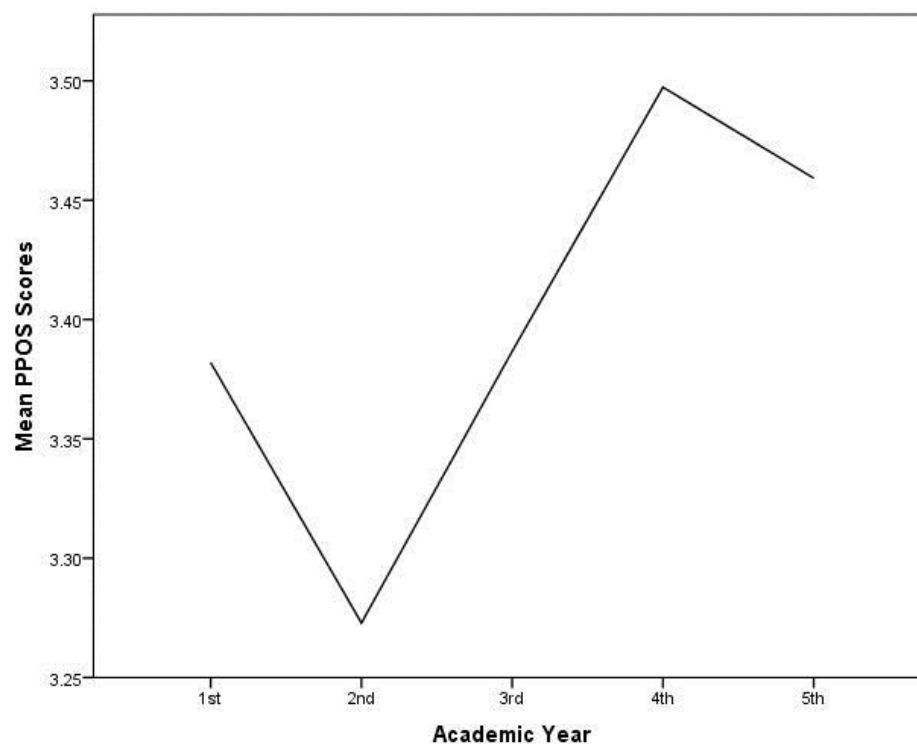


Figure-1: Mean Total PPOS Scores with respect to academic year of the students