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PROFESSIONAL IDENTITY AND MEDICAL STUDENTS OF FOUNDATION UNIVERSITY MEDICAL COLLEGE

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ABSTRACT

Objective: To measure the strength of professional identity across five years of MBBS course at Foundation University Medical College.

Methodology: This cross-sectional study was conducted at Foundation University Medical College (FUMC) from January 2015 to September 2019. The study included medical students from first to final year MBBS through survey sampling. The questionnaire consisted of two components; PIS score measured the strength of Professional identity and PSIQ score measured the strength of PI as it is reflected in different professional activities. SPSS 20 was used for data analysis.

Results: Study included 613 medical students whose mean age was 20.54±1.70 years and 26.4% were males. Professional identity starts forming right from the beginning of MBBS program and there was an overall increase in professional identity scores from first to final year; with mean PIS of 3.68 (i.e. close to "neutral") in first year and 4.03 (i.e. into "agree" range) in final year. The increase in PIS score was statistically significant at two transitions; from 1st to 2nd and then from 3rd to 4th year. Clinical years (fourth and final year) were mainly responsible for most of the increase in PI and PSIQ scores.

Conclusion: The professional identity scores increase over the five years of MBBS program. Clinical years significantly increase PI scores hence clinical clerkships should be introduced early through vertical integration.

Key Words: Identity; Professional identity; Medical students; Professionalism.

INTRODUCTION

Formation of professional identity enables the medical students to assume the role of "physicians" over the tenure of their medical education.[1] It is a state of mind by which a person identifies himself as a member of a particular professional group.[2] It requires the inculcation of certain moral principles, core values and self-awareness in their personality.[3] The PI develops as a medical student involves in social activities, receives feedback and learns to navigate the social dynamics of the working environment. As time passes these "performative" roles become habitual and integrated into their PI which is reinforced through constant interactions with patients, peers, colleagues and through commitment to norms and expectations of the profession.[4] Education in its broadest sense is about the transformation of the self into new ways of thinking and relating. The highest purpose of medical education is identity transformation with an exclusive focus on changing students from "doing the work of a physician" to a focus on "being a physician".[5-6]

There is still a gap in our understanding of how the PI actually evolves in doctors, despite numerous in-depth discussions. This study will help us to diagnose strengths and weaknesses of different constructs of PI among our medical students. These will in future help us in shaping our curricular and extra-curricular activities in ways that will foster PI formation. Preparation of our medical students for their future work roles is our prime responsibility. This implies not only delivering required knowledge and clinical and technical skills but also includes giving them a sense of how to work in effective teams, communicate effectively with each other and to socialize into workplace environment, in other words formation of their PI.[7] Delayed or weak PI construction is an obstacle in effective transition from a medical student to a professional and practitioner.

METHODOLOGY

The cross-sectional study was carried out a Foundation University Medical College, Rawalpindi, from January 2015 till September 2019 after approval of FUMC Ethical Review Committee. We used the survey sampling technique using a structured questionnaire.

All students of first year, second year, third year, fourth year and final year MBBS were included in the study. Students absent from their respective class on the day of data collection were excluded.

The questionnaire had two parts;

Part 1 (Professional Identity Scale or PIS): it measured the strength of professional self-identity and was adapted from the study by Adams et al.8 with modification by review of subject specialists. The questions were rated on a 5-points likert scale of agreement ranging from 1="strongly disagree" to 5= "strongly agree". (Table 1)

Part 2 (Professional self-identity questionnaire or PSIQ): it was adapted from the study by Crossley et al.9 Responses were scored on a Likert scale form 1= "1st day medical student" to 5= "newly qualified doctor". It had a total of nine items from three domains of professional activity. (Table 2)

Each class was approached on a separate day. We requested for 30 minutes time at the end of a regular class lecture. The proformas were distributed to the whole class and were collected after 30 minutes. Data was entered and analyzed using SPSS version 20.

The PIS scale had one negatively-worded item (item number 3 in part 1). Reverse-scoring of the responses for this negatively-keyed item was done using SPSS. The total PIS score for each student was divided by seven to get the mean PIS score for each student. Then the mean score for each year was calculated after adding all the mean PIS scores of individual students and then dividing it by the total students in the class. The mean PSIQ score for every theme was calculated for all five years after adding all the scores of individual students on that theme and then dividing it by the total students in the class. Results were also displayed in a line graph to depict the mean PSIQ score for each year for each of the nine themes.

The mean PIS and PSIQ scores were compared between pre-clinical and clinical years using the student's t-test. One-way ANOVA was used to see for statistically significant difference among the mean PIS scores between the different years. To isolate where the differences were statistically significant, I performed a series of pair-wise T-tests using Multiple Comparison of Bonferroni. A p value < 0.05 was considered statistically significant for all calculations.

RESULTS

The final data analysis included 613 students. It included 152 (24.8%), 127 (20.7%), 130 (21.2%), 104 (17%) and 100 (16.3%) students from first, second, third, fourth and final year respectively. Age of the respondents ranged from 16 to 28 years with a mean age of 20.54±1.70 years. Overall, 162 (26.4%) were males and 451 (73.6%) were females.

Table 1: Professional Identity Scale Questionnaire

Please indicate (by circling the appropriate number from 1 to 5) how you feel at present				
1. I feel like I am a member of medical profession				
Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5
2. I feel I have strong ties with members of medical profession.				
Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5
3. I find myself making excuses for belonging to medical profession.				
Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5
4. I am pleased to belong to medical profession.				
Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5
5. I can identify positively with members of medical profession.				
Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5
6. Being a member of medical profession is important to me.				
Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5
7. I feel I share characteristics with other members of medical profession.				
Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

Table 2: Professional self-identity questionnaire

Please indicate (by circling the appropriate number from 1 to 5) how you feel at present if you were undertaking the following activities. If you feel an activity does not apply to you please circle N/A					
When I am working with other health care professionals I feel like a					
1st day medical student				Newly qualified doctor	
1	2	3	4	5	N/A
When I am communicating with patients I feel like a					
1st day medical student				Newly qualified doctor	
1	2	3	4	5	N/A
When assessing a patients or clients I feel like a					
1st day medical student				Newly qualified doctor	
1	2	3	4	5	N/A
When engaging with others in a culturally diverse health care environment I feel like a					
1st day medical student				Newly qualified doctor	
1	2	3	4	5	N/A
When I am considering ethical or moral issues I feel like a					
1st day medical student				Newly qualified doctor	
1	2	3	4	5	N/A
When consulting patient records I feel like a					
1st day medical student				Newly qualified doctor	
1	2	3	4	5	N/A
When I find myself in an emergency involving a patient I feel like a					
1st day medical student				Newly qualified doctor	
1	2	3	4	5	N/A
When reflecting on my experiences to identify my learning needs I feel like a					
1st day medical student				Newly qualified doctor	
1	2	3	4	5	N/A
When teaching others/ peers I feel like a					
1st day medical student				Newly qualified doctor	
1	2	3	4	5	N/A

Professional Identity Scale scores

It included seven items that were scored on a 5-point Likert scale, hence the total possible score of the seven items could range from 7 to 35 for each respondent.

The total PIS scores were 25.81, 27.11, 26.68, 27.95 and 28.23 for first, second, third, fourth and final year respectively. The total PIS score for each student was divided by seven to get the mean PIS score of each student. The mean scores were 3.68, 3.87, 3.81, 3.99 and 4.03 for first, second, third, fourth and final year respectively (Figure No 1). One-way ANOVA F statistics showed that there was a statistically significant difference between the mean PIS scores across the five years; $p < 0.05$.

It was observed that the PIS scores increased progressively across the five years of the MBBS program; the steepest increase was from first to second year and then in the clinical years i.e. fourth and final year. There was a small dip in PI scores in the third year. When we compared successive classes using Multiple Comparison of Bonferroni test we found that the difference between PIS score of 1st and 2nd year was statistically significant (0.019) and PIS score of 3rd and 4th year was statistically significant (0.050). On the other hand mean PIS scores between 2nd& 3rd year (p=1.000) and 4th & 5th year (p=1.000) were not significantly different.

Professional self-identity questionnaire scores

During analysis of scores of PSIQ, we assigned a value of "0" to the "Not applicable" responses while the rest of the items were scored from 1 to 5. The students rated the items based on how they felt at present if they were undertaking certain professional activities, keeping "1" as feeling like a "1st year medical student" and "5" as a "newly qualified doctor".

We found that the PSIQ scores increased

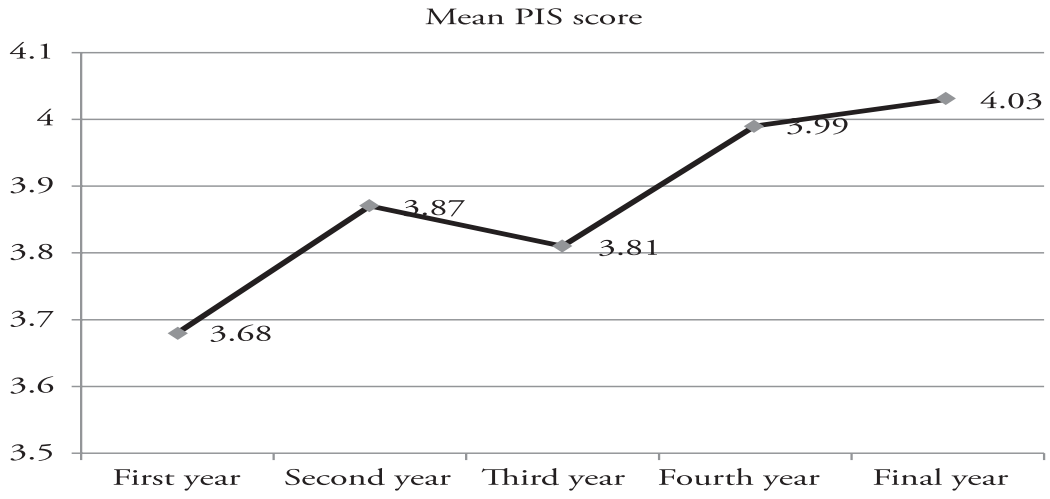

Figure 1: Mean Pis Score Of Different Classes

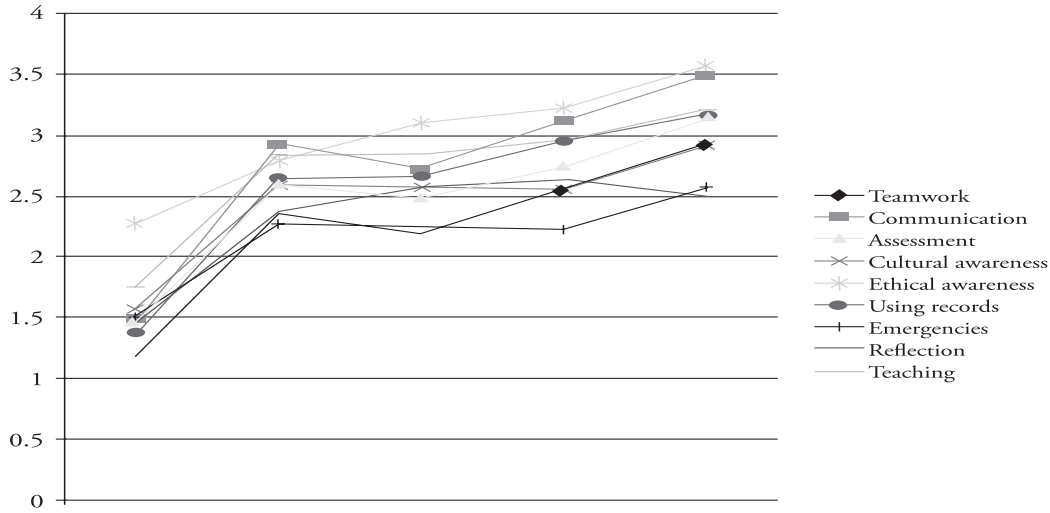

Figure 2: Overall Psiq Scores In Different Domains Of Professional Activity Among Different Classes

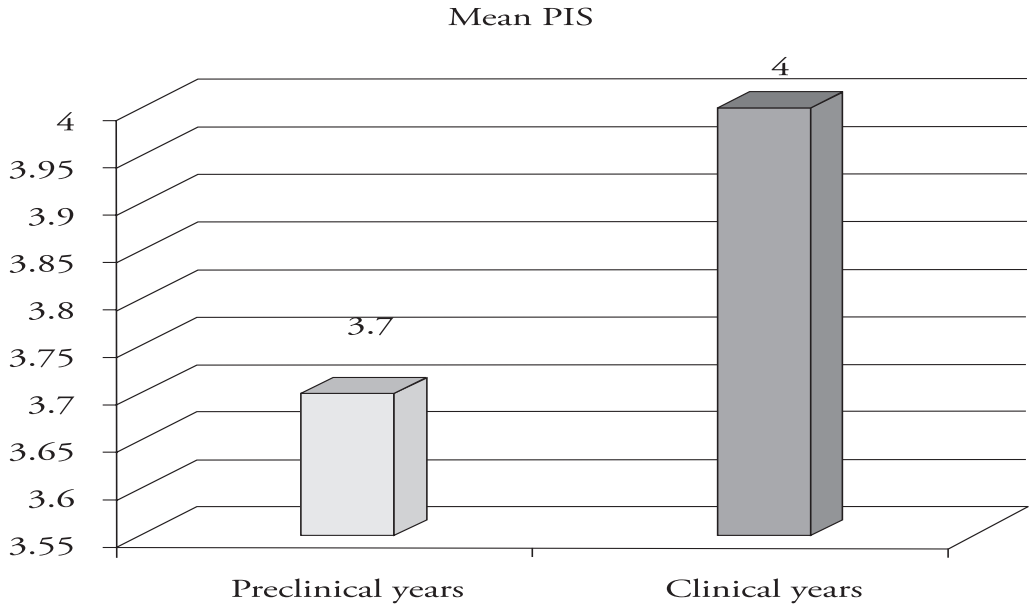

Figure 3: Mean Pi Scores For Pre-Clinical And Clinical Years

progressively across the five years of the MBBS program in most of the professional activities. However, there was a decline in third year in some of these activities similar to a decline seen in scores on PIS. The PSIQ scores increased sharply in first and second year and then again in fourth and final year (Figure No 2).

Pre-clinical versus clinical years

The mean PI score for the 409 students from pre-clinical years was 3.78±0.48 and for the 204 students from the clinical years was 4.01±0.522 (Figure No 3); this difference was statistically significant, p= 0.000.

PI and PSIQ scores both increased sharply from first to second year and hence PI formation started forming right from the beginning of MBBS course. There was a slight decline in PI scores in third year in both PIS and PSIQ scales, but this was not statistically significant. The increase in PIS score was statistically significant at two transitions; from 1st to 2nd year and then from 3rd to 4th year. Hence these two transitions are very important in PI formation. The clinical years i.e. fourth and final year were mainly responsible for most of the increase in PI and PSIQ scores. The PSIQ scores for profession-specific tasks and inter-personal tasks increased progressively better than the scores for generic attributes.

DISCUSSION

We found that the students had a mean PIS score of 3.68 upon entry into medical college. Hence, PI was ambiguous in the beginning since first year students had a mean PIS score close to "neutral" score. Baseline PI that existed even in the beginning of first year, comes from demographic influences like having doctors among family, having previous interaction with health care professionals, if a family member has been sick and through media information. Coster et al.[10] found that the strength of PI was high on entry to university. Hind et al[11] conducted a survey of 933 undergraduate healthcare students (medicine, nursing, dietetics, pharmacy and physiotherapy) within a multi-faculty UK university; they found that the students identified strongly with their own professional group even at the start of medical education.

The second important finding was a statistically significant rise of PIS scores from 1st to 2nd year students. This shows that PI formation starts forming right from the beginning perhaps from the day the students enter the medical college.[12-13] Conduction of "day-one ceremony", compulsory wearing of overalls and college uniform and engaging in teamwork during PBL sessions and early introduction of clinical work in the clinical skills lab may be contributory factors for this sharp rise in PIS scores at this stage. The first year data of our study was collected during the first week of new first year; hence it serves as a true baseline data.

The third important finding was a dip in PIS and PSIQ scores seen in third year. Gibson et al[14] found that there is transformation of PI construct as student transitions through naïve state of understanding their profession to a state of confusion and eventually to a state of integrated identity. Their study showed that third year students experienced self-doubt regarding competency, knowledge and skill base sufficiency. Niemi[15] reported that identity development did not appear to proceed in a linear way and at the end of preclinical training, the identity status of many students could be characterized as diffuse or giving rise to only very tentative professional considerations. This was similar to the finding in our study where in pre-clinical years (the first three years) the PI scores declined after showing an initial rise. This might be because 3rd year is the period of transition from pre-clinical to clinical classes. The 3rd year students are not as much owned by the basic science teachers as the first and second year classes. Similarly they are also not as much owned by the clinical teachers as they own the fourth and final year students. The third year curriculum is also low on the integration ladder as compared to other years. The teaching learning strategy for this year also involves lesser teamwork as they have no PBL sessions. They have ward class only once a week in which they have poor attendance, and the teachers are also not much enthusiastic about clinical teaching of 3rd year students.

A study interviewed 13 medical students from year 1 and 3 of an undergraduate medical school at a university in Australia. They found that two main components that contributed to a strong sense of PI among medical students were professional inclusivity and social exclusivity. Students felt professional inclusivity when they attended clinical rotations and when they were treated as future medical professionals by lecturers, doctors and patients. Social exclusivity is demonstrated by the perception of participants that they are separate from non-medical students. Students describe a sense of peer unity and a shared sense of identity as medical students within the medical college. This is perhaps why only upon entering into a medical college increases the PI strength.

The fourth important finding of our study was a statistically significant rise of PIS scores from 3rd to 4th year students. The start of clinical clerkship, in this case 4th and 5th year causes a step-up change in the development of professional self-identity. Hence, clinical years are very important in PI formation.

Study by White et al[16] provided an insight into the kinds of experiences that matter most to students. Students placed high value on experiences involving humans – whether as cadavers, patients, colleagues, mentors, or role models – and highlighted the impor-

tance of clinical clerkships and electives to their professional formation. This explains why clinical years greatly fostered PI development in our study. Haidet and co-authors[17] have also demonstrated the importance of patient interaction and communication skills in medical student identity development. This explains why there was a significant rise in PIS score in the clinical years since these years provide an environment rich of opportunities to interact with patients, peers and teachers.

Majority of the researchers[18-19] agree that PI evolves across time. We can appreciate this in our study since there was an increase in the overall PIS and PSIQ scores over the years.

The strength of PI of clinical years was significantly higher than those of pre-clinical years. In a similar but qualitative study Ginsburg and Lingar[20] recognized differences between preclinical and clinical medical students' approaches to standardized professional dilemmas, suggesting differences in their underlying stages of PIF. Interactions with patients play a key role in PI formation.[21]

Our present study results can be interpreted so as to help educators design strategies that can help in developing strong PI among our medical graduates. Enhancing PI through specific actions can create satisfied and prepared students who can later become more productive, motivated and creative professionals and can ultimately result in better health care system and more satisfied

CONCLUSION

Professional identity formation starts forming right from the beginning of MBBS program. There is an overall increase in the strength of PI over the five years of MBBS. There is a statistically significant increase in PI scores at two transitions; i.e. from 1st to 2nd year and then from 3rd to 4th year. Hence these two transitions are very important in PI formation. Moreover, the clinical years were mainly responsible for most of the increase in PI and PSIQ scores.

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Author's Contribution

UB conceived the idea, did data collection, analyze and write up of the manuscript. UM supervised the study and NT helped in data collection and manuscript writing. Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Conflict of Interest

Authors declared no conflict of interest

Grant Support and Financial Disclosure

None

Data Sharing Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.