

MEASURING PROFESSIONALISM IN POSTGRADUATE PAEDIATRIC RESIDENTS USING PROFESSIONALISM MINI-EVALUATION EXERCISE (P-MEX)

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ABSTRACT

Objective: To measure professionalism in postgraduate Paediatric residents using P-MEX.

Study Design: Prospective correlational study.

Place and Duration of Study: Department of Paediatrics, Pak Emirates Military Hospital Rawalpindi, from Jan 2017 to Dec 2017.

Material and Methods: Thirty two postgraduate residents of Paediatrics department were selected by consecutive sampling. Eight evaluators who were consultants, peers of the residents and nursing officers, assessed these trainees (eight trainees from each year of training) for degree of professionalism using P-MEX forms. A total of 256 forms were completed and data was collected. Descriptive analysis was done and mean scores with standard deviation were calculated using Likert scale. Correlation of year of training with degree of professionalism was also measured.

Results: There were 21 females and 11 males participated. The mean score of the trainees was 3.63 ± 0.30 . The mean average score by evaluator subgroup was 3.61 for consultants, 3.69 for peers and 3.63 for nursing officers. The calculated Cronbach's alpha of the questionnaire was 0.96.

Conclusion: Our trainees demonstrated a satisfactory favourable professionalism. Using P-MEX is a good evidence for the assessment of professionalism among our residents.

Keywords: Cronbach's alpha, Professional mini evaluation exercise, Professionalism.

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INTRODUCTION

Professionalism is the essential competency of doctors that should be achieved in undergraduate and postgraduate medical education. Recently Professionalism is becoming a recognized quality for the doctors especially during their training¹. Professionalism is included in the charter formulated by The American College of Physicians, The American Board of Internal Medicine & The European Federation of Internal Medicine which is now accepted by many countries², reflecting the growing importance of medical professionalism at a global level. There are many explanations but society both needs and expects high standards of professional behavior from its treating physicians³⁻⁵. Among resident doctors, professionalism has been shown to be associated with knowledge, clinical skills

and conscientious behaviours⁶.

Evaluation of professionalism is complex and includes different methods by multiple evaluators over time and across different dimensions^{7,8}. Research identified many different assessing instruments but with limited validity and reliability, in clinical settings⁹. In-training evaluation reports have been used for evaluation of professionalism but deficient by the fact that performance is not directly observed¹⁰. Multi-source feedback provide different angled evaluation of professionalism. A sensitively conducted peer assessment is a powerful tool to assess professionalism¹¹. However they lack advantages of direct observations and objectivity.

Direct, objective and multiple observations in different settings using professional mini evaluation exercise (P-MEX) has been a relatively new, simple and useful technique for evaluation of professionalism¹². P-MEX, developed in Canada at McGill University and at the University of Toronto, is a feasible tool for evaluating

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professionalism in clinical training¹³. Its construct and content validity have been recognized by a process of item generation and factor analysis. Further feedback from trainees value the P-MEX for promoting self-reflecting and awareness of the importance of professionalism¹⁴.

Recent awareness of public about professionalism of doctors and high societal expectations has increased the need for evaluation of physicians' professionalism especially of junior doctors. Assessing professionalism among clinical trainees is of great importance and interest in regional countries. However few regional studies have reported on the development and implementation of professionalism assessing tools¹⁵. Although subject has been addressed in few local studies but not extensively^{14,16}. The objective was to measure professionalism among paediatric residents in military hospitals using P-MEX instrument.

METHODOLOGY

This prospective correlational study was carried among first year to fourth year postgraduate residents doing training for either MCPS or FCPS in paediatric medicine working at Pak Emirates Military Hospital Rawalpindi. The duration of study was from Jan 2017 to Dec 2017. Study was conducted after taking approval from hospital ethics committee. Informed written consent was obtained from all the study participants on a prescribed consent form that explained the purpose of study. Participants were assured of confidentiality as well as anonymity of the information given by coding each of them to preserve identity. Sample size was calculated by using WHO calculator and non-probability consecutive sampling technique was used. The P-MEX, originally developed at Mc Gill University Canada is a validated tool for assessing professionalism of clinical trainees, it has also shown generalizability in other countries^{13,17}. P-MEX questionnaire was used as an instrument for collecting data regarding observations, performance and attitude of participants. The original form was published in Academic Medicine and

three redundant items have been eliminated¹³. We used the same four clusters of factors that identified by Cruess *et al* which can be interpreted as: Doctor-Patient Relationship Skills, Reflective Skills, Time Management and Interprofessional Relationship Skills¹³. It has 21 parameters to be assessed on Likert's scale of 1 to 5, when 1 is not applicable, 2 is unacceptable, 3 is below expectations, 4 is met expectations and 5 is exceeded expectations. The rating of each item was calculated from the Likert scale scores. The total score of this instrument ranges from 21 to 105.

The faculty, residents and nursing staff of Paediatric department of the military hospital were trained for ratings on the instrument to improve inter-rater reliability. Eight evaluators rated professionalism of residents working in the hospital. Each resident was evaluated by two paediatric supervisors who supervised the resident for at least three months, three peer residents who worked with the resident in the same ward rotation for three months and three nursing officers who were performing duties in the same ward for three months.

Descriptive statistics were computed on demographic and contextual data on SPSS version. The rating of each item was calculated from Likert scale score and each item analysis was done that consist of determination of frequencies of each score category. Correlation of year of training with degree of professionalism was also measured.

RESULTS

A total of 32 postgraduate residents of paediatric department participated in the study after informed consent; eight residents from each year of training. There were 11 males and 21 females with mean age of 28.4 years (range 26-34 years).

Eight evaluators assessed a total of 32 residents for degree of professionalism. A total of 256 P-MEX forms were completed for the trainees. Each trainee was assessed by two consultants, three peers and three nurses. A mean score for the 21 items was computed for each form and then aggregated for residents and evaluators.

Overall mean score of the trainees was 3.63 ± 0.30 . The mean average score by evaluator subgroup was 3.61 for consultants, 3.69 for peers and 3.63 for nursing. The calculated Cronbach's alpha of the questionnaire was 0.96. The mean item scores with standard deviation of each skill are presented in table-I.

Table-I: Mean item scores for skills.

Skills		Mean	SD
Doctor-Patient Relationship Skills			
1	Listened actively to patient	3.53	0.55
2	Showed interest in patient as a person	3.54	0.53
3	Recognized and met patient needs	3.59	0.54
4	Extended his/herself to meet patient needs	3.47	0.45
5	Ensured continuity of patient care	3.70	0.49
6	Advocated on behalf of a patient	3.44	0.44
7	Demonstrated awareness of limitations	3.68	0.44
11	Maintained appropriate boundaries	4.02	0.16
Reflective Skills			
7	Demonstrated awareness of limitations	3.68	0.44
8	Admitted errors/omissions	3.71	0.45
9	Solicited feedback	3.03	0.12
10	Accepted feedback	3.94	0.38
12	Maintained composure in a difficult situation	3.60	0.52
Time Management			
14	Was on time	3.39	0.51
15	Completed tasks in a reliable fashion	3.61	0.55
17	Was available to colleagues	3.78	0.47
Interprofessional relationship skills			
11	Maintained appropriate boundaries	4.02	0.16
13	Maintained appropriate appearance	4.04	0.14
16	Addressed own gaps in knowledge and skills	3.58	0.52
18	Demonstrated respect for colleagues	3.95	0.25
19	Avoided derogatory language	3.60	0.23
20	Maintained patient confidentiality	3.80	0.54
21	Used health resources appropriately	3.11	0.39
P-MEX Average Score		3.63 ± 0.30	

Table-II shows Comparison of mean scores between consultants, peers and nurses. Pair wise comparison showed that mean difference was significant only between consultants and peers at a *p*-value of 0.04 whereas the difference between all other pairs was non-significant.

Table-III shows correlation of years of training with the degree of professionalism along with *p* and *r* values.

DISCUSSION

The importance of medical professionalism has gained an increased global recognition that, in turn, demands for a valid and reliable tool for its assessment⁵. But there is absence of any such standard tool for assessing medical professionalism that can be used in different cultural

and educational settings^{5,18-21}. Among the several tools currently available, P-MEX, originally developed in Canada, is the only potential and evaluating tool verified in both Western and East Asian cultural context¹⁷.

The results of degree of professionalism for our paediatric trainees met an acceptable expectation. Results showed that evaluation was almost same by consultants/nurses but degree of profes-

sionalism was measured high by peers. The mean degree of professionalism in our study was 3.6; while studies from Canada and Japan showed mean score of 3.22 and 3.25 respectively¹⁷⁻²⁰. Further degree of professionalism was significantly and positively correlated with year of residency. Better score of professionalism in our study reflects that our trainees work in a disciplined working environment. Similarly a study demonstrated that background of the trainees has an influence on the understanding of Professionalism in the medical field²¹⁻²².

Our trainees mostly met expectations in parameters like maintained appropriate appearance (4.04), maintained appropriate boundaries

knowledge and skills^{1,17}. Similar situation persist in Pakistan; as medical colleges hardly put any emphasis on professionalism, it is unlikely that this competency is taught adequately.

Degree of correlation was positive for year of training in this study. According to the above findings, the judgment abilities of the residents increase with the years of residency and experience; that leads to increase in the perception of the professional behaviors of residents in professionalism. Similar results were described by Salem *et al* from Egypt²³. Increase work experience, training and better balance in work life could have been the contributing factors. In a study it is found that a resident who's P-MEX

Table-II: Comparison of mean scores between consultants, peers and nurses.

	Mean	Std. Deviation	<i>p</i> -value
Consultants	3.61	0.18	0.04
Peers	3.69	0.22	
Nurses	3.63	0.25	

Table-III: Correlation of year of training with degree of professionalism.

Year of training	Consultants		Peers		Nurses	
	<i>r</i> -value	<i>p</i> -value	<i>r</i> -value	<i>p</i> -value	<i>r</i> -value	<i>p</i> -value
	0.43	0.01	0.38	0.03	0.28	0.13

(4.02), demonstrated respect for colleagues (3.95), maintained patients' confidentiality (3.8) and availability to colleagues (3.78). Such expectations were also described by Tsugawa *et al* from Japan¹⁷. Possible reasons for these high expectations are that discipline and organized culture of working place of our trainees is reflected in their behaviour. However score was less in solicited feedback (3.03) used health resources appropriately (3.12) and was on time (3.39). These findings are consistent with study by Cruess *et al* that showed ratings as below expectations: demonstrated awareness of limitations, solicited feedback, was on time and addressed gaps in own knowledge and skills¹³. This may indicate that these items are more sensitive to breaches of professionalism than others. Some Japanese residents also scored relatively low on 'ensured continuity of patient care', 'solicited feedback', 'was on time' and 'addressed own gaps in

score was less than 2.90 could be considered for investigation and remediation¹⁷. In our study all residents scored above 3.1.

Evaluation score of the P-MEX by the peers was high (Mean 3.69 ± 0.31) in our study. Similar findings were reported by a study from Japan that the reproducibility of the P-MEX was relatively low when the evaluators were peers and junior residents¹. There are some possible explanations for this high score by peers. First, medical professionalism is not taught adequately both at undergraduate level and postgraduate level and students are often not exposed to organized and consistent standards of professionalism during their training years. Second, there may be bias by the juniors in evaluating peers or seniors. Third, personal likes & dislikes and personal relationships rather than objective assessment may cause the variance in scores. Finally, P-MEX might be an unsuitable assessing

tool when evaluations are done by peers and juniors. So there is need for further research to define low reliability of P-MEX among peers.

Greater emphasis on teaching and evaluating professionalism appears to be necessary²⁴. Further awareness among faculty members to teach medical professionalism may help to foster professionalism to the coming generations of medical doctors. Faculty members who show professional manners are to be rewarded so it may help to emphasize the importance and value of professionalism to trainees^{25,26}.

The major limitation of the study was that the sample size was small with only eight evaluators and the study was conducted in a single teaching hospital.

CONCLUSION

This study demonstrated a satisfactory and favourable degree of professionalism among our paediatric postgraduate residents. Using P-MEX proves to be a good evidence for assessing professionalism. However there is a need to develop our local version of this tool with addition of new items in our context for adequate validity.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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