DOES USE OF MULTI-SOURCE FEEDBACK (MSF) AFFECT THE ATTITUDES OF POSTGRADUATE TRAINEES: EXPERIENCE OF A TEACHING HOSPITAL

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ABSTRACT

Objective: To explore the affects of multi source feedback (MSF) on the attitudes of post-graduate trainees.
Study Design: Prospective mixed method study.
Place and Duration of Study: Department of Ophthalmology, Lahore General Hospital (LGH) and Postgraduate Medical Institute (PGMI) Lahore, from Jul 2012 to Jun 2013.
Material and Methods: This prospective mixed method study was conducted in the Department of Ophthalmology, LGH and PGMI, Lahore from July 2012 to June 2013. Participants were FCPS trainees and raters were the consultants, postgraduate trainees, house officers, nursing and paramedical staff. Modified mini-PAT Questionnaire was used. Survey I was followed by Survey II conducted after three months to determine any change. SPSS version 20 was used and paired sample t-test was applied to compare residents' mean scores. A *p*-value <0.05 was considered significant.
Results: Mean score for question 1-12 was 4.00 ± 0.16 and 4.43 ± 0.14 for survey I (before intervention) and survey II (post intervention) respectively. Mean difference in overall score from two surveys was 0.43 ± 0.06, which was statistically significant (*p*-value=0.000) showing overall improvement in scores from survey I to survey II. The highest mean score was awarded to question number 7 i.e. trainee respects patient's confidentiality and lowest to question 4 i.e. ability to manage time effectively, in both surveys.
Conclusion: There was improvement in practice if MSF was delivered in accurate and timely manner with maintenance of the confidentiality and facilitative feedback.

Keywords: Assessment, Multisource feedback, Postgraduate trainees, Professionalism.

INTRODUCTION

The traditional methods of assessment do not test what a doctor "does" in the real life situation; however, evolution in postgraduate medical education has introduced new ways to assessment of competence and performance[1]. The assessment of professional performance is essential to demonstrate fitness to practice medicine and provide evidence of accountability. Medical educationists have developed consensus on the need of regular performance assessment of doctors involving various assessment methods such as simulated patients, video observation, audits of clinical records, critical incident analysis and multisource feedback[2]. Multisource feedback (MSF) is a feasible, reliable and valid method to assess practice particularly for non technical competencies such as communication skills, interpersonal skills, collegiality, humanism and professionalism. It is gaining acceptance to improve the quality of healthcare systems[3].

The multisource or 360˚ feedback collects the evidence about the performance of a trainee from different sources including; himself and persons selected by him. The other raters may include senior colleagues, junior colleagues, peers, nurses, allied healthcare professionals and patients[4]. Mini-PAT (peer assessment tool) is a concise form of MSF and involves less number of raters. It is used for formative as well as summative assessment. Though it is mostly used for the appraisal of postgraduates and continuing medical education (CME); it can also be used for the assessment of undergraduates. The MSF has been adopted by United Kingdom foundation

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Received: 16 Jun 2016; revised received: 19 Jul 2016; accepted: 20 Jul 2016

course, Royal College of Pediatricians and Royal College of Psychiatrists UK[5]. Its advantages are that it assesses the doctor in vivo and no specific time or particular patient is selected. It is a workplace-based assessment tool that assesses the attitude component of the learner in depth. Moreover, it is feasible, acceptable[6] and multiple raters increase its reliability. Though there is awareness about MSF in Pakistani medical educationists[7], very little research work has been done in this area.

The MSF has established reliability and validity, yet it is time and resource intensive. Question arises; does it really influence attitude of the doctors[8]? This WBA tool has not yet been tested in Pakistani context. So purpose of this research was to explore the possibilities for improvement of postgraduate medical education and provide baseline for further research in this field.

MATERIAL AND METHODS

This prospective mixed method study (quantitative & qualitative) was conducted in Department of Ophthalmology, Lahore General Hospital & Postgraduate Medical Institute Lahore from July 2012-June 2013. The study was limited to the postgraduate (PG) trainees who had spent at least 6 months and were expected to stay for 6 months more in the department. Only those trainees pursuing FCPS/FRCS were included in the study.

Table-I: Pre and post average scores.

Question	Average post score	Average pre score	Difference
1.Awareness of own limitations.	4.41 ± 0.42	4.02 ± 0.51	0.39 ± 0.09
2.Awareness to respond to psycho-social aspects of patients care.	4.30 ± 0.54	3.86 ± 0.60	0.44 ± 0.06
3.Appropriate utilization of resources.	4.37 ± 0.59	3.91 ± 0.67	0.46 ± 0.08
4.Ability to manage time effectively.	4.21 ± 0.60	3.78 ± 0.61	0.43 ± 0.01
5.Communication with patients.	4.66 ± 0.40	4.22 ± 0.41	0.44 ± 0.01
6.Communication with patient's family.	4.50 ± 0.40	3.97 ± 0.47	0.53 ± 0.07
7.Respects patient's confidentiality.	4.67 ± 0.49	4.26 ± 0.60	0.41 ± 0.11
8.Communication with colleagues.	4.37 ± 0.50	3.94 ± 0.58	0.43 ± 0.08
9.Ability to recognize contribution of others	4.286 ± 0.47	3.872 ± 0.75	0.414 ± 0.05
10.Accessibility / reliability.	4.443 ± 0.45	3.984 ± 0.75	0.459 ± 0.30
11.Attitude in adverse circumstances.	4.429 ± 0.52	3.956 ± 0.66	0.473 ± 0.14
12.Overall how do you rate this doctor.	4.513 ± 0.42	4.228 ± 0.52	0.285 ± 0.10
Total	4.43 ± 0.14	4.00 ± 0.16	0.43 ± 0.06

p-value=0.000 (Significant)

The raters were the consultants, postgraduate trainees, house officers, nursing and paramedical staff of the same institution. Only the attitude component of the learners was assessed.

Every ratee opted for 6 assessors from list of the proposed raters. The fig-1 shows relation of raters and the PGRs.

Pragmatic research philosophy and concurrent mixed methods approach was used for this study. There was nesting of the qualitative data collection with in quantitative data collection.

Non-probability convenience sampling was used to include the postgraduate participants who were available in the department.

The data collection tool was a modified mini-PAT Questionnaire in English or Urdu (for para-medicals)[9,10]. It consisted of 12 close-ended questions and 3 open-ended questions. It also included semi-structured interviews where need arose. The study consisted of two parts: Survey I followed by Survey II, which was conducted three months after the first survey to determine change, if any. It covered most of the components of the attitude like receptivity, response and internalization of a situation. It also looked at the communication and interpersonal skills, utilization of resources, reliability, professionalism and response to adverse situation.

The raters received a training session about how to respond to different items of the proforma. If there were any ambiguities regarding ratings or comments of any assessor, that rater was invited for adiscussion to clarify those grey areas. The participating registrars weregiven a training session explaining the process of multi-source feedback.

Clearance to conduct the study was sought from Institutional Review Board of the hospital. Participation of the trainees and raters was voluntary and they were able to withdraw themselves at any stage from the study. A written informed consent was sought from each participant after explaining that this exercise would not affect their residency in any way. The consent was designed in English and its Urdu translation was also provided when needed. Confidentiality of the data were maintained. The raters were not coerced into study and their anonymity was guaranteed.

SPSS version 20 was used for the data analysis. Descriptive statistics such as frequencies and percentages were calculated. For comparison of residents' mean scores before and after feedback, paired sample t-test was applied. A *p*-value <0.05 was considered as significant. Qualitative data generated through interviews were analyzed by identifying themes and patterns from the thick description by using content analysis technique.

RESULTS

Initially 15 PGRs were enrolled to be the participants; however, 3 of them moved to the other hospitals and were excluded from the study. The responses regarding 2 other PGRs were inadequate and were also excluded. Hence, final results were based on data of 10 PGRs; eight of them were in year 3 while two were in year 4 of their four-year training period. Male to female ratio of the participants was 2:1. There were 24 raters including the PGRs themselves. Out of these, 14 were male while 10 were females (M:F=1.5:1). The percentage of rater doctors was 63%, while 37% were nurses and paramedical staff. The detailed data of raters is shown in fig-2.

Table-II: Open-ended comments at survey-I.

Themes	Sub-themes
Manners	Friendly
	Soft spoken
	Down to earth
	Less talkative
	Helpful
Personality	Honest
	Sincere
	Generous
	Trustworthy
	Dependable
	Smiley face
	Hardworking
	Pleasant
	Witty
Skills	Good IT skills
	Research
	Good at studies
	Efficient time management

The scores and comments did not show any gender related bias. Overall response rate was 70%.

According to survey I (before intervention), the mean score for question 1-12 was 4.00 ± 0.16. The highest mean score was awarded to question number 7 i.e. 4.26 ± 0.60 and lowest to question 4 i.e. 3.78 ± 0.61.

According to survey II (post intervention) the mean score for questions 1-12 was 4.43 ± 0.14. The highest mean score was awarded to question number 7 and lowest to Q. No. 4. Respective scores for 12 questions for Survey-I and Survey-II are presented in table-I.

The mean difference between two surveys for 12 questions was 0.43 ± 0.06, which was statistically significant i.e. *p*-value=0.000 according to paired sample t-test showing overall improvement in scores from survey I to survey II.

The open-ended question related to any health issues of the participants, concern was raised about 3 trainees for their smoking habits and being overweight in Survey-I. However, the Survey-II showed that actually all of those 3 participants had reduced smoking and started giving time to physical exercise.

In answer to the question that do you find any trait especially good in the candidate, main themes identified are summarized in table-II.

Special concerns raised by the raters included feedback of giving less time to studies for one trainee, punctuality issues for another and being lazy for yet another trainee in Survey-I. In feedback after three months, it was reported that first trainee had started giving more time to studies, punctuality was better somewhat for the second trainee, however, no improvement was reported for the laziness of the third trainee.

In the face-to-face feedback session after the first survey, one PGR denied smoking, while another aggressively wanted to know the identity of the person giving corrective feedback; however, both participants settled down after debriefing by one of the authors. One PGR proposed that there should be a similar multi source Feedback session for the faculty members as well.

DISCUSSION

The overall response rate in our study was 70%. A study on Canadian radiology residents[10] showed a 73% rate of responding to the MSF survey. But the number of evaluators was 216 compared to a smaller number in this study.

In our study, an overall improvement in attitudes was reported indicating that MSF leads to change in practice. According to Murphy and colleagues[11], the educational impact of the MSF determined on a 7-point Lickert Scale was 4.2, showing that majority of participants thought a positive value of this educational tool. Similarly, systematic literature review by Khalid Al Khalifa and colleagues reported that residents

Figure-1: Multi source feedback raters.

demonstrated improved scores in every domain when comparing the first and second administrations of the survey with a mean improvement of 4.46 on every scale. The two assessments were performed with an 8-month interval in comparison to 3 months in our study[3]. A score of 3.31 was given by raters to the statement that "MSF will lead to positive changes in junior doctors' behavior and/or attitudes. On the other hand, 33% of the foundation year-I doctors (total=249) did not think to change their practice in response to MSF[12]. However, a survey of 113 Family Physicians[13] revealed that 63% of the participants either were planning or had already made changes in their practice based on

MSF guidance. Brinkman et al[14] reported a significant improvement in communication skills, meeting the timelines and demonstration for responsibility after a randomized controlled trial where MSF plus coaching was compared to traditional feedback alone. Miller[15] in her review of 16 studies concluded that MSF could lead to performance improvement, if appropriate facilitation is provided. In another study by Nurudeen and colleagues, 60% of surgeon respondents reported to have made changes in practice after feedback while 70% of reviewers labeled the 360-degree feedback as valuable process and showed their eagerness to participate in the process in future as well[16].

There was a positive correlation between self-scoring and other raters scoring in our study. Archer[17] reported a lower rating by the supervisors while rating on a multisource feedback tool. In this study, 7 scorers were included to give 3600 assessment. In literature, 4-11 raters have been employed. In our study confidentiality of the raters was strictly maintained, but it needed a lot of effort. It has been recommended that an honest administrative assistant can increase objectivity and confidentiality of the whole process[18]. Buccieri and colleagues have reported immense workload and resistance to change while initial phases of developing and implementing the multisource feedback system. However, he further suggested that it can be handled well through management commitment, training specific to local needs and feedback sessions[19]. The maintenance of confidentiality was pivotal in MSF. While corrective feedback was being conveyed to a PGR, he became aggressive and wanted identity of the rater. If secrecy is not assured, MSF can trigger rivalry or hatred amongst the co-workers. Sargeant et al recommended facilitated reflection to those receiving negative feedback, so they can concentrate on improving performance instead of bothering emotions[20].

This study had 7 raters per PGR, hence a total of 140 proforma were filled. It was followed by feedback sessions and face-to-face interviews. Altogether, there were 23 raters, so it was an exhaustive task to keep record of all these surveys and interviews. Ou[21] had 16 raters per resident to give multi-source feedback. Different studies have shown that patients are also involved as raters. However, in our study none of the raters were patients, as the hospital where the study was conducted caters for underprivileged population. It would have involved a lot of logistic support to get meaningful feedback from the patients.

There was a social dimension to the study, as a PGR revealed that a faculty member had become hostile to her and asked author not to accept feedback from him. All except one of the PGRs accepted feedback amicably. Ferguson et al[2] concluded that the feedback is more

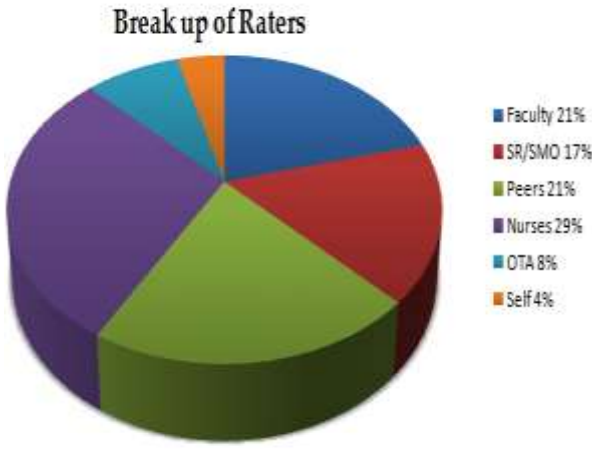

Figure-2: Break up of the raters in the study.

acceptable if the format is facilitative and if the sources are credible. The feedback however cannot be used in isolation, as rating may be skewed towards favorable impression about a doctor's performance[22]. Only 38% of UK medical students thought that their assessment was fair. It is reported that those trainees who take their assessment and evaluation process as biased, they are at risk of developing negativity, which can further affect their acceptance of any feedback provided to them. Another factor affecting emotional reaction to feedback was whether the given feedback correlates with self-perception of performance or not. It was found

that doctors responded constructively leading to positive changes in practice when their feedback was in agreement with their self-perception[23].

In our study, no difference in scores was observed between genders. Yazdankhah and colleagues reported that male residents obtained higher total score but there was no significant difference between them[24].

Limitations

The sample size was small hence the results may lack generalization. The author acknowledged the element of comradery or antagonism by the raters while filling in the questionnaire. Moreover, the study span was three months, which was relatively short to evaluate the attitude changes.

CONCLUSION

Present study showed that there is improvement in practice if MSF is delivered in accurate and timely manner with maintenance of the confidentiality and facilitative feedback sessions. However, further studies are needed to determine role of MSF in Pakistani doctors.

ACKNOWLEDGEMENT

Authors want to thank the nurses of the eye department LGH/PGMI, especially S/N Shehla and sister Naginafor their secretarial support.

Disclosure

The results of this study have been earlier presented at the Lahore Ophthalmo, Annual Congress of the ophthalmological society of Pakistan, Lahore Branch, PC Hotel Lahore, December 4-6, 2015.

CONFLICT OF INTEREST

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

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