Supervisors' Perspective on Electronic Logbook System for Postgraduate Medical Residents of CPSP

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ABSTRACT
Objective: To find out the perspective of the supervisors about the role of electronic logbook (E-Logbook) of College of Physicians and Surgeons, Pakistan (CPSP) in monitoring the training of postgraduate medical residents of CPSP.
Study Design: Descriptive cross-sectional study.
Place and Duration of Study: College of Physicians and Surgeons Pakistan (CPSP), Karachi, from May to October 2015.
Methodology: An electronic computer-based questionnaire designed in Hypertext Preprocessor (PHP) language was distributed to the registered CPSP supervisors through the e-log system. The questionnaire comprised of seven close ended questions. The data were entered and analyzed by SPSS version 20. Descriptive statistics were determined.
Results: A total of 1,825 supervisors responded to the questionnaire. Fifteen hundred and ninety-eight (87.6%) supervisors gave regular feedback for their trainees, 88.2% considered it a better monitoring tool than conventional logbook, 92.5% responded that e-logbook helped in the regular assessment of the trainees, 87.8% believe that quality of training will improve after introduction of e-logbook, 89.2% found e-logbook useful in implementation of outcome-based learning and 88.4% considered e-logbook user-friendly. The main reasons for not providing regular feedback included the supervisors not familiar to e-logbook interface, internet access problems, and busy schedules of supervisors.
Conclusion: There was a wide acceptability of the e-log system among the supervisors with positive perception about its usefulness. The common reasons that hinder the provision of regular feedback include not being familiar to e-log interface, internet access problem, busy schedule and some consider using e-logbook a cumbersome task. These reasons can be alleviated to provide a better training monitoring system for the residents.


INTRODUCTION
The healthcare system of a country to a large extent depends on the quality of residency training program instituted by the postgraduate training institutes of that country.¹,² International accreditation institutes such as Accreditation Council of Graduate Medical Education (ACGME) and CanMEDS framework in Canada have introduced a competency-based system of residency education.³ The College of Physicians and Surgeons of Pakistan (CPSP) has also introduced competency-based residency programs for its postgraduate residents. Electronic Logbook System (E-log) is an important component of the competency-based program.⁴ Logbooks serve as a useful tool in providing feedback to residents, monitoring their performance and helping them in organizing their clinical activities in accordance with the core curriculum of the residency program.⁵,⁶ The integration of digital technology into the medical curriculum has shown to improve the clinical skills of the residents and enhance their efficacy by timely feedback from supervisors and by developing their time management skills.⁷ The electronic logbooks have been shown to be superior to the manual or traditional logbooks as they enhance the critical reflection of trainees and improve their learning through quantitative evaluations and formative feedbacks from their supervisors.⁸,⁹ The e-log system was introduced in July 2011.

The success of e-log system depends upon its use not only by the residents but also by their supervisors. Thus, there is a need to know the reasons that hinder the usage of e-logbook by the residents and the supervisors. If these factors are identified then steps can be taken to improve the effectiveness of e-log for training and monitoring of residency training in Pakistan. This study was, therefore, conducted to find out the perspective of supervisors about the utility of e-log system in the evaluation and monitoring of training at CPSP.

METHODOLOGY
A cross-sectional study was conducted between May and October 2015 after taking formal ethical clearance from CPSP Ethical Review Committee. A predesigned
questionnaire in Hypertext Preprocessor (PHP) format was sent through the e-logbook electronic portal to all the registered supervisors. The supervisors who were currently not supervising any trainees were excluded. Newly approved supervisors registered during the last six months were also excluded to include only those supervisors with ample experience of e-logbook. The PHP format allowed the questionnaire to be filled online and sent back through e-logbook. The questionnaire comprised of seven close-ended questions (Table I).

The participation was completely on voluntary basis, and replying to the questionnaire was taken as consent. The participants could skip/not respond to any question.

At the completion of study period, the data from the filled-in proformas were entered into SPSS version 20 and analyzed through its statistical package. The responses to the above mentioned questions were presented as frequencies and percentages. The data such as supervisors’ credentials were kept confidential. The participants were allotted factitious serial numbers to which the researchers were also blinded.

After the publication of results, the data will be maintained for a period of six months, after which it will be discarded.

**RESULTS**

The questionnaire was sent to all the supervisors registered with CPSP. Eighteen hundred and twenty-five responded, out of a total of 2,612 registered supervisors. The response rate was 69.9%. Out of those who responded to the questionnaire, 87.5% of the supervisors gave regular feedback for their trainees, 88.2% considered e-log a better monitoring tool than conventional logbook, 92.5% responded that e-log helped in regular continuous assessment of the trainees, 87.8% believed that quality of training will improve after introduction of e-log, 89.2% found e-log useful in implementation of outcome-based learning and 88.4% considered e-log as user-friendly (Table II).

Only 227 (12.4%) supervisors admitted that they did not provide regular feedback on e-log. Out of these 227 supervisors, 37% reported that they were not used to e-logbook interface, 31.3% mentioned internet access problems, 22% stated being too busy to give regular feedback on e-log, 7.9% found giving feedback on e-log a cumbersome task and 1.8% were simply not interested in giving feedback on e-log (Figure 1).

**DISCUSSION**

Feedback is considered as one of the most important building blocks of medical education. A large amount of literature is present upon various aspects of feedback in clinical practice; but giving and receiving effective feedback in clinical education still remains a challenge.10 Clinical supervisors are expected to provide constructive feedback to their trainees. Creating and promoting a feedback culture for both trainees and their supervisors remains the responsibility of the medical institutions at large.11

Inspired by the global drive for electronic-based learning, College of Physicians and Surgeons, Pakistan introduced the Electronic Logbook System (E-log) in

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**Table I:** Table showing the close-ended questions asked in the questionnaire.

<table>
<thead>
<tr>
<th>Questions</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>1. Do you give regular feedback to your trainee?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Do you find it a better monitoring tool than conventional logbook?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Does it help in continuous assessment of the trainee?</td>
<td></td>
<td></td>
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<tr>
<td>4. Do you think quality of training will improve after introduction of CPSP e-logbook?</td>
<td></td>
<td></td>
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<tr>
<td>5. Do you find it useful in implementation of outcome-based learning program?</td>
<td></td>
<td></td>
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<tr>
<td>6. Is it user-friendly?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Reason for not giving feedback:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) I am not used to e-log, (b) Internet access problem, (c) I am not interested, (d) I am too busy to give regular feedback, and (e) Giving feedback on e-log is a cumbersome task.</td>
<td></td>
<td></td>
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</tbody>
</table>

**Table II:** Table showing responses to questions sent to supervisors of CPSP (N = 1825).

<table>
<thead>
<tr>
<th>Questions</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you give regular feedback to your trainee?</td>
<td>1598 (87.8%)</td>
<td>227 (12.4%)</td>
</tr>
<tr>
<td>2. Do you find it a better monitoring tool than conventional logbook?</td>
<td>1609 (88.2%)</td>
<td>216 (11.7%)</td>
</tr>
<tr>
<td>3. Does it help in regular continuous assessment of the trainee?</td>
<td>1688 (92.5%)</td>
<td>137 (7.5%)</td>
</tr>
<tr>
<td>4. Do you think quality of training will improve after introduction of CPSP e-logbook system?</td>
<td>1602 (87.8%)</td>
<td>223 (12.2%)</td>
</tr>
<tr>
<td>5. Do you find it useful in implementation of outcome-based learning programme?</td>
<td>1627 (89.2%)</td>
<td>198 (10.8%)</td>
</tr>
<tr>
<td>6. Is it user-friendly?</td>
<td>1613 (88.4%)</td>
<td>212 (11.6%)</td>
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Journal of the College of Physicians and Surgeons Pakistan 2017, Vol. 27 (9): 540-543
2011 as an important component of its STAR residency program which includes induction, training, curriculum, monitoring and evaluation (a five-pointed star). In addition to monitoring the trainees' progress, this tool can serve as a platform through which supervisors can give regular feedback to the trainees. In this study, on the residents' perspective about e-log book, it was observed that postgraduate medical trainees not appreciated the specific and timely feedback but also wanted to hear more often from their supervisors.

The results of the present study show that almost 90% of the supervisors give regular feedback to their trainees. A similar response was reported by a study conducted in Malaysia where a mean score of 4.2 ±0.74 was given on a 5-point scale to the statement that "supervisors provide a prompt and highly constructive feedback". In the present study, 92.5% supervisors responded that e-log helps in regular continuous assessment of the trainees. In a previous study, almost 50% of students rated the electronic portfolio as good-to-excellent when they were asked to rate it as an evaluation and assessment tool. A study conducted by Fatemeh and Alvina in 2012 reported that students found logbook to be an invalid assessment tool, reason being that not all experiences listed in the logbooks can be verified actually and fake entries usually cannot be figured out. They further suggested that the grades given to the students should not rely upon the logbooks only.

This study reported that 87.8% of supervisors believed that quality of training will improve after introduction of e-log and almost similar percentage (89.2%) of supervisors found e-log to be useful in implementation of outcome-based learning. Another study concluded that e-portfolio advocates student-centered learning, provides flexibility as regards to the evolving trends in medical education and would add to the development of physicians who are more responsive to the needs of patient care. Literature supports the view that electronic logbooks and e-portfolios can help the medical students in describing and prioritizing their learning activities and improve their clinical skills by enhancing their self-learning practices.

Previous studies have also reported the views and perception of supervisors about the implementation of electronic-based technology for provision of feedback. A study conducted in London by Tailor et al., reported that only 30% of the supervisors regarded electronic feedback system as an effective educational tool. In the same study, only 23% of the trainers observed benefit of this technology for the training of their students; and about 40% believed that this technology is easy to use. However, in the present study, 88.4% supervisors considered e-log as user-friendly. Similar findings were quoted by Duque and colleagues, where they found 80% of tutors to be feeling comfortable while using the electronic portfolio. Gomez et al., conducted a study on a similar electronic monitoring system in University of Seville and reported that majority of the students claim that they understand the working of electronic portfolio well. The ease of use of such electronic portals varies from institution to institution depending on the user-friendly nature of the software being used. Nevertheless, the usage of such electronic portals can be enhanced by providing orientation and training to the supervisors.

Only a few supervisors (12.4%) denied regular feedback on e-log. The reasons for not providing regular feedback included reasons such as the supervisors were not familiar with using e-log book, internet access problems and busy schedules of the supervisors that do not allow time for regular feedback. Some of the supervisors replied that giving feedback on e-log is a cumbersome task and very few supervisors mentioned that they were simply not interested in giving feedback on e-log. The reasons for non-provision of timely feedback by the supervisors have been evaluated in previous studies. A study reported that majority of supervisors (70%) consider lack of time to be a barrier in giving regular feedback, while only 20% blame computer illiteracy to be a limitation. The contrast observed in the findings of these two studies may be due to the fact that doctors in the western world are inherently used to electronic systems while in our setup, we are still facing teething problems in this regard.

The common causes of hindrance to utilization of electronic logbooks must be evaluated to enhance the applicability of such feedback systems in our postgraduate medical education system. Joseph enumerated the barriers that can hinder the process of feedback from supervisors to their trainees. The common reasons included systematic barriers and lack of time and resources to achieve desired improvement in process of provision of regular feedback through web-based systems. Dascalu et al. pointed out that e-logbooks are often designed for major specialties; and in some cases, may not be applicable to some minor specialties. They also argued that electronic systems can only supplement, but never serve as a replacement for the traditional medical teaching practices.

The electronic technology thus may be combined with the traditional teaching methods already prevalent to achieve the desired results. Nevertheless, a complete understanding of the root causes of underutilization of electronic logbooks is, therefore, essential in order to take necessary steps to improve the effectiveness of electronic technology in providing feedback to postgraduate medical residents.

**CONCLUSION**

Majority of the CPSP supervisors had a positive perspective regarding the e-logbook systems. This
shows wide acceptability of the e-log system among the supervisors and their positive perception on the usefulness of e-log system. The common reasons that hinder the provision of regular feedback on e-log by some of the supervisors include: not being familiar to e-log interface, internet access problem, busy schedule and considering e-logbook a cumbersome task. These reasons can be alleviated to provide a better training monitoring system for the residents.

REFERENCES


