



# Multisource feedback in dental postgraduation: A qualitative research

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## ABSTRACT

**Introduction:** Workplace based assessments (WPBA) are effective tools to assess professionalism. Multisource feedback (MSF) is one of the WPBA that assesses the communication skills and attitude of a clinician. It is also used as a formative assessment tool to improve performance. This study was conducted to assess the intention to change toward better professionalism among dental postgraduates (PGs) of Indira Gandhi Institute of Dental Sciences, after a brief exposure to MSF. **Methodology:** Colleagues' feedback and patients' feedback were obtained for 15 clinical PG using pre-validated questionnaires. These MSFs were shared with the PG in a private session. After 24 h reflection, they were asked to provide a feedback on the MSF procedure that they had been through, focusing on their intention to change toward better professionalism as well on feasibility of implementation in their curriculum. **Results and Discussion:** There was 100% response to the questionnaire. The PG considered that colleagues', patients', and staff nurses' feedback will help them in improving their soft skills. All the PGs agreed that MSF can improve on professionalism if used as a formative assessment tool. An intention to change was evident from their feedback.

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## INTRODUCTION

Assessment plays a major role in health professions education. It is a process that involves testing, measuring, collecting, combining information, and providing feedback [1]. Three main goals of assessments are: (a) To provide motivation and direction for further learning; (b) to ensure safety of patients by ensuring competent clinician; and (c) to choose eligible trainees for future advanced training [2]. Assessments can be done “for learning” as in formative assessment and “of learning” as in summative assessment. Assessment for learning helps achieve a large domain of competency through multiple small modules of learning which are assessed at the end of every module. Such a process-focused formative assessment allows for improved

learning (the catalytic effect) by providing feedback to both learner and facilitator during the learning process [3].

Health professionals of the 21<sup>st</sup> century should possess five core competencies to meet the challenges of the health-care system such as providing patient-centered care, working in interdisciplinary teams, employing evidence-based practice, applying quality improvement, and utilizing informatics [4]. This has paved the way for competency-based medical education. Such an education should focus on continuous, comprehensive, and elaborate criterion-based assessment, and feedback systems [5].

Miller's pyramid of competence provides guidance for assessments in the various levels. Standardized assessment

tools are available to test the “knows, knows how and shows how” levels of the pyramid [6]. These levels indicate what the graduates can do in ideal or contrived situations, which is called as competence. However, the “does level” indicates what they actually do in practice or real world scenario, which is referred to as performance [7,8]. Assessing this level is challenging and has paved the way for workplace based assessments (WPBA).

This is defined as the “assessment of day-to-day practices undertaken in the working environment [9].” WPBA is based on the principle of triangulation, that whenever possible, evidence of progress, attainment or difficulties, is obtained from more than one assessor, on more than one occasion, and if possible using more than one assessment method. Feedbacks given from everyday clinical assessment provides evidence for satisfactory learning, identifies areas needing improvement and discusses the means to address such issues. It is considered as an effective formative assessment tool based on systematic feedback from the assessor to trainee [10,11]. The following are methods in WPBA, suitable for providing feedback based on observation of trainee performance in the workplace:

- Mini-clinical evaluation exercise
- Clinical encounter cards
- Clinical work sampling
- Blinded patient encounters
- Direct observation of procedural skills
- Case-based discussion
- Multisource feedback (MSF).

A recent study has concluded that WPBA has a composite reliability  $\geq 0.8$ , when multiple tools and assessors are used over a period of time [12].

Out of these methods, the MSF method assesses the attitude and communication skills of a professional. More commonly referred to as 360° assessment, this method consists of measurement tools completed by multiple people in a person’s sphere of influence [13]. It is a questionnaire-based method of assessing an individual in which multiple individuals (assessors), representing discrete informant groups, provide confidential feedback on key performance behaviors. The informant groups may include doctors of all grades, patients, co-workers (nurses, allied health professionals, and clerical/managerial staff), and, importantly, self. The information is fed back to the individual to help promote personal development and continuing performance improvement. Despite the varying characteristics of the assessors, a recent study has concluded that MSF can be a reliable tool, provided the qualities of the assessors are given due considerations [14]. Such factors that can influence the outcomes in feedback have also been analyzed [15]. MSF has been well documented in various health care fields such as surgical training, in physician practice, in psychiatry training, in nurses training, and in pediatric residency [16-20].

Various feedback questionnaires are being used. Sheffield peer review assessment tool and mini-peer assessment tools are few to mention. The General Medical Council (GMC), UK has

developed its own questionnaire in 2012 guidelines for good medical practice as the GMC patient questionnaire and the GMC colleague questionnaire [21].

Published evidence on MSF in dental education is also predominantly from the UK. MSF is already being used to inform Dental Foundation Training Programmes and forms part of the Diploma of Membership of the Joint Dental Faculties at The Royal College of Surgeons of England Dental Postgraduates (PG). The General Dental Council in the UK also uses MSF for reaccreditation of the general dental practitioners [22,23].

In India, dental PG is a 3 years’ duration program that culminates in a summative assessment assessing the knowledge and psychomotor domain competencies only. As part of formative assessments, the seminars, journal clubs, lecture classes, dissertation work, and clinical work of the PGs are periodically assessed by following the criteria as prescribed by the Dental Council of India. However, constructive feedbacks on these are seldom given to them in a systematic way and on a regular basis. Peer assessment or patient assessment on their clinical and humanistic skills is not assessed. It is, therefore, the need of the hour to implement MSF process in dental PG to produce competent, caring, and reflective dental practitioner.

Therefore, this qualitative research aims to assess the attitude of the stakeholders’ (dental PGs) on process, utility, feasibility of implementation and also their intention to change toward better professionalism, after exposing them to a short experience of MSF process.

## METHODOLOGY

This qualitative study was based on the theoretical framework of phenomenology. The participants were briefly exposed to the phenomenon of MSF and attempt has been made to understand their attitude toward MSF.

### Study Setting

Indira Gandhi Institute of Dental Sciences, Sri Balaji Vidyapeeth University, Puducherry, India.

### Study Population

Dental PGs in the institute.

### Sampling Method

A purposive sampling was done to choose only the PGs from the clinical departments, where patient contact and interaction was more. The second-year PGs were not included as they had just commenced their clinical postings and hence their patient interactions were less. All the PGs from the basic science departments were not included for the same reason.

## Sample and Sample Size

As the annual admissions in PG program in this institute are three, only 15 third-year PGs (third-year PGs from five departments) from clinical departments such as conservative dentistry, prosthodontia, pedodontia, orthodontia, and oral surgery were chosen.

All the PGs were informed that a curricular revision is being planned in the PG program for which obtaining their opinion and perspectives was considered the vital first step. All the PGs voluntarily consented to participate. They were assured of confidentiality, and only the principle author had access to the information obtained during the MSF process as well as the questionnaire administered thereafter. The project was presented to the department of health professions education of our university.

## Providing MSF Experience to the PGs

Pre-validated MSF forms used for Good Medical Practice by the GMC, UK was used here. Colleague assessment questionnaire (CAQ) and the self-assessment questionnaire (SAQ) with a Likert's rating scale of 0-5 were used [21]. Patient assessment questionnaire (PAQ) designed and validated by NHS, Scotland, UK, specifically for dentists, is adopted as part of the dentist training and assessment in UK Committee of Postgraduate Dental Deans and Directors [24]. The same was used here to obtain patients feedback. Annexures 1 and 2 shows the CAQ and PAQ forms. SAQ essentially contained the same questions from both forms. For the patient assessment, extensive local adaptation was done considering the experts' opinion, and investigator's perception of the local context. The questionnaire was translated to the regional, vernacular language, Tamil, by a language expert. Validation was done by back-translating it into English again [25]. 13 questions in the original questionnaire were converted to 11 questions to adapt to the cultural context of the local population.

Three second-year PGs and two third-year PGs (other than the one who is being rated) were grouped as clinical colleagues. Two staff nurses posted in the department were grouped as the non-clinical colleagues. Thus, totally 7 colleagues' feedback was obtained for each student. The CAQ and SAQ were sent to them as Google forms in email. 15 patients were asked to give feedback on each PG in the hard copy format. The data were compiled in MS Excel, and graphs were generated showing the frequency and percentage distribution of the scoring for individual questions in CAQ, SQ, and PAQ.

Every third-year PG was scheduled for a one-on-one session with the researcher to discuss the feedbacks given by colleagues and the patients. Constructive feedback was given with proper decorum and discipline taking care not to discourage the student. The perceived strengths and weaknesses were discussed. Strategies to overcome such weakness were discussed and proposed. Open discussion and questioning were also encouraged.

## Obtaining Feedback from the PG on the MSF Experience

After the MSF session, each PG was advised to reflect on the process of MSF sessions for 24 h. An attitude and opinion based questionnaire was designed addressing various issues of the MSF process. The questions addressed the following aspects:

1. Awareness of professionalism
2. Clinical and non-clinical colleague's feedback aspects
3. Patients feedback aspects
4. MSF on attitude and behavior
5. Implementation aspects.

Open ended question probing their views and suggestions were also asked. The ratings were on Likert's 5-point scale from 0 to 4. It was pilot tested before administration. This questionnaire was sent to them as Google form through email.

## RESULTS

The responses obtained from 15 third-year PGs were compiled in MS Excel sheet. The response to each question was tabulated and analyzed for frequency and percentage distribution.

The response rate for the questionnaire was 100%. The frequency and percentage distribution of the responses for 13 questions in the questionnaire is provided in Tables 1-13. Box 1 shows the responses obtained for the open-ended question.

Tables 1 and 2 show the percentage of response to questions 1 and 2. These questions had addressed the issue if the PGs had any prior knowledge of the attributes of professionalism and if they were being trained in their curriculum on professionalism. These questions were framed to assess the knowledge and awareness of the PGs with regards to professionalism. Although

**Table 1: Frequency and percentage of distribution of scores for question 1**

| Were you aware of various attributes of professionalism before going through this MSF study? |               |
|--|---------------|
| Rating   | Frequency (%) |
| 0= Unable to say   | 0 (0)         |
| 1= Definitely no   | 1 (7)         |
| 2= No  | 9 (60)        |
| 3= Yes   | 5 (33)        |
| 4= Definitely yes  | 0 (0)         |

MSF: Multisource feedback

**Table 2: Frequency and percentage of distribution of scores for question 2**

| Do you think you are being trained in your PG curriculum about professionalism? |               |
|---|---------------|
| Rating  | Frequency (%) |
| 0= Unable to say  | 0 (0)         |
| 1= Definitely no  | 1 (7)         |
| 2= No   | 9 (60)        |
| 3= Yes  | 5 (33)        |
| 4= Definitely yes   | 0 (0)         |

PG: Postgraduate

**Table 3: Frequency and percentage of distribution of scores for question 3**

| Do you think getting MSF from others apart from your teachers is important for your professional training? |               |
|--|---------------|
| Rating   | Frequency (%) |
| 0=Unable to say  | 0 (0)         |
| 1=Definitely no  | 0 (0)         |
| 2=No   | 0 (0)         |
| 3=Yes  | 8 (53)        |
| 4=Definitely yes   | 7 (47)        |

MSF: Multisource feedback

**Table 4: Frequency and percentage of distribution of scores for question 4**

| Do you think getting routine feedbacks from your clinical and non-clinical (staff nurses) colleagues will improve your attitude toward team work? |               |
|---|---------------|
| Rating  | Frequency (%) |
| 0=Unable to say   | 0 (0)         |
| 1=Definitely no   | 0 (0)         |
| 2=No  | 0 (0)         |
| 3=Yes   | 11 (73)       |
| 4=Definitely yes  | 4 (27)        |

**Table 5: Frequency and percentage of distribution of scores for question 5**

| Do you think your clinical colleagues will be able to give you valid and reliable feedback about you? |               |
|---|---------------|
| Rating  | Frequency (%) |
| 0=Unable to say   | 0 (0)         |
| 1=Definitely no   | 0 (0)         |
| 2=No  | 0 (0)         |
| 3=Yes   | 11 (73)       |
| 4=Definitely yes  | 4 (27)        |

**Table 6: Frequency and percentage of distribution of scores for question 6**

| Do you think the colleagues will accept this process without considering it is an additional work? |               |
|--|---------------|
| Rating   | Frequency (%) |
| 0=Unable to say  | 3 (20)        |
| 1=Definitely no  | 0 (0)         |
| 2=No   | 0 (0)         |
| 3=Yes  | 9 (60)        |
| 4=Definitely yes   | 3 (20)        |

67% of the PGs opined that they were not aware of various aspects of professionalism and that they were not trained in such a concept, a small group of 33% of them responded otherwise.

Table 3 shows the percentage of response to question 3, which had asked if they believe that feedback from others from various spheres of professional life, other than teachers is essential for training. This was asked to know the attitude and receptiveness

**Table 7: Frequency and percentage of distribution of scores for question 7**

| Do you think your staff nurses will be able to give you valid and reliable feedback about you? |               |
|--|---------------|
| Rating   | Frequency (5) |
| 0=Unable to say  | 0 (0)         |
| 1=Definitely no  | 0 (0)         |
| 2=No   | 1 (7)         |
| 3=Yes  | 12 (80)       |
| 4=Definitely yes   | 2 (13)        |

**Table 8: Frequency and percentage of distribution of scores for question 8**

| Do you think getting feedback from the patients will help you develop professionalism and help you communicate better with them? |               |
|--|---------------|
| Rating   | Frequency (%) |
| 0=Unable to say  | 0 (0)         |
| 1=Definitely no  | 0 (0)         |
| 2=No   | 0 (0)         |
| 3=Yes  | 7 (47)        |
| 4=Definitely yes   | 8 (53)        |

**Table 9: Frequency and percentage of distribution of scores for question 9**

| Do you think patients will be able to give you valid and reliable feedback about you? |               |
|---|---------------|
| Rating  | Frequency (%) |
| 0=Unable to say   | 1 (6)         |
| 1=Definitely no   | 0 (0)         |
| 2=No  | 0 (0)         |
| 3=Yes   | 7 (47)        |
| 4=Definitely yes  | 7 (47)        |

**Table 10: Frequency and percentage of distribution of scores for question 10**

| Do you think MSF system will unravel your strengths and weaknesses that you are not aware of? |               |
|---|---------------|
| Rating  | Frequency (%) |
| 0=Unable to say   | 0 (0)         |
| 1=Definitely no   | 0 (0)         |
| 2=No  | 0 (0)         |
| 3=Yes   | 8 (53)        |
| 4=Definitely yes  | 7 (47)        |

MDF: Multisource feedback

toward others feedback on them. All the PGs agreed that such feedback is essential for their improvement.

Questions 4-7 addressed the issues related to clinical and non-clinical colleagues and their role in MSF. Tables 4-6 show the percentage of response to questions related to clinical colleagues' feedback. All the PGs responded alike that clinical and non-clinical colleagues' feedback will improve the teamwork. Their response also affirms that clinical colleagues' feedback will be valid and reliable. 80% of PGs responded that this feedback process might not be thought of as an additional work by the colleagues.

**Table 11: Frequency and percentage of distribution of scores for question 11**

| Do you think you have developed an intention to improve your professionalism after going through this MSF exposure? |               |
|---|---------------|
| Rating  | Frequency (%) |
| 0=Unable to say   | 1 (6)         |
| 1=Definitely no   | 0 (0)         |
| 2=No  | 0 (0)         |
| 3=Yes   | 7 (47)        |
| 4=Definitely yes  | 7 (47)        |

MSF: Multisource feedback

**Table 12: Frequency and percentage of distribution of scores for question 12**

| Do you think that MSF should be implemented as formative assessment in your curriculum? |               |
|---|---------------|
| Rating  | Frequency (%) |
| 0=Unable to say   | 1 (7)         |
| 1=Definitely no   | 0 (0)         |
| 2=No  | 0 (0)         |
| 3=Yes   | 9 (60)        |
| 4=Definitely yes  | 5 (33)        |

MSF: Multisource feedback

**Table 13: Frequency and percentage of distribution of scores for question 13**

| Do you think it is feasible and practical to implement MSF in PG assessment in terms time and effort required? |               |
|--|---------------|
| Rating   | Frequency (%) |
| 0=Unable to say  | 3 (20)        |
| 1=Definitely no  | 0 (0)         |
| 2=No   | 0 (0)         |
| 3=Yes  | 9 (60)        |
| 4=Definitely yes   | 3 (20)        |

MSF: Multisource feedback, PG: Postgraduate

Table 7 shows the response to the question if the staff nurses will be able to give reliable and valid feedback. All PGs except for one responded affirmatively to this.

Questions 8 and 9 addressed the issues related to the patients’ involvement in MSF. Table 8 shows the responses to the question which had asked if professionalism and communication skills will improve with patients’ feedback. All 15 PGs had responded affirmatively to this query. In addition, except for one, all of them affirmed that patients’ feedbacks can be valid and reliable, the response percentage of which is shown in Table 9.

Questions 10 and 11 had focused directly on the influence of MSF on their behavior and attitude. Table 10 shows that all 15 PGs responded affirmatively, when asked if MSF will unravel their hidden strengths and weaknesses. Table 11 shows the response obtained for the vital question which asked if they have developed an intention to improve on their professionalism, after going through the process of MSF. All PGs agreed to this, signifying that an intention to change occurred after the brief MSF process.

**Box 1: Response to open ended questions**

1. To make my corrections as a regular habit will be challenging but can be overcome with practice
2. MSF is a great tool to help one realize their strengths and weakness but it should be dealt subtly so that it can be a median to help the individual and not penalize them.
3. I have started approaching myself in a different attitude toward my patients
4. I believe this is an innovative step to our betterment. It is possible to be done on regular basis.
5. Its a good thing to do , this will help a lot for the students, doing the same if possible for BDS graduates will help them a lot in the starting period of their career
6. In my views i don't think there are any challenges in implementing MSF. There was little difficulty in getting feedback from patients, but this can be sort out by obtaining feedback from the second visit of the treatment.
7. Time management and record keeping is quite difficult mam
8. It definitely improved my realization of what i am and my shortcomings. I can now focus more on my problems and work hard to eliminate it.
9. Patients and staff nurse who may not be communicate with the doctors in local language will give a false feedback than the actual potential of the assessed person
10. MSF helped me to change my attitude toward the patients. I have started to communicate the patients in different ways.

Finally, two questions were asked regarding their opinion on implementation of MSF in curriculum. Table 12 shows the response to the question if MSF can be used as a formative assessment tool for improvement. Except for one who could not opine on that, others had responded positively. Table 13 shows the response to the question that asked about the effectiveness of MSF in terms of time, effort, and feasibility of implementation. Except for 20% who could not opine on this, all other PGs had responded positively.

**DISCUSSION**

This exploratory study was done among the third-year dental PGs of Indira Gandhi Institute of Dental Sciences, to find out their intention to improve on their professionalism through MSF and to find their views on implementation of the same as a routine process in their curriculum. For this purpose, they were subjected to a brief experience of going through the feedback sessions that consisted of analysis of feedbacks obtained from their respective colleagues, staff nurses, and patients.

Since the purpose was not to assess the validity or reliability of MSF in this setting, but only to assess the attitude of the PGs toward MSF, assessment tools (questionnaire) that were standardized and validated previously by others were chosen. The CAQ was adapted from the GMC, UK. The questionnaire was developed and validated in early 2000 and was found to have good validity, reliability, and feasibility. It is reported that they could identify a range of performance in respect of professionalism [21].

Most of the PGs felt that they were not aware of the aspects of professionalism before they went through this process. In response to the next question on whether they were being

trained in professionalism, their answers correlated well with the first. Few, however, had felt that they were already aware of it and they were also being trained in it. This can be considered partly true because many aspects of professionalism are implicit in curriculum and are also conveyed through role modeling by the teachers. In a systematic review of methods used to teach professionalism in 2010, positive role modeling has been found to be an important method to impart the values of the medical profession. Role modeling happens in the formal, informal as well as hidden curriculum. The informal curriculum is defined as an “unspecified, predominantly *ad hoc* and highly interpersonal form of teaching and learning that takes place among and between faculty and students.” The hidden curriculum has been defined as a “set of influences that function at the level of organizational and culture” [26]. An observant student will be able to appreciate these in professional course.

All PGs acceded to the fact that feedback from colleagues and patients apart from the teachers is important for their professional growth. The PGs have responded positively that the colleagues will be able to give reliable and valid feedback about them. In a systematic review on factors influencing the MSF process in 2014, colleagues’ feedback was considered to have the maximum impact [15]. Studies have reported that feedback from colleagues was considered as useful only when colleagues had experience of either working with them, knowledgeable, credible, and honest [27]. The setting in which our study was done is small, and the PGs from all the departments are closely connected, thus familiarity and trust must have influenced this positive response.

The respondents also believed that the exchange of feedback among them would improve the attitude toward team work. Research has shown that interpersonal and communication skills among colleagues have been found to improve after MSF [28]. As expressed by one of the PGs, improved communication and transparency can improve the team spirit.

Question on whether the staff nurses will be able to give reliable and valid feedback was designed purposely because the interaction between a dentist and the staff nurse in a hospital setting is not as intense as it is between a medical graduate and the ward nurse. However, the results showed that except for one PG everyone felt that the staff nurse will be able to give dependable opinion about them. The open response indicated here that staff nurses who do not speak the native language of the PG might not be able to give correct feedback. The staff nurses perceive humanistic qualities at a different level than the doctors, hence studies have reported that their feedbacks are usually stringent, but valid and reliable and also improves the doctors professional behavior [29-31].

Except for one PG, all had responded that the patients will be able to give reliable and valid feedback about them. The student who had a negative response, further elaborated the difficulties he had encountered in patient management. However, studies have shown that patients’ feedback is considered to greatly influence the consequential validity of MSF by modifying the

behavior of the clinicians and the change was observed more in the patient communication skills aspects [15,32,33].

All the PGs agreed that MSF will be able to unravel the strengths and weaknesses of the students that they themselves are not aware of. They also agreed that they have developed an intention to improve on various aspects of professionalism through MSF. The majority also agreed that it can be used as a formative assessment; in words of one PG “...to help the individual and not penalize them.”

Not all PGs agreed that implementation would be practical and feasible with regards to time and effort. Three of them had opted for “unable to say.” Time and effort in distributing, collecting and analyzing could indeed a challenge. However, Google forms were used in this study for obtaining responses and links were sent through emails. Online feedback forms have been studied and have been found to be effective and useful [34].

In this study, most of the PGs agreed that MSF will be able to unravel the strengths and weaknesses of the students that they themselves were not aware of. Self-assessment part of the MSF has been explored extensively and has been found to help practitioners enhance their attitude [35,36].

Finally, the PGs have responded positively that with this exposure and knowledge gained on the MSF process, they have developed an intention to improve on various aspects of professionalism through MSF. This is at the Kirkpatrick evaluation model outcome level 2 [37].

The majority also agreed that it can be used as a formative assessment. They felt that it is practical and feasible to implement this as a regular formative assessment. However, some had raised issues on the time factor involved in the process. It has been shown that it is feasible to implement in small settings [38].

A systematic review in 2014 concludes the same that MSF is a feasible, reliable, and valid method to assess surgical practice, particularly for nontechnical competencies such as communication skills, interpersonal skills, collegiality, humanism, and professionalism [16,17]. Web-based and E-format of ratings might facilitate the process, as done in this study [34].

### Limitations and Challenges of the Study

1. This study assessed only the intention to change toward better professionalism rather than actual change. Intent to change is not predictive enough to understand if it will be practiced or if it will be sustained.
2. The number of PGs who provided the final feedback on MSF was less to derive any statistical inference from the data.
3. Faculty supervisors’ feedbacks can also add to the holistic assessment which has not been included during feedback sessions.

## CONCLUSION

In this educational research, majority of the PGs expressed a positive attitude toward MSF process and had responded as follows in various aspects of MSF:

- They felt positive that exposure to MSF can enhance the conative skills such as professionalism, communication skills, and attitude.
- Students valued the feedbacks given by the patients and colleagues and are willing to take them as constructive feedbacks. They felt that self-assessment can also highlight the hidden strengths and weaknesses of a student.
- They were convinced that it will be an effective formative assessment tool for continuous learning and improvement.
- However, they felt that the time factor can be challenging in implementation. This study has experienced that easy implementation and analysis could be possible in E-formats through Google form and feasible in a small setting like this institute.

To conclude, an intention to change is evident among the PGs after exposing them to a one time MSF process, which is very promising for the implementation of the system in their curriculum in future. This outcome is at the level 2 of the Kirkpatrick's outcome; thus a longer follow-up and larger sample size are needed to observe the outcome at higher levels.

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## Annexure

### Annexure 1: IGIDS, SBV colleague assessment

| Questions  | Unable to say - 0 | Less than satisfactory - 1 | Satisfactory - 2 | Good - 3 | Very good - 4 | Excellent - 5 |
|--|-------------------|----------------------------|------------------|----------|---------------|---------------|
| 1. Clinical knowledge                            |                   |                            |                  |          |               |               |
| 2. Diagnosis                                     |                   |                            |                  |          |               |               |
| 3. Clinical decision-making                      |                   |                            |                  |          |               |               |
| 4. Treatment including procedures                |                   |                            |                  |          |               |               |
| 5. Prescribing                                   |                   |                            |                  |          |               |               |
| 6. Record keeping                                |                   |                            |                  |          |               |               |
| 7. Recognizing and working within limitations    |                   |                            |                  |          |               |               |
| 8. Keeping knowledge and skills up to date       |                   |                            |                  |          |               |               |
| 9. Reviewing and reflecting on own performance   |                   |                            |                  |          |               |               |
| 10. Teaching students and others                 |                   |                            |                  |          |               |               |
| 11. Supervising colleagues                       |                   |                            |                  |          |               |               |
| 12. Commitment to care and wellbeing of patients |                   |                            |                  |          |               |               |
| 13. Communication with patients and relatives    |                   |                            |                  |          |               |               |
| 14. Working effectively with colleagues          |                   |                            |                  |          |               |               |
| 15. Effective time management                    |                   |                            |                  |          |               |               |
| 16. Respects patient confidentiality             |                   |                            |                  |          |               |               |
| 17. Is honest and trustworthy                    |                   |                            |                  |          |               |               |

### Annexure 2: IGIDS, SBV patient assessment

| Questions  | Unable to say - 0 | Less than satisfactory - 1 | Satisfactory - 2 | Good - 3 | Very good - 4 | Excellent - 5 |
|--|-------------------|----------------------------|------------------|----------|---------------|---------------|
| 1. Greeting the patient in a friendly manner without being rude                                  |                   |                            |                  |          |               |               |
| 2. Asking the patients the reasons for their visit and listening carefully to their answers      |                   |                            |                  |          |               |               |
| 3 Explaining the patient about what is going to be done before starting the examination          |                   |                            |                  |          |               |               |
| 4. Telling the patients the findings without keeping them in the dark or confusing them          |                   |                            |                  |          |               |               |
| 5. Discussing the treatment options with the patients and make them participate in the decisions |                   |                            |                  |          |               |               |
| 6. Discussing the cost of the treatment options with the patients in the beginning itself        |                   |                            |                  |          |               |               |
| 7. Treating the patients with respect and courtesy   |                   |                            |                  |          |               |               |
| 8. Being sensitive, understanding and patient  |                   |                            |                  |          |               |               |
| 9. Forewarning the possibility of pain and offering the patients the ways to reduce pain         |                   |                            |                  |          |               |               |
| 10. Talking to the patients in plain language without being technical and complicated            |                   |                            |                  |          |               |               |
| 11. Inspiring trust and confidence of the patient by not being nervous or unsure                 |                   |                            |                  |          |               |               |
| 12. Advising the home care for dental hygiene  |                   |                            |                  |          |               |               |
| 13. Listening and answering to any questions raised by the patients                              |                   |                            |                  |          |               |               |