



Original Research Article

MULTIDIMENSIONAL ASSESSMENT OF CLINICAL COMPETENCIES USING 360-DEGREE FEEDBACK AMONG UNDERGRADUATE MEDICAL STUDENTS IN OTORHINOLARYNGOLOGY IN A TERTIARY TEACHING INSTITUTE

Suman Reddy Dakkata¹, Satujoda Susmitha², JK Burila³, Ravada V S S K Kinneresh⁴, Boni Tata Rao⁵

¹Assistant Professor, Department of ENT, Great Eastern Medical School & Hospital (GEMS), Srikakulam, Andhra Pradesh, India.

²Assistant Professor, Department of ENT, Great Eastern Medical School & Hospital (GEMS), Srikakulam, Andhra Pradesh, India.

³Assistant Professor, Department of Community Medicine, Great Eastern Medical School & Hospital (GEMS), Srikakulam, Andhra Pradesh, India.

⁴Department of Dentistry, Great Eastern Medical School & Hospital (GEMS), Srikakulam, Andhra Pradesh, India.

⁵Professor & Head, Department of ENT, Great Eastern Medical School & Hospital (GEMS), Srikakulam, Andhra Pradesh, India.

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Corresponding Author:

Dr. Suman Reddy Dakkata,
Assistant Professor, Department of
ENT, Great Eastern Medical School &
Hospital (GEMS), Srikakulam, Andhra
Pradesh, India.
Email: drsumanreddyent@gmail.com

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ABSTRACT

Background: Competency-Based Medical Education (CBME) emphasizes assessment of clinical competencies beyond knowledge alone. 360-degree assessment provides multisource feedback from individuals who interact with learners in the clinical environment and may facilitate identification of competency-specific strengths and areas requiring improvement. **Aim:** To evaluate clinical competencies using 360-degree assessment among undergraduate medical students posted in the Department of Otorhinolaryngology and identify competency domains demonstrating relative strengths and areas requiring improvement.

Materials and Methods: A descriptive observational study was conducted among 60 undergraduate medical students posted in the Department of Otorhinolaryngology at GEMS Medical College. Clinical competencies were assessed using a structured 360-degree checklist comprising 17 observable behaviours across seven domains: clinical knowledge, history and examination, clinical reasoning, communication, professionalism, teamwork, and procedural skills. Each item was rated on a 5-point Likert scale ranging from 1 (needs major improvement) to 5 (excellent). Assessment was obtained from Faculty, Peer, Self, Nurse, and Patient/Attendant assessors, with Patient/Attendant assessment restricted to relevant patient-facing behaviours. Descriptive statistics were used to summarize assessor-wise and domain-wise performance. Domain scores were expressed as mean scores out of 5 and corresponding percentages.

Results: Faculty assessment demonstrated a mean score of $52.28 \pm 9.99/85$, compared with $65.58 \pm 9.34/85$ for Peer and $65.95 \pm 8.30/85$ for Self assessment. Nurse assessment had a mean score of $29.55 \pm 6.23/40$, while Patient/Attendant assessment showed $15.22 \pm 2.41/20$ among 59 students. The highest mean percentage was observed for Self-assessment (77.59%), followed by Peer (77.16%) and Patient/Attendant (76.10%). Across competency domains, Professionalism demonstrated the highest performance (4.25/5; 85.0%), followed by Teamwork (3.92/5; 78.4%), Communication (3.70/5; 74.0%), and History and Examination (3.67/5; 73.4%). Clinical Knowledge (3.28/5; 65.6%) and Clinical Reasoning (3.08/5; 61.6%) showed comparatively lower scores, while Procedural Skills had the lowest score (2.45/5; 49.0%). Assessor-wise assessment similarly identified Professionalism as the highest-rated domain among Faculty, Peer, Self, and Nurse assessors, whereas Procedural Skills was consistently the lowest-rated domain among these groups.

Conclusion: The 360-degree assessment provided a multidimensional profile of clinical competency and identified substantial variation across competency domains. Professionalism, teamwork, and communication represented relative strengths, whereas procedural skills, clinical reasoning, and clinical knowledge represented areas requiring greater educational attention. The findings support the use of 360-degree multisource assessment as a complementary workplace-based approach for identifying domain-specific learning needs in undergraduate clinical education.

Keywords: 360-degree assessment; Multisource feedback; Competency-Based Medical Education; Clinical competencies; Undergraduate medical education; Workplace-based assessment.

INTRODUCTION

Competency-Based Medical Education (CBME) has shifted undergraduate medical education from assessment based predominantly on knowledge towards a broader evaluation of clinical competencies, including clinical knowledge, history and examination skills, clinical reasoning, communication, professionalism, teamwork, and procedural skills. Multisource assessment is increasingly used to capture observable behaviours and competencies that may not be adequately represented by conventional assessment methods.^[1] Traditional assessment methods may not adequately capture all aspects of a student's performance in the clinical environment, particularly competencies such as communication, professionalism, teamwork, and interpersonal behaviour. 360-degree assessment, or multisource feedback (MSF), obtains structured feedback from multiple individuals who interact with the learner, thereby providing complementary perspectives on performance.^[2,3]

The 360-degree approach is particularly relevant to workplace-based competencies because different assessor groups may observe different aspects of student behaviour. Studies among medical students have demonstrated the feasibility and acceptability of multisource assessment involving self, peer, nursing staff, faculty, and patient-related assessors.^[4,5]

Such assessments have also been used to evaluate communication, professionalism, interpersonal skills, and other clinical competencies, highlighting the potential value of multiple perspectives in formative clinical assessment.^[1,3]

However, obtaining an overall 360-degree score alone may not adequately identify which specific competency domains are performing well and which require further development. Therefore, the present study focuses on evaluating the effectiveness of 360-degree assessment among undergraduate medical students posted in the Department of Otorhinolaryngology and determining the relative performance across different competency domains.

Aim

To evaluate the effectiveness of 360-degree assessment in assessing clinical competencies among undergraduate medical students posted in the Department of Otorhinolaryngology and to identify

competency domains demonstrating strengths and areas requiring improvement.

Objectives

1. To assess clinical competencies of undergraduate medical students using a structured 360-degree assessment.
2. To evaluate assessor-wise ratings obtained from Faculty, Peer, Self, Nurse, and Patient/Attendant perspectives.
3. To compare performance across the major competency domains.
4. To identify the highest-performing and lowest-performing competency domains requiring focused educational intervention.

MATERIALS AND METHODS

Study Design and Setting

A descriptive observational study was conducted among undergraduate medical students posted in the Department of Otorhinolaryngology (ENT), GEMS Medical College.

Study Population

The study included 60 undergraduate medical students posted in the ENT department during their clinical training.

Assessment Tool

Clinical competency was assessed using a structured 360-degree assessment checklist. The checklist assessed seven competency domains:

- Clinical Knowledge
- History & Examination
- Clinical Reasoning
- Communication
- Professionalism
- Teamwork
- Procedural Skills

The checklist comprised 17 observable behaviours distributed across these seven domains.

Each competency was rated using a 5-point Likert scale, where 1 represented *needs major improvement*, 2 *needs improvement*, 3 *satisfactory*, 4 *good*, and 5 *excellent*.

Sources of Assessment

The 360-degree assessment incorporated ratings from multiple assessors, including:

- Faculty
- Peers
- Self-assessment

- Nurses
- Patients/Attendants

Patient/Attendant assessment was restricted to relevant patient-facing behaviours such as communication, empathy, and respect.

Outcome Measures

The primary outcome was the overall competency score obtained through 360-degree assessment.

Secondary outcomes included:

- Mean competency score for each domain
- Percentage performance for each domain
- Assessor-wise domain ratings
- Identification of the highest-rated competency domain
- Identification of the lowest-rated competency domain and areas requiring improvement

Statistical Analysis

Data were analyzed using descriptive statistical methods. Continuous variables were summarized as mean $\pm$ standard deviation (SD), median, and minimum–maximum values, while categorical variables were presented as frequencies and percentages. Assessor-wise scores were summarized according to their respective maximum possible scores. Domain-wise competency was evaluated using mean scores on the 5-point Likert scale and corresponding percentages. The seven competency domains were compared descriptively to identify the domains with the highest and lowest performance. The analysis was therefore focused on determining the effectiveness of the 360-degree assessment and the competency areas demonstrating relative strengths and deficiencies.

RESULTS

Among the 60 undergraduate medical students, Faculty assessment showed a mean score of $52.28 \pm 9.99/85$, while Peer and Self assessments demonstrated higher mean scores of $65.58 \pm 9.34/85$ and $65.95 \pm 8.30/85$, respectively. Nurse assessment had a mean score of $29.55 \pm 6.23/40$, whereas Patient/Attendant assessment had a mean score of $15.22 \pm 2.41/20$ among 59 students. As percentages, Self-assessment had the highest mean rating (77.59%), followed by Peer (77.16%), Patient/Attendant (76.10%), Nurse (73.88%), and Faculty (61.51%).

Across the seven competency domains, Professionalism demonstrated the highest overall mean score (4.25/5; 85.0%), followed by Teamwork (3.92/5; 78.4%), Communication (3.70/5; 74.0%), and History and Examination (3.67/5; 73.4%). Clinical Knowledge (3.28/5; 65.6%) and Clinical Reasoning (3.08/5; 61.6%) showed comparatively lower ratings, while Procedural Skills had the lowest overall mean score (2.45/5; 49.0%).

Assessor-wise comparison showed that Professionalism was the highest-rated domain among Faculty (3.67/5), Peer (4.80/5), Self (4.67/5), and Nurse (3.87/5) assessments. In contrast, Procedural Skills was the lowest-rated domain for Faculty (1.60/5), Peer (2.90/5), Self (2.90/5), and Nurse (2.40/5) assessments. Patient/Attendant ratings applied primarily to patient-facing domains; Communication received the highest rating (3.81/5), while Professionalism received 3.71/5.

Overall, the 360° assessment demonstrated stronger performance in professionalism, teamwork, and communication, while procedural skills, clinical reasoning, and clinical knowledge represented comparatively lower-rated competency areas. These findings identify Procedural Skills as the principal domain requiring focused educational improvement.

Table 1: Descriptive Statistics of 360° Assessment Scores by Assessor

Assessor	Maximum Score	Mean $\pm$ SD	Median	Minimum–Maximum
Faculty	85	52.28 ± 9.99	50.0	33–71
Peer	85	65.58 ± 9.34	67.0	44–80
Self	85	65.95 ± 8.30	64.5	52–81
Nurse	40	29.55 ± 6.23	31.0	16–38
Patient/Attendant	20	15.22 ± 2.41	15.0	9–20

Self-assessment had the highest mean percentage (77.59%), followed by Peer (77.16%) and Patient/Attendant (76.10%). Faculty assessment had the lowest mean percentage (61.51%).

Table 2: Domain-wise Descriptive Analysis of Clinical Competencies

Clinical Competency Domain	No. of Items	Mean Score /5
Clinical Knowledge	2	3.28
History & Examination	3	3.67
Clinical Reasoning	2	3.08
Communication	3	3.70
Professionalism	3	4.25
Teamwork	2	3.92
Procedural Skills	2	2.45

Table 3: Domain-wise Performance According to Assessor

Domain	Faculty /5	Peer /5	Self /5	Patient/Attendant* /5	Overall Mean /5
Clinical Knowledge	2.50	4.30	3.50	N/A	3.28
History & Examination	2.93	4.60	4.20	N/A	3.67
Clinical Reasoning	2.20	4.20	3.60	N/A	3.08
Communication	2.80	4.67	4.33	3.81	3.70
Professionalism	3.67	4.80	4.67	3.71	4.25
Teamwork	3.00	4.50	4.60	N/A	3.92
Procedural Skills	1.60	2.90	2.90	N/A	2.45

Patient/Attendant assessment applied only to patient-facing behaviours.

Table 4: Ranking of Competency Domains and Areas Requiring Improvement

Rank	Domain	Mean /5	Mean %	Priority
1	Professionalism	4.25	85.0%	Strongest domain
2	Teamwork	3.92	78.4%	Good
3	Communication	3.70	74.0%	Good
4	History & Examination	3.67	73.4%	Good
5	Clinical Knowledge	3.28	65.6%	Improvement desirable
6	Clinical Reasoning	3.08	61.6%	Improvement required
7	Procedural Skills	2.45	49.0%	Priority for improvement

Table 5: Faculty-, Peer-, Self-, Nurse-, and Patient/Attendant-wise Domain Comparison

Clinical Competency Domain	Faculty /5	Peer /5	Self /5	Nurse /5	Patient/Attendant /5	Overall Mean /5
Clinical Knowledge	2.50	4.30	3.50	N/A	N/A	3.28
History & Examination	2.93	4.60	4.20	N/A	N/A	3.67
Clinical Reasoning	2.20	4.20	3.60	N/A	N/A	3.08
Communication	2.80	4.67	4.33	3.00	3.81	3.70
Professionalism	3.67	4.80	4.67	3.87	3.71	4.25
Teamwork	3.00	4.50	4.60	3.60	N/A	3.92
Procedural Skills	1.60	2.90	2.90	2.40	N/A	2.45

Patient/Attendant assessment is restricted to patient-facing behaviours such as communication, empathy and respect, as specified in the assessment checklist

Table 6: Assessor-wise Pattern of Highest- and Lowest-rated Competency Domains

Assessor	Highest-rated Domain	Mean /5	Lowest-rated Domain	Mean /5
Faculty	Professionalism	3.67	Procedural Skills	1.60
Peer	Professionalism	4.80	Procedural Skills	2.90
Self	Professionalism	4.67	Procedural Skills	2.90
Nurse	Professionalism	3.87	Procedural Skills	2.40
Patient/Attendant	Communication	3.81	Professionalism	3.71

Values represent mean competency ratings on a 5-point scale.

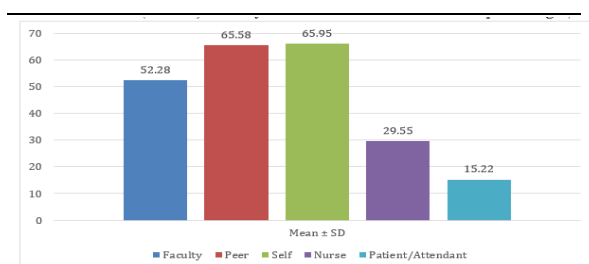


Figure 1: Descriptive Statistics of 360° Assessment Scores by Assessor

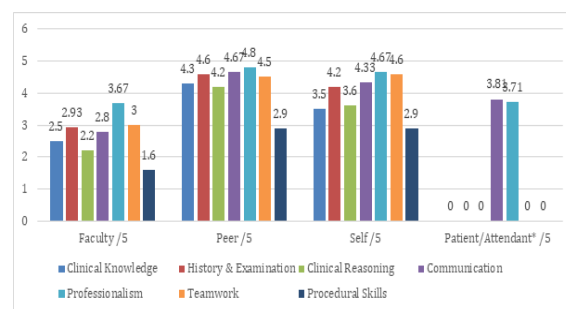


Figure 3: Domain-wise Performance According to Assessor

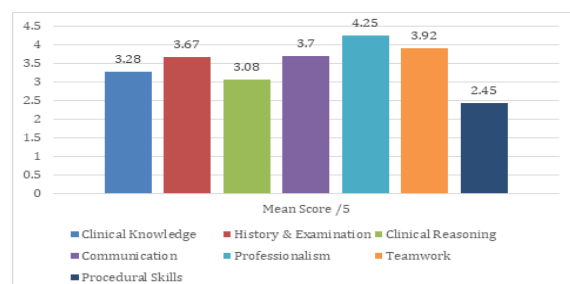


Figure 2: Domain-wise Descriptive Analysis of Clinical Competencies



Figure 4: Faculty-, Peer-, Self-, Nurse-, and Patient/Attendant-wise Domain Comparison

DISCUSSION

The present study evaluated the effectiveness of 360-degree assessment in identifying the relative performance of seven clinical competency domains among 60 undergraduate medical students posted in Otorhinolaryngology. The overall pattern demonstrated considerable variation between domains, with professionalism emerging as the strongest domain (mean 4.25/5; 85.0%), followed by teamwork (3.92/5; 78.4%), communication (3.70/5; 74.0%), and history and examination (3.67/5; 73.4%). In contrast, clinical knowledge (3.28/5; 65.6%), clinical reasoning (3.08/5; 61.6%), and particularly procedural skills (2.45/5; 49.0%) showed relatively lower performance. This domain-specific pattern demonstrates an important advantage of 360-degree assessment: rather than producing only a global competency score, it can identify specific areas of strength and developmental need.

Professionalism and interpersonal competencies

Professionalism was the highest-performing domain in the present study, with a mean score of 4.25/5 (85.0%). This finding is consistent with literature demonstrating that professionalism is particularly amenable to multisource assessment because it is expressed through observable behaviours during routine clinical interactions. In a study of 246 second-year medical students, Emke et al. demonstrated that self- and peer assessments could identify differences in perceptions of professional behaviour; the correlation between self- and peer ratings was relatively low ($p=0.13-0.21$), suggesting that different sources provide non-identical information about professionalism.^[6]

The high professionalism score in our study is also comparable in direction to findings from a 360-degree assessment study in surgery, in which the instrument demonstrated high internal consistency (Cronbach's $\alpha=0.889$) and residents generally performed well in professional behaviours.^[7] These findings support the usefulness of multisource assessment for behaviours that are difficult to capture adequately through a single examiner.

Communication and teamwork

Communication and teamwork were also relatively strong in the present study, with scores of 3.70/5 (74.0%) and 3.92/5 (78.4%), respectively. These findings are relevant because communication and collaboration are behaviours that occur across interactions with patients, peers and healthcare professionals and may therefore be incompletely represented by conventional faculty-based assessment.

Wuensch et al. evaluated a 360-degree feedback intervention among 34 undergraduate medical students using feedback from peers, standardized patients and trainers. The intervention demonstrated high acceptance, with mean acceptance scores of 1.12 for standardized-patient feedback and 1.15 for interaction for discussion on their 6-point scale.

Importantly, students demonstrated improvement in 9 of 10 communication items, with a global pre-post effect size of 0.74.^[8] The communication score of 74.0% in our study therefore supports the applicability of multisource feedback for assessing communication-related competencies, although the present study was designed to identify current performance rather than measure change following an intervention.

The importance of multiple perspectives is further demonstrated by studies in which different assessor groups have produced different ratings. In a randomized crossover study involving 16 anesthesiology residents, 360-degree assessment incorporated faculty, self, nursing staff, medical students and patients. Compared with traditional faculty-only assessment, early exposure to 360-degree assessment was associated with greater improvement across the assessed competencies, with a statistically significant improvement specifically in Interpersonal and Communication Skills.^[9] Thus, conventional faculty assessment and 360-degree assessment should not necessarily be viewed as interchangeable approaches; rather, multisource assessment can add information from individuals who observe behaviours in different clinical contexts. Clinical knowledge and clinical reasoning

In the present study, clinical knowledge scored 3.28/5 (65.6%), while clinical reasoning scored 3.08/5 (61.6%). These values were lower than professionalism, teamwork and communication, indicating that the principal developmental needs were not confined to interpersonal behaviour but also involved higher-order clinical competencies.

This finding illustrates an important consideration in interpreting 360-degree assessment. MSF is particularly useful for behaviours that are repeatedly observable in the clinical workplace, whereas knowledge and reasoning may require complementary assessment approaches. A review of medical assessment methods emphasizes that no single assessment method adequately measures all components of clinical competence; knowledge, clinical reasoning, observed performance and workplace behaviour may require different assessment strategies.^[10] Therefore, the relatively lower knowledge and reasoning scores in our study should be interpreted as indicators for targeted educational reinforcement rather than as evidence that 360-degree assessment alone is sufficient for measuring all aspects of cognitive competence.

Recent work on multisource assessment among medical students similarly demonstrates that individual competency domains can relate differently to other assessment modalities. In a multisource assessment tool involving 170 students in its pilot phase, five domains were assessed, and several subdomains showed significant correlations with assessments from other courses; for example, communication correlated with OSCE assessment of interviewing and patient relationship skills ($r=0.22$, $P=0.01$), while teamwork subdomains correlated

with OSCE measures at $r=0.25-0.26$.^[11] This supports the concept that MSF provides complementary information rather than necessarily replacing structured examinations.

Procedural skills as the principal area for improvement

The lowest domain in the present study was procedural skills, with a mean of 2.45/5 (49.0%). This was substantially lower than professionalism (85.0%) and teamwork (78.4%) and approximately 25 percentage points below communication (74.0%). The finding identifies procedural competence as the clearest priority for targeted clinical training within the present cohort.

The lower procedural score is particularly important because procedural competence is dependent on repeated opportunities for observation, supervised practice and direct performance assessment. A 360-degree instrument developed for clinical-placement assessment incorporated multiple perspectives to assess clinical competence, interpersonal skills, communication and professionalism, illustrating that multisource assessment can be structured around observable workplace behaviours.^[12] However, procedural skills may still require complementary methods such as direct observation, DOPS and simulation because nurses, peers, patients and faculty may not all observe the technical components of a procedure equally.

Assessor-specific perspectives and the value of 360-degree assessment

An important finding of the present study was the variation in domain ratings according to assessor. Professionalism was the highest-rated domain by Faculty (3.67/5), Peer (4.80/5), Self (4.67/5) and Nurse (3.87/5), whereas procedural skills were the lowest-rated domain for Faculty (1.60/5), Peer (2.90/5), Self (2.90/5) and Nurse (2.40/5). Patient/Attendant assessments showed a somewhat different pattern, with communication receiving the highest score (3.81/5).

This pattern is consistent with the fundamental principle of 360-degree assessment: different raters observe different behaviours. In a study evaluating 360-degree assessment in an outpatient setting, faculty traditionally assessed professionalism and interpersonal skills, whereas the addition of nurse, patient/family and self-assessment was specifically used to determine whether nonfaculty perspectives differed from faculty ratings.^[13] Similarly, a study of nursing students found significant correlations among peer, clinical instructor and self-evaluation scores ($P<0.001$), while the correlation between nurse and clinical instructor ratings was not statistically significant ($P=0.052$), demonstrating that different assessor groups may provide complementary rather than identical information.^[14]

The present finding that patients/attendants rated communication highest is therefore conceptually appropriate because patients primarily experience communication, empathy, respect and interpersonal behaviour rather than the student's technical

knowledge or procedural competence. Consequently, restricting patient/attendant assessment to patient-facing behaviours improves the contextual validity of the 360-degree process.

360-degree assessment versus conventional assessment

The present study did not directly compare 360-degree assessment with conventional assessment, and therefore no claim of superiority can be made from our data. Nevertheless, comparison with existing literature helps explain the additional information obtained through the 360-degree approach.

Conventional faculty assessment generally provides an expert observer's evaluation, whereas 360-degree assessment incorporates observations from several stakeholders. Traditional approaches remain important for assessing knowledge and technical performance, but they may provide limited information regarding behaviours occurring outside the examiner's direct observation.^[10] In contrast, MSF can capture communication, professionalism, teamwork and interpersonal behaviour from individuals who interact with the learner repeatedly. Evidence from comparative research supports this distinction. In the randomized crossover study of 16 anesthesiology residents, 360-degree assessment was compared directly with traditional faculty-only assessment. Improvement in interpersonal and communication skills was significantly greater following early exposure to 360-degree assessment, while improvements in systems-based practice and practice-based learning showed trends but did not reach statistical significance ($P=0.09$ and $P=0.07$, respectively).^[9] Similarly, an earlier structured-feedback study comparing structured assessment with traditional feedback found significantly better simulated-patient performance among students receiving structured feedback ($P<0.05$).^[15] These findings suggest that the value of structured multisource assessment lies not simply in generating another score but in providing more specific behavioural information that can guide learning.

Educational implications

The principal contribution of the present study is therefore the domain-level identification of competency strengths and gaps. The high professionalism score (85.0%) suggests a relative strength in professional behaviour, while teamwork (78.4%) and communication (74.0%) indicate generally satisfactory interpersonal competencies. Conversely, clinical knowledge (65.6%), clinical reasoning (61.6%) and especially procedural skills (49.0%) indicate areas in which targeted educational interventions may be beneficial.

This approach is consistent with recent undergraduate MSF models that deliberately combine self, patient and workplace-based assessors and provide individualized feedback to learners. In a Canadian undergraduate pilot, students reported that multisource feedback had a moderate-to-major impact on learning, particularly appreciating patient feedback and facilitated identification of areas for

improvement.^[16] Thus, the effectiveness of 360-degree assessment in the present study should be understood primarily in terms of its ability to map competency domains and reveal differences between assessor perspectives, rather than simply producing a composite numerical score.

Overall, the present findings support the use of 360-degree assessment as a complementary workplace-based assessment strategy in undergraduate ENT education. Its greatest utility appears to be in identifying behavioural and interpersonal competencies through multiple observers while simultaneously highlighting domains such as procedural skills and clinical reasoning that require focused educational attention. Conventional assessments such as written examinations, OSCEs and direct procedural observation remain necessary for evaluating knowledge and technical performance; 360-degree assessment can add the workplace and interpersonal perspective that may otherwise remain underrepresented.^[10,11]

Strengths of the Study

1. Multisource assessment: The study incorporated feedback from Faculty, Peer, Self, Nurse, and Patient/Attendant assessors, providing a broader perspective of student performance than a single-assessor evaluation.
2. Domain-specific evaluation: The 360-degree checklist assessed seven distinct competency domains—clinical knowledge, history and examination, clinical reasoning, communication, professionalism, teamwork, and procedural skills—allowing specific strengths and areas requiring improvement to be identified.
3. Workplace-based assessment: Assessment was conducted in the clinical environment during ENT posting, allowing competencies to be evaluated in a setting where these behaviours are actually demonstrated.
4. Structured assessment tool: A standardized 5-point Likert scale and defined observable behaviours were used, supporting systematic and consistent assessment across students.
5. Patient perspective: Inclusion of Patient/Attendant feedback provided an important perspective on patient-facing competencies such as communication, empathy and respect.
6. Identification of targeted learning needs: The study identified clear differences between competency domains, particularly the relatively lower performance in procedural skills and clinical reasoning, thereby providing actionable information for curriculum planning and remediation.

Limitations of the Study

1. Single-centre study: The study was conducted in one medical college and one clinical department, which may limit the generalizability of the findings to other institutions and specialties.
2. Limited sample size: The study included 60 undergraduate medical students; a larger sample

from multiple institutions would provide more robust evidence.

3. Subjectivity of ratings: 360-degree assessment involves human judgement, and ratings may be influenced by individual assessor perceptions, expectations, familiarity with the student, or halo effects.
4. Assessor-related variation: Different assessor groups may have different opportunities to observe particular competencies. Patient/Attendant assessors, for example, were limited to patient-facing behaviours and therefore did not assess all competency domains.
5. Cross-sectional assessment: The study assessed competency performance at a particular stage of clinical training and therefore cannot determine whether the identified deficiencies improve following educational interventions.
6. No direct conventional-assessment control group: The present study did not directly compare 360-degree assessment with a conventional assessment method. Therefore, conclusions regarding the superiority of 360-degree assessment over conventional assessment cannot be drawn from the present data.
7. Potential response bias: Self-assessment may be influenced by overestimation or underestimation of one's own abilities, while peer and other ratings may similarly be affected by interpersonal factors.
8. Limited assessment of technical procedures: Procedural competence may require repeated direct observation, simulation or procedure-specific assessment tools in addition to multisource feedback.

Future Scope

Future studies should evaluate 360-degree assessment in larger, multicentric and longitudinal cohorts to determine changes in clinical competencies over time and across different clinical specialties. Repeated assessments before and after targeted educational interventions could determine whether the domains identified as requiring improvement, particularly procedural skills and clinical reasoning, demonstrate measurable improvement. Further research could also integrate 360-degree assessment with conventional assessment methods such as OSCE, DOPS and faculty-based workplace assessment to evaluate their complementary contribution to competency assessment. Psychometric evaluation of the assessment tool, including reliability, inter-rater agreement and validity, should also be undertaken. Development of individualized feedback and remediation plans based on assessor-specific and domain-specific results may further enhance the educational value of 360-degree assessment in competency-based medical education.

CONCLUSION

The 360-degree assessment provided a multidimensional profile of clinical competency and identified substantial variation across competency domains. Professionalism, teamwork, and communication represented relative strengths, whereas procedural skills, clinical reasoning, and clinical knowledge represented areas requiring greater educational attention. The findings support the use of 360-degree multisource assessment as a complementary workplace-based approach for identifying domain-specific learning needs in undergraduate clinical education

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