

# Impact of feedback on obstetrics and gynaecology resident's performance in formative assessments

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## Abstract

**Background:** Feedback is information delivered to the learner about his strengths and weakness in a specific given task, it gives the information on gaps between desired level of competency and actual level of competency in the learner. Feedback forms the back bone of progressive learning. **Methodology:** This study was conducted on Obstetrics and Gynaecology Residents taking up formative assessments. Initial base line scoring was done followed by feedback in consecutive assessments and post feedback scoring on likert scale was recorded. Prefeedback scores and post feedback scores were compared and statistically analysed. **Results:** Post feedback average improvement in performance of all residents was 22%. Analysis of Mentor assessment score revealed significant improvement in resident's performance. (P=0.18). Resident's self assessment in pre and post feedback performance showed an overall increase by 32%, however p value of resident's self assessment was not significant.(p=0.68). **Conclusion:** It is inferred from this pilot study that feedback has a positive learning impact on the resident, proper curricular design with trained mentors in giving feedback will improve the outcome of the resident.

**Key Words:** Feedback, Formative Assessment, Mentor, Competency.

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## INTRODUCTION

Feedback is information given to the student or learner on his performance, it is the difference between the actual and desired state of performance. Feedback forms an integral part of teaching and is an important component in learners development, clinical faculty must be sensitised regarding importance and method of giving feedback.<sup>1</sup> Knowingly or unknowingly we are giving feedback to our Undergraduates, Interns, Residents and Peer. Feedback

given either in Reinforcing or in Corrective form, has been regarded as helpful in clinical medicine when given appropriately.<sup>2</sup> Positive feedback has a constructive vibes where as negative feedback can be taken in the either way. Negative feedback should be given in sandwich method where it is started by a Positive note followed by Negative core content in soft palatable manner and end with a positive note, which gives a favorable result.

**Need For the Study:** This study was undertaken to know the effect of feedback and guidance on performance of residents in the department of Obstetrics and Gynaecology, as residents are under supervision of their Guide, Unit Head and HOD, Positive feedback gives them the right direction to learn and progress.

## MATERIAL AND METHODS

This study was undertaken in the Department of Obstetrics and Gynaecology at Kamineni Institute of Medical Sciences, Narketpally. Fortnightly formative assessments are integral teaching part of PG curriculum

in the institute. Mentor took all the Seven residents into confidence and separate one to one feedback was given to them after assessment of their answer sheets. Timing of the feedback was immediately after the assessment. Based on the performance scoring was given on Likert scale, between 1 -5 (1 – Poor, 2- Average, 3- Good, 4 - Very Good, 5- Excellent) and mean was calculated for each assessment per resident. Totally Four assessment scores were included into the study. First assessment scoring by both mentor and resident was without feedback. This was taken as baseline and labeled as Pre feedback Mean Score. Successive three assessments were 15 days apart and feedback given by the mentor was documented as Post feedback mean score. Scoring of the assessment papers was done by the mentors in seven areas and documented.

**Mentor Scoring Areas of Answer Paper Assessment with Likert scoring 1-5**

1. Attempting all the questions.
2. Pattern and structuring of answers.
3. Content of each answer.
4. Grammar and sentences.
5. Use of Diagrams and flow charts.
6. Answering a difficult question.
7. Neatness and legible handwriting.

**Feedback was focused on**

- Learning outcomes and short falls.
- Areas of improvement needed.
- Identifying the areas of strength and weakness.
- Follow up from previous weakness areas in successive assessments.
- Non biased

All residents were given two forms A and B to be filled with four areas of self evaluation, and feedback taken

- A. After First Assessment (without feedback), responses were documented as Pre Feedback Mean.

- B. After last / Fourth Assessment and responses obtained were documented as Post Feedback Mean. Response scores were documented on likert scale from 1 -5 and mean was calculated for each assessment per resident.

**Contents of Resident self evaluation feedback form with Likert scoring 1-5**

1. How confident are you in taking up theory exams.
2. How confident are you in structuring and organising an answer.
3. How confident are you in answering a difficult question.
4. Overall rating of feedback sessions.

Data collected was analysed statistically by SSPS software.

**RESULTS**

Mentor assessment of feedback scores revealed that residents were more confident in taking up OBG theory exams after feedback. Average improvement of performance in all residents was 22%. Feedback was more helpful for poor performers who had low scores in pre feedback assessment, they improved by 34%. Fast learners and good performers in pre feedback assessment reported marginal improvement by 10%. Students were poor in attempting difficult questions and used to leave few questions unanswered either due to improper time management / lack of depth of knowledge on that question, Post feedback their performance in attempting difficult questions increased by 29.4%. Analysis of Mentor assessment score revealed significant improvement in resident’s performance. (P=0.18). Residents self assessment in pre and post feedback performance indicated an overall increase by 32%. In individual area residents were more confident in organizing and structuring answers, there was 40% increase in their confidence level in organizing and structuring answers.

**Table 1:** Mentor assessment scores: pre feedback and post feedback

Sr. No	Resident	Mean Of Overall Feedback Score's			'P' * Value
		Pre Feedback Mean	Post Feedback Mean	Diff	
1	A	2.28	3.90	1.62	0.18
2	B	2.28	3.90	1.62	0.18
3	C	2.85	3.99	1.14	0.27
4	D	1.85	3.56	1.71	0.16
5	E	2.71	3.61	0.90	0.17
6	F	4.0	4.52	0.52(10%)	0.41
7	G	3.85	4.38	0.53	0.38
	<b>MEAN</b>	<b>2.83</b>	<b>3.98</b>	<b>1.14 (22%)</b>	<b>0.18</b>

\*Wilcoxon Signed Ranks Test

**Table 2:** Mentor Assessment Scores In Individual Area

Sr. No	Area Covered	Pre Feedback Score	Mean Post Feedback Score	Difference
1	Attempting all the questions	3	4.33	1.33
2	Pattern and structuring of answers.	3	4.09	1.09
3	Content of each answer	2.85	3.71	0.86
4	Grammar and sentences	3.28	3.94	0.66
5	Use Diagrams and flow charts	2.85	4.23	1.38
6	Answering a difficult question	2	3.47	1.47(29.4%)
7	Neatness and legible handwriting	2.85	4.09	1.24
	<b>Average</b>	<b>2.83</b>	<b>3.98</b>	<b>1.15</b>

**Table 3:** Resident's self evaluation score -pre feedback and post feedback

Sr. No	Resident	Mean Of Overall Feedback Score's			'P' * Value
		Pre Feedback Mean	Pre Feedback Mean	Pre Feedback Mean	
1	A	2.75	4.25	1.5	0.63
2	B	2.5	4.25	1.75	0.59
3	C	2.25	4.25	2.0	0.66
4	D	2.0	3.75	1.75	0.59
5	E	2.5	3.75	1.25	0.59
6	F	3.0	4.75	1.75	0.59
7	G	3.0	4.5	1.5	0.63
	<b>MEAN</b>	<b>2.57</b>	<b>4.21</b>	<b>1.64 (32%)</b>	<b>0.68</b>

\*Wilcoxon Signed Ranks Test

**Table 4:** Resident self evaluation score on content -pre feedback and post feedback

	Content	Pre Feedback Score	Post Feedback Mean	Difference
1	How confident are you in taking up theory exams	2.57	4.28	1.71
2	How confident are you in structuring and organising an answer.	2.71	4.71	2.0 (40%)
3	How confident are you in answering a difficult question.	2.57	3.71	1.14
4	Overall rating of feedback sessions	2.71	4.14	1.43
	<b>AVERAGE</b>	<b>2.64</b>	<b>4.21</b>	<b>1.57(31.4%)</b>

## DISCUSSION

Feedback in Medical Education is emerging as back bone for improvement of knowledge and skills, feedback can be corrective of reinforcement<sup>1</sup>. Mentor should be trained in giving feedback as it can be disastrous to the learner if not appropriate and untimely. Previous studies have shown that proper feedback improves the learners clinical performance in successive encounters.<sup>3</sup> Our study has demonstrated statistically significant improvement in the performance of residents post feedback (p=0.18). Feedback acts as continuing part of training process that supports, enhances learning and forms a core component of formative assessment, feedback has greater impact when provided based on specific task.<sup>4</sup> Feedback should be an interactive activity between teacher and learner, approach should be with mutual respect and should be provided in a safe environment. Feedback should be timely, Specific to the situation, Constructive and based on direct observation.<sup>5</sup> Thus feedback forms an integral part of curriculum.

## CONCLUSION

We conclude that feedback has a positive influence on the learner. It should be an integral part of the curriculum. Mentors and Teachers should be given proper training in providing feedback result of which ultimately reflects on the outcome of the competency in a resident.

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