

Research Article

Impact of SNAPPS on Clinical Reasoning Skills of Surgery Residents in Outpatient Setting

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Abstract

Introduction: Challenges of medical teaching in outpatient department cannot be solved by adapting traditional in patient teaching methods. Residents while presenting a case, many times face difficulties in ambulatory setup which can be solved with use of SNAPPS as T-L Method.

Ideal approach: Residents should develop well clinical reasoning skill and self directed learning practice.

Aim- To know the impact of SNAPPS on clinical reasoning skills of surgery residents in OPD set up.

Objectives: To improve the clinical skills and focus to self directed learning. They should develop a thought process to utilize it throughout life time practice.

Innovation: To achieve this goal SNAPPS as different T-L Method was adapted as innovative approach.

Materials and Method-1.Preproject questionnaire 2.Implementation 3.Interval feedback 4.Assessment by Global rating score

Results: SNAPPS as T-L Method in outpatient setting has shown positive impact on clinical reasoning skills of surgery residents. The 'commitment part' and 'probing the preceptor' encouraging them to self directed learning.

Keywords: Impact of SNAPPS, T-L Method, OPD Setting

1. Introduction

Challenges of medical teaching in outpatient department cannot be solved by adapting traditional in patient teaching methods. In traditional methods, surgery residents reveal less about reasoning when they present case to preceptors in outpatient department. When they carry problem to the preceptor, they are provided with readymade diagnosis. They act as a passive learner as they are busy. The thought process is interrupted in traditional teaching method.^{1,2}

SNAPPS is a learner initiated, preceptor facilitated approach providing opportunities to develop clinical decision making skill in OPD. In this T-L Method, preceptor can align their teaching with the content of student's questions. It creates learning movement by students themselves, enhancing self directed learning. The teacher acts as a guide while learner takes lead role in the process.^{3,4}

1.1 Ideal Approach

Residents should develop the skill for reasoning and analyzing the provisional diagnoses. They should probe the preceptor in case of uncertainties and develop thought process for self directed learning.

1.2 Innovation

To achieve this goal, the use of SNAPPS as T-L Method was adapted. Only few studies have been carried out about SNAPPS. Present study is aimed at knowing perceptions of the learners and preceptors after using SNAPPS as T-L Method in outpatient department.

1.3 What is SNAPPS?

This learner- centered Model for Outpatient Education was described first in 2003. The SNAPPS framework is particularly useful for a resident who lead the process and take more responsibility for their own learning. In traditional teaching, learners are engaged passively and are uncomfortable in revealing uncertainties. Hence, they are unable to express their clinical reasoning skills.^{1,2}

SNAPPS provides learner centered teaching environment where teachers focus time on finding gaps for learners (Teaching to the gaps). Learners are encouraged to ask questions and to demonstrate reasoning skills to teacher. The teachers provide quick, relevant teaching points in a non-threatening manner. Teacher acts as a facilitator and stimulate intrinsic motivation for learners towards self directed learning.^{3,4}

SNAPPS is an acronym for the following six steps:

S- Summarize briefly the history and findings. This should take no more than 50% of the time of the presentation and discussion.

N- Narrow the diagnosis or management to 2-3 relevant possibilities- make a commitment.

A- Analyze the reasoning by reviewing the findings or examining the evidence- compare and contrast the possibilities.

P- Probe the preceptor by asking questions about uncertainties.

P- Plan management

S- Select a case-related issue for self-directed learning.^{1,2,3,4}

2. Material and Methods

1. Preproject questionnaire

2. Implementation of SNAPPS as T-L Method

3. Interval feedback

4. Assessment

The project was undertaken in a set up of Surgery OPD during rush hours to implement SNAPPS as T-L Method in place of traditional method of case presentation.

1. The project was submitted to Institutional Ethical Committee and approval was obtained.
2. Five faculties voluntarily consented to participate in this project. Out of them four faculties were well trained in advanced medical education technology. Their opinions regarding use of SNAPPS in this scenario were obtained by providing them a questionnaire. Similarly, a questionnaire meant for residents was provided to them for opinion.
3. The concept of SNAPPS was introduced to the faculty and the residents who were participating in the project.
4. All 12 residents (4 from each 1st, 2nd and 3rd year P.G. residents) voluntarily consented to participate in the project.
5. The residents allowed to select the patient themselves for the SNAPPS sessions on their respective OPD days. They were also allowed to observe the sessions as per their convenience. Minimum 1 to 2 sessions were carried out on each OPD day.
6. Total 60 SNAPPS sessions (20 sessions for 1st, 2nd and 3rd year each) were carried out in the months of April, May and June. Each faculty conducted minimum of 12 sessions. They were provided with checklists to be filled at the end of each session.
7. In the middle of May, an interval feedback was obtained in the form of questionnaire given to participating faculty and residents.
8. Results were analyzed on Likert's and Global rating scale.

Table No.1 Pre-project Questionnaire (Resident)

Sr. No.	QUESTION	1	2	3	4	5
1	Resident, while working in crowded OPD, sometimes face a difficulty in presenting a clinical case to preceptor					
2	Resident sometimes find it difficult to ask questions to preceptor while presenting a case					
3	When resident seeks help of faculty in case of difficulty, then the case is taken over by the faculty.					
4	When the diagnosis is handed over by faculty, resident may not understand the logic/thought process behind it.					
5	The faculty may focus mainly on those issues which resident have not asked. (Focusing on negative areas)					
6	As a resident you will like to ask questions to faculty in case of difficulties while presenting a case.					
7	As a resident would you like to get involved yourself in better expression of clinical diagnosis & management?					

1. Strongly Agree 2. Agree 3. Neither agree nor disagree 4. Disagree 5. Strongly Disagree

Table No.2 Pre-project Questionnaire (Faculty)

Sr.No.	QUESTION	1	2	3	4	5
1	Resident, while working in crowded OPD, sometimes face a difficulty in presenting a clinical case to preceptor					
2	Resident sometimes find it difficult to ask questions to preceptor while presenting a case					
3	When resident seeks help of faculty in case of difficulty, then the case is taken over by the faculty.					
4	When the diagnosis is handed over by faculty, resident may not understand the logic/thought process behind it.					
5	The faculty may focus mainly on those issues which resident have not asked. (Focusing on negative areas)					
6	As a faculty you will like to be asked questions by resident in case of difficulties while presenting a case?					
7	As a faculty would you like to get involved yourself in guiding the resident when he is struggling while presenting a case?					

1. Strongly Agree 2. Agree 3. Neither agree nor disagree 4. Disagree 5. Strongly Disagree

Table No.3 Questionnaire for Residents – Interval Feedback

Sr. No	QUESTION	1	2	3	4	5
1	You feel comfortable with the method of 'SNAPPS' while presenting a case in Surgery OPD					
2	You find 'SNAPPS' is different method of Teaching-Learning than traditional.					
3	You are now familiar with all six steps of 'SNAPPS' model.					
4	You feel more responsible for your own learning after getting a commitment.					
5	You feel better asking questions to preceptor in non threatening environment about your uncertainties					
6	You feel satisfied to get answers from preceptor about your uncertainties					
7	In your opinion faculty is comfortable with 'SNAPPS'.					
8	You feel that faculty covers all six steps of 'SNAPPS'.					
9	You feel that you play active role in diagnosis & management plan while presenting a case.					
10	You feel that faculty acts as a guide while presenting a case.					
11	You feel that 'SNAPPS' will improve your clinical presentation & skill towards diagnosis and management plan.					
12	You wish to continue the sessions of 'SNAPPS' in future.					

1. Strongly Agree 2. Agree 3. Neither agree nor disagree 4. Disagree 5. Strongly Disagree

Table No.4 Questionnaire for Faculty – Interval Feedback

Sr. No	QUESTION	1	2	3	4	5
1	You feel comfortable with the method of 'SNAPPS' while resident presenting a case in Surgery OPD					
2	You find 'SNAPPS' is different method of Teaching-Learning than traditional.					
3	You are now familiar with all six steps of 'SNAPPS' model.					
4	You find satisfactory response from residents after getting a commitment.					
5	You feel better while residents ask questions to you in non threatening environment about their uncertainties.					
6	You feel satisfied to answer them about their uncertainties					
7	In your opinion the participating residents are comfortable with 'SNAPPS'.					
8	You feel that you have tried to covers all six steps of 'SNAPPS'.					
9	You feel that residents play active role in diagnosis & management plan while presenting a case.					
10	You feel that you act as a guide to residents while they are presenting a case.					
11	You feel that 'SNAPPS' will improve clinical presentation & skill of residents towards diagnosis and management plan.					
12	You wish to continue the sessions of 'SNAPPS' in future.					

1. Strongly Agree 2. Agree 3. Neither agree nor disagree 4. Disagree 5. Strongly Disagree

Table No.5 Checklist for Faculty during ‘SNAPPS’ session

Sr.No.	ITEM	RESPONSE		
		Satisfactory	Average	Non-Satisfactory
1	Able to summarize briefly the important points in history & clinical findings			
2	Restricted to 2-3 differential diagnosis or management plan			
3	Analyzes the differential diagnosis with proper reasoning			
4	Provides supportive evidence towards relevant provisional diagnosis			
5	Ask questions to preceptor about uncertainties relevant to a case			
6	Plan the management according to possible relevant diagnosis			
7	Explains the rationale behind the management plan			
8	Actively participate in discussion taking lead role			
9	Selects an issue towards self directed learning(identify learning points)			
10	Overall performance of resident			

Global Rating Scale- 1) 1to3:Non-Satisfactory, 2) 4to6: Average and 3)7to9: Satisfactory

3. Results

3.1 Pre-project questionnaire for residents and faculty-

- Nearly all residents agreed that they face difficulty while presenting a case in crowded OPD. Although, they wanted to ask more questions, they were in hurry and found it difficult. They also agreed that, usually case was taken over by faculty providing readymade diagnosis to residents. They could not understand the logic behind the diagnosis though they wanted to express it in a better way. (Table no.6)
- All faculties agreed that residents face difficulty in OPD due to workload and find it difficult to ask more questions due to busy schedule. Hence, the faculty handed over the diagnosis to residents to save the time. All faculties liked to be questioned by residents and guided them in case of difficulties. (Table no.6)

Table No.6 Responses to Pre-Project Questionnaire

Q. No.	Resident			Faculty		
	SA	A	%(SA+A)	SA	A	%(SA+A)
1	4	6	83.4	2	2	80
2	3	7	83.4	2	3	100
3	4	5	75	2	2	80
4	5	6	91.7	2	3	100
5	3	6	75	2	1	60
6	4	7	91.7	1	4	100
7	3	8	91.7	4	1	100

3.2 Implementation and Interval Feedback from faculty and residents-

- Residents faced some difficulties initially as they were not exposed to this T-L Method. However, in subsequent sessions, participation by faculty and residents was positive.
- Third year residents showed better performance and interaction as compared to 1st & 2nd.
- Interval feedback was positive from faculty as well as residents.

3.3 Assessment-

- The performance and interaction judged by faculty was assessed on Global scale rating.
- The improvement was observed as the sessions progressed, more interaction being seen in last sessions.
- Better performance was shown by senior residents.
- Overall total responses was seen as satisfactory- 138(23%), average-307(51.2%) and non-satisfactory-155(25.8%) on Global scale rating. (Table no.7) Overall positive impact ('satisfactory + average' responses) was seen in 445(74.2%). (Figure No. 1)
- Satisfactory response was seen in 24(12%), 37(18.5%) & 77(38.5%) by 1st, 2nd & 3rd year residents respectively. While 103(51.5%), 105(52.5%) & 99(49.5%) average responses was observed against 73(36.5%), 58(29%) & 24(12%) non-satisfactory responses respectively. (Table no.7) (Figure No. 2)
- Positive impact ('satisfactory + average' responses) of SNAPPS was observed as 127 (63.5%), 142(71%) and 176(88%) in 1st, 2nd & 3rd year residents respectively. (Figure No. 3)

Table No. 7 Responses to SNAPPS

Year of Residents	Satisfactory	Average	Non- satisfactory
1 st Year	24 (12%)	103 (51.5%)	73 (36.5%)
2 nd Year	37 (18.5%)	105 (52.5%)	58 (29%)
3 rd Year	77 (38.5%)	99 (49.5%)	24 (12%)
Overall(1 st , 2 nd & 3 rd)	138 (23%)	307 (51.2%)	155 (25.8%)

Figure 1: Overall Response & Impact

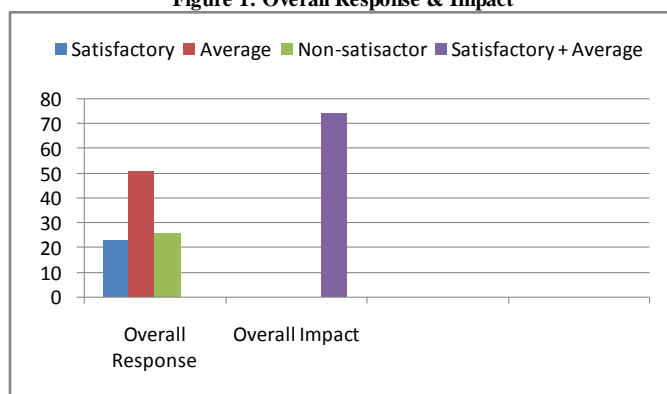


Figure 2: Responses to SNAPPS

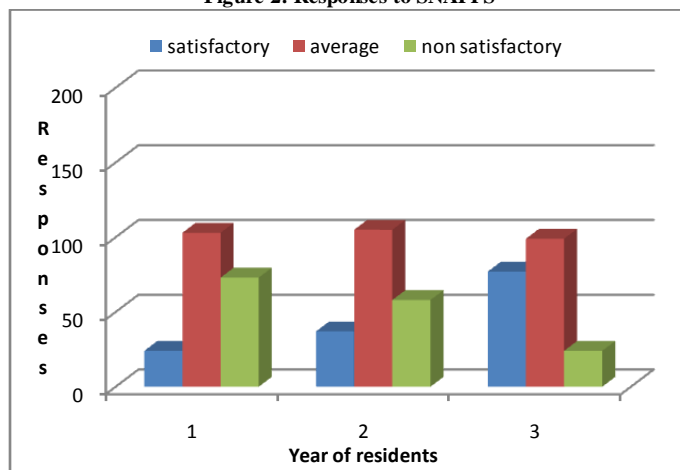
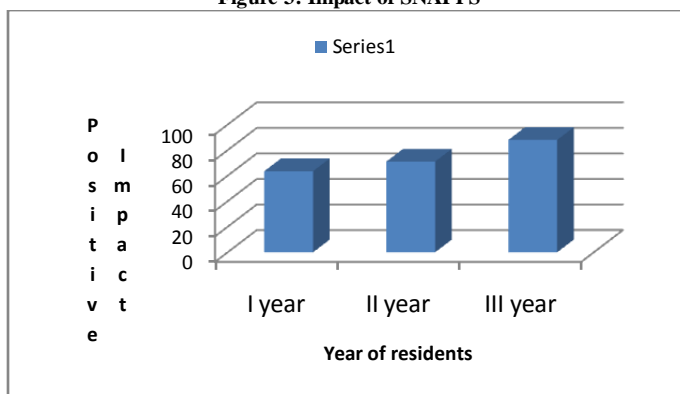


Figure 3: Impact of SNAPPS



4. Discussion

The SNAPPS as T-L Method although introduced in 2003, has been evaluated less extensively. This innovative process allows the preceptor to diagnose patient's problem and also the learner's understanding for patient's problem. This is important for effective clinical care of patients. This model is most effective when both teachers and learners agree to use it.^{1,2}

The first step helps learner in briefing practice of relevant history & physical finding, saving time against unnecessary detailing. In second step commitment to an initial decision on the part of learner, prior to preceptor input, is a key part of this teaching strategy. In third step learner analyzes differential diagnosis by comparing & contrasting thereby thought process begins within the higher cognitive domain.^{3,4,5}

By promoting to ask questions, fourth step allows preceptor to peep in to learner's thought process and knowledge base, while learner sees the preceptor as a knowledge resource. In fifth step learner initiate discussion of management plan so as to refine it with preceptor's output. While in sixth step learner with preceptor's input selects learning resources for self directed learning and reading. As the learner identifies learning points the preceptor is relieved of pressure to think of that. Thus SNAPPS is a learner initiated preceptor facilitating approach for teaching in ambulatory set up. The main role of teacher is to act as a guide.^{3,4,5}

In our project time taken in the beginning of sessions was longer which was reduced to average in subsequent sessions. More effectivity of the method was observed towards end of sessions. Improvement of clinical skill & probing the preceptor with more number of questions was observed in residents. Overall positive impact of using SNAPPS method was observed in residents. Also faculty has shown positive interest in using this method.

Sufficient literature about this method is not available. Residents have different levels of clinical exposures. Uniformity in executing the method by faculty could not be assessed. Overenthusiastic/overwhelming feedback from residents can be biased. The sample size and scope of project is too small to draw any conclusion. As there were no comparison groups' statistical tests could not be applied.

5. Conclusion

SNAPPS as T-L Method in outpatient setting has shown positive impact on clinical reasoning skills of surgery residents. The 'commitment part' and 'probing the preceptor' encouraging them to self directed learning.

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