

SWOT ANALYSIS: THE POSSIBILITY AS A LEARNING TOOL IN MEDICAL EDUCATION TRAINING (A KNOWLEDGE, ATTITUDE AND PRACTICE-BASED STUDY IN MEDICAL STUDENTS)

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ABSTRACT

BACKGROUND

SWOT analysis is an established age-old technique for aiding the formulation of strategy. Its application is utilized by different experts in various fields. It's an attempt to describe the issues raised by the practical challenges while using it in Medical Education teaching along with formal medical education with more effective learning.

MATERIALS AND METHODS

This was a prospective cohort questionnaire-based study having educational training as an intervention. The study enclosed 24 students from II-year MBBS. To start with, the participants got a pretest form to check out the knowledge, attitude, and practices of SWOT analysis. The participants were given an article on SWOT analysis in Medical Sciences for reading purpose. Later the participants were given a training session on SWOT analysis by dividing them into four groups and were given a group task to prepare a SWOT analysis chart on any topics of their general interest.

RESULTS

The study results show that the awareness, knowledge and correct spelling of SWOT was less than 25% which was increased by 70% from the baseline level after the training. About 40% participants agreed that there was a role of pharmacology teacher as a trainer. Awareness about multiple utilities of SWOT analysis increased upto 100% after the training. Knowledge of advantages and disadvantages of SWOT analysis showed jump to 50 to 65% after the training was imparted. In follow up questionnaire, more than 80% participants expressed a positive attitude towards recommending SWOT analysis to others for their various uses and even including this analysis technique as a part of curriculum in university.

CONCLUSION

The present study carried on undergraduate MBBS students showed that SWOT analysis training improve their knowledge about awareness and multiple utilities of SWOT analysis, its applications, advantages and disadvantages. Large number of students felt that SWOT analysis training can be incorporated in the curriculum and also that the training on SWOT analysis would improve the analytical skills in general and patient case management as well.

KEYWORDS

Medical Education Training, SWOT Analysis, Strategic Planning, Undergraduate Teaching Learning.

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BACKGROUND

SWOT analysis has its origins in the 1960s.¹ SWOT is a strategic device which is utilized by different experts like in business, in training framework, in management, in sports but less likely in medicine.² A SWOT analysis is a planning tool that can help to identify the strengths, weaknesses,

opportunities, and threats that lie within any individual, environment or organization.³

SWOT Analysis as a Tool to Analyse Institute /Organizational Performance-

The primary aim of strategic planning is to bring an organization or an individual into balance with the external environment and to maintain that balance over time.⁴ SWOT analysis is a preliminary decision-making tool that sets the stage for this work. The first step of SWOT analysis involves the collection and evaluation of key data. Once the data have been collected and analysed, the organization's capabilities in these areas are assessed. In the Second step, data on the organization are collected and sorted into four categories: strengths, weaknesses, opportunities, and threats. Strengths and weaknesses generally stem from factors within the organization, whereas opportunities and threats

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usually arise from external factors. The third step involves the development of a SWOT matrix and the Fourth step involves incorporating the SWOT analysis into the decision-making process.⁵

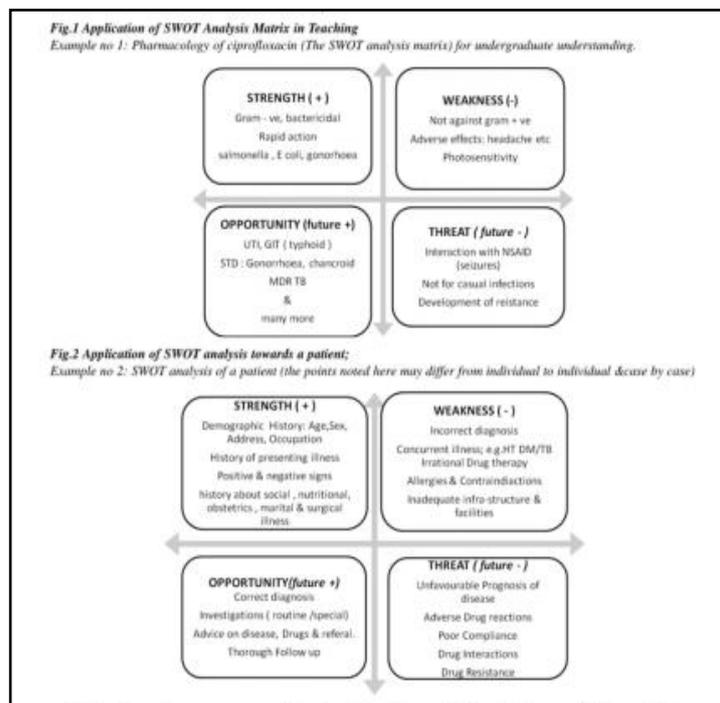
Commonly used Teaching-learning Tools in Medical Education

Medical Education is a dynamic and complex process. Students who studied in an institution which taught strategic planning along with formal education thought to be more proficient and to have a higher potential to learn and analyse knowledge.⁶ The most common changes in educational and assessment structures at many medical faculties have been the implementation of problem-orientated learning (POL), objective structured clinical examinations (OSCE), and communication training with standardized patients.⁷

Continuing education and training have become part of the ongoing processes of Medical education training programme. Training can be defined as the systematic acquisition of skills, rules, concepts, or attitudes, which result in improved performance.⁸ Training is one of the most important components in any organization’s strategy, and evaluation is an essential part of the training system.⁹ Training evaluation may have ethical implications for professional development.¹⁰

Barely universities have begun teaching strategic planning in the scholastics alongside formal medical education.^{11,12,3} Strategic planning can help to address some of the challenges that arise for medical education in clinical settings.³

The authors brought their experiences in medical education to undertake such an analysis and to consider ways of improving learning opportunities for medical students in clinical settings. The aim of this study was to determine the learning outcomes after a specific training program for Medical Students.



MATERIALS AND METHODS

The planning of a strategic development process is usually based on an intensive analysis of the specific situation of an organization preparing for the change to customize recommendations. This was a prospective cohort study which was questionnaire based having educational Training as an intervention. The study included participants from IInd year MBBS which was initiated after the institutional ethics committee approval. Total 24 number of students are enrolled for the study after taking their consent. In the beginning, the participants were given a pretest questionnaire. The purpose of the pretest questionnaire was to find out the knowledge, attitude, and practices of SWOT analysis. The participants were given an article on SWOT analysis in Medical Sciences by the principal investigator for reading purpose. Later the participants were given a training session on SWOT analysis.

Training Sessions Included-

A) General idea of SWOT analysis

- S- Strength; analyses the positive aspect
- W- Weakness; analyses the negative aspect
- O- Opportunity; analyses the positive side of future
- T- Threat; analyses the negative side of future

B) General tips regarding the use of SWOT tool.

1. There is nothing right and wrong about the analysis process. This tool only represents our perception understanding of the issue.
2. The topic of learning is documented and put into place for understanding for its strong and weak areas etc.
3. The learning objectives also get crystallized because of this process.

4. The information in the SWOT analysis chart is a compressed information about the topic.
5. You can keep a track of learning process over a period of time by observing serial SWOT analysis charts.

C) Advantages of SWOT Analysis Matrix:

Incorporation of SWOT analysis provides a few definitive advantages to any industry which includes;

1. Objectivity towards thinking.
2. Balanced thinking; in all directions, good or bad.
3. Minimizes time frame.
4. Enables the investigators to keep track of the thought process.
5. Comprehensive type of thinking than by parts thinking.
6. Simplicity in understanding and communicating,
7. Can be effectively & efficiently incorporated in clinical practice with examples cited

During this training session, participants were divided into four groups. The groups were given a group task to

prepare a SWOT analysis chart in four quadrants on various topics of general interest. This was done to strengthen the SWOT analysis training. Furthermore, open questions were asked with respect to additional needs, relevancy, and suggestions relating to the possible establishment of a training programme for medical education.

The students were followed up again after a period of 3 years. During this intervening period, they were not given any kind of training on SWOT analysis. When the students passed MBBS and were doing the internship they were given the same follow up questionnaire with some additional questions about SWOT analysis in medicine.

Out of 24 students, 19 participants responded, and 5 students did not participate in the study. The purpose of the post-test was to assess the learning about SWOT analysis imparted during the second-year training sessions. Did the students apply the knowledge of SWOT in any field or for any purpose? How do they feel about the use of SWOT analysis in medical curriculum as a learning tool? The post-test questionnaire was designed accordingly and circulated through Google forms.

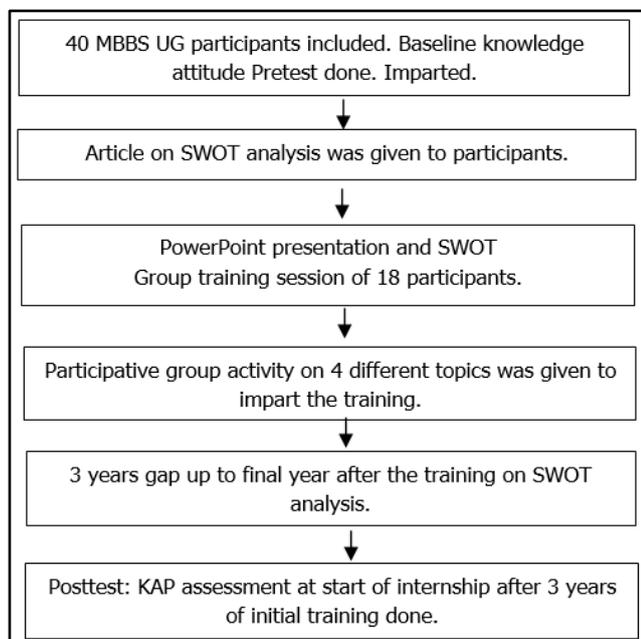
RESULTS

Knowledge Attitude and Practices of SWOT Analysis Domain (Baseline Versus follow up KAP)	Baseline Information (Pre-Intervention)	Follow up Information (Post-intervention after 3 Years)	Influence of Intervention (Change)
1. Awareness of SWOT analysis.	4.2%	73.7%	69.5%
2. Source of knowledge. (Pharmacology Teacher)	45.45%	84.21%	38.66%
3. Knowledge of long form of SWOT.	16%	88%	72%
4. Correct spelling	25%	100%	75%
5. Multi-utility of SWOT analysis	81%	100%	19%
6. Enlisting three areas of application.	29.16%	94.74%	65.58%
7. Enlisting two advantages of SWOT analysis.	37.5%	89, 47%	51.97%
8. Enlisting at least one disadvantage	20.83%	83.68%	62.85%

Table 1. Knowledge Attitude and Practices of SWOT Analysis Before and After the Training Intervention

Questions	Response in Percentages
1. Remembering the task.	100
2. Recommending SWOT analysis to others.	79
3. Recommending inclusion in the university curriculum.	84.2
4. Personal use application.	25
5. Improvement in analytical skill.	100
6. Patient case analysis utility.	94.7

Table 2. Follow up Questionnaire after 3 Years



Flow Chart

DISCUSSION

Overall the study results show that the awareness, knowledge and correct spelling of SWOT was less than 25% before the training, but after the intervention of training and group Activity, the awareness, knowledge and correct spelling of SWOT was increased by 70% from the baseline level. About 40% participant agreed that there was a role of pharmacology teacher as a trainer to impart the knowledge of SWOT analysis than the baseline level. Almost 80% of participants were aware of the multiple utilities of SWOT analysis, this awareness was increase upto 100% after the training. Awareness of the knowledge of advantages and disadvantages of SWOT analysis was to the extent of 30 to 40% at the beginning, which showed jump to 50 to 65% after the training was imparted.

The follow up questionnaire which was taken after the 3 years after the intervention of training, mainly focused on the attitude and future practices of SWOT analysis. More than 80% of participants expressed a positive attitude towards recommending SWOT analysis to others for their various uses and even including this analysis technique as a part of Curriculum in university.

Although the positive attitude of using SWOT analysis for personal use was lesser to the extent of 25%, there was more positive attitude towards its utility in patient case analysis up to 95%.

There is only one parallel study regarding SWOT analysis as a learning tool in medical education. The study was done in students from veterinary medicine integrated Master at UTD in 2017. It was an interventional study done with the students after a brief training of SWOT analysis. a short survey after the SWOT analysis exercise given for the treatment options for veterinary problems. The short survey after problem-based SWOT analysis revealed that students had problems in identifying opportunities and less so in the case of the threats. It was difficult for them to identify or differentiate between opportunities and threats. The author suggested further that the SWOT analysis learning tool can help students to prioritize various actions, help in planning

overview information to be used for guidance and expert advice, as a decision-making tool. Researchers concluded that it can be used as a transversal tool to build clinical and critical thinking skills.

The overall studies suggest that SWOT analysis can be given a chance as a tool of analysis and thinking and reflection in various medical curricular scenarios.

Further studies involving various comparisons and its influence on the performance of the students will add value. The study specifically designed to check for the validity and reliability of SWOT analysis document as a communication tool between the doctors could be of help in future. SWOT analysis tool can be given a chance in medical education Technology training workshop as a tool of reflection, which is a part of the Medical Education Technology workshop curriculum.

The possible next step in Medical education technology could be a workshop comprising faculty members who are interested in Strategic planning and would like to implement it in the Medical curriculum.

Such a workshop might provide with additional information to the researcher and the students regarding SWOT analysis in its natural scientific progressive evolution.

CONCLUSION

The present study carried on undergraduate MBBS students showed that after the SWOT analysis training, there is an awareness about the same improved, long form of SWOT analysis, multiple utilities of SWOT analysis, various applications, advantages and disadvantages of SWOT analysis. The knowledge about SWOT analysis so imported was retained for three years after the training. Quite a large number of students recommended SWOT analysis training to be included as a part of the curriculum. Many students were of the opinion that the training would improve their analytical skill in general and patient-care-analytical-skills as well.

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