



# Building a More Apprised Future Workforce: Optimizing Patient Safety Teaching Methodologies for Medical Students



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## Background

Patient safety is a major concern of all stakeholders involved in health care. Despite better awareness, the incidences related to medical errors and professional negligence, throughout the world, are frequent [1-2]. The magnitude of the problem can be judged from the fact that in USA medical related errors are 3<sup>rd</sup> leading cause of mortality after heart disease and cancer and in the Kingdom of Saudi Arabia (KSA), the numbers of reported cases of medical neglect are on the rise. It also has huge financial implications and different strategies have been employed to minimize these preventable errors [3]. It seems imperative to inculcate the necessary concepts and practices related to patient safety at the undergraduate level. Strengthening the foundation will yield cost effective long term benefits. The objective of this study was to investigate the impact of modified teaching, learning and assessment strategies implemented in our faculty during patient safety module.

## Methods

The present cross-sectional study was carried out during patient safety module for the final year medical students. Several innovative changes in teaching methodologies were made while retaining the WHO guidelines. Instead of traditional lectures, students were made to be part of a journey through which patients pass during their illnesses, analyzing safety-related issues from initial reporting to ER/OPD till discharge and follow-up. Interactive sessions were coupled with practicals like proper documentation of a medicine, hand hygiene technique and various Patient Safety Improvement Initiatives. Students searched for related articles, journals, books, and societies, so they know how to remain current in the future. An on-board and dedicated faculty from various departments was chosen to deliver the module. To verify the impact, a pre and post module survey was conducted. Instead of traditional assessment means, students were assessed with ten modalities emphasizing on practical aspects of safety culture. Finally, they were subjected to twenty patient safety-related situations and their responses were recorded. Data was analyzed on SPSS-21 and variables are expressed as frequencies, percentages, mean and standard deviation.

## Results

Themes of Patient Safety Module (PSM)

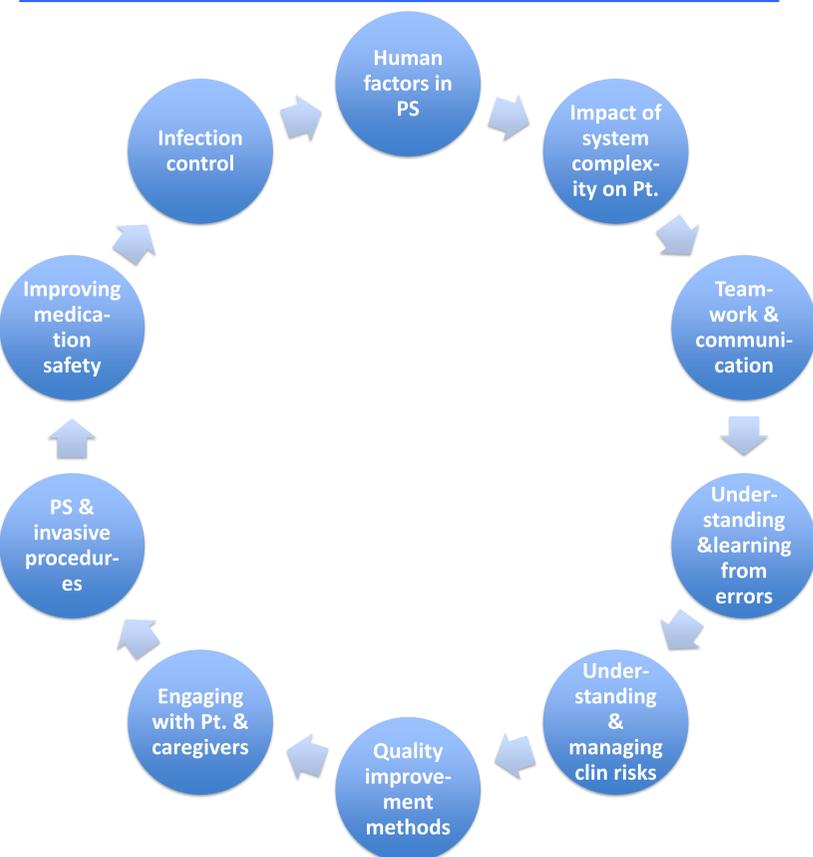


Table 1- Innovative task and assessment activity

Innovative task and assessment activity	Task Type
Scientific Articles related to Patient safety	Individual Task
Case study related to Patient safety	Individual Task
Safety issues in one selected Medication	Individual Task
Patient safety issue in Social Media	Individual Task
Scientific Book related to Patient safety	Group Task
Scientific Journal related to Patient safety	Group Task
Scientific Society related to Patient safety	Group Task
Patient Safety Improvement Initiative (PSII)	Group Task

Table 2- Students' perception about innovative tasks

	1-3	4-7	8-10
	Low	Medium	High
Scientific Articles	4	6	27
Case study	6	7	24
Selected Medication	3	1	33
Social Media	4	6	27
Scientific Book	6	3	28
Scientific Journal	6	6	25
Scientific Society	5	9	23
PSII	7	3	27

Table 3- Pre and post module analysis of students knowledge

Questions	Before start of PSM	At the end of PSM	P-value
How will you rate your knowledge about the specific PS issues?	10%	80%	<0.001
Do you agree that 'blame game' has adverse effects on patient safety culture? YES/NO	30%	90%	<0.001
Do you think an error occurs due to an individual's mistake? YES/NO	73%	85%	0.2
Do you think an error occurs due to system failure? YES/NO	35%	78%	<0.001
Do you now know how to wash your hands before any procedure? YES/NO	13%	100%	<0.001
Are you aware of 'Two challenge rule' to expose a patient safety issue? YES/NO	5%	95%	<0.001
Safe clinical practice in general (Mean±SD)	3.69±.91	4.21±.87	0.01
Clinical safety (Mean±SD)	2.94±.90	4.19±.96	<0.001
Hand hygiene (Mean±SD)	2.82±.68	4.33±.68	<0.001
Infection control (Mean±SD)	3.31±.84	4.30±.52	<0.001
Safe medication practices (Mean±SD)	2.15±.73	3.61±.77	<0.001

## Discussion

Our study showed that there was a significant improvement in students knowledge, attitude and skills after attending PSM. It seems that it is the result of the innovative tasks, teaching strategies and assessment modalities. The present results are similar to few other studies [4, 5]. We adopted WHO guidelines for teaching PS to undergraduates but supplemented the process by introducing a number of novel activities as mentioned earlier. It includes PS improvement initiatives in which students were required to visit health delivery facilities to observe and report PS issues. We also conducted practical sessions and brief workshops involving infection prevention techniques, practicing of documentation of medicine, handovers, to mention a few. All these were meant to bring the final year students to full involvement and awareness regarding what is going around globally and locally in context of patient safety issues. Thus the future doctors are primed before actual exposure in coming years.

## Conclusion

The pre and post module survey showed that there was significant impact on students knowledge, attitude and skills by innovative tasks and assessment modalities used in the PSM. The overwhelmingly positive impact of bringing innovative changes in teaching methodologies at the undergraduate level indicates that preparing medical students to be a safe doctor and an effective team member can decrease the incidences of medical errors in future. Undergraduates of today should be the 'Agents of Change', bringing the much needed betterment in patient safety concerns by being conscious from the beginning, exercising safe practices and promoting a culture of safety. This will also contribute in achieving health and patient safety related goals of Vision 2030, here in KSA. We recommend similar approach for Nursing and Para-medical schools.

## References

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