



Impact of a New Clinical Decision-Making Activity in a Capstone Course

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INTRODUCTION

- Clinical reasoning is a vital skill for student pharmacists; however, the skill is not strongly developed until experiential learning, which is focused in the fourth professional year.¹
- Activities that allow students to practice clinical reasoning skills can better prepare students for experiential rotations.
- A script concordance test (SCT) evaluates the examinees in a written format but utilizes clinical situations in which they must interpret data to make decisions.¹

OBJECTIVE

- The primary objective of the study was to determine if student performance on application-based exam questions improved after a clinical decision-making activity based on the SCT.

METHODS

- This was an IRB-approved study that was implemented in Spring 2022 in a capstone course for third-year pharmacy (P3) students.
- Students completed a one-hour activity based on the SCT that focused on gout, osteoarthritis (OA), pain, and rheumatoid arthritis (RA).

Corresponding exam
from a previous cohort
2021
- Control group

Pre-exam
scores 2022
- Experimental
group

Post-exam
scores 2022
- Experimental
group

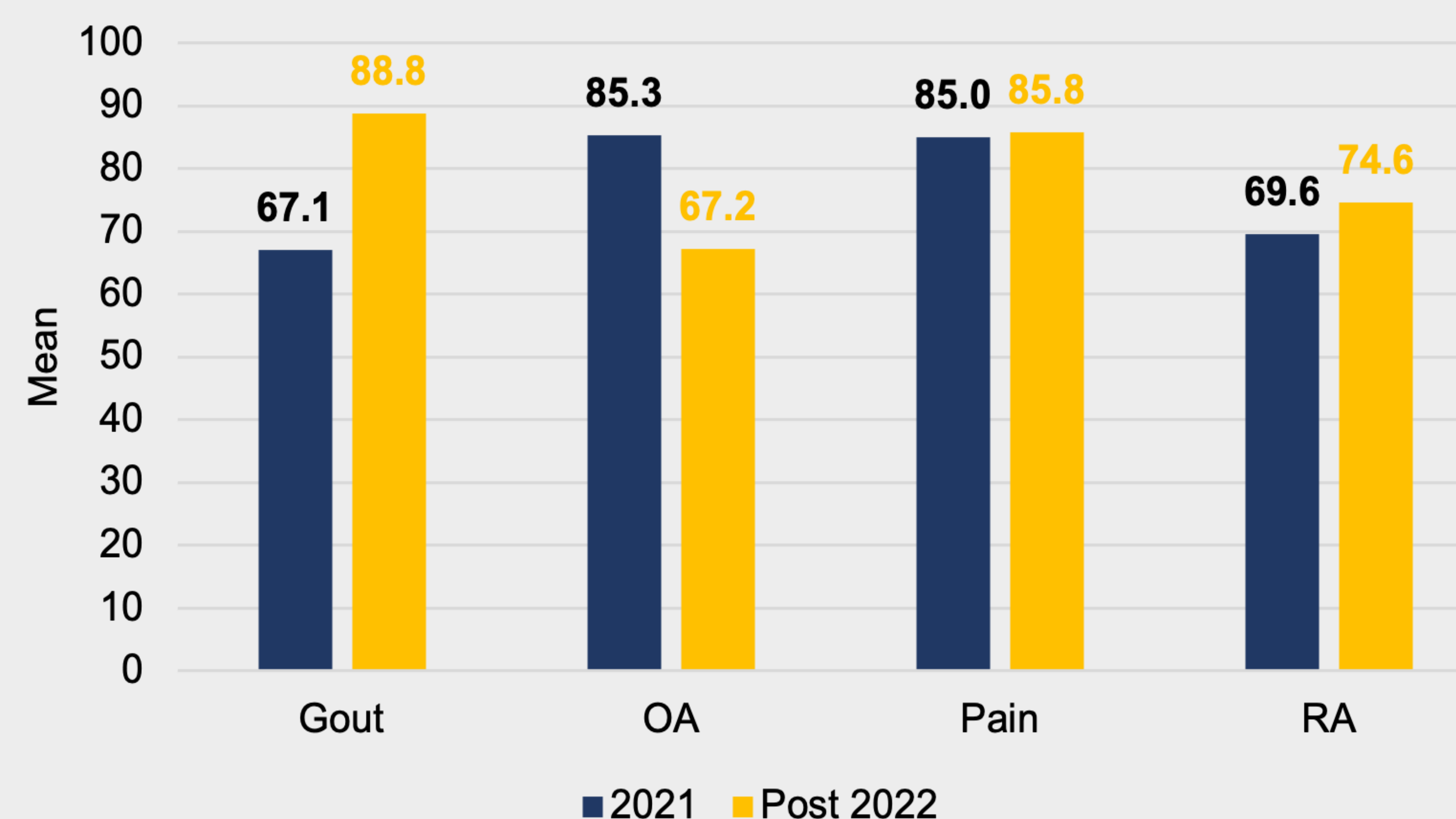
- Individual responses to multiple-choice and select-all-that-apply questions from the topic areas, as well as all application-based questions, were analyzed.
- Anonymous survey questions asked participants to rate on a scale of 1-5 (1=strongly disagree to 5=strongly agree) their agreement on whether the clinical decision-making activity was beneficial and if more clinical decision-making activities should be incorporated into the curriculum.
- Descriptive statistics were calculated to characterize overall responses. Sub-group analysis, using the Mann Whitney Test and Wilcoxon Test, were completed to compare exam scores between the 2021 and 2022 cohorts.

RESULTS

Student Performance on Exams and Critical Thinking Questions

	Critical Thinking	Critical Thinking	Critical Thinking	Overall Exam	Overall Exam	Overall Exam
	2021	Pre 2022	Post 2022	2021	Pre 2022	Post 2022
# of students	79	69	67	79	69	67
Mean	71.90	81.64	64.86	78.83	79.89	67.19
Standard Deviation	0.1178	0.08615	0.1385	0.07701	0.07002	0.1038

Performance on Content Areas Reinforced in the Clinical Decision-Making Activity



Student Perceptions of Clinical Decision-Making Activity

Survey Question	# of students	Mean*	Standard Deviation
Was the activity beneficial?	64	4.266	0.9959
Should more clinical decision-making activities be incorporated into the curriculum?	63	4.317	0.9972

* Scale of 1-5 with 1=lowest; 5=highest

RESULTS

Comparison of Critical Thinking Questions Among Cohorts

	2021 vs Post 2022		2021 vs Pre 2022		Pre 2022 vs Post 2022	
Median	80.0	66.67	80.0	81.63	81.63	66.67
P-value	<i>p=0.0003</i>		<i>p<0.0001</i>		<i>p<0.0001</i>	

Comparison of Overall Exam Performance Among Cohorts

	2021 vs Post 2022		2021 vs Pre 2022		Pre 2022 vs Post 2022	
Median	70.00	63.64	70.00	80.95	80.95	63.64
P-value	<i>p<0.0001</i>		<i>p=0.2129</i>		<i>p<0.0001</i>	

Overall Exam Performance vs Critical Thinking

	2021	Pre 2022	Post 2022
P-value	<i>p<0.0001</i>	<i>p=0.0022</i>	<i>p=0.0053</i>

CONCLUSION AND IMPLICATIONS

- While student feedback indicated a perceived benefit to the activity, overall exam and application-based exam question performance were lower following the implementation of a clinical-decision making activity compared to the previous year's cohort.
- Limitations included a small number of questions and implementation at a single institution.
- The impact of a clinical decision-making activity based on the SCT may not be fully realized by assessing exam performance.

REFERENCES

1. Atayee RS, Lockman K, Brock C, Abazia DT, Brooks TL, Pawasauskas J, Edmonds KP, Herndon CM. Multicentered Study Evaluating Pharmacy Students' Perception of Palliative Care and Clinical Reasoning Using Script Concordance Testing. Am J Hosp Palliat Care. 2018 Nov;35(11):1394-1401. doi: 10.1177/1049909118772845. Epub 2018 Apr 24. PMID: 29690782.

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