



Impact of a One-Day Practical Training on Pharmacists' Self-Reported Competency in Cardiovascular Physical Examination: A Pre–Post Study

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1 Introduction

- Pharmacy practice continues to expand across the globe
- Physical examination (PE) is an important clinical skill for pharmacists
- PE training has not yet been widely adopted in pharmacy program curricula, and pharmacists may have limited competency in cardiovascular examination

2 Aims

This study aimed to assess pharmacists' self-reported competency in cardiovascular physical examination following a one day practical and theoretical training session using surveys.

3 Method

PE training session: Pharmacists completed pre-readings, participated in a lecture and practiced physical exam skills on their peers and patient partners under preceptor supervision.

Population: health-systems pharmacists mainly practicing in cardiology

Assessment: Participants were invited to complete a survey prior to the training session (T1), 1 month after completion (T2), and 6 months after completion (T3).

The survey evaluated participant demographic data and participant perceptions regarding physical exam and self-perceived physical examination proficiency.

Statistical analysis: Differences across time points were compared using the Wilcoxon signed-rank test.

4 Results

- **Participants:**
 - 17 pharmacists (14 completed all 3 surveys)
 - Both the inpatient and outpatient settings
 - 82% had independent prescribing rights
 - 57% had more than 10 years of experience
 - 2 participants had prior physical exam training
- **Comfort level with physical examination**
 - 93% were uncomfortable at T1
 - 88% were comfortable at T2
- **Practical application**
 - 69% of participants used physical exam weekly or multiple times per month.
 - Only 4 participants sought further mentorship while introducing physical exam into their practice.
 - From T2 to T3, there was a slight regression for all questionnaire items
 - Overall, from T1 to T3 there was an improvement for all questionnaire items

Progression of pharmacist perceptions regarding physical exam before training session (T1), 1 month after training session (T2) and 6 months after training session (T3)

	T1 > T2	T2 > T3	T1 > T3
Usefulness of PE*	-	-	-
Bedside manner	↑↑	↓	↑
Assessment of lower limb edema	↑↑	↓	↑↑
Assessment of jugular venous pressure	↑↑	↓	↑↑
Lung auscultation	↑↑	↓	↑↑
Assessment of hemodynamic state	↑	↓	↑
Anamnesis	↑	↓	↑
Recognize red flags	↑	↓	↑
Impact of PE on medication adjustment	↑	↓	↑
Impact of PE on clinical outcomes	↑	↓	↑
Overall PE skills	↑↑	↓	↑

* Pharmacists were consistently in agreement that PE was useful

Overall, pharmacists were slightly more confident to adjust medications based on clinical exam findings (63% at T1 vs. 69% at T3); however, pharmacists' belief that physical exam knowledge translated to clinical benefit remained mostly unchanged (79% T1 vs. 74% T3).

5 Conclusion

- A combination of lecture and practice-based learning improved pharmacists' self-perceived cardiovascular physical exam skills.
- Pharmacists strongly believe that physical exam skills are important and can benefit patients.
- Further research on physical exam education in pharmacy practice should focus on physical exam training for other organ systems, consolidation of physical exam proficiency through mentorship programs and translation of physical exam skills to patient clinical outcomes.
- The role of mentorship in strengthening pharmacists' competencies in physical exam remains to be explored.

6 References

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7 Contact details and / or acknowledgements

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