



Incorporation of the Pharmacists' Patient Care Process (PPCP) into an Integrated Pharmaceutics Course Sequence

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Background

- The Pharmacists' Patient Care Process (PPCP) was recently developed by several national pharmacy associations working under the direction of the Joint Commission of Pharmacy Practitioners (JCPP) in an effort to articulate a framework that once implemented would ensure consistency amongst the patient care services being delivered across the profession regardless of practice setting, thus enhancing effectiveness and improving safety
- In addition, Standard 10.8 of the Accreditation Council for Pharmacy Education Accreditation Standards 2016 requires that colleges and schools of pharmacy teach the PPCP as described by JCPP
- However, simply teaching the PPCP alone is not sufficient; it needs to be developed within the context of professional practice and ultimately needs to serve as the foundational framework for the PharmD curriculum



Purpose

- Therefore, the purpose of the current project was to incorporate the PPCP into Midwestern University College of Pharmacy-Glendale's (MWU-CPG's) integrated pharmaceutics course sequence

Design

- Pharmaceutics I & II make up MWU-CPG's integrated pharmaceutics course sequence, which takes place during the first year of the College's PharmD curriculum and integrates the disciplines of physical pharmacy, dosage forms, pharmaceutical calculations, and pharmacy compounding
- Two years ago, the thirteen non-sterile compounding labs within the course sequence were modified to enable incorporation of the PPCP
- This was specifically accomplished by revising and reformatting most of the previously created compounding activities and corresponding application questions so that students purposely work through each component of the PPCP (i.e. collect, assess, plan, implement, and follow-up) as they complete a mock prescription (Figure 1)

Figure 1. Example incorporation of the PPCP. Each week's lab assignments are contained within a separate packet that is distributed to the students at the start of each lab. The students then begin the labs by working together to answer a series of questions associated with the prescription to be compounded. Upon completion, the students meet with their respective lab instructors as a group (6-8 students/instructor) to review their completed work and to prepare for the compounding activities. The students finally proceed to complete the compounding activities individually with oversight from the lab instructors, who consist of a variety of faculty and staff, community pharmacists, and upper-level students.

Evaluation

- Upon the conclusion of the non-sterile compounding labs, the participating students (n=303 total) were voluntarily surveyed in-person using a paper instrument to determine the extent to which they agreed or disagreed with five different statements regarding the incorporation of the PPCP
- The useable survey response rate was 98% and the data were analyzed in aggregate using descriptive statistics within Microsoft Excel
- Almost all respondents (97-98%) either agreed or strongly agreed that incorporation of the PPCP appropriately modeled the PPCP and was consistent with the PPCP's inclusion in other courses (Table 1)
- In addition, 94% of respondents either agreed or strongly agreed that incorporation of the PPCP improved their understanding of the PPCP, facilitated their understanding of the course material, and enhanced the course material's applicability to practice (Table 1)
- The MWU-Glendale Institutional Review Board found that this evaluation fulfilled the criteria for exempt review

Table 1. Tabulation of each response to the participating student survey (n=298)*

Statement	Strongly Agree	Agree	Disagree	Strongly Disagree	Not Sure
Incorporation of the PPCP format appropriately modeled the PPCP	202	87	2	0	7
Incorporation of the PPCP format was consistent with its inclusion in other MWU-CPG courses	208	84	1	0	5
Incorporation of the PPCP format improved my understanding of the PPCP	195	86	7	1	9
Incorporation of the PPCP format facilitated my understanding of the course material	201	79	10	0	8
Incorporation of the PPCP format enhanced the course material's applicability to practice	206	74	8	1	9

*The participating students were asked to "please indicate the extent to which you agree with each of the following statements regarding the incorporation of the Pharmacists' Patient Care Process (PPCP) into the non-sterile lab portions of Pharmaceutics I & II (i.e. the 'collect, assess, plan, implement, and follow-up' format)"

Lessons Learned

- From a course perspective, the incorporation of the PPCP required minimal modifications to already existing coursework; however, this was mostly due to the non-sterile compounding labs already being designed with an intent to apply pharmaceutics concepts to the practice of pharmacy
- In addition, the incorporation of the PPCP enabled an even greater application of these concepts to practice and was perceived to have facilitated student understanding of the course material
- From a PPCP perspective, the labs enabled its incorporation using 'real world' examples that appear to have appropriately modeled the PPCP and improved student understanding of the PPCP
- Ultimately, the current project demonstrates the feasibility of incorporating the PPCP into pharmaceutics courses and/or pharmacy compounding labs in a fashion that seems to be consistent with other courses
- However, the effectiveness of such an incorporation is highly dependent upon having both a pharmaceutics and a pharmacy practice perspective as well as training all course personnel to overtly describe and consistently model the PPCP

Limitations

- Since the non-sterile compounding labs take place during the first year of MWU-CPG's PharmD curriculum and are not necessarily clinically-based, their assignments are not able to fully emulate the PPCP
- While the in-person, paper-based survey minimized response burden and maximized the useable response rate, the collected data are limited to a relatively small cohort of students from a single college of pharmacy
- Only student perceptions were evaluated, which are dependent upon an awareness of and attitude towards the PPCP and may not represent actual advancement in the understanding of or ability to utilize either the PPCP or the course material
- A final year's worth of data still needs to be collected before any definitive conclusions can be drawn

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