Assessment of Empathy Scores in a Pharmacy Professional Nutrition Support Elective Course

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<td>Allison Malley</td>
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For Honors Program use:

Level of Honors conferred: University Departmental
Assessment of Empathy Scores in a Pharmacy Professional

Nutrition Support Elective Course

A Thesis Presented to the

College of Pharmacy and Health Sciences

and

The Honors Program

of

Butler University

In Partial Fulfillment

of the Requirements for Completion of the Honors Program

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April 22, 2015
Assessment of Empathy Scores in a Pharmacy Professional Nutrition Support Elective Course

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Keywords: empathy, pharmacy professional elective, pharmacy education, nutrition support
Abstract

Background

Clinical empathy may be defined as “the ability to listen to, understand, sympathize with, and provide support to another individual.” Empathy has been shown to influence patient satisfaction, adherence, and improve clinical outcomes. Teaching empathy skills in the classroom and clinical setting is imperative to allow students to develop and enhance their communication with patients.

Study objective

To evaluate two empathy projects in the RX 618 Nutrition Support Professional Elective to identify if the projects are effective in improving pharmacy students’ knowledge of empathy.

Methods

The study objective was met using a prospective cohort survey based study. An interactive empathy survey was employed at the beginning of the course and at the end of the course. Pre and post scores were assessed.

Results

Participants had increased understanding of empathy when asked to define it pre-course and post-course (62.5% vs. 75%). Participants tended to agree more with the statement that empathy can be learned in the post-course survey (3.56 vs. 3.75; \( p = 0.128 \)). Participants also had increased overall self-reported empathy scores upon taking the post-course survey (26.37 ± 4.0 vs 29.87 ± 3.9; \( p = 0.017 \)).

Conclusion
Participants reported increased understanding of empathy and increased empathy scores at the conclusion of the course; therefore, supporting the effectiveness of the two course projects.

**BACKGROUND**

Clinical empathy may be defined as “the ability to listen to, understand, sympathize with, and provide support to another individual.”¹ In healthcare, improved patient care is demonstrated when the practitioner understands patients’ verbal and emotional behaviors and attitudes and communicates effectively based on an empathic understanding.² The key instrument improving the therapeutic effectiveness of the clinician-patient relationship is empathy. Additionally, empathy has been shown to influence patient satisfaction, adherence, and improve clinical outcomes.³-⁵ This equates to better overall health for the individual and the community as a whole.

Recognizing the importance of this ability to empathize with patients and its importance in the overall care of the individual is becoming greatly appreciated by the health care community including the educational setting. Teaching empathy skills in both the classroom and clinical setting is imperative to allow students to develop and enhance their communication with patients. The Accreditation Council for Pharmacy Education Draft Standards 2016 require that pharmacy students, “maintain professional and ethical behavior in all practice environments, demonstrating ethical practice, empathy, cultural sensitivity, and professional communications.”⁶ The American Association of Medical Colleges also names empathy as an essential learning objective.⁷
NEED FOR THE STUDY

Previous studies suggest that empathy declines during medical school and residency training.\textsuperscript{8,9} However, studies show that there is a desire among healthcare educators to prevent this decline and that empathy may be positively impacted through a range of educational interventions.\textsuperscript{10,11} Implementing projects/programs to promote empathy in students and enhance their skill levels is necessary but assessment of these projects/programs must be implemented to identify if the project/program is successful.

It would seem that if an accurate assessment of change in student empathy scores occurred after a particular series of activities in the Nutrition Support elective, the intervention in that population would become more efficient and lend itself to improving empathy education throughout the Butler University pharmacy curriculum.

In the Fall 2014 offering of the Nutrition Support elective, two empathy projects focused on helping the student better understand the struggles patients and caregivers undergo in the death and dying process. The first project asked students to craft a Digital Story which is a multimedia movie that combines video, photographs, animations, music, text, and a narrative voice.\textsuperscript{12} The Digital Story project was designed so that the student gained a better appreciation for the emotional role food plays in our lives to better understand why withdrawing food in a dying patient is often very difficult, especially for the family. The second project was viewing the documentary, “Consider the Conversation”. The
film’s goals are 1) to change the current American attitude from one that predominantly views end-of-life as a failed medical event to one that sees it as a normal process rich in opportunity for human development, 2) to inspire dialogue between patient and doctor, husband and wife, parent and child, minister and parishioner, and 3) to encourage medical professionals, healthcare organizations and clergy to take the lead in counseling others about topics relating to end-of-life.

**OBJECTIVE**

The objective of this study was to evaluate two empathy projects in the Fall 2014 RX 618 Nutrition Support Professional Elective to identify if the projects are effective in improving pharmacy students’ knowledge of empathy.

**METHOD**

**Target Population**

Students enrolled in the Fall 2014 RX 618 Nutrition Support professional elective at Butler University, Indianapolis, Indiana.

**Study Design**

This was a prospective cohort survey based study. An anonymous, interactive empathy survey was employed at the beginning of the course and at the end of the course. Participants were offered time in class to complete the brief survey both times it was
taken. The survey link was located online in the Moodle course, which is the learning platform utilized by Butler University.

The pre and post-course surveys may be viewed in Appendices A and B, respectively. Individual responses were linked each time the survey was taken with the following three identifiers: name of first grade teacher, name of first pet (if applicable), and name of the street the respondent grew up on. Pre and post scores were assessed.

**Inclusion Criteria**

Students enrolled in the Fall 2014 RX 618 Nutrition Support professional elective at Butler University, Indianapolis.

**Exclusion Criteria**

Students who did not complete both the pre and post-survey were excluded from study analysis.

**Statistical Analysis**

Pre and post-survey responses were compared using objective evaluation, descriptive statistics and independent samples t-tests. P-values of less than 0.05 were considered to be statistically significant. Statistical analyses were conducted using Statistical Package for Social Sciences version 13.0 (SPSS Inc., Chicago, IL).

**RESULTS**
Sixteen participants were enrolled in the course and identified for the survey. All participants completed both the pre and post-course survey; therefore, a total of 16 participants were included in the final analysis.

Both the pre and post-course survey asked the participants to define empathy. No statistical analysis was performed on responses for this particular question. However, qualitative data was gathered from this question and responses were objectively evaluated for accurateness defining clinical empathy as “the ability to listen to, understand, sympathize with, and provide support to another individual.” Responses were considered correct if they contained the word “understand”—or if they contained some form of the word—in addition to noting the act of listening to, sympathizing with, or supporting another individual. Responses deemed incorrect included the word “sympathy” or the act of sympathizing as the only definition of empathy. It is important to note that while sympathy is included in the definition of and is a component of empathy, there is a distinct difference between sympathy and empathy. Pre-course, 62.5% of respondents had correct responses and post-course, 75% of responses were correct.

Table 1 summarizes the responses and empathy scores of participants for both the pre and post-course survey. Students tended to agree more with the statement that “empathy can be learned” in the post-course survey but this did not reach statistical significance (3.56 vs. 3.75; $p = 0.128$). Students also demonstrated a statistically significant increase in overall empathy scores upon taking the post-course survey (26.37 ± 4.0 vs 29.87 ± 3.9; $p = 0.017$).
The Toronto Empathy Questionnaire was only employed on the post-course survey. Toronto Empathy Questionnaire scores were also correlated with the average overall empathy score on the post-course survey (60.62 ± 7.3 vs. 29.87 ± 3.9; p = 0.002).

Study participants were also asked to rank empathy's importance in their future success as a pharmacist. Participants scored empathy among nine other skills including reading comprehension, critical thinking, instructing, monitoring, service orientation, speaking, writing, judgment and decision making, and science. Table 2 summarizes the rankings given by participants. On average, empathy was given a score of 8.625 (out of 9) and ranked fourth among importance of skills tying with reading comprehension and instructing.

**DISCUSSION**

Clinical empathy was defined as “the ability to listen to, understand, sympathize with, and provide support to another individual.” The key point of this particular definition is that empathy is made up of many components: listening, understanding, sympathizing, and providing support to others. As demonstrated by the increase in correct number of responses when defining empathy, students had an overall increase in understanding empathy. Responses were considered correct if they contained the word “understand” or if they contained some form of the word. Responses deemed incorrect included the word “sympathy” or the act of sympathizing as the only definition of empathy. It is important to note that while sympathy is included in the definition of and is a component of
empathy, there is a distinct difference between sympathy and empathy. Studies argue that while empathy and sympathy both involve feelings and emotions, sympathy is “more primitive, emotionally driven, and egoistic.” This is an important delineation healthcare providers need to make because employing empathy in patient communication allows the patient to feel understood; whereas, employing sympathy in patient communication may leave the patient feeling pitied.

Students tended to agree with the statement that empathy could be learned more during the post-course survey and also exhibited that they had improved empathy scores. Overall empathy scores improved an average of 3.5 points between the taking of the pre- and post-course survey. Responses and scores were consistent across both the post-course overall empathy score measure and the Toronto Empathy Questionnaire. The Toronto Empathy Questionnaire was useful to include in the post-course survey because it has been shown to be positively correlated with effective evaluation of self-reported empathy measures in multiple studies. The Toronto Empathy Questionnaire has also exhibited internal consistency and high test-retest reliability in previous studies. This lends to the idea that since there is a correlation seen between overall empathy score post-course and the Toronto Empathy Questionnaire the self-reporting bias has been minimized.

Table 2 summarizes the rankings given by participants to the list of ten skills deemed necessary to be successful as a pharmacist. This list of skills was obtained from the Online Occupational Information Network sponsored by the U.S. Department of Labor.
While empathy was ranked fourth overall, the importance in this measure lies in what it was ranked with. Empathy received the same importance ranking as reading comprehension and instructing. It is important to consider how vital these two skills are to the daily work of a pharmacist. Pharmacists must have the ability to critically read and understand patient charts and histories, as well as new drug information, and apply this knowledge when giving drug or dosing recommendations to patients or other healthcare professionals. Pharmacists also must counsel and instruct patients and other healthcare providers throughout their work. All pharmacists instruct patients on why they are taking a medication and how they should take that medication. Pharmacists may also go a step further with certain prescriptions such as an inhaler or insulin pen so that the patient knows how to use the device that delivers their medication. Pharmacists also collaborate with other healthcare providers (e.g. instruct nurses how to administer a medication; doctors on how a medication is best dosed). To see empathy ranked as important as reading comprehension and instruction speaks volumes to how often a pharmacist would employ this particular skill and how useful the study participants thought it would be in their future success.

**Study Limitations**

The largest potential source of bias limiting the study is that the data collected was self-reported by participants. Participants may have responded to the study with responses they deem the most socially and professionally acceptable which may have to biased responses.
This study also encompasses a small population. This leads to concern for a lack of sufficient power to identify significant differences in the participant’s pre and post-course empathy scores. However, the analysis comparing overall empathy in the pre and post-course survey yielded statistically significant mean differences.

As the study analysis includes a survey conducted at the end of the course, the study is unable to identify if a specific project in the course influenced the participant’s empathy score more or less than another project. The study period also only took place over three months. Most students take professional elective coursework prior to beginning advanced pharmacy rotations which leaves it unknown if the increased empathy scores are sustained during these clinical rotations. Another potential limitation to consider is that this study was done in an elective course in the pharmacy curriculum and may therefore not be representative of the entire pharmacy class.

CONCLUSION

This study demonstrated that students had improved understanding of empathy, considered empathy fairly important when ranking it among other skills deemed necessary to be a successful pharmacist, and exhibited increased empathy scores after completing the two course projects. These findings indicate that these two course projects are effective in improving and enhancing patient communication with empathy. Additional studies are needed to determine the impact of each individual project on
empathy score, if the increased empathy score is sustained through professional
pharmacy rotations—as the professional elective is most commonly taken prior to
beginning rotations—and, perhaps most complexly: if patients feel they are being
communicated with in an empathetic manner during clinical interactions.

References:


APPENDIX A: EMPATHY PRE-COURSE SURVEY

1. Please indicate the extent to which each of the following items is characteristic of you on a scale where 1=slightly characteristic and 7=very characteristic:
   1. Values others and individuals
   2. Feels emotions that other people experience
   3. Makes others feel understood
   4. Shares others’ feelings of happiness
   5. Encourages others to talk about how they feel

2. How do you define empathy?
3. Please describe a situation in which you’ve experienced empathy. Use the “STAR” method where S = situation (set the context), T = task (what was required of you), A = activity (what you actually did), and R = result (how the situation played out).

4. Empathy can be learned.
   A. Strongly disagree
   B. Somewhat disagree
   C. Neither agree nor disagree
   D. Somewhat agree
   E. Strongly agree

5. Name of first grade teacher.

6. Name of first pet. (Participants may skip this question if not applicable)

7. Name of street you grew up on.

APPENDIX B: EMPATHY POST-COURSE SURVEY

1. You are a practicing pharmacist. Recently, a physician with whom you work decided to withdraw nutrition from the patient. The patient’s family has been told the process by the physician, but wants to talk to you, their pharmacist, as well. How might the conversation unfold between you and the patient’s family?

2. Rate how personally important each of these skills is to you in your future success as a pharmacist on a scale where A=not at all important and I=extremely important.
   1. Reading Comprehension: Understanding written sentences and paragraphs in work related documents.
2. Empathy: Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
3. Critical Thinking: Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.
4. Instructing: Teaching others how to do something.
5. Monitoring: Monitoring/assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.
7. Speaking: Talking to others to convey information effectively.
8. Writing: Communicating effectively in writing as appropriate for the needs of the audience.
9. Judgement and Decision Making: Considering the relative costs and benefits of potential actions to choose the most appropriate one.
10. Science: Using scientific rules and methods to solve problems.

3. Below is a list of statements. Please read each statement carefully and rate how frequently you feel or act in the manner described. There are no right or wrong answers or trick questions. Please answer each question as honestly as you can. (Answer choices included: never, rarely, sometimes, often, and always.)

1. When someone else is feeling excited, I tend to get excited too.
2. Other people's misfortunes do not disturb me a great deal.
3. It upsets me to see someone being treated disrespectfully.
4. I remain unaffected when someone close to me is happy.
5. I enjoy making other people feel better.
6. I have tender, concerned feelings for people less fortunate than me.
7. When a friend starts to talk about his/her problems, I try to steer the conversation towards something else.
8. I can tell when others are sad even when they do not say anything.
9. I find that I am "in tune" with other people's moods.
10. I do not feel sympathy for people who cause their own serious illness.
11. I become irritated when someone cries.
12. I am not really interested in how other people feel.
13. I get a strong urge to help when I see someone who is upset.
14. When I see someone being treated unfairly, I do not feel very much pity for them.
15. I find it silly for people to cry out of happiness.
16. When I see someone being taken advantage of, I feel kind of protective towards him/her.

4. Please indicate the extent to which each of the following items is characteristic of you on a scale where 1=slightly characteristic and 7=very characteristic.

1. Values others and individuals
2. Feels emotions that other people experience
3. Makes others feel understood
4. Shares others' feelings of happiness
5. Encourages others to talk about how they feel

5. How do you define empathy?

6. Please read carefully and indicate the extent to which you agree with the following statement on a scale where 1=strongly disagree and 5=strongly agree.
   1. Empathy can be learned.
   2. It is very important to empathize with patients when explaining the process of withdrawing nutrition.
   3. It is very important to me to empathize with patients when explaining the process of withdrawing nutrition.

7. Name of first grade teacher.

8. Name of first pet. (Participants may skip this question if not applicable)

9. Name of street you grew up on.

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Table 1: Participant responses to learning empathy and participant empathy scores (n=16)

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### Table 2: Participant ranking of empathy importance (n=16)

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