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BRIEF

Social and Emotional Development in a Telehealth-Based Ambulatory Care Skills Course

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Objective. To determine the impact of telehealth-based simulations on students' social and emotional development.

Methods. First-year pharmacy students enrolled in a professional skills course were eligible to participate in the study. Before and after the course, students completed the Personal-Interpersonal Competence Assessment, which codes onto eight subcategories: situation monitoring, inspire others, intimacy, awareness of one's aptitude, initiative to pursue leadership, empathy, sociability, and awareness of one's emotions. Students participated in seven telehealth-based simulations. Prior to each simulation, students watched a role modeling video highlighting social and emotional competence techniques used by a pharmacist during a consultation. Students then participated in simulated consultations that occurred in Zoom breakout rooms. Each student completed one consult while a teaching assistant completed a rubric derived from the Personal-Interpersonal Competence Assessment. Teaching assistants then provided formative feedback related to the student's social and emotional competence. At the semester midpoint, students completed a video log reflecting on their social and emotional development. Statistical analyses compared different time points of students' scores on the Personal-Interpersonal Competence Assessment and scores given by teaching assistants, while qualitative analysis was used for the video logs.

Results. At the end of the course, improvement was noted on all factors of the Personal-Interpersonal Competence Assessment. Scores given by teaching assistants showed significant improvement over the semester, with the highest improvement noted on the subcategories inspiration and situation monitoring. On the video log, 80% of students noted improvements in their consideration of others.

Conclusion. These findings suggest value in using role modeling, telehealth-based simulations, and teaching assistant feedback on pharmacy students' social and emotional development.

Keywords: emotional intelligence, social and emotional development, professional skills, simulation, telehealth

INTRODUCTION

Telehealth refers to the use of digital information and tools such as telecommunication, phone calls, and online communication to deliver care to a patient located at a different physical location.[1-5] Telehealth services are increasingly common with pharmacists offering ambulatory care services for a variety of conditions.[1-5] Telehealth offers several advantages such as improved provider access, access to specialists, reduced cost, and patient convenience.[5] Due to the significant advantage offered by telehealth-based modalities, Frenzel and colleagues argued that telehealth-based education that focuses on telecommunication technology as well as telehealth professional conduct should be included in the pharmacy curriculum.[6] While the technical aspects such as available technology and software are important, it is equally important to provide training on communication and relationship building in the telehealth environment, which can be unfamiliar to many students. Depersonalization of the provider-patient relationship can occur in the telehealth setting due to physical distance, lack of sensory cues, and unclear norms.[7,8] Gordon and colleagues found that patients in a telehealth clinic felt less involved in their own care, perceived less attention from their provider, and found it difficult to establish a relationship with their provider.[8]

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Exploring strategies to mitigate some of these issues is vital to ensuring high-quality remote patient care. Bridging the gap between the provider and patient to ensure relationship building in the virtual environment is essential, and one strategy to accomplish this is to intentionally focus on social and emotional development in the remote environment. The social and emotional development construct integrates social intelligence and emotional intelligence theory and encompasses several competencies in relationship to oneself and one's social interactions with others.[9-13] Social and emotional development is defined as the steady growth of one's ability to facilitate social interactions through the intelligent use of emotions.[11-14] In professional communication, using emotional intelligence to guide social interactions is paramount in ensuring that each interaction is successful and achieves the intended outcomes.[10-13] Social and emotional competence and emotional intelligence have gained visibility over the past several years as more researchers have noted the importance of emotional self-awareness and self-regulation.[12-22] Published literature suggests that students can be trained to take note of their social and emotional development and emotional intelligence through deliberate self-assessment, reflection, and feedback.[12-16] Galal and colleagues were able to show social and emotional development through role playing exercises focused on patient consultations.[12] Similarly, Lust and colleagues used reflective exercises to assess student perceptions of emotional intelligence and found positive improvements in student attitudes and perceptions.[14] However, there is limited data focusing on social and emotional development in the virtual environment, especially in pharmacy education. The purpose of this study was to assess the impact of role modeling, telehealth-based simulations, and formative feedback on student social and emotional development.

METHODS

At the University of the Pacific, the core curriculum for a Doctor of Pharmacy (PharmD) degree includes five skills courses. Of these, the Skills III course emphasizes technical and communication skills used in the ambulatory care setting. First-year pharmacy students enrolled in the Skills III course were eligible to participate in this study. This required course was offered in the third semester of an eight-semester accelerated program. In the 14-week course, of which seven weeks were synchronous, two-hour discussion sessions were held each week. Course faculty used telehealth modalities for delivering course instruction. Asynchronous sessions were used to deliver recorded lectures on topics that required a preamble prior to a telehealth simulation. Lecture topics included patient adherence, patient education, motivational interviewing, medication reconciliation, transitions of care, drug-related problems, and vaccine hesitancy. The course used telehealth modalities such as an electronic health record to house patient charts, a computerized provider order entry portal for e-prescribing, recorded patient interviews to provide store and forward data, and synchronous videoconferencing with a simulated patient or physician using Zoom (Zoom Video Communications Inc).

To assess the impact of this course on social and emotional development, the Personal-Interpersonal Competence Assessment was administered with permission from the authors, using Google forms, at the beginning and the end of the course. The Personal-Interpersonal Competence Assessment is a validated 32-item tool using nine-point Likert scale (1=never to 9=always) that codes onto four factors: self-awareness, consideration of others, connection to others, and the ability to influence others. These four factors are further divided into eight subcategories: self-awareness (awareness of one's emotions, awareness of one's aptitude), influence (initiative to pursue leadership, inspire others), consideration of others (empathy, situation monitoring), and connection to others (sociability and intimacy with others).[10-11] This assessment was chosen because a previous version of the tool has been used in the pharmacy literature to measure social and emotional development.[13,14] In addition, the Personal-Interpersonal Competence Assessment intersects between social and emotional intelligence, which was deemed appropriate for this professional skills course.

After completing the Personal-Interpersonal Competence Assessment, students attended a two-hour lecture on social and emotional development. The lecture provided information on social and emotional development and the various categories in the Personal-Interpersonal Competence Assessment. Students were given guidance on their Personal-Interpersonal Competence Assessment scores and the interpretation of those scores. In addition, strategies were discussed for relationship building in the telehealth setting, including overt demonstration of empathy and compassion. At the end of the lecture, students completed a reflection outlining three things they would do to improve their social and emotional competence over the semester.

A one-unit teaching assistant course was created to train teaching assistants to serve as a patient or physician, depending on the simulation. Forty-five second-year pharmacy students were recruited to serve as teaching assistants. Prior to each simulation, teaching assistants were trained on the use of a character biography and script to portray a simulated patient or physician. Teaching assistants also received training on grading a student's performance and

providing formative feedback. A teaching assistant rubric derived from the Personal-Interpersonal Competence Assessment was developed by course faculty. For convenience, the 32 items from the Personal-Interpersonal Competence Assessment were condensed into eight items, each coding to one of the eight subcategories. A student self-assessment rubric was also developed with similar questions but from the student's own perspective. Three course faculty members and one second-year student reviewed and edited the rubrics.

Prior to each simulation, students watched a YouTube video that role modeled proper communication technique for that week's simulation. Each video highlighted social and emotional competence techniques used by the pharmacist. Students also received three links to patient charts on the electronic health record to ensure that students were prepared for all cases, even though they were required to provide a consult on just one case. Synchronous sessions began with a 10- to 15-minute lecture on the topic of the day. Students were then divided into groups of three and assigned to a Zoom breakout room with a teaching assistant. Each student completed one consult while the other two listened and documented the interaction. At the end of each consultation, the teaching assistant and consulting student completed the teaching assistant or self-assessment rubric, respectively. The teaching assistant then provided formative feedback on the student's social and emotional competence.

At the semester midpoint, students completed a video log with the prompt "How has your social and emotional competence improved over the semester? What are some areas that you continue to struggle with? Outline three strategies for improving any areas of weakness." This was a subjective measure of student attitudes regarding their own social and emotional development. At the end of the course, one question on a five-point Likert scale (5=strongly agree to 1=strongly disagree) was administered to measure student attitudes regarding the impact of the course.

The Wilcoxon signed rank test was used to measure differences between Personal-Interpersonal Competence Assessment subcategory scores before and after the course, and a p value of $<.01$ was considered statistically significant. A longitudinal analysis of the teaching assistant and self-assessment was conducted to determine any perceived social and emotional development. Only those students who had all seven assessments were included in the longitudinal analysis. For the video logs, two independent reviewers watched and identified themes that arose from the student statements. Each reviewer coded student statements on the eight subcategories of the Personal-Interpersonal Competence Assessment. The University of the Pacific Institutional Review Board deemed this study exempt.

RESULTS

In total, 192 students participated in the study. On the midsemester video logs (N=192), 80% of students noted improvements in their consideration of others (n=153), and 53% noted improvement in their self-awareness (n=101). Only 14.5% noted improvement in their ability to influence others (n=28), while 37% noted an improvement in their ability to connect to others (n=71). On the areas needing improvement, 50% of students wanted to continue to work on their self-awareness (n=96), 47% wanted to work on their consideration of others (n=91), 43% on their ability to influence others (n=83), and 36% on their ability to connect with others (n=70). On the precourse Personal-Interpersonal Competence Assessment, 148 (77%) students reported lowest scores in the subcategory initiative to pursue leadership, while 82 (43%) students reported second lowest scores in the subcategory inspire others. At the end of the course, significant improvement was noted on all subcategories of the Personal-Interpersonal Competence Assessment (Table 1). Highest gains were noted on the subcategory empathy and situation monitoring (absolute change 3.39 and 3.26, respectively, out of 36 total points). A longitudinal analysis of the teaching assistant assessment showed steady improvement over the semester, especially when comparing the scores of the eight questions at time point week 2 versus week 12 (Table 2). The weekly self-assessments also showed significant improvement over the semester (Table 3). At the end of the course, most students (84%) agreed or strongly agreed with the statement "this course was instrumental in helping me understand my social and emotional competence."

DISCUSSION

Increasing emphasis is being placed on social and emotional competence and emotional intelligence in pharmacy education.[12-22] For this course, faculty deliberately chose to focus on social and emotional development, as professional communication requires the ability to navigate complex emotions to achieve intended social outcomes.[10,11] Our study provides some preliminary data supporting the development of pharmacy students' social and emotional competence in the telehealth setting. This study supports the premise that deliberate emphasis on social and emotional development can impact another's perception of the pharmacist, as evident from significant improvements in the scores given by teaching assistants. In addition, this can affect students' self-assessments, as evident from improvement in their weekly self-assessments and pre- and

Table 1. Pharmacy Students' Scores on the Personal-Interpersonal Competence Assessment Before and After Completing a Skills Course (N=192)

PICA subcategory[a]	Pre-course mean (SD)	Post-course mean (SD)	Absolute change[b,c]
Empathy	26.0 (8.2)	29.5 (5.6)	3.5
Situation monitoring	26.0 (8.2)	29.2 (5.5)	3.2
Intimacy with others	23.9 (7.6)	27.1 (5.8)	3.2
Awareness of one's aptitude	25.1 (7.9)	28.3 (5.7)	3.2
Initiative to pursue leadership	19.9 (7.1)	22.8 (6.5)	2.9
Inspire others	21.4 (7.2)	24.4 (6.1)	3.0
Awareness of one's emotions	26.4 (8.5)	29.4 (6.1)	3.0
Sociability	22.9 (6.3)	25.6 (6.3)	2.7

Abbreviations: PICA=Personal-Interpersonal Competence Assessment.
[a] Using the Likert scale 1=never and 9=always.
[b] Absolute change is the difference between the postcourse and precouse mean.
[c] Wilcoxon signed rank test was used to determine changes in the Personal-Interpersonal Competence Assessment scores; for all values in this column, $p<.01$.

post-course Personal-Interpersonal Competence Assessment scores. Baseline scores on the Personal-Interpersonal Competence Assessment revealed that this population of pharmacy students had lower overall scores on the influence category (inspire others and initiative to pursue leadership subcategories) compared to the other categories of the assessment. This is an area of concern, as pharmacists are in a unique position to influence patients as well as providers to optimize the medication management of a patient. Unfortunately, at the end of the course, influence continued to be the lowest category compared to the other categories. However, given that these were first-year students, they would be expected to have less confidence in their ability to influence others. Galal and colleagues found that the connection and influence factors were most predictive of overall performance in patient counseling, asserting the importance of these factors in professional communication.[13] Interestingly, the teaching assistant scores, showed marked improvement in the influence category from the week 2 to the week 12 comparisons, revealing a discrepancy between the rubric assessments and Personal-Interpersonal Competence Assessment scores. Based on

Table 2. Assessment of Pharmacy Students' Social and Emotional Competence by Teaching Assistants at Week 2 vs Week 12 of a Skills Course (N=149)

Rubric item[a]	Personal-Interpersonal Competence Assessment subcategory	Week 2 mean	Week 12 mean	Absolute change[b,c]
Inspire and motivate the patient/physician	Inspire others	6.7	7.8	1.1
Develop or form a relationship with the patient/physician	Intimacy with others	6.8	7.8	1.0
Take initiative during the interaction	Initiative to pursue leadership	7.1	8	0.9
Be sociable and friendly	Sociability	7.2	8	0.8
Consider the patient's/physician's perspective before acting	Situation monitoring	6.9	8	1.1
Demonstrate empathy	Empathy	6.9	7.8	0.9
Be aware of his/her strengths/weaknesses	Awareness of one's aptitude	7	7.9	0.9
Be in control of his/her emotions	Awareness of one's emotions	7.2	8	0.8

[a] Rubric statement: Using the Likert scale 1="never" and 9="always," the student seemed to:
[b] Absolute change is the difference between the week 12 and the week 2 means.
[c] Wilcoxon signed rank test was used to determine changes in the Personal-Interpersonal Competence Assessment scores; for all values in this column, $p<.01$.

Table 3. Self-Assessment of Social Emotional Competence by Pharmacy Students at Week 2 vs Week 12 in a Skills Course (N=149)

Rubric item	Personal-interpersonal competence assessment subcategory	Week 2 mean	Week 12 mean	Absolute change[c,d]
This pharmacist was able to inspire and motivate the patient/physician[a]	Inspire others	6.7	7.8	1.1
This pharmacist was able to develop or form a relationship with the patient/physician[a]	Intimacy with others	6.8	7.7	0.9
This pharmacist was able to take initiative during the interaction[a]	Initiative to pursue leadership	7.2	8	0.8
This pharmacist appeared to be sociable and friendly[a]	Sociability	7.3	8.	0.7
I considered the patient's/physician's perspective before acting[b]	Situation monitoring	6.8	7.7	0.9
I demonstrated empathy[b]	Empathy	6.8	7.6	0.8
I was aware of my strength/ weaknesses[b]	Awareness of one's aptitude	7.0	7.8	0.8
I was in control of my emotions[b]	Awareness of one's emotions	7.1	7.7	0.6

[a] Rubric statement: In your role as the pharmacist, for each statement using the Likert scale 1="never" and 9="always," please predict how often your "patient" would say the statement is true of you.
[b] Rubric statement: How often YOU think that statement is true of you using the Likert scale 1="never" and 9="always".
[c] Absolute change is the difference between the week 12 and week 2 means.
[d] Wilcoxon signed rank test was used to determine changes in the Personal-Interpersonal Competence Assessment scores; for all values in this column, $p<.01$.

this, other strategies will be explored to improve student self-assessment of their ability to influence others.

Some limitations of this study should be noted. The Personal-Interpersonal Competence Assessment has not been validated in pharmacy students. Unfortunately, there does not appear to be a consensus-based tool to measure social and emotional development in pharmacy education, which should be the focus of future research. In addition, interrater variability was not established for teaching assistant and self-assessment rubrics, which limits the usefulness of the rubrics. For the teaching assistant and self-assessments, only those students who had all seven assessments were included in the longitudinal analysis, which is a significant limitation due to incomplete data. Lastly, this study does not offer insight into the impact of social and emotional competence on direct patient care. Plans for future research studies include longitudinal social and emotional development assessment encompassing both the didactic and experiential curriculum.

CONCLUSION

Social and emotional competence is important for pharmacy graduates who will interface with patients and other health care providers. This study suggests value in using role modeling, simulations, and teaching assistant and self-assessments to encourage pharmacy students' social and emotional development in a telehealth-based setting.

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