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 student 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 utilized by a pharmacist during a consultation. Students then participated in simulated consultations which occurred in Zoom breakout rooms. Each student completed one consult while a teaching assistant (TA) completed a rubric derived from the personal-interpersonal competence assessment. TAs 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. The Wilcoxon signed-rank test was used to analyze the personal-interpersonal competence assessment and TA scores. Qualitative analysis was utilized for the video logs.
Results. At the end of the course, improvement was noted on all factors of the personal-interpersonal competence assessment. TA assessments showed significant improvement over the semester with highest improvement noted on the inspiration and situation monitoring subcategories. 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 TA feedback on pharmacy student 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 focused on telecommunication technology as well 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 experienced difficulty in establishing a relationship with their provider.[8]

Exploring strategies to mitigate some of these issues is vital to ensuring high quality remote patient care. It is essential to bridge the gap between the provider and patient to ensure relationship building in the virtual environment. One strategy is to intentionally focus on social and emotional development (SED) in the remote environment. The SED construct is an integration of social intelligence and emotional intelligence (EI) theory and encompasses several competencies in relationship to oneself and one's social interactions with others.[10-13] SED 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 EI 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 EI have gained importance 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 SED and EI through deliberate self-assessment, reflection, and feedback.[12-16] Galal and colleagues were able to show SED through role-playing exercises focused on patient consultations.[12] Similarly, Lust and colleagues used reflective exercises to assess student perceptions of EI and found positive improvements in student attitudes and perceptions.[14] However, there is limited data focusing on SED in the virtual environment especially in pharmacy education. The purpose of this study is to assess the impact of role-modeling, telehealth-based simulations, and formative feedback on student SED.

METHODS

At the University of the Pacific (UOP), the pharmacy core curriculum includes five skills courses. Of these, the Skills III course has an emphasis on 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. The course comprised of two-hour discussion sessions each week. This was a 14-week course with seven weeks being synchronous. 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 utilized telehealth modalities such as an electronic health record (EHR) to house patient charts, 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., San Jose, CA).

To assess the impact of this course on SED, 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 which 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] The personal-interpersonal competence assessment uses a 9-point Likert scale (1-never to 9-always). This assessment was chosen as a previous version of this tool has been used in the pharmacy literature to measure SED.[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 2-hour lecture on SED. The lecture provided information on SED 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 for relationship building in the telehealth setting including overt demonstration of empathy and compassion, were discussed. 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 (TA) course was created to train TAs to serve as a patient or physician, depending on the simulation. Forty-five second year pharmacy students were recruited to serve as TAs. Prior to each simulation, TAs were trained on the use of a character biography and script to portray a simulated patient or physician. TAs also received training on grading the student's performance and providing formative feedback. A TA 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 utilized by the pharmacist. Students also received three links to patient charts on the EHR, 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 TA. Each student completed one consult while the other two listened and documented the interaction. At the

end of each consultation, the TA and consulting student completed the TA or self-assessment rubric, respectively. The TA 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 SED. At the end of the course, one question on a 5-point Likert scale (5=strongly agree and 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 the pre and post personal-interpersonal competence assessment subcategory scores. A longitudinal analysis of the TA and self-assessment was conducted to determine any perceived SED. 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 sub-categories of the personal-interpersonal competence assessment. The UOP Institutional Review Board deemed this study exempt.

RESULTS

One hundred-ninety-two students participated in this study. On the mid-semester video logs (N=192), 80% of students noted improvements in their consideration of others (n=153) and 52.6% 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 pre personal-interpersonal competence assessment, 148 (77%) students reported lowest scores in the "initiative to pursue leadership" subcategory while 82 (43%) students reported second lowest scores in "inspire others". At the end of the course, statistically significant improvement was noted on all subcategories of the personal-interpersonal competence assessment (Table 1). Highest gains were noted on "empathy and situation monitoring" (absolute change 3.39 and 3.26, respectively, out of 36 total points). A longitudinal analysis of the TA assessment showed steady improvement over the semester especially when comparing the scores of the eight questions on week 2 versus week 12 (Table 2). The weekly self-assessments also showed statistically significant improvement over the semester (Table 3).
Eighty-four percent of students 'agreed or strongly agreed' with the statement "this course was instrumental in helping me understand my social and emotional competence."

DISCUSSION

There is increasing emphasis on social and emotional competence and EI in pharmacy education.[12-22] For this course, faculty deliberately chose SED, 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 student social and emotional competence in the telehealth setting. This study supports the premise that deliberate emphasis on SED can have an impact on other's perception of the pharmacist, as evident from significant improvements in the TA scores. In addition, it can have an impact on the student's self-assessments as evident from improvement in their weekly self-assessments and pre- and post 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) of the personal-interpersonal competence assessment compared to the other categories. This an area of concern, as pharmacists are in a unique position to influence both patients as well as providers, to optimize the medication management of a patient. Unfortunately, influence continued to be the lowest category compared to the other categories, at the end of the course. However, given that these were first year students, it is to be expected that that they would 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 TA, showed marked improvement in the influence category on the Week 2 and Week 12 comparisons, revealing a discrepancy between the rubric assessments and personal-interpersonal competence assessment scores. Based on this, other strategies will be explored to improve student self-assessment of their ability to influence others.

There are some limitations of this study. 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 SED in pharmacy education, which should be the focus of future research. In addition, inter-rater variability was not established for TA and self-assessment rubrics, which limits the usefulness of the rubrics. For the TA and self-assessments, only those

students who had all seven assessment 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. Future plans include longitudinal SED 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 TA and self-assessments to encourage pharmacy student SED in a telehealth-based setting.

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Table 1. Pre/Post Personal-Interpersonal Competence Assessment Results (N=192)

PICA sub-category[+]	Pre mean (SD)	Post mean (SD)	Absolute Change[a]
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*

SD= Standard deviation
+ Using the Likert scale 1=never and 9=always
*Wilcoxon signed-rank test was used to determine changes in the Personal-Interpersonal Competence Assessment Scores (p value <.01)
[a] Absolute change is the difference between the post and pre mean

Table 2. Teaching Assistant (TA) Assessment at Week 2 versus Week 12 (N=149)

Rubric Item[+]	Personal-Interpersonal Competence Assessment sub-category	Week 2 mean	Week 12 mean	Absolute Change[a]
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*

+ Rubric statement: using the Likert scale 1=never and 9=always, the student seemed to:
*Wilcoxon signed-rank test was used to determine changes in the Personal-Interpersonal Competence Assessment scores (p value <.01)
[a] Absolute change is the difference between the post and pre mean

Table 3. Self-Assessment at Week 2 versus Week 12 (N=149)

Rubric Item	Personal-Interpersonal Competence Assessment Sub Category	Week 2 mean	Week 12 mean	Absolute Change[c]
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
*Wilcoxon signed-rank test was used to determine changes in the Personal-Interpersonal Competence Assessment scores p value<.01
[c] Absolute change is the difference between the post and pre mean