THE ARTS IN HEALTH PROFESSIONS EDUCATION

Using Theater as an Educational Tool for Understanding Medication Experiences from the Patient Perspective

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Objective. To develop a play depicting patients’ medication experiences and evaluate its usefulness as an educational tool for improving health care professionals’ understanding of medication experiences from the patient perspective.

Methods. An award-winning playwright was recruited to write the script, which was based on 2,178 written comments submitted by respondents to a national consumer survey on patients’ medication experience and pharmacist roles. The resulting play, Go Ask Alice, was presented during November 2016 in two Minnesota cities. Attendees were asked to complete a survey before and after the performance and to provide their email address if interested in completing a three-month follow-up survey. The research team conducted descriptive and inductive thematic analyses on the quantitative and qualitative data, respectively.

Results. A total of 225 people viewed the performances, with 161 completing both the pre- and post-intervention surveys and 58 providing feedback three months later. Two themes emerged in the follow-up survey: the play illuminated barriers that patients face when seeking health care services, as well as the major hindrances and other contributors to patients’ medication experiences.

Conclusion. Theatrical performance can be an effective educational tool for understanding medication experiences from the patient perspective.

Keywords: applied theater, medication stories, narrative medicine, patient perspective, theater

INTRODUCTION

Since its inception in the early 1950s, theater pedagogy has been a useful tool for educating a variety of audiences on an even wider variety of subjects.1 Various framed as social theater or applied theater, this mode of performance engages with areas such as health, education, and conflict transformation.2-4

In the health care arena, theater has promoted the public health of local communities, simulated patient-provider interaction, and relayed the patient experience to providers.5-10 Based on keyword searches in relevant databases, the authors found no productions specifically addressing patients’ medication experiences. With nearly 70% of Americans taking a prescription medication and the US health care system moving toward a more patient-oriented approach, there is a need for an educational tool for improving health care practitioners’ understanding of patients’ experiences with their medication.11-12

Additionally, we found few studies that used controls to examine the effect of theater on audience attitudes and beliefs. Indeed, most case studies of applied theatre shy away from quantitative assessment.13 One study, however, assessed the effect of a theater production about intimate partner violence (IPV) on audience perception and knowledge of IPV.5 Another study reported the effect of showing one-person plays (one play depicted a person with human immunodeficiency virus/acquired immune deficiency syndrome [HIV/AIDS], the other depicted an ovarian cancer survivor) to medical students during their clinical training.14 The intent of the plays was to reinforce the importance of empathizing with a patient. Evaluation results indicated that students seemed to pay strict attention to how the physicians were portrayed in each
performance, with many students mentioning the cold, callous nature of some of the physicians’ interactions with the patients.

A third production (the one-act play ARDEO) used a similar approach as that used in this project, ie, crafting a play inspired by the stories of health care practitioners and patients.\(^8\) The ARDEO production worked within the frame of narrative medicine, which posits that medical practice is enhanced by attention to the patient’s story. Thus, the play veered from a strictly documentary approach to convey the subjective experience of patients. Although the ARDEO production was filmed for future educational use, formal assessment of its impact was not conducted.

With this previous work in mind, the objective of this project was to develop a theater performance depicting patients’ medication experiences and evaluate its usefulness as an educational tool for improving health care professionals’ understanding of medication experiences from the patient perspective.

**METHODS**

For script development, textual data were obtained from the 2015 and 2016 National Consumer Surveys on the Medication Experience and Pharmacist Roles, for which one author served as a co-primary investigator, and three of the other authors were among the 10 original researchers.\(^15\) Data were collected from adults residing in the United States via online, self-administered surveys coordinated by Qualtrics Panels between April 28 and June 22, 2015 (n = 26,173) and between March 14 and 30, 2016 (n = 10,500). Of the 36,673 respondents to these surveys, 29,426 (80%) wrote a comment. While most of the comments were about the survey (ie, “enjoyed the survey” or “thanks for the opportunity”), 2,178 respondents wrote a comment that pertained specifically to the medication experience. Comments that described the respondent’s experience with medications in detail were chosen as inspirational material for script writing.

To develop the script and theatrical production, the research team partnered with Mixed Blood Theatre, Minneapolis, MN (Jack Reuler, Artistic Director) and award-winning playwright Syl Jones. Mixed Blood Theatre is a mid-sized professional theater that has worked with health-related organizations to develop productions for training and awareness-raising purposes, such as on the doctor-patient relationship, communication techniques, and the complexities of mental illness. Jones is an expert in narrative medicine, as well as a playwright who had previous experience working with Mixed Blood Theatre. The research team did not participate in the construction of the script beyond providing the detailed survey responses and feedback on early drafts (eg, clarifying job titles, suggesting that a gunshot occurs off stage).

Drawing on NCS survey responses, Go Ask Alice explores the patient medication experience as a contradictory one: drugs alleviate pain but cause new kinds of suffering. Additionally, patients struggled to navigate a system that included prescribing doctors, pharmacists, shifting insurance mandates, and ongoing drug research.

To explore these themes and perspectives, Jones used techniques that included comedically exaggerated advertisements (for the invented drugs “Mycuriam” and “Deplizene”), ensemble song, monologues, and patient-centered scenarios.

Monologues were included in the opening prologue to historicize pharmacy practice and personalize the characters (eg, physician, drug company executive, pharmacy student) and their perspectives, which impact the patient medication experience. Seven scenes followed, six dwelling on four distinct patient scenarios and one presenting a mock drug advertisement. In the first scenario (scene 1), an elderly woman on Medicare wafts a long time for her prescription while the pharmacist contacts the prescriber to verify the dose and diagnosis. A second scenario centers on prior authorization and undervalues over three separate scenes (scenes 2, 4, and 6). With this scene arc, a low-income patient grows increasingly frustrated with his struggles to fill a prescription; the scene ends with the patient’s suicide. In a third scenario (scene 5), a patient plans to stop taking a drug whose side effects have proven debilitating. This scene additionally illuminates his wife’s attachment to the role of caretaker. A final scenario (scene 7) explores the dangers of drug interactions and lack of communication among those in the drug-prescribing system. The mock advertisement (scene 3) depicts two women talking about their hairy spouses and the benefits of Depilizine to control shedding. At various points in the play, disembodied voiceovers convey both unseen authority and the patient’s phenomenological perspective of the drug experience.

A Mixed Blood Theatre cast of six, along with light, sound, and stage crews, put on two performances of Go Ask Alice: one in Minneapolis, Minnesota, on November 29, 2016, and one in Duluth, Minnesota on November 30, 2016. Running time was about 60 minutes. A 30-minute talk-back session facilitated by one of the authors followed each performance. Rather than using predetermined questions, the facilitator opened the floor for audience members to comment on and interact with one another regarding what they saw and felt after watching the performance. The total cost of the script development, production, and
two performances was approximately $25,000, funded by grants and donors.

The audience members at each performance were faculty members and students in the health professions and theater and arts departments at the University of Minnesota Twin Cities and University of Minnesota Duluth who were invited via email announcements and word of mouth. Posters were put up at the UMN Health Science Center in Minneapolis and at student unions on both campuses. In Duluth, posters were also posted at two local colleges and two local hospitals. Attendance was voluntary and there was no admission charge.

Upon arrival at the theater, audience members were given a survey form (printed on 8½ x 11 cardstock to ensure easier use in a theater setting) and a pen. Before the performance began, they were asked to complete the first part of the survey by indicating the extent of their agreement with seven attitude and belief statements related to patients’ medication experiences, which were evaluated using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree) (Table 1). After the play, attendees were asked to assess those same seven items as well as three items related to how the content of the play compared with their experiences and several demographic questions (gender, race/ethnic identity, profession). The survey also included an open-ended question inviting feedback about attendees’ experiences with the play, medications, patients, or anything in general involving health care.

In addition, audience members were asked after the play if they would be willing to provide an email address on a separate form for future contact. Researchers sent those who provided an email address a link to an online survey about three months after the performance. The follow-up online survey included seven items related to the individual’s assessment of the performance using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree), as well as two open-ended questions: “Please share what effects Go Ask Alice has had on you personally since seeing the performance” and “What are your general reflections about Go Ask Alice after seeing the performance?”

Descriptive statistics were used to summarize the pattern of findings. Comparisons of demographic characteristics for Minneapolis and Duluth audiences and mean values of before and after attitude and belief statements were made using chi square and paired sample t test statistics, respectively. The a priori level of significance was p ≤ .05.

An inductive thematic analysis was performed on the responses to the open-ended items received via the online survey three months post performance. The purpose of the inductive analysis was to obtain direct information from the respondents without imposing defined categories or theories. One researcher (AC) read the comments several times and extracted the main codes and categories. To test the reliability of the codes, the second coder read each code, descriptors, the relevant categories, and themes. The two researchers discussed the codes and categories, arbitrated differences, and clarified themes. The codes were grouped into categories and themes based on concurrence and consequences.

This inductive analysis was conducted using Dedoose (Manhattan Beach, CA), a qualitative analysis software.

**RESULTS**

A head count of each audience provided an estimate of 120 people in attendance at the Minneapolis location and 105 people in attendance at the Duluth location for a total of 225 attendees. A total of 161 people (80 from Minneapolis, 81 from Duluth) submitted surveys immediately after the performances. There were no significant differences in gender or race/ethnicity between the two audiences so findings for both sites were combined (Table 1). The majority of the respondents were female (67%) and reported race/ethnic identity as white (82%). Of the 144 respondents reporting their profession, 29% were health professionals and 39% were students, the vast majority of whom were pursuing a health professions degree (89%).

As shown in Table 2, the after-performance means for each of the seven attitude and belief items were significantly different than the before-performance means. The data for the two performance locations were combined as there were no significant differences in the before-

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**Table 1. Demographic Information Provided by Attendees at a Play Created to Present Medication Experiences From the Patient Perspective**

| Variable                      | No. (%)       |
|-------------------------------|---------------|
| Gender (n=153)                |               |
| Female                        | 103 (67.3)    |
| Male                          | 50 (32.7)     |
| Race (n=151)                  |               |
| White                         | 123 (81.5)    |
| Asian                         | 18 (11.9)     |
| African American              | 5 (3.3)       |
| Othera                        | 5 (3.3)       |
| Profession/Occupation (n=144) |               |
| Health care profession        | 41 (28.5)     |
| Student                       | 56 (38.9)     |
| Other                         | 47 (32.6)     |

* Included 1 Native Hawaiian/Pacific Islander, 1 American Indian/Alaskan, and 3 other


and after mean scores for any of the items between attendees in the two performance locations. The respondents were in general agreement with the three items related to their experiences after viewing the play.

Sixty-four attendees provided email addresses for the follow-up online survey, and 58 surveys were completed. Of these, 43% had attended the play in Minneapolis, 52% in Duluth, and 5% in both location. As shown in Table 3, 86% of respondents agreed or strongly agreed that they found aspects of the performance very moving, and 90% recommended that others see the play. In the qualitative analysis of the participants’ open-ended responses, 13 codes were merged into six categories that facilitated the extraction of two themes. The two themes arising from this work were intended to capture and integrate all of the data. The themes are presented from the most commonly identified to the least commonly identified. Representative comments supporting each theme are in Appendix 1.

Table 2. Attitudes, Beliefs, and Experiences of Audience Members Attending a Play Created to Present Medication Experiences From the Patient Perspective

| Survey Item | N | Before Performance, Mean (SD) | After Performance, Mean (SD) | Mean Difference, (SD) | p Value |
|-------------|---|------------------------------|------------------------------|----------------------|---------|
| I am able to fully empathize with patients | 157 | 3.6 (0.9) | 3.9 (0.9) | 0.3 (0.8) | <.001 |
| I am fully aware of all the challenges patients experience with taking their medications | 157 | 3.0 (1.1) | 3.4 (1.1) | 0.4 (0.9) | <.001 |
| I am fully aware of the attitudes patients hold toward their medications | 156 | 2.8 (0.9) | 3.5 (1.0) | 0.7 (1.0) | <.001 |
| I am fully aware of all the challenges patients experience with filling their medications | 157 | 3.0 (1.0) | 3.6 (1.1) | 0.6 (1.0) | <.001 |
| I am fully aware of the roles of medications in society | 157 | 3.3 (0.9) | 3.6 (0.9) | 0.3 (0.8) | <.001 |
| I fully understand the process of prior authorizations | 156 | 2.9 (1.2) | 3.5 (1.1) | 0.7 (1.0) | <.001 |
| I fully understand the effect of the medication experience on a patient’s family | 157 | 2.9 (0.9) | 3.5 (1.1) | 0.7 (1.0) | <.001 |
| The content of the play was fully aligned with my experience of the challenges patients experience | 141 | n/a | 3.8 (0.9) | n/a | n/a |
| The content of the play was fully aligned with my experience of patient behaviors | 139 | n/a | 3.7 (0.9) | n/a | n/a |
| The content of the play was fully aligned with my experience of patient goals | 136 | n/a | 3.8 (0.8) | n/a | n/a |

* Items rated on a scale from 1=strongly disagree to 5=strongly agree. Survey items are listed in order of presentation. Instructions noted that the term “patients” refers to medication users. The last three items were asked only in the after-performance survey.

Table 3. Attendees’ Responses to a Follow-up Online Survey Three Months After Attending a Play Created to Present Medication Experiences from the Patient Perspective

| Survey Item | Attendees Who Agreed or Strongly Agreed, N=58 |
|-------------|-----------------------------------------------|
| I noticed a real buzz in the audience | 50 (86.2) |
| It felt good to be sharing the experience with other people | 50 (86.2) |
| I have talked about the experience for some time now | 23 (39.7) |
| I felt I could really identify with the characters/story | 43 (74.1) |
| I found aspects of the performance very moving | 50 (86.2) |
| Some aspects of the performance seemed relevant to my own life | 44 (75.9) |
| All things considered, I’d recommend that others see it | 52 (89.7) |

* Items rated on a scale from 1=strongly disagree to 5=strongly agree. Survey items are listed in order of presentation.
The second theme focused on major hindrances and contributors to the patients’ medication experience. Most of the respondents found that the medication experiences portrayed in the play resonated with them. Several commented on a personal experience that had contributed to the development of their main barriers to taking medications. For example, several respondents expressed being overwhelmed by the overall process of taking medications. Challenges mentioned included medication costs, directions, adverse effects, and language barriers. Furthermore, several respondents mentioned the uncomfortable decisions, such as end-of-life support and quality-of-life decisions, that have to be made by family members.

Three subthemes emerged for this theme, the first being the communication gap that exists among health care professionals. The viewers also emphasized various areas where the health care system needs to address this lack of communication and develop stronger collaboration among health care professionals. Furthermore, a few respondents felt that medical jargon had been overused in the play.

The second subtheme focused on the use of realistic scenarios in the play, which resonated well with the audience. The play’s powerful words and compelling situations resulted in an emotional scene with which the audience identified. For example, a respondent described a vivid scene from the play in which the actor had a gun and how that scene brought up emotions and correlated with the respondent’s own life experiences. The play’s scenes led the respondents to identify with the character’s problems and be more sympathetic toward someone’s needs.

The third subtheme centered on the potential use of Go Ask Alice as a teaching tool. After viewing the play, several respondents suggested that Go Ask Alice could be used effectively as a teaching tool in health professional schools.

DISCUSSION

Because the play was based on qualitative comments written by respondents in response to a national consumer survey, the Go Ask Alice script reflects the voice of actual patients. Using the words and emotions of actual patients and combining them with the visuals of a theatrical production helped viewers, many of them health care professionals, to gain an understanding of medication experiences from the patient perspective. The higher level of agreement with the seven attitudes and belief items after the performance than before the performance suggests that theater can be a useful teaching tool for the health care professions, just as the African Red Cross found theater to be a useful mechanism to educate the community, lessen stigma, and empower people to use safe sex practices as a means of HIV prevention. In particular, respondents noted greater understanding of patients’ attitudes toward their medications, the process of prior authorization, and the effect of the medication experience on patients’ families. Despite improvement, however, the before and after mean values all hovered around neutral. This may have been because the extreme wording of the statements (eg, I fully understand, I am fully aware) precluded respondents from agreeing with them, which was noted in several comments on the survey. The performance and talk-back session may have emphasized to respondents how much more they had to learn to fully understand the medication experience, thus tempering their level of agreement with some of the statements.

The participants’ written comments indicated that the play provided insight into the barriers faced by patients when seeking health care services and the unique challenges patients face in their medication experiences. In addition, the play engendered ideas for changes in the health care system for improving patients’ medication experiences, borne out in written comments and in the talk-back session following each performance.

Just as an interactive theater program was found to be an effective tool for education, perspective, and self-reflection for medical school faculty members who facilitated small-group discussions on multiculturalism, a theater program like Go Ask Alice has the potential to serve as an educational tool in pharmacy schools and other health professions programs for improving the understanding of medication experiences from the patient perspective. Table readings of scenes from the play could be conducive to the classroom without the expense of a full production. While funding is a barrier, in the future it may be possible to create a film based on Go Ask Alice that could be more widely distributed for use in classrooms and at professional meetings. Another option would be to partner with the university theater department and/or another community theater to perform the play. Permission from the playwright would be necessary for any future use of the script.

A possible extension of this project would be to have students write scripts from patient cases and then act them out or perform table readings in class. This exercise could also be flipped whereby students are asked to write a
script (essentially a patient case with dialog) from the same medication list and share table readings of these scripts. This would be instructive in illustrating how different patient stories can be, even for patients taking the same medications.

The results of this study should be interpreted in light of several limitations. The participants came from a single geographic area (Minnesota), and individuals from different regions may not share the perceptions and views identified here. While all participants voluntarily attended the performances and completed the surveys, they may have had different knowledge, attitudes, and beliefs related to patients’ medication experiences than nonparticipants. In addition, the individuals who provided email addresses and responded to the follow-up online survey may not be representative of all participants.

Statements written by respondents in the follow-up online survey could be categorized in more than one way. Hence, themes identified cannot be regarded as exclusive or exhaustive.

While the talk-back session after each performance could be considered a limitation because it is not possible to determine how that unscripted, audience-driven discussion influenced the results of the post-performance surveys, the discussion was an integral part of the play experience advertised on posters and email announcements. It allowed participants to share and digest what they viewed just as they would in a classroom setting or while exiting a theater. That communal aspect of theater contributes to its educational value.

CONCLUSION

Through this project, a play based on realistic stories of patients’ medication experiences was created, and the results suggest that theatrical performance can be an effective educational tool for understanding medication experiences from the patient perspective.

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REFERENCES

1. BBC. Theater in education. http://www.bbc.co.uk/education/guides/zs6j39/revision/1. Accessed April 6, 2020.
2. Thompson J, Schechner R. Why “social theatre”? TDR: The Drama Review. 2004;48(3):11-16. http://muse.jhu.edu/article/172052. Accessed April 6, 2020.
3. Prentki T, Preston S, eds. The Applied Theatre Reader. New York, NY: Routledge; 2013.
4. Prendergast M, Saxton J, eds. Applied Theatre: International Case Studies and Challenges for Practice. Wilmington, NC: Intellect LTD; 2016.
5. Dill-Shackleford KE, Green MC, Scharrer E, Wetterer C, Shackleford LE. Setting the stage for social change: using live theater to dispel myths about intimate partner violence. J Health Commun. 2015;20(8):969-976. doi:10.1080/10810730.2015.1018622.
6. Wasylko Y, Stickley T. Theatre and pedagogy: using drama in mental health nurse education. Nurse Educ Today. 2003;23(6):443-448.
7. Lawton JE. ARDEO: from page to stage. Theatre Topics. 2018;28(3):E-1-E-4. http://muse.jhu.edu/article/709863. Accessed April 6, 2020.
8. Odendahl-James J. ARDEO: chronicling the lived experience of injury from patient to physician to public. Theatre Topics. 2018;28(3):E-5-E-8. https://juptheatre.org/theatre-topics/online-content/issue/volume-28-number-3-november-2018/ardeo-chronicling-lived. Accessed April 6, 2020.
9. Gray R, Sinding C, Ivonoffski V, Fitch M, Hampson A, Greenberg M. The use of research-based theatre in a project related to metastatic breast cancer. Health Expect. 2000;3(2):137-144.
10. Mbizvo E. Theatre—a force for health promotion. Lancet. 2006;368:S30-S31.
11. Zhong W, Maradit-Kremers H, St. Sauver JL et al. Age and sex patterns of drug prescribing in a defined American population. Mayo Clin Proc. 2013;88:697-707. doi: 10.1016/j.mayocp.2013.04.021.
12. Institute of Medicine (US) Committee on Quality of Health Care in America. Crossing the Quality Chasm: A New Health System for the 21st Century. Washington (DC): National Academies Press; 2001.
13. Etherton M, Prentki T. Drama for change? prove it! impact assessment in applied theatre. Res Drama Educ. 2006;11(2):139-155.
14. Shapiro J, Hunt L. All the world’s a stage: the use of theatrical performance in medical education. Med Educ. 2003;37(10):922-927.
15. Schommier JC, Brown LM, Borta R(A), et al. An opportunity for pharmacists to help improve coordination and continuity of patient health care. Pharmacy (Basel). 2018;6(3):78. doi:10.3390/pharmacy6030078.
16. Hsieh H-F, Shannon SE. Three approaches to qualitative content analysis. Qual Health Res. 2005;15(9):1277-1288.
17. Kumagai AK, White CB, Ross PT, Parkiss JA, O’Neal CM, Steiger JA. Use of interactive theater for faculty development in multicultural medical education. Medical Teach. 2007;29(4):335-340.
Theme 1: Barriers Faced by Patients when Seeking Health Care Services
It has opened my eyes to the struggles and frustrations with health care that so many people I know are experiencing right now. It has caused me to think more about the patient’s perspective during situations that can be especially frustrating or confusing.
I realize that my struggles with pharmacies and the health care system are not unique to me...even ‘little’ things like dealing with insurance formulary.
Managing health care is so much more complicated than I ever imagined! There are so many perspectives to account for.
All of us (health care professionals, consumers, manufacturers, and politicians) are naive in some way and until, if ever, the majority of us can understand the complexity, we will continue to struggle.

Theme 2: Major Hindrances and Contributors to the Patients’ Medication Experience
Subtheme 1: Communication gap among the health care professions
...maybe there is a lot of medical jargon for a regular audience...
There is a lack of communication in regard to provider to nurse to patient to insurance company.
Also, there is a lack of understanding in what different providers do.
It was an effective way to get the different health care professionals in the audience to talk with one another, to see shared responsibility in communicating better with patients and their caregivers. It is a very memorable play. It sticks with you...Using individual’s own words to develop a play is a great, great idea.

Subtheme 2: Value of using realistic scenarios
While I felt all of the play was eye opening, the part where the patient brought a gun to the pharmacy was the most memorable. I don’t think it was directly meant to scare the audience, but I know it scared me as I could be the pharmacist on the other side of the counter... Thinking of the scenario between the man and his wife discussing going off medication for multiple sclerosis, I have greater understanding of the effect of medications on other family members.
It was very well written, and very well performed. The scenarios, while dramatized, told true stories about how various medication problems affect patients, prescribers, pharmacists, and other health care professionals. I found it spellbinding!
I have a better understanding of how medications and illness affect caregivers as well as the patient. I “knew” about that, but the play made me feel it and recognize its importance. I have more compassion for people taking medication regularly.

Subtheme 3: Use of the play as a potential teaching tool
It would have been great for interprofessional groups of students to see.
All medical providers should see this play. It is not easy to watch at times, but it is based on real patient experiences.
It would have been a great interprofessional experience for our students.
Made me think of how something might be similar in the area of reflective interprofessional practice for those involved with physical infrastructure (build and natural environments).