

# A consumer-led intervention to improve pharmacists' attitudes toward mental illness

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## Abstract

**Introduction:** Individuals with a severe and persistent mental illness often manage complex medication regimens and would benefit from support and education from their pharmacist. Past research has shown that community pharmacists have negative attitudes toward mental illnesses, and these attitudes affect willingness to provide services to patients with mental illnesses. Consumer-led interventions have shown benefit to improve student attitudes toward mental illness. However, there are no known studies showing the benefit of consumer-led educational programs to improve pharmacist attitudes toward mental illness and willingness to provide services to those with mental illnesses. The aim of this study is to determine the effects of a consumer-led continuing education program on pharmacists' attitudes toward and willingness to provide services to consumers with mental illnesses.

**Methods:** Fifty pharmacists participated in the program with 2 parts: discussion on the history of mental health care and consumers sharing their experiences. Pharmacists completed 1 survey before and after the program. Surveys asked about pharmacists' attitudes toward mental illness and willingness to provide services to individuals with schizophrenia compared to asthma. Data were analyzed using descriptive and paired *t* tests.

**Results:** Paired *t* tests showed a significant decrease in social distance and increase in positive attitudes and willingness to provide services to patients with mental illnesses immediately after the program.

**Discussion:** The immediate increase in positive attitudes and willingness to provide services to consumers with mental illnesses indicates that consumer-led interventions may be an effective way to improve the provision of pharmacy services to patients with mental illnesses.

**Keywords:** mental illness, consumer-led, pharmacist education

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## Introduction

Individuals with a mental illness often manage complex medication regimens and would benefit from support and education from their pharmacist. Recent research

has shown that 292 community pharmacists in Massachusetts perceive themselves as having more negative attitudes toward patients with schizophrenia compared to physicians.<sup>1</sup>

Several studies have shown that consumer-led interventions, which involve direct interaction with individuals with mental illnesses, have improved attitudes and decreased social distance of pharmacy students toward patients with mental illnesses.<sup>2-4</sup> The Buhler and Karimi study<sup>2</sup> was a preexperimental/postexperimental design, conducted in the United States, measuring the impact of

peer-level patient presenters on the knowledge and attitudes of 48 students about schizophrenia and depression. O'Reilly and colleagues<sup>3</sup> conducted a single-group preintervention/postintervention follow-up design evaluating the impact of a consumer-led intervention to reduce the stigma and willingness to provide services to those with mental illness among 230 Australian pharmacy students. This research team also did a qualitative study of 23 focus group participants (undergraduate pharmacy students and mental health consumer educators) to explore the effects of consumer- and/or caregiver-led education on pharmacy students and the experiences of mental health educators in educating health professional students.<sup>4</sup>

A controlled study in Australia<sup>5</sup> showed that 117 pharmacy students who attended tutorials led by a mental health consumer had less social distance and more positive attitudes toward mental illness postintervention compared to the control group of 94 students who attended pharmacist-led tutorials. Bell and colleagues<sup>6</sup> reported on an educational partnership between Australian pharmacists and consumers that was valuable in improving pharmacists' confidence in communicating with patients with mental illnesses. However, there is limited research describing consumer-led interventions to improve pharmacists' attitudes toward patients with mental illnesses.

## Objectives

The objectives of this study were to determine the immediate effects of a 1-time consumer-led continuing education (CE) program on pharmacists' attitudes toward and willingness to provide pharmacy services to patients with mental illnesses.

## Methods

### Design

The present study was a preeducational/posteducational intervention design in which all pharmacists who attended a consumer-led CE program at a university in December 2012 were invited to participate. Attendants were excluded if they did not consent or if they did not complete both the preprogram and postprogram surveys. Approval from the university's institutional review board was obtained.

### Implementation

This 2-hour CE program began with a 30-minute overview of the history of US mental health care, presented by a board-certified psychiatric pharmacist. The remaining 1.5 hours were dedicated to consumer-led education using an existing model developed by the National Alliance on

Mental Illness called In Our Own Voice (IOOV). In the IOOV program, trained consumer educators tell their stories about living with a mental illness following five segments: (1) dark days; (2) acceptance; (3) treatment; (4) coping skills; and (5) successes, hopes, and dreams. The IOOV program has been evaluated and shown effective in reducing stigma in college students.<sup>7-9</sup>

Data were collected from 3 identical surveys except survey 1 had a separate demographic section. To collect a baseline assessment of attitudes, participating pharmacists completed survey 1 immediately before the CE program. To assess the immediate impact of the consumer-led intervention, survey 2 was administered right after the program. An additional survey, survey 3, was administered electronically 2 months after the program to explore the program's sustainability. We did not focus in the present report on the data in the third survey because response rate was quite low, and we felt data may not be a sufficient test of sustainability. No incentive was offered for completing surveys 1 and 2. A \$5 Amazon gift card was offered for completing survey 3. The funds for the \$5 gift card came from a small grant received from the university's provost office for undergraduate research.

## Measurements

All 3 surveys included 4 sections of questions measured on a Likert scale. The items in the survey did not test knowledge learned from the history of mental illness section but rather how the impact of hearing a consumer present his/her struggle and experience with mental illness (the five segments of the IOOV noted previously) affected respondent attitudes toward those with mental illness and willingness to provide pharmacy services to those with mental illness. The first section was the 7-item social distance scale, which measured the respondents' social distance toward someone recently hospitalized for a severe and persistent mental illness (Cronbach alpha = .85). The social distance scale has been widely used in previous studies.<sup>4,5,7,10-12</sup> This section begins with a leading sentence: "Considering a person who was previously hospitalized for a severe and persistent mental illness, how willing would you be to . . .". Following this leading sentence are 7 statements about different activities the person might be willing to do with a person previously hospitalized with a mental illness. Examples of these statements are share an apartment with that person, work alongside that person, have that person babysit your children, and have one of your children marry that person. The Likert scale for this section involved choices from 1 = definitely willing, 2 = willing, 3 = unwilling, and 4 = definitely unwilling. Responses to 7 items were summed to form a sum social distance measure. The lowest score on this sum scale could be a 7 and the highest a 28. The lower the score on this

sum social distance scale, the less social distance or less negative attitude toward those with mental illness.

The second section included 3 items evaluating pharmacists' empathy toward individuals with mental illnesses (Cronbach alpha = .83) and 3 general attitudes toward mental illness (Cronbach alpha = .66). Several of these items were developed from previous studies.<sup>4,5,7,10-12</sup> Although prior literature has not categorized the attitudes in this second section as empathy versus general attitudes, we felt the items did clearly separate out as those involving empathy for a person with mental illness and those reflecting a general attitude toward persons with mental illnesses. An example of an item from the empathy scale includes, "I have a sense of what a person with a mental illness might go through during the most severe presentation of his/her illness." The 3 items for empathy were summed to create a sum empathy scale. An example of an item from the general attitude scale includes, "I believe a person with a mental illness is no more dangerous than a person without a mental illness." The responses to the 3 general attitudes were summed into a sum general attitude scale. The Likert scale for this section involved items from 1 = strongly agree to 5 = strongly disagree. The lowest score on each of the scales was a 3 and the highest a 15. Lower scores on the sum empathy and general attitude scales meant more positive empathy and general attitudes, respectively.

The third section included 4 items evaluating perceptions of what individuals with schizophrenia need when interacting with pharmacists (Cronbach alpha = .82). These items were based on similar items previously developed by Australian pharmacy researchers and specifically related to care for those with schizophrenia.<sup>3</sup> Examples of these items are "patients want to talk to pharmacists about how to properly take their medications for schizophrenia" and "patients want to talk to pharmacists about their symptoms of schizophrenia." Respondents used the same Likert scale as in the second section with rating items from 1 = strongly agree to 5 = strongly disagree. The responses to the 4 items evaluating perceived needs of individuals with schizophrenia were summed to create a sum scale of perceived need of patients with mental illness. The score on the sum scale of perceived need ranged from 4 to 20. Lower scores on the sum scale of perceived needs of patients with mental illness meant respondents thought patients had greater needs of pharmacists than those responding with higher scores.

The fourth section asked 11 questions about pharmacists' willingness to provide 11 different pharmacy activities/services to patients picking up an antipsychotic (Cronbach alpha = .96) and to patients picking up an inhaler (Cronbach alpha = .98). The 11 items regarding provision

of pharmacy services were taken directly from a recent study evaluating pharmacists' services to patients with a mental illness.<sup>1</sup> These items involved the respondents using a scale from 1 = strongly agree to 5 = strongly disagree. The items were summed to create two sum scales: sum of willingness to provide pharmacy services to a patient with mental illness and sum of willingness to provide pharmacy services to a patient with asthma. The score on each sum scale ranged from 11 to 55. The lower sum score of items in this section meant greater willingness to provide services to those with schizophrenia and asthma.

## Analytical Strategy

Data were entered into SPSS 21.0 and analyzed using descriptive statistics and paired sample *t* tests.<sup>13</sup> Paired *t* tests were used to test differences between the pre-responses and post-responses on the sum Likert scales used in the study. An analysis of normality tests (Shapiro-Wilks test) indicated nearly all summed items having a normal distribution, making paired *t* tests an appropriate statistical approach for ordinal data, such as Likert scales, and statistically more powerful than nonparametric tests. Cronbach alpha is a well-established measure of internal reliability and was used to report internal reliability of scales used in the present study. All scales showed good to excellent reliability.<sup>14</sup> Missing data points were replaced with the mean value for that item. Seven pharmacists, none of whom participated in this study, tested the face validity of the survey. A unique identifier was given to each participant so data could be matched for analysis and confidentiality maintained.

## Results

Of the 50 pharmacists who attended the CE program, 32 (64%) consented to participate in this study and completed surveys 1 and 2. Fifteen pharmacists completed survey 3. Of the 32 participants, more than half were male and more than 90% were between 25 and 69 years old. The current practice setting of participants was highly variable.

Although not presented in the Table, descriptive statistics of survey items show discomfort with persons with mental illness (data available from author). On average, pharmacists on several items of the social distance scale (first section of survey) reported being unwilling or trending toward unwillingness to be socially connected with a person with mental illness. This discomfort is reflected in a baseline sum total for social distance of approximately 18 (out of 28). Most pharmacists, however, agreed with the 3 statements regarding empathy toward those with mental illness (reflecting empathic feelings). The sum of the

**TABLE: Results of paired sample t tests**

Item	Survey 1		Survey 2		Survey 3	
	Mean N = 32	SD	Mean N = 32	SD	Mean N = 15	SD
Sum social distance scale	17.8	3.6	15.5	3.5 <sup>a</sup>	16.0	2.8
Sum empathy	7.2	2.6	5.8	1.9 <sup>b</sup>	5.5	1.9 <sup>d</sup>
Sum general attitudes	7.7	2.0	6.0	1.8 <sup>a</sup>	6.1	1.9
Sum perceptions of needs of patients with mental illness	13.3	2.5	9.0	2.8 <sup>a</sup>	10.0	2.8 <sup>e</sup>
Provision of services to patients with asthma	20.1	4.6	17.7	5.7 <sup>c</sup>	16.8	6.7
Provision of services to patients with schizophrenia	23.2	5.6	18.8	5.8 <sup>a</sup>	18.6	6.3 <sup>d</sup>

<sup>a</sup> $P \leq .001$  comparing surveys 1 and 2.

<sup>b</sup> $P \leq .05$  comparing surveys 1 and 2.

<sup>c</sup> $P \leq .01$  comparing surveys 1 and 2.

<sup>d</sup> $P \leq .05$  comparing surveys 1 and 3.

<sup>e</sup> $P \leq .01$  comparing surveys 1 and 3.

Note: Each outcome was measured on a Likert scale in which lower values corresponded to less social distance and more positive empathy, beliefs, perceptions, and willingness to provide services, respectively.

baseline empathy scale was 7.2 (out of 15), showing most respondents having empathy for those with mental illness. Although pharmacists generally had positive to neutral attitudes about the ability of those with mental illnesses to succeed, they indicated uncertainty about perceived dangerousness compared to those without mental illness. The sum of the baseline general attitudes scale was 7.7 (out of 15), reflecting most respondents having fairly positive attitudes toward individuals with mental illness.

Respondents were generally uncertain or disagreed that patients with schizophrenia had specific needs from pharmacists, especially with regards to the statement of patients with schizophrenia needing to talk with pharmacists about symptoms. The baseline sums of willingness to provide services to those with schizophrenia and asthma were 23.2 and 20.1, respectively, (out of 55). These numbers indicate most respondents strongly agreed and agreed to provide different services to both those with schizophrenia and asthma. On all but 2 items, pharmacists perceived significantly less willingness to provide services to those with schizophrenia than asthma. The 2 items on which this difference was not significant were regarding willingness to ask about side effects and solve issues with the medication.

Paired sample *t* tests using sum scales showed that pharmacists had less social distance toward patients with a mental illness immediately after the program compared to before. However, this effect was not maintained in the 15 participants who completed survey 3. Overall, there was not a significant change in social distance from the baseline to survey 3 (Table). Pharmacists had more positive attitudes toward mental illness immediately after the program compared to before. The sum empathy

score, sum general attitudes score, and sum perceptions score all significantly improved from survey 1 to survey 2. The improvement in empathy and perceptions were maintained as the overall change from survey 1 to 3 was significant for both (Table).

Sum scales of pharmacists' willingness to provide services to patients with schizophrenia and patients with asthma both significantly increased from survey 1 to survey 2. Overall from survey 1 to survey 3, there was a significant increase in willingness to provide services to patients with schizophrenia and no significant change in willingness to provide services to patients with asthma (Table). Despite this effect, pharmacists reported greater willingness to provide services to patients with asthma than patients with schizophrenia at survey 1 ( $P=.000$ ), survey 2 ( $P=.008$ ), and survey 3 ( $P=.044$ ).

## Discussion

This study showed 4 main findings: (1) baseline pharmacist discomfort with patients with mental illness and providing services to them compared to those with asthma, (2) pharmacist had baseline empathy toward mental illness, (3) uncertainty and disagreement on what patients with mental illness need from pharmacists, and (4) significant improvements in pharmacists' attitudes toward mental illness and willingness to provide services to those with a mental illness after a consumer-led CE program. These latter positive changes support the impact consumer-led interventions have on pharmacists, which is not surprising given the positive impact similar interventions have had in pharmacy students.<sup>2-4</sup> Although exploratory, some of the positive changes noted were sustained 2 months after the CE program.

Although not surprising given past research, we found the baseline sum score on social distance to be higher than desired with a mean of 18 (of a total possible 28).<sup>1</sup> This highlights the need to continue to target pharmacists' negative attitudes toward mental illness. The sum empathy score at baseline suggests fairly significant empathic feelings toward individuals with mental illness. Likewise, the low scores on the general attitude scales at baseline suggest fairly positive attitudes toward consumers with mental illness. These findings highlight that, despite discomfort with mental illness, pharmacists are still largely empathic to the needs of the individuals with mental illness. The baseline sum scores on perceived needs of those with mental illness (mean 13.3) reflect that most pharmacists in the sample have uncertainty and disagreement of what patient needs are in terms of different pharmacy services. The baseline sum scores on willingness to provide services on asthma and schizophrenia (means 20.1 and 23.2, respectively) suggest a high degree of willingness to provide services to both patients with asthma and schizophrenia. These latter baseline values, however, indicate pharmacists being significantly less willing to provide services to those with schizophrenia than asthma. This difference in willingness to provide services may relate to discomfort with mental illness (noted in social distance sum scores) and thinking patients with schizophrenia do not want such services.

The IOOV program, however, did not eliminate pharmacists' greater willingness to counsel patients with asthma than schizophrenia. As noted previously, the mechanism for this discomfort with schizophrenia may be related to social distance as the sum social distance score did not show a sustained improvement. The social distance score may reflect pharmacists' personal beliefs, which may be more resistant to change than the other outcomes that reflect more professional beliefs (such as empathy). The discomfort may also be related to lack of clarity on what pharmacists think patients need or would want from them regarding services.

## Limitations

Attitudes toward mental illness are difficult to measure objectively. Participants may have been affected by their own experiences with mental illness. Social desirability may have skewed the results as respondents may be unwilling to admit to having negative attitudes or stigma toward mental illness. This study measured pharmacists' willingness to provide services, which may not precisely reflect the actual provision of services. This latter limitation relates to the additional concern that changes in attitudes noted in the study as a result of the CE program don't necessarily mean pharmacist behaviors will change. Standards for CE require education programs to

show impact on practice and outcomes.<sup>25</sup> Thus, it is not enough for CE programs to show change in knowledge and attitudes; they need to demonstrate behavioral change. The present study aimed to explore the first step of seeing if consumer-led education produced attitude change. The results of survey 3 should be interpreted cautiously, considering the relatively low response rate. This may be attributed to participants not having time to complete the survey, forgetting to complete it, or not feeling comfortable. The lack of a control group in the present study makes it difficult to discern the nature and extent of the intervention's impact on attitudes compared to no intervention.

Future studies with a larger sample size, use of randomization and control groups, and follow-up over longer periods will be important to support these findings. Future research should attempt to determine specific ways to affect pharmacists' reported increased willingness to provide services to patients with asthma compared to patients with schizophrenia seen in this study. Changing patient expectations of pharmacists and pharmacist perceptions of patient needs might be a great place to start to change pharmacist attitudes and professional engagement with patients with mental illnesses. Because our findings support attitude change, a future study will examine if such attitude change leads to behavioral change. We suspect a single educational exposure is not likely to lead to behavioral change; rather, we believe ongoing support will be needed to reinforce concepts and behaviors.

## Conclusion

This pilot study supports the benefits of a consumer-led educational model on improving attitudes of pharmacists toward mental illness. This is significant because individuals with a mental illness are often stigmatized, which may interfere with the quality of care they receive. Consumer-led models should be considered in the design of future CE programs for pharmacists and specifically target negative attitudes and providing education on patient-reported needs/expectations from their pharmacists. Study findings suggest less need to focus on empathy because the lack of empathy seems not to be a significant barrier.

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