

A Pilot Study of the NAMI Provider Education Program at a College of Osteopathic Medicine



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Introduction

Patients with severe mental illnesses (SMI) such as major depression, schizophrenia, and bipolar affective disorder face between 13 and 30 years in reduced life expectancy when compared to the general population.^{1,2} Numerous studies suggest that these early mortality rates are not due to the sequelae of mental illness itself (e.g. suicide), but rather to the poor management of comorbid common physical illnesses such as cardiovascular, metabolic, viral, and respiratory tract diseases.³ Along with systemic issues such as a widespread lack of integrated care, the greatest barriers to management of comorbid health concerns in patients with SMI are the stigma within the healthcare system, attitudes of medical practitioners, and inadequate screening and referral practices.^{1,4,5} While medical students early in their training have no less positive views of patients with SMI than the general population,⁶ stigmatization of mental illness reaches its *highest* point directly following the psychiatry rotation in the first clinical year.⁷ The increase in stigma following the psychiatry clerkship has been hypothesized to relate to several factors including the short-duration of rotations, exposure to patients in the most acute phase of their illness, and negative aspects of the clinical training environment.⁸

The Present Study

Social psychology provides us with a wealth of information on the most effective ways to improve attitudes, affect, and behavioral intentions toward stigmatized groups.⁹ Intergroup contact theory¹⁰ suggest that these interventions should involve *in-person contact* with the stigmatized patient population and emphasize the following four conditions:

1. Provide destigmatizing information about the group
2. Offer an environment for the repetition of new behavioral sequences with the group
3. Decrease emotional arousal and increase positive emotions when in contact with the group
4. Provide opportunities to re-appraise the superiority of one's own in-group toward greater humility

The present study sought to evaluate the longitudinal impact of the National Alliance on Mental Illness (NAMI) Provider Education program, a standardized 15-hour program designed to provide optimal conditions for contact-based education. Researchers hypothesized that students participating in the program would show improvements across a range of measures of attitude, affect, and behavioral intentions toward those with SMI when compared with students serving as a control. It was further hypothesized that these improvements would be maintained at 12-week follow-up, providing initial evidence for the longitudinal efficacy of such programming. Owing to the voluntary nature of the program and the curricular necessity of non-random assignment to conditions, we hypothesized and controlled for several demographic and personality factors in the analysis.

Methods

Participants

Two-hundred and thirty-one MS3 students, having completed clinical rotations in psychiatry and other disciplines, were invited to participate in either a) an optional 15-hour NAMI curriculum or b) waitlist surveys, leading to non-random assignment (self-selection). Students in both conditions completed surveys directly prior to the intervention, 1-week post-test, and at 12-week followup. Eighty-nine students participated in the control condition and 44 in the treatment arm for a total response rate of 57%.

Curriculum

The NAMI Provider Education program is one of several national education programs developed by NAMI. It consists of five classes totalling 15-hours offered over the course of 2.5 days. The classes are facilitated by a 3-member teaching team including a health care provider with lived experiences of mental illness, a family member of someone affected by mental illness, and a person living well in recovery from a mental illness. The five classes emphasize contact-based education and include the following topics:

1. Understanding the experience of mental illness
2. Supporting predictable emotions and needs
3. Empathy's role in effective treatment
4. Psychological elements of collaborative care
5. Applying collaborative treatment principles to patient care

Measures

In addition to demographic and personality characteristics, fourteen validated measures across the three domains of attitudes, affect, and behavioral intentions were collected. Participants in both conditions were measured at pre-test, 1-week, and 12-week follow-up.

Results

Descriptive Statistics

Characteristic	Control Group Participant n (%)	Experimental Group Participant n (%)	Pearson χ^2 diff. Test
Gender			2.35 (NS)
Man	43 (48)	16 (36)	
Woman	37 (42)	25 (57)	
Missing/Prefer no	9 (10)	3 (7)	
Race/Ethnicity			4.83 (NS)
White/European American	61 (69)	33 (75)	
Asian/Asian American	13 (15)	5 (11)	
Hispanic/Latino	2 (2)	2 (5)	
Multiracial	3 (3)	0 (0)	
Missing/Prefer not	10 (11)	4 (9)	
Current Mental Illness			5.24 (NS)
No	63 (71)	27 (61)	
Yes	17 (19)	12 (27)	
Missing/Prefer not	9 (10)	5 (11)	
Total Sample	89 (100.0)	44 (100.0)	

Characteristic	Control Group Mean (SD)	Experimental Group Mean (SD)	Mean Difference
Age	26.88 (2.07)	26.9 (2.01)	-0.02 (NS)
Extroversion	3.84 (1.44)	4.17 (1.70)	-0.33 (NS)
Agreeableness	5.06 (1.21)	5.34 (0.96)	-0.28 (NS)
Conscientiousness	5.94 (1.03)	5.63 (1.15)	0.31 (NS)
Emotional Stability	5.25 (1.12)	4.90 (1.07)	0.35 (NS)
Openness	4.76 (1.13)	5.27 (0.88)	-0.51*

Main Analyses

Baseline multivariate differences emerged between the two conditions owing to non-random assignment. This multivariate effect was moderated (i.e. interaction non-significant) when gender and personality factors were included in the model.¹ Controlling for these covariates there was a large, statistically significant time by condition interaction ($F=3.24$, $p < .0001$, $\eta^2_p = .42$) which was maintained at 12-week follow-up ($F=1.77$, $p < .05$, $\eta^2_p = .54$). The Mixed Model Analysis for each the fourteen outcomes is presented below.

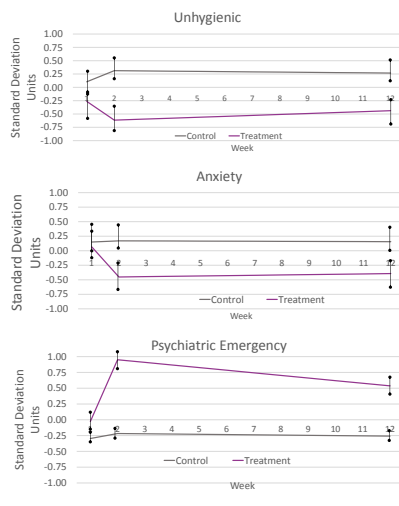
*More specifically, men endorsed more negative attitudes, and with a greater percentage of men in the control condition (even though this difference was non-significant), attitudes were thus more negative in the control group. Similarly, extroverts were less likely to report anxiety in working with mental illness across conditions. Because extroversion was higher in the treatment condition, this group was also more likely to lower anxiety across time-points.

Mixed Model Analysis (Condition by Time)

Outcome Measure	$F_{(df)}$
Attitudes	
Unhygienic	6.26 _(2, 100) **
Family Blame	5.52 _(2, 103) **
Relationship Disruption	3.63 _(2, 100) *
Visibility	3.50 _(2, 102) *
Treatability	1.12 _(2, 104)
Recovery	1.47 _(2, 100)
Professional Efficacy	0.65 _(2, 101)
Affect	
Anxiety	9.14 _(2, 100) ***
Negative Regard	5.77 _(2, 99) **
Desires for Social Distance	5.29 _(2, 99) **
Behavioral Intentions	
Psychiatric Emergency (Vignette)	24.50 _(2, 100) ***
Shared Decision Making	13.91 _(2, 101) ***
Consultation with Psychiatry	1.27 _(2, 104)
Psychosocial Aspects of Routine Care	0.74 _(2, 101)

Note: * $p < .05$, ** $p < .01$, *** $p < .001$. Race, gender, history of mental illness, and personality (Big-5) were controlled for in the analyses.

Representative Experimental and Control Group Changes Across 12-weeks



Conclusion

This non-randomized, single-institution controlled trial provides preliminary evidence for the efficacy of contact-based education in the first clinical year of undergraduate medical education. While students in both conditions endorsed generally favorable attitudes toward patients with SMI, their self-reported affect, interest, and behavioral intentions in working with such patients were less favorable and greatly improved by the curricular intervention.

When contact-based education emphasizes the four principles of intergroup contact theory, it appears that it can impact attitudes, affect, and behavioral intentions with moderate to large effect sizes that are maintained at 12-weeks.

Limitations & Future Research

The present study has a few notable limitations, primary of which are its non-random design and implementation at a single institution. Further research in this area should extend the length of the follow-up evaluation period to examine whether these changes continue into residency and one's medical career. In addition, future research should examine the generalizability of these findings to other institutions of undergraduate medical education. The NAMI program, which is highly standardized and involves existing local NAMI affiliates, lends itself naturally to this aims

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