Reducing Mental Illness Stigma through Unconscious Bias-Informed Education

Javeed Sukhera[1], Saad Chahine[2]

Abstract

Mental illness stigma can have disastrous consequences for patients, families and healthcare organizations. Unconscious bias informed education seeks a systematic approach to addressing implicit biases in healthcare providers by promoting awareness and understanding in order to promote compassion and empathy. After a 1 hour intervention, third year medical students who were enrolled in the third year psychiatry clerkship rotation completed a demographic form, (pre/post) a shortened mental illness implicit association test (IAT) and the Brief Mental Illness Attitudes Scale (BMIAS). For the IAT, the majority (51.4%) of participants demonstrated a bias that mental illness was associated with dangerousness. A paired samples t test of BMIAS scores found no significant change in pre and post scores on Responsibility subscale. There was a statistically significant improvement in the in the Traits subscale from pre (n=87, m=5.15, sd=0.87) and post (n=87, m=5.62, sd=0.71), t(86)=5.16 p<0.001. Our brief seminar had a statistically significant impact on student attitudes towards patients with traits of individuals with psychiatric illness. These findings indicate that mental illness stigma is an important issue in medical education and that unconscious bias-informed education may provide an effective method to reduce stigma.

Keywords: stigma, clerkship, unconscious bias, equity, empathy

Introduction

Mental illness stigma can have disastrous consequences for patients, families and healthcare organizations. Medical training offers an opportunity for early intervention to counteract stigma. However, despite educational efforts to eradicate stigma there are several challenges found. Informing educational initiatives with emerging research on unconscious bias and its impact on patient outcomes offers an alternative to direct educational interventions. This paper presents results from an unconscious bias-informed stigma reduction intervention for undergraduate medical learners.
Background

While educational strategies to reduce mental illness stigma have been studied extensively, researchers have found variable success. Corrigan, Kerr et al. 2005 found that individuals with greater prejudice are less likely to benefit from educational interventions alone. Corrigan, Rafacz et al. 2010, found that contact-based intervention is most effective when the two individuals share a common goal, are of equal power and engage in rewarding activities. Additionally, mere protest against stigma can have adverse effects including worsening stigmatizing attitudes and behaviours (Corrigan, Kerr et al. 2005, Corrigan, Rafacz et al. 2010, Corrigan and Rao 2012). Designing effective educational interventions relating to the destructive impact of stigma and bias on underserved patient populations may benefit from incorporating implicit or unconscious bias.

Unconscious bias informed education seeks a systematic approach to addressing implicit biases in healthcare by promoting awareness and understanding in order to improve compassion and empathy. Examples include promoting awareness of one’s own implicit biases and enhancing conscious efforts to overcome these biases (Burgess, Fu et al. 2004, Burgess, van Ryn et al. 2007, Teal, Gill et al. 2012). In order for educational interventions that incorporate conscious awareness of implicit bias as an effective strategy, they must be designed to address a potential “kick-back” effect where individuals over-compensate and develop counter-biases in response to bias-eradication efforts (Ross 2014). An unconscious bias-informed approach recognizes that a sustainable change in attitudes must occur within the context of cultural transformation and organizational change (Ross 2014). While unconscious bias has been extensively researched in the areas of gender, culture and race (Green, Carney et al. 2007, Verdonk, Benschop et al. 2009, Haider, Sexton et al. 2011), it has been relatively underexplored in the area of mental illness stigma.

The role of unconscious bias in reducing mental illness stigma in undergraduate medical students has unique potential to expand upon traditional stigma-reduction activities and have a widespread and sustained impact on provider attitudes and patient care. Evidence demonstrates that uncertainty is often a trigger for unconscious bias (Hall 2002) and those who wish to be unbiased may be more anxious in situations where they are afraid of becoming biased (Burgess, van Ryn et al. 2007). The literature also suggests that mental illness is an area where a tremendous amount of uncertainty and complexity exists. In addition, unconscious bias training is designed to move beyond direct confrontation of bias. This aligns with stigma reduction research, which suggests that mere protest against stigma (shaming those who demonstrate stigma) can have adverse effects such as rebound behaviours that result in increased bias (Corrigan, Kerr et al. 2005, Corrigan, Rafacz et al. 2010, Corrigan 2012).

Research Questions:

1. What are the implicit attitudes towards mental illness of third year medical students?
2. How can unconscious bias-informed education improve stigmatizing attitudes in undergraduate learners?

Methods

Participants were third year students from a Liaison Committee on Medical Education accredited Canadian Medical School, who were enrolled in the third year psychiatry clerkship rotation from January 2014 to June 2015 (n=146). As an intervention all students (n=146) were exposed to a one-hour seminar on stigma and psychiatric illness as part of their psychiatry rotation.
As part of the seminar students completed (pre/post) a shortened mental illness implicit association test (IAT) and the The Brief Mental Illness Attitudes Scale (BMIAS). The IAT is a measure designed to detect the strength of an individuals’ automatic association between mental representations of dangerousness and mental illness versus physical illness (Greenwald, McGhee et al. 1998). The BMIAS is a tool designed to measure attitudes towards individuals with psychiatric illness. The BMIAS includes sub-scales on societal responsibility towards individuals with psychiatric illness and attitudes regarding traits of individuals with psychiatric illness.

The seminar included case based discussion on two cases with prompts and a discussion of the IAT including the role of unconscious bias in both general clinical practice and psychiatry. Prompts included questions regarding the nature and extent of mental illness stigma in hospital settings as well as questions about strategies to mitigate the destructive impact of unconscious bias as it relates to mental illness stigma. At the end of the seminar, students engaged in a facilitated discussion regarding the IAT and their experience with completing a test of their own bias, as well an exploration of how they can potentially address these biases.

Data was also collected on ethnic background, gender, age and the number of clerkships they have already completed. All data was de-identified and students were informed that their participation was voluntary. The Western University Research Ethics Board reviewed the study and provided approval.

Descriptive statistics were used to examine demographics and IAT scores. IAT scores were provided as categorical variables indicating either slight, moderate, strong or no bias. from computer print-outs of the online mental illness IAT which measures the association between the concept of dangerousness with either physical or mental illness. A paired t-test was used to analyze the difference in BMIAS scores before and after the intervention among students with matched data.

Results

A total of 146 students completed the seminar and participated in the study. There were slightly more male participants (51%) compared to female (49%). Among students who completed the IAT and provided an IAT score (n=71). A majority (51.4%) of participants demonstrated a bias that mental illness was associated with dangerousness. Of these students, most had a moderate dangerousness bias (26%), followed by slight bias (16%) and strong bias (10%). Approximately 31% of students demonstrated no bias and 18% demonstrated an inverse bias, associating physical illness with dangerousness. These findings are illustrated in figure one.

When asked if their IAT results were expected or unexpected, 51% felt their results were unexpected while 49% expected their results.

The BMIAS is a pre-validated instrument that was adapted from the chronic fatigue syndrome attitudes scale (Shlaes, Jason et al. 1999). BMIAS items are provided in detail in table one. Overall the instrument was highly reliable with Chronbach Alpha values pre/post ([0.86, n=85]/[0.81, n=87]). Additionally, determination of Kaiser-Meyer-Olkin (KMO) value pre/post (0.80/0.70) and Bartlett’s pre/post test of Sphericity (307.22/319.68) suggested that Exploratory Factor Analysis (EFA) was appropriate given the sample size-to-item ratio. An EFA with Maximum Likelihood estimation with oblique rotation resulted in a two factor solution that was consistent from pre to post. The items grouped into two constructs based on the original BMIAS: (1) Responsibility and (2) Traits. Responsibilities refers to the degree to which participants believe that society has a responsibility to address psychiatric illness and traits reflects attitudes regarding the individual traits of people who suffer from psychiatric illness.
A paired samples t test of found no significant change in pre and post scores on Responsibility. There was a statistically significant improvement in the in the Traits from pre (n=87, m=5.15, sd=0.87) and post (n=87, m=5.62, sd=0.71), t(86)=5.16 p<0.001.

Discussion

We have learned from our study that a majority of students who completed the seminar and provided their IAT scores demonstrated an implicit bias towards dangerousness and mental illness. Greater than one-third of students demonstrated a moderate to strong dangerousness bias related to mental illness. Our brief seminar had a statistically significant impact on student attitudes towards patients with traits of individuals with psychiatric illness, while their total attitudes score did not demonstrate a significant change. These findings indicate that mental illness stigma is an important issue in medical education and that unconscious bias-informed education may provide an effective method to reduce stigma.

The concept of unconscious bias based education is derived from a combination of diverse literature from medical education, social sciences and cognitive psychology. Contemporary research regarding clinical reasoning in medical education has highlights the possibility of two modes of clinical reasoning, reflecting distinct cognitive processes. One set includes automatic processes that are intuitive and efficient while the other involves more analytic and possibly time-consuming reflection. Research suggests that clinicians can produce accurate clinical decisions by a process of constant balancing and shifting between these two processes. For example, research by both Evans and Norman demonstrate that a balance between automatic and reflective clinical reason has the potential to reduce diagnostic error and possibly improve healthcare quality (Evans 2008, Norman and Eva 2010).

Our intervention sought to facilitate the balance between automatic and reflective clinical reasoning and included several components that were hypothesized to improve participant attitudes. First, we aimed to promote student awareness of their own bias by incorporating the completion of the IAT into the intervention. Discussion was facilitated to emphasize common identities and counter stereotypes (Stone and Moskowitz 2011). The intervention sought to enhance perspective taking and empathy while recognizing that the removal of all bias is impossible (Burgess, van Ryn et al. 2007). A further component of our approach included a non-threatening environment. We emphasized that since bias is pervasive and can be necessary and adaptive, there should be no shaming of any individual who is willing to confront and address the destructive impact of their bias on patient outcomes. The emphasis was not on removing bias, but rather on mitigating its potentially hazardous effects.

A central tension that arose in our case-based discussion included the importance of recognizing bias in order to enhance workplace and learner safety in situations where students are encountering potentially unsafe patients. Students would often comment on the role of panic alarms on acute inpatient psychiatric units and discussion focused on how a certain degree of bias was perpetuated by contextual and environmental forces because it was required and encouraged. Considerable efforts were taken to foster critical discussion on the issue and ensure that learning took place in a safe and non-threatening environment.

Limitations of this study include missing data from dates that the seminar was not conducted. IAT scores were provided through online versions as categorical variables, whereas the availability of continuous response times that comprise the basis of the IAT would have been more useful for analysis. Another potential limitation was the use of the BMIAS which despite having reliable psychometric properties, is a relatively new scale that has not been used in other areas of research. Lastly, our data was immediately post-intervention and therefore additional data to determine if the effects of the intervention were sustained would have been useful. Nonetheless, the study findings
contribute to stigma reduction initiatives and provide the basis for further research and exploration.

**Conclusion**

The limits of traditional stigma reduction educational interventions call for innovative educational models for stigma eradication. While a majority of medical students demonstrated a biased association between mental illness and dangerousness, we found that using an educational approach informed by current literature on the role of unconscious bias in healthcare can produce statistically significant attitudinal change with a brief, 60-minute intervention. The promising results of this study should prompt additional research into the role of implicit associations in health professions education and call for broader implementation and evaluation of unconscious bias-informed education programs to reduce mental illness stigma and improve the quality of care for patients with mental illness. The findings of our study have widespread implications for curriculum designers seeking novel strategies to address the integration of clinical and pre-clinical teaching on underserved populations, cultural competency and the social determinants of health.

**Take Home Messages**

- Implicit mental illness stigma is a problem in undergraduate medical learners.
- Unconscious bias-informed educational strategies may be useful tool for stigma-reduction interventions.

**Notes On Contributors**

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**Acknowledgements**

This work was supported by a grant from the Associated Medical Services-Phoenix Fellowship.

**Bibliography/References**


[http://dx.doi.org/10.1007/s11606-007-0160-1](http://dx.doi.org/10.1007/s11606-007-0160-1)

http://dx.doi.org/10.1111/j.1525-1497.2004.30227.x


http://dx.doi.org/10.1192/bjp.bp.111.103382


http://dx.doi.org/10.1016/j.appsy.2005.07.001


http://dx.doi.org/10.1007/s10597-009-9287-3


http://dx.doi.org/10.1146/annurev.psych.59.103006.093629


http://dx.doi.org/10.1007/s11606-007-0258-5


http://dx.doi.org/10.1037/0022-3514.74.6.1464


http://dx.doi.org/10.1001/jama.2011.1248


http://dx.doi.org/10.1046/j.1365-2923.2002.01140.x

http://dx.doi.org/10.1111/j.1365-2923.2009.03507.x


http://dx.doi.org/10.1177/0163278992034400


http://dx.doi.org/10.1007/s10459-008-9100-z


http://dx.doi.org/10.1111/j.1365-2923.2011.04026.x


http://dx.doi.org/10.1111/j.1365-2923.2011.04101.x


http://dx.doi.org/10.1007/s10459-008-9100-z

Appendices

Declaration of Interest

The author has declared that there are no conflicts of interest.