TECHNICAL COMMENTARY

Stigma

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Introduction

There are several interacting levels of stigma: social, structural, and internalised. *Social* (public) *stigma* occurs within a large group, such as members of the general public, who collectively adopt stereotypes about the victims of stigma. *Structural stigma* refers to the institutional rules, policies, and procedures that restrict the rights and opportunities of particular groups of people. *Internalised stigma* occurs within an individual, such that a person's attitude may reinforce a negative self-perception of mental disorders, resulting in reduced sense of self-worth, anticipation of social rejection and often a desire for social distance. Stigma can be an important barrier for people with bipolar disorder to seek out proper treatment.

Interventions to reduce stigma include mass media programs, contact with patients either in person, by video or immaginary, education programs, family interventions, and symptom simulation.

Method

We have included only systematic reviews (systematic literature search, detailed methodology with inclusion/exclusion criteria) published in full text, in English, from the year 2010 that report results separately for people with a diagnosis of bipolar or related disorders. Reviews were identified by searching the databases MEDLINE, EMBASE, and PsycINFO. Hand searching reference lists of identified reviews was also conducted. When multiple copies of review topics were found, only the most recent and/or comprehensive review was included.

Review reporting assessment was guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist that describes a preferred way to present a meta-analysis[1]. Reviews with less than 50% of items checked have been excluded from the library. The PRISMA flow diagram is a suggested way of providing information about studies included and excluded with reasons for exclusion. Where no flow diagram has been presented by individual reviews, but identified studies have been described in the text, reviews have been checked for this item. Note that early reviews may have been guided by less stringent reporting checklists than the PRISMA, and that some reviews may have been limited by journal guidelines.

Evidence was graded using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) Working Group approach where high quality evidence such as that gained from randomised controlled trials (RCTs) may be downgraded to moderate or low if review and study quality is limited, if there is inconsistency in results, indirect comparisons, imprecise or sparse data and high probability of reporting bias. It may also be downgraded if risks associated with the intervention or other matter under review are high. Conversely, low quality evidence such as that gained from observational studies may be upgraded if effect sizes are large, there is a dose dependent response or if results are reasonably consistent, precise and direct with low associated risks (see end of table for an explanation of these terms)[2]. The resulting table represents an objective summary of the available evidence, although the conclusions are solely the opinion of staff of the NeuRA (Neuroscience Research Australia).

Results

We found three systematic reviews that met our inclusion criteria[3-5].

- Moderate to high quality evidence indicates a medium to strong relationship between increased levels of internalised stigma and reduced levels of hope, self-esteem, empowerment, self-efficacy, quality of life,

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social support and treatment adherence in people with a mental disorder. A medium to strong relationship may be apparent between increased internalised stigma and higher levels of symptom severity.

- Moderate to low quality evidence suggests knowledge about, and attitudes towards, bipolar disorder are generally more positive than those towards schizophrenia, but less positive than those towards depression. Medium to high levels of internalised stigma are apparent in patients, and also in their caregivers to a lesser extent.
- Moderate to low quality evidence suggests mass media interventions may reduce prejudice, but not discrimination, of people with mental disorders.

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Clement S, Lassman F, Barley E, Evans-Lacko S, Williams P, Yamaguchi S, Slade M, Rüsch N, Thornicroft G

Mass media interventions for reducing mental health-related stigma

Cochrane Database of Systematic Reviews 2013, Issue 7. Art. No.: CD009453.

DOI: 10.1002/14651858.CD009453.pub2.

View review abstract online

Comparison	**Media interventions for reducing stigma towards people with any mental illness.**
Summary of evidence	**Moderate to low quality evidence (large samples, appears inconsistent, unable to assess precision, direct) suggests mass media interventions may reduce prejudice, but not discrimination, of people with mental disorders.**

Prejudice and discrimination

Authors report that the median SMDs indicate that mass media interventions may have a small to medium effect in decreasing prejudice;

19 RCT, N = 3,176, median SMD favoured the intervention, at the three following time periods: -0.38 (immediate), -0.38 (1 week to 2 months) and -0.49 (6 to 9 months).

No clear advantage for discrimination;

Discrimination: 3 RCTs, N = 394, median SMD -0.25, with SMDs ranging from -0.85 (95% confidence interval (CI) -1.39 to -0.31) to -0.17 (95% CI -0.53 to 0.20).

Odds ratios (OR) for the two studies (n = 802) with dichotomous discrimination outcomes showed no evidence of effect.

Consistency in results‡	Authors state the results are inconsistent.
Precision in results§	Unable to assess
Directness of results‖	Direct

Ellison N, Mason O, Scior K

Bipolar disorder and stigma: a systematic review of the literature

Journal of Affective Disorders 2013; 151: 805-20

View review abstract online	
Comparison	**Overview of stigma in people with bipolar disorder, their families, the public, and clinicians.**
Summary of evidence	**Moderate to low quality evidence (medium to large samples, inconsistent, direct, unable to assess precision) suggests knowledge about, and attitudes towards, bipolar disorder are generally more positive than those for schizophrenia, but less positive than those for depression. Medium to high levels of internalised stigma are apparent in patients and in their caregivers to a lesser extent.**

Public attitudes

General attitudes

A US study (N = 364) found that attitudes towards people with bipolar disorder were generally positive in comparison to other disorders. A Canadian study (N = 1,001) found bipolar disorder was not associated with perceived low intelligence. A German study (N = 380) found that mania was associated with less perceived helplessness than depression. A Japanese study (N = 79) found people with bipolar disorder were viewed as third most likely to make a social readjustment compared to eight other disorders.

Emotional reactions

A US study (N = 364), and a Canadian study (N = 1,001) found that bipolar disorder evoked less interpersonal anxiety, less panic, and more desire to help, than schizophrenia. A German study (N = 380) found that mania evoked less pity, understanding, and desire to help, and more concern, withdrawal, irritation, and lack of understanding, than depression.

Behavioural reactions

A German study (N = 380) found a greater desire for social distance from people with mania than from people with depression. A Canadian study (N = 1,001) found that a perceived employer would be more likely to terminate employment of someone with schizophrenia than bipolar disorder.

Familiarity

A UK study (N = 185) and a German Study (N = 188) found a negative influence of familiarity, with less optimism about treatment and lower intention to recommend someone with a manic episode for a job. A UK study (N = 173) found no association between familiarity and recognition, and a US study (N = 364) found familiarity was associated with less interpersonal anxiety, less perceived relationship disruption, and higher perceived treatability.

Recognising the disorder

A UK study (N = 173) found that bipolar disorder was recognised to a similar extent as schizophrenia, but less often than depression, however, another UK study (N = 185) found bipolar disorder was viewed most similarly to depression. Two studies (N = population level and N = 79) found that bipolar disorder was the least recognised disorder compared to eight other mental disorders across the UK, Hong Kong, Malaysia and Japan.

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Dangerousness

A German study (N = 380) found that attributes related to dangerousness were ascribed more to a person with a manic episode than one with depression. A Canadian study (N = 1,001) found 28% of participants thought people with bipolar disorder to be violent or dangerous, compared to 54% for schizophrenia. A Japanese study (N = 79) found a manic episode was viewed the second most dangerous out of eight disorders, with delusional disorder viewed as the most dangerous.

Treatment

Two UK studies (N = 183 and N = 173) found that medications were the most endorsed treatments for people with bipolar disorder. One of these studies found that bipolar disorder was viewed more similarly to schizophrenia than to depression with regards to the types of treatments recommended. A US study (N = 364) found the perceived treatability of these disorders to be similar. A Canadian study (N = 1,001) found that 62% of respondents endorsed a combination of medication and psychotherapy, or lithium and other mood stabilisers, for treatment of bipolar disorder.

Prognosis

A US study (N = 364), and one UK study (N = 183) found that bipolar disorder is thought to have a similar prognosis to schizophrenia, but a worse prognosis than depression.

Causes

A UK study (N = 185) found environmental factors were seen as the most important causes of bipolar disorder. However, another UK study (N = 173) found both biological and environmental causes were important, and a Canadian study (N = 1,001) found that biomedical causes were most highly endorsed, followed by psychological and environmental causes.

Professional attitudes

Treatment

A Singapore study (N = 405) found high rates of recognition of bipolar disorder among mental health staff. Mania was deemed to require similar treatments to schizophrenia and seeing a psychiatrist and admission to psychiatric hospital considered most helpful.

Prognosis

The Singapore study (N = 405) found mania was deemed to have similar prognosis to schizophrenia. However, a Pakistan study (N = 434) found that bipolar disorder was deemed to have a similar prognosis to depression.

Dangerousness

A Pakistan study (N = 434) found mania was deemed as dangerous as schizophrenia, more dangerous than anxiety, depression or dementia, and less dangerous than alcohol or drug addiction. Mania was deemed less unpredictable than schizophrenia, and there were low attributions of blame for both conditions.

Internalised stigma

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Patients Two Turkish studies (N = 88 and N = 150), one Canadian study (N = 214), a South American study (N = 241), a UK study (N = 186), and an Australian study (N = 200) all found moderate to high levels of internalised stigma among patients. The Canadian study also found people with bipolar disorder reported a greater psychosocial impact of stigma than people with depression. An additional US study (N = 84), however, found low internalised stigma in patients currently seeking family-oriented treatment. Caregivers A US study (N = 500) and an Australia study (N = 200) found moderate levels of internalised stigma in caregivers. One US study (N = 60) found that female caregivers reported higher levels of internalised stigma than caregivers of people with schizophrenia. Another US study (N = 84), however, found low levels of internalised stigma in caregivers.

Consistency in results	Authors report that results are inconsistent, and that measures of stigma varied widely.
Precision in results	Unable to assess; no measure of precision is reported.
Directness of results	Direct

Livingston JD, Boyd JE

Correlates and consequences of internalized stigma for people living with mental illness: A systematic review and meta-analysis

Social Science & Medicine 2010; 71: 2150-2161

View review abstract online

Comparison	**Internalised stigma in mental disorders.** **Half the sample had mood disorders, including bipolar disorder, or substance use the other half had a schizophrenia spectrum disorder.**
Summary of evidence	**Moderate to high quality evidence (mostly inconsistent, precise, direct) indicates a medium to strong relationship between increased levels of internalised stigma and reduced levels of hope, self-esteem, empowerment, self-efficacy, quality of life, social support and treatment adherence in people with a mental disorder. A medium to strong relationship may be apparent between increased internalised stigma and higher levels of symptom severity.**

Internalised stigma
Across all diagnoses, a significant medium to strong relationship was reported between increased levels of internalised stigma and decreased levels of; Hope: 4 studies, N = 390, *r* = -0.58, 95%CI = -0.67 to -0.48, *p* < 0.001, Q = 5.77, *p* > 0.05, I^2 = 47.99 Self-esteem: 19 studies, N = 2366, *r* = -0.55, 95%CI = -0.62 to -0.46, *p* < 0.001, Q = 129.42, *p* < 0.001, I^2 = 86.09 Empowerment/mastery: 7 studies, N = 764, *r* = -0.52, 95%CI = -0.63 to -0.39, *p* < 0.001, Q = 30.98, *p* < 0.001, I^2 = 80.63 Self-efficacy: 7 studies, N = 698, *r* = -0.54, 95%CI = -0.72 to -0.29, *p* < 0.001, Q = 94.98, *p* < 0.001, I^2 = 93.68 Quality of life: 13 studies, N = 1583, *r* = -0.47, 95%CI = -0.56 to -0.36, *p* < 0.001, Q = 79.54, *p* < 0.001, I^2 = 84.91 Social support: 3 studies, N = 306, *r* = -0.28, 95%CI = -0.50 to -0.03, *p* < 0.05, Q = 10.08, *p* < 0.01, I^2 = 80.15 Treatment adherence: 7 studies, N = 949, *r* = -0.38, 95%CI = -0.47 to -0.28, *p* < 0.001, Q = 15.97, *p* < 0.01, I^2 = 64.43 *Across all diagnoses, a significant medium to strong relationship was reported between increased levels of internalised stigma and increased levels of symptom severity;* 22 studies, N = 2453, *r* = 0.41, 95%CI = 0.33 to 0.49, *p* < 0.001, Q = 116.84, *p* < 0.001, I^2 = 82.03

Consistency in results	Consistent only for hope
Precision in results	Precise
Directness of results	Direct

Explanation of acronyms

CI = Confidence Interval, I^2 = the percentage of the variability in effect estimates that is due to heterogeneity rather than sampling error (chance), N = number of participants, *p* = statistical probability of obtaining that result (*p* < 0.05 generally regarded as significant), Q = Q statistic (chi-square) for the test of heterogeneity, *r* = correlation coefficient

Explanation of technical terms

* Bias has the potential to affect reviews of both RCT and observational studies. Forms of bias include; publication bias - trials that are not formally published tend to show less effect than published trials, further if there are statistically significant differences between groups in a trial, these trial results tend to get published before those of trials without significant differences; language bias – only including English language reports; funding bias - source of funding for the primary research with selective reporting of results within primary studies; outcome variable selection bias; database bias - including reports from some databases and not others; citation bias - preferential citation of authors. Trials can also be subject to bias when evaluators are not blind to treatment condition and selection bias of participants if trial samples are small.

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† Different effect measures are reported by different reviews.

Reliability and validity refers to how accurate the instrument is. Sensitivity is the proportion of actual positives that are correctly identified (100% sensitivity = correct identification of all actual positives) and specificity is the proportion of negatives that are correctly identified (100% specificity = not identifying anyone as positive if they are truly not).

Weighted mean difference scores refer to mean differences between treatment and comparison groups after treatment (or occasionally pre to post treatment) and in a randomised trial there is an assumption that both groups are comparable on this measure prior to treatment. Standardised mean differences are divided by the pooled standard deviation (or the standard deviation of one group when groups are homogenous) that allows results from different scales to be combined and compared. Each study's mean difference is then given a weighting depending on the size of the sample and the variability in the data. 0.2 represents a small effect, 0.5 a moderate effect, and 0.8 and over represents a large treatment effect[6].

Odds ratio (OR) or relative risk (RR) refers to the probability of a reduction (< 1) or an increase (> 1) in a particular outcome in a treatment group, or a group exposed to a risk factor, relative to the comparison group. For example, a RR of 0.75 translates to a reduction in risk of an outcome of 25% relative to those not receiving the treatment or not exposed to the risk factor. Conversely, an RR of 1.25 translates to an increased risk of 25% relative to those not receiving treatment or not having been exposed to a risk factor. An RR or OR of 1.00 means there is no difference between groups. A medium effect is considered if RR > 2 or < 0.5 and a large effect if RR > 5 or < 0.2[7]. lnOR stands for logarithmic OR where an lnOR of 0 shows no difference between groups. Hazard ratios measure the effect of an explanatory variable on the hazard or risk of an event.

Correlation coefficients indicate the strength of association or relationship between variables. They are an indication of prediction, but do not confirm causality due to possible and often unforseen confounding variables. An r of 0.10 represents a weak association, 0.25 a medium association and 0.40 and over represents a strong association. Unstandardised (*b*) regression coefficients indicate the average change in the dependent variable associated with a 1 unit change in the dependent variable, statistically controlling for the other independent variables. Standardised regression coefficients represent the change being in units of standard deviations to allow comparison across different scales.

Prevalence refers to how many existing cases there are at a particular point in time. Incidence refers to how many new cases there are per population in a specified time period. Incidence is usually reported as the number of new cases per 100,000 people per year. Alternatively some studies present the number of new cases that have accumulated over several years against a person-years denominator. This denominator is the sum of individual units of time that the persons in the population are at risk of becoming a case. It takes into account the size of the underlying population sample and its age structure over the duration of observation.

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‡ Inconsistency refers to differing estimates of treatment effect across studies (i.e. heterogeneity or variability in results) that is not explained by subgroup analyses and therefore reduces confidence in the effect estimate. I^2 is the percentage of the variability in effect estimates that is due to heterogeneity rather than sampling error (chance) - 0% to 40%: heterogeneity might not be important, 30% to 60%: may represent moderate heterogeneity, 50% to 90%: may represent substantial heterogeneity and 75% to 100%: considerable heterogeneity. I^2 can be calculated from Q (chi-square) for the test of heterogeneity with the following formula;

$$I^2 = \left(\frac{Q - df}{Q}\right) \times 100\%$$

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§ Imprecision refers to wide confidence intervals indicating a lack of confidence in the effect estimate. Based on GRADE recommendations, a result for continuous data (standardised mean differences, not weighted mean differences) is considered imprecise if the upper or lower confidence limit crosses an effect size of 0.5 in either direction, and for binary and correlation data, an effect size of 0.25. GRADE also recommends downgrading the evidence when sample size is smaller than 300 (for binary data) and 400 (for continuous data), although for some topics, this criteria should be relaxed[8].

‖ Indirectness of comparison occurs when a comparison of intervention A versus B is not available but A was compared with C and B was compared with C that allows indirect comparisons of the magnitude of effect of A versus B. Indirectness of population, comparator and or outcome can also occur when the available evidence regarding a particular population, intervention, comparator, or outcome is not available so is inferred from available evidence. These inferred treatment effect sized are of lower quality than those gained from head-to-head comparisons of A and B.

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