Stigma and attitudes



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Introduction

There are three 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 institutional rules, policies, the and procedures that restrict the rights and opportunities of particular groups of people. stigma occurs Internalised within an individual, such that a person's attitude may reinforce a negative self-perception of mental disorders, resulting in reduced sense of selfworth, anticipation of social rejection and often a desire for social distance. Stigma can be an important barrier for people with schizophrenia to seek out proper treatment.

Interventions to reduce stigma include mass media programs, contact with patients either in person, by video or imaginary, educational programs, and symptom simulations.

Method

We have included only systematic reviews detailed (systematic literature search, methodology with inclusion/exclusion criteria) published in full text, in English, from the year 2000 that report results separately for people diagnosis schizophrenia, with а of schizoaffective disorder. schizophreniform disorder or first episode schizophrenia. Reviews were identified by searching the databases MEDLINE, EMBASE, CINAHL, Current Contents, PsycINFO and the Cochrane library. Hand searching reference lists of identified reviews was also conducted. When multiple copies of reviews were found, only the most recent version was included. Reviews with pooled data are prioritised for inclusion.

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-analysis¹. 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 15 systematic reviews that met our inclusion criteria³⁻¹⁷.

 High quality evidence indicates professional help for schizophrenia is viewed as being important, with 83-85% of the general population recommending that help should be provided by psychologists or

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psychiatrists. Psychotherapy is viewed as being more important than medication for schizophrenia (85% vs. 67%), although recommendations for medication are increasing over time.

- Moderate quality evidence suggests a . relationship between fewer pathways to care for patients and their sense of being different or not normal, and characterising this difference negatively. Anticipating and experiencing negative reactions from self or others, employing strategies to avoid these negative reactions (such as nondisclosure of symptoms), lack of awareness and understanding of mental illness, and having a negative opinion of services also reduces pathways to care.
- Moderate quality evidence suggests perceived stigma is associated with more negative help-seeking attitudes towards treatment (psychotherapy and medication). Service-related stigma is a reason for opposing psychiatric treatment, and shame is the main reason for nondisclosure of symptoms. Care-givers' concern that loved ones experiencing first-episode psychosis would be labelled as 'mad' was a frequent relatives reason for not contacting psychiatric services.
- Moderate to high quality evidence indicates a medium to strong relationship between increased levels of internalised stigma in patients and reduced levels of hope, selfesteem, empowerment, self-efficacy, quality of life, social support and treatment adherence in people with a mental disorder. A medium to strong relationship is apparent between increased internalised stigma and higher levels of symptom severity.
- Moderate to low quality evidence indicates that the public, patients and their relatives predominantly view psychosocial factors as being the cause of schizophrenia, while clinicians predominantly endorse biogenetic causes of schizophrenia. Overall, there may be a relationship between increased psychosocial causal views and increased



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positive attitudes towards schizophrenia, while increased biogenetic causal views may be linked to increased negative attitudes and desire for social distance. Moderate quality portrayal evidence indicates the of schizophrenia symptoms (rather than diagnostic labels) may endorse beliefs that psychosocial factors cause schizophrenia and that psychological treatments are most appropriate. Conversely, diagnostic labels (and not portrayal of symptoms) may endorse beliefs about biological causes and preferred antipsychotic treatment.

- Moderate quality evidence indicates public attitudes towards people with a mental disorder in Latin American and Caribbean countries are generally positive, particularly in high socio-economic and well-educated groups. Hospitalisation is thought to be the most appropriate treatment for schizophrenia in these regions.
- Moderate quality evidence suggests the general public view people with mental disorders such as schizophrenia to be in need of help and dependent on others. The general public view schizophrenia as a illness more frequently mental than depression or alcohol dependence. People both alcohol dependence with and considered schizophrenia were more unpredictable or dangerous than people with depression, with more negative emotion and social distance desired.
- Moderate quality evidence shows general hospital staff rate inpatients with schizophrenia as being more dangerous than inpatients with depression, but rate inpatients with schizophrenia or substance use disorders (drugs or alcohol) as similarly dangerous.
- Targeted educational campaigns may reduce fear and exclusion and increase acceptance of people with schizophrenia. High quality evidence suggests interventions aimed at reducing personal and public stigma are effective, particularly if they involve an educational component.

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Moderate to high quality evidence indicates ٠ a medium-sized effect of reduced social stigma towards people with schizophrenia following intergroup contact, particularly for improving attitudes, prejudice, and Moderate quality intentions. evidence suggests mass media interventions may reduce prejudice but not discrimination of people with mental disorders.

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Ando S, Clement S, Barley EA, Thornicroft G

The simulation of hallucinations to reduce the stigma of schizophrenia: A systematic review

Schizophrenia Research 2011; 133(1-3): 8-16

View review abstract online

Comparison	Interventions to simulate the experience of hallucinations (auditory and/or visual, 4 to 45 min simulation), aimed at reducing stigma.
Summary of evidence	Moderate to low quality evidence (unclear sample size, unable to assess consistency or precision, direct) is unclear as to any benefits of simulated hallucination interventions for reducing stigma in the general population.

Simulated hallucinations

1 RCT suggested that simulated hallucinations increased feelings of empathy for people with schizophrenia, but 2 RCTs reported the interventions also increased the desire for social distance.

1 pre-post study suggested that simulated hallucinations with derogatory content may elicit negative emotional reactions in participants. 3 qualitative studies also suggested that negative content of hallucinations may induce emotional discomfort in participants.

3 qualitative studies identified 10 key processes that may underlie any changes in the level of stigma, including: cognitive impairment, emotional discomfort, physical discomfort, poor functioning on tasks, strategies, insider's perspective, generation of empathy, changed attitudes toward people who hear voices, anticipated effect on care and support for simulation as an educational tool.

3 studies report that around 70% of participants indicated that the interventions increased their understanding of hallucinations, and 82% would recommend to others.

Consistency in results [‡]	Unable to assess; no measure of consistency is reported.
Precision in results \S	Unable to assess; no measure of precision is reported.
Directness of results	Direct

Angermeyer MC, van der Auwera S, Carta MG, Schomerus G

Public attitudes towards psychiatry and psychiatric treatment at the beginning of the 21st century: a systematic review and meta-analysis of

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population surveys

World Psychiatry 2017; 16(1): 50-61

View review abstract online

Comparison	General population surveys of beliefs and attitudes towards mental health treatment.
Summary of evidence	High quality evidence (large population-level sample, consistent, precise, direct) indicates that professional help for schizophrenia is viewed as being important, with 83-85% of the general population recommending that help should be provided by psychologists or psychiatrists. Psychotherapy is viewed as being more important than medication for schizophrenia (85% vs. 67%), although recommendations for medication are increasing over time.

Public beliefs and attitudes towards mental health care

9 general population studies reported on the proportion of respondents recommending different types of professional help for people with schizophrenia;

Psychologists/psychotherapists were recommended by 85% (95%CI 0.84 to 0.86) of the general population.

Psychiatrists were recommended by 83% (95%CI 0.82 to 0.84) of the general population.

General practitioners were recommended by 68% (95%CI 0.67 to 0.69) of the general population.

Results were similar when assessed according to region (Europe, Asia, American and Oceania), apart from lower general practitioner recommendations in Asia (27%).

Compared to depression, specialist (vs. non-specialist) mental health care was more frequently recommended for schizophrenia.

12 general population studies reported on the proportion of respondents recommending different types of treatment for people with schizophrenia;

Psychotherapy was recommended by 85% (95%CI 0.84 to 0.86) of the general population.

Medication was recommended by 67% (95%CI 0.66 to 0.68) of the general population.

There was a significant increase in treatment recommendations in general over time, with the strongest increase in recommendations for medication.

The general preference for psychotherapy was more marked for schizophrenia than for depression.

Consistency in results	Authors report that results are consistent.
Precision in results	Precise
Directness of results	Direct

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Angermeyer MC, Dietrich S

Biogenetic explanations and public acceptance of mental illness: systematic review of population studies

The British Journal of Psychiatry 2011; 199: 367-372

View review abstract online

Comparison	General population surveys of beliefs and attitudes towards biogenetic causes of mental health disorders.
Summary of evidence	Moderate quality evidence (overall large sample, unable to assess consistency or precision, direct) indicates that beliefs about biogenetic causes of schizophrenia were associated with increased desire for social distance.
	Public beliefs and attitudes
	33 population studies, N = 72,963
Most studies reported that ir	ncreased beliefs of biogenetic causes of schizophrenia were associated with stronger desire for social distance.
In four studies, a desire for social distance was strongly associated with stereotypes of unpredictability and dangerousness, while individual responsibility or personal weakness was not associated with social distance.	
Consistency in results	Unable to assess; no measure of consistency is reported.
Precision in results	Unable to assess; no measure of precision is reported.
Directness of results	Direct

Angermeyer MC, Dietrich S

Public beliefs about and attitudes towards people with mental illness: a review of population studies

Acta Psychiatrica Scandinavica 2006; 113: 163-179

View review abstract online

Comparison	General population surveys of beliefs and attitudes towards
	people with mental health disorders, treatment, and the
	effectiveness of public educational campaigns aimed at

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	changing perceptions.
Summary of evidence	Moderate quality evidence (overall large sample, unable to assess consistency or precision, direct) indicates that simple description of symptoms may increase beliefs about psychosocial causes and psychological treatments in the general public; however, including diagnostic labels may increase beliefs about biological causes and antipsychotic treatments of schizophrenia. Beliefs about psychological interventions (e.g. psychotherapy or counselling) are predominantly viewed as favourable by the general public, while beliefs about pharmacological treatments are generally viewed as negative. Generally, the majority of the public view people with mental disorders to be in need of help and dependent on others. Targeted educational campaigns may reduce fear and exclusion and increase acceptance of people with mental disorders.

Public beliefs about the causes and treatment of mental disorders

62 studies, N = 85,105 assessed public beliefs about mental disorders

Authors state that many members of the public cannot correctly recognise symptoms of mental disorders. Schizophrenia symptoms are more often seen as an expression of a mental disorder (range 69 to 88%) than are depressive symptoms (26% to 69%) or symptoms of alcoholism (16% to 49%).

Studies using vignettes (behavioural case study, without a diagnostic label) suggest that peoples' beliefs about psychosocial causes of mental disorders are predominant over biological causes.

Acute stress, such as that following life events, is viewed as the most frequently endorsed cause of mental disorders (schizophrenia: 72.5% to 87%, depression: 81% to 85.5%); followed by chronic stress such as in a partnership and family (schizophrenia: 59% to 64%, depression: 70 to 74%); brain disease (schizophrenia: 48.5% to 71%, depression: 19% to 59%); and heredity (schizophrenia: 39% to 67.5%, depression: 21% to 58%).

Conversely, studies using diagnostic labels suggest beliefs about biological causes of schizophrenia are more frequently endorsed as a cause of illness than psychosocial causes.

In the case of schizophrenia, the public is more ready to recommend seeking help from a psychiatrist over a general practitioner, compared to those with depression.

All studies using case vignettes suggest that the public's beliefs about psychological interventions (e.g. psychotherapy or counselling) are predominantly favourable, while negative views prevail about pharmacological treatments. This favouring of psychotherapy is greater for schizophrenia than for depression, however when diagnostic labels are used, the results are opposite. Medication is more frequently considered as the appropriate form of treatment for schizophrenia, and psychological therapy the favoured treatment for depression.

In the absence of treatment, the deterioration of a mentally ill person's state is expected to be greater for schizophrenia than for depression. Conversely, assuming that the appropriate treatment

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is provided, the prognosis for both disorders is assessed optimistically.

No consistent associations were found between a person's beliefs about mental disorders and a person's sex or age. However, respondents with a higher educational level less frequently viewed the person afflicted as responsible for their illness, and were more willing to recommend psychosocial interventions for treatment.

Attitudes towards people with mental disorders

Generally, the majority of the public view people with mental disorders to be in need of help and to be dependent on others, feeling sorry for persons with mental disorders and feel the need to help them, although there is a tendency towards wanting to distance themselves from persons with mental disorders.

The most prevalent negative attribute attached to people with mental disorders is that they appear to be unpredictable. This holds most for people with schizophrenia (54% to 85%) or alcoholism (71%) compared with depression (28% to 56%) or anxiety disorders (50%). Less frequently, persons with mental disorders are considered as violent or dangerous.

Vignette studies show that illness labelling leads to more rejection and other adverse reactions. Two German studies also found that somatic illnesses such as cancer or cardiovascular diseases ranked significantly higher than schizophrenia or depression in public preferences for government funding allocations to health care and medical research.

No association between attitudes and sex was reported, however stronger negative attitudes were associated with increasing age.

Cross-cultural comparisons of beliefs and attitudes

A comparison between Novosibirsk (Russia), Ulaanbaatar (Mongolia) and Germany revealed that people from Russia and Mongolia showed a stronger tendency towards attributing the cause of mental disorders to the afflicted individual. There was a close association in Germany between labelling as schizophrenia and the stereotype of dangerousness.

In Switzerland, a survey revealed a reluctance of the German-speaking Swiss to approach specialist mental health professionals, compared to French-speaking Swiss. People living in the Italian-speaking part of Switzerland expressed a stronger desire for social distance from people with a mental disorder than people living in the German- and French-speaking parts. People from the French- and Italian-speaking parts were more willing to accept restrictive measures against persons with mental disorders and compulsory admissions than those from the German-speaking part of Switzerland. Non-Swiss residents held more positive attitudes towards volunteering in psychiatry (e.g. visiting a long-term hospitalised patient).

People living in southern Italy were less ready to acknowledge patients' social competence and civil rights than those from other parts of Italy.

People from the South of the US tended to attribute the person's character or life stresses as responsible for the occurrence of mental disorders, more frequently than those from the North. Asian and Hispanic respondents perceived mental health patients as being significantly more dangerous than did white respondents. African Americans were more likely than whites to reject the

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idea that mental disorders are caused by either genetics or an unhealthy family upbringing. They also tended to have more negative attitudes than whites towards specialist mental health treatment.

In New Zealand, the awareness of mental disorders was lower among Maori populations and much lower among Pacific Islanders, compared to the general population. Among Maori populations, the acceptance of people with mental disorders in general or schizophrenia in particular was similar to the general population, but lower among Pacific Islanders.

Interventions aimed at improving knowledge of mental disorders and reducing stigma

A national advertising campaign in New Zealand aimed counter stigma and discrimination associated with mental disorders reported increased acceptance of people with mental disorders in general, however the attitude towards people with schizophrenia in particular remained unchanged.

An educational campaign conducted in one of the two areas of London that were opening staffed group homes for severely mentally ill patients resulted in no significant improvements in knowledge of mental disorders between the two areas, however, there was an overall decrease in the fear and exclusion and an increase in acceptance in the public receiving the educational campaign. The educational campaign comprised an information pack containing a video and information sheets, social events and social overtures from staff and a formal reception and informal discussion sessions.

Consistency in results	Unable to assess; no measure of consistency is reported.
Precision in results	Imprecise where applicable.
Directness of results	Direct

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.
Summary of evidence	Moderate 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.

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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.

Authors report that most of the studies were at unclear or high risk of bias for all forms of bias except detection bias.

Consistency in results	Authors state the results are inconsistent.
Precision in results	Unable to assess; no measure of precision is reported.
Directness of results	Direct

Corrigan PW, Morris SP, Michaels PJ, Rafacz JD, Rüsch N

Challenging the Public Stigma of Mental Illness: A Meta-Analysis of Outcome Studies

Psychiatric Services 2012; 63: 963-973

View review abstract online

Comparison	Interventions for reducing stigma.
Summary of evidence	Moderate quality evidence (large sample, some inconsistency, unable to assess precision, direct) suggests educational interventions may reduce negative attitudes and affect towards people with a mental illness, while contact interventions may only reduce negative attitudes.
Attitudes and affect	
A small effect of reduced attitudes and affect for educational interventions, and reduced attitudes	

but not affect for contact interventions;

72 studies overall, N = 38,364

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Educational interventions: $d = 0.286$, $p < 0.001$, attitudes only: $d = 0.310$, $p < 0.001$, affect only: $d = 0.144$, $p < 0.05$
Contact interventions: $d = 0.282$, $p < 0.001$, attitudes only: $d = 0.406$, $p < 0.001$, affect only: $d = -0.30$, $p > 0.05$
Similar results were reported in analysis of RCTs only, and in studies of adolescents. Contact by person yielded larger effect sizes than contact by video.

No reduction in stigma with protest interventions (those that highlight the injustices of various forms of stigma and chastise offenders for their stereotypes and discrimination).

Consistency in results	Authors report inconsistent results for contact studies.
Precision in results	Unable to assess; no measure of precision in reported.
Directness of results	Direct

de Toledo Piza Peluso E, Blay SL

Community perception of mental disorders. A systematic review of Latin American and Caribbean studies

Social Psychiatry And Psychiatric Epidemiology 2004; 39: 955-961

View review abstract online

Comparison	General population surveys in Latin American and Caribbean countries of beliefs and attitudes towards people with mental health disorders, mental disorders themselves and perceptions about treatment.
Summary of evidence	Moderate quality evidence (medium to large samples, unable to assess consistency or precision, direct) indicates public attitudes towards people with a mental disorder in these regions are generally positive, particularly in high socio-economic and well-educated groups. Schizophrenia is more likely to be recognised as a mental disorder than depression or alcoholism. Hospitalisation is thought to be the most appropriate treatment for schizophrenia.
Attitudes	

4 studies assessed community attitudes towards mental disorders.

Authors report that all studies showed that the Latin American and Caribbean public had predominantly more positive attitudes towards people with a mental disorder. 3 studies reported

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increased positive attitudes were related to increased socio-economic status. One study also reported increased positive attitudes were related to younger age, increased education and increased professional hierarchy.

Identification of a condition as a mental disorder

3 studies (N = 967), reported that schizophrenia and psychosis were more likely to be identified as mental disorders (84% in Brazil, 90% among men and 62% among women in Mexico, 73% in the Commonwealth of Dominica) than depression (60% in Brazil and 25% in Dominica) or alcoholism (45% in Brazil and 21% in Dominica).

Causes and treatment

1 Mexican study (N = 131), reported that the population identified a selection of causes including biological, social and psychological factors.

1 Dominican study (N = 202) reported that the most recommended treatment for schizophrenia is hospitalisation, while the support of friends and family is most recommended for depression and alcoholism.

1 Brazilian study (N = 718) reported that psychiatrists are the most recommended professionals. The preferred place of treatment is the hospital and the preferred activity is psychological care.

Severity	
2 studies (N = 310) reported that schizophrenia and psychosis were considered the most serious disorder, alcoholism was seen as a severe problem and depression was considered the least serious disorder.	
Consistency in results	Unable to assess; no measure of consistency in reported.
Precision in results	Unable to assess; no measure of precision in reported.
Directness of results	Direct

Giandinoto JA, Stephenson J, Edward KL

General hospital health professionals' attitudes and perceived dangerousness towards patients with comorbid mental and physical health conditions: Systematic review and meta-analysis

International Journal of Mental Health Nursing 2018; 27: 942-55

View review abstract online

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Comparison	General hospital staff attitudes about dangerousness of inpatients with schizophrenia.
Summary of evidence	Moderate quality evidence (large sample, inconsistent, imprecise, direct) shows general hospital staff rate inpatients with schizophrenia as being more dangerous than inpatients with depression, but similarly dangerous and inpatients with substance use disorders (drugs or alcohol).
Dangerousness	
A large effect shows staff rated inpatients with schizophrenia as more dangerous than inpatients with depression;	
3 studies, N = 818, OR = 6.71, 95%CI 1.59 to 28.3, <i>p</i> < 0.05, I ² = 87.8%	
Staff rated inpatients with schizophrenia or substance use disorders as similarly dangerous;	
Drugs: 3 studies, N = 818, OR = 0.41, 95%CI 0.15 to 1.06, <i>p</i> > 0.05, I ² = 90.3%	
Alcohol: 3 studies, N = 818, OR = 0.85, 95%CI 0.26 to 2.82, $p > 0.05$, $I^2 = 93.6\%$	
Consistency in results	Inconsistent
Precision in results	Imprecise
Directness of results	Direct

Griffiths K, Carron-Arthur B, Parsons A, Reid R

Effectiveness of programs for reducing the stigma associated with mental disorders. A meta-analysis of randomized controlled trials

World Psychiatry 2014; 13: 161-175

View review abstract online

Comparison	Interventions for reducing public, perceived and self-stigma.
Summary of evidence	High quality evidence (large sample, consistent, precise, direct) suggests interventions aimed at reducing personal and public stigma are effective, particularly if they involve an educational component.
Personal and public stigma	
An individual's or community's attitude towards people with schizophrenia	

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Small effect of reduced personal and public stigma towards schizophrenia and psychosis after stigma interventions, mainly involving education;		
All interventions: 6 RCTs, N = 1,148, d = 0.20, 95%CI 0.06 to 0.34, p = 0.005, I ² 0%, p = 0.67		
Educational interventions: 5 RCTs, N = unclear, $d = 0.23$, 95%CI 0.08 to 0.37, $p = 0.003$, $l^2 0$ %, $p = 0.91$		
Results for educational interventions with no adjunct, and interventions with consumer contact were not significant (2 RCT, $p > 0.05$).		
Perceived stigma		
Beliefs about other people's attitudes towards people with schizophrenia		
No differences in perceived stigma;		
All interventions: 2 RCTs, N = unclear, $d = 0.21$, 95%CI -0.10 to 0.52, $p = 0.18$, I^2 15%, $p = 0.28$		
Consistency in results	Consistent	
Precision in results	Precise	
Directness of results	Direct	

Gronholm PC, Thornicroft G, Laurens KR, Evans-Lacko S

Mental health-related stigma and pathways to care for people at risk of psychotic disorders or experiencing first-episode psychosis: a systematic review

Psychological Medicine 2017; Feb 15: 1-13

View review abstract online

Comparison	Relationship between stigma and pathways to care in people with first-episode psychosis or people with at-risk mental states.
Summary of evidence	Moderate quality evidence (large samples, unable to assess consistency or precision, direct) from qualitative studies suggests the following themes related stigma to lower levels of pathways to care; a sense of being different or not normal, characterising this difference negatively, anticipating and experiencing negative reactions from self or others, employing strategies to avoid these negative reactions, a lack of awareness and understanding of mental illness, and having a negative opinion of services.

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Quantitative studies report increased perceived stigma was associated with more negative help-seeking attitudes towards treatment (psychotherapy and medication). Service-related stigma was a reason for opposing psychiatric treatment, and shame was the main reason for nondisclosure of symptoms. Care-givers' concern that loved ones experiencing first-episode psychosis would be labelled as 'mad' and was a frequent reason for relatives not contacting psychiatric services.	
Pathways to care	
Qualitative studies, $N = 541$	
Themes relating stigma to pathways to care;	
Sense of difference	
The impression that something is wrong or not normal, a general conceptualisation of mental illness, and specific thoughts on particular diagnoses and symptoms.	
Characterising difference negatively	
Stigmatising labels like mad, crazy, or mental, and thoughts around a person being dangerous, violent, unpredictable, stupid, incapable or lazy.	
Negative reactions (anticipated and experienced)	
Negative and judgemental reactions from self or others, social distancing, sense of stigma, feelings of shame, embarrassment, or guilt, and fear that experiences would worry or upset others.	
Strategies	
Peoples' attempts to avoid negative reactions, including non-disclosure, concealment efforts, denying, ignoring, not accepting or admitting the situation, normalising and rationalising experiences, and social withdrawal.	
Lack of knowledge and understanding	
Stigma related factors contributed towards a limited awareness and understanding of mental illness.	
Service-related factors	
Feeling labelled, judged and treated differently by service providers, prejudiced attitudes towards and fear of mental health services, belief that services break families apart. However, this theme also described facilitative experiences where positive interaction with services contributed to diminished stigma by normalising mental health, providing a destigmatising peer-environment, and normalising impact of treatment.	
Quantitative findings, $N = 692$	
1 study (N = 67) reported increased perceived stigma among people at risk of psychosis was significantly associated with more negative help-seeking attitudes towards psychotherapy at the 1 year follow-up assessment. Conversely, 1 study (N = 172) reported lower stigma stress was significantly associated with more positive help-seeking attitudes towards both psychotherapy and psychiatric medication at baseline.	
1 study (N = 56) reported service-related stigma was a reason for opposing psychiatric treatment	

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among people with first-episode psychosis, and shame was the main reason for nondisclosure of symptoms.

1 study (N = 34) reported care-givers' concern that loved ones experiencing first-episode psychosis would be labelled 'mad' and was a frequent reason for relatives not contacting psychiatric services.

1 mixed-methods study (N = 63) found that health professionals left young people who hear voices feeling 'not normal'.

1 study (N = 288) found that people at risk of psychosis reported reduced internalised stigma regardless of whether or not they received cognitive therapy over standard care.

Consistency in results	Unable to assess; no measure of consistency is reported.
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 including schizophrenia. Half the sample had a schizophrenia spectrum disorder, the other half had mood disorders or substance use.
Summary of evidence	Moderate to high quality evidence (large samples, 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;

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Hope: 4 studies, N = 390, r = -0.58, 95%Cl = -0.67 to -0.48, p < 0.001, Q = 5.77, p > 0.05, l^2 = 47.99		
Self-esteem: 19 studies, N = 2,366, <i>r</i> = -0.55, 95%CI = -0.62 to -0.46, <i>p</i> < 0.001, Q = 129.42, <i>p</i> < 0.001, I ² = 86.09		
Empowerment/mastery: 7 studies, N = 764, r = -0.52, 95%Cl = -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%Cl = -0.72 to -0.29, p < 0.001, Q = 94.98, p < 0.001, $l^2 = 93.68$		
Quality of life: 13 studies, N = 1,583, r = -0.47, 95%Cl = -0.56 to -0.36, p < 0.001, Q = 79.54, p < 0.001, l^2 = 84.91		
Social support: 3 studies, N = 306, r = -0.28, 95%Cl = -0.50 to -0.03, p < 0.05, Q = 10.08, p < 0.01, $l^2 = 80.15$		
Treatment adherence: 7 studies, N = 949, r = -0.38, 95%Cl = -0.47 to -0.28, p < 0.001, Q = 15.97, p < 0.01, l^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 = 2,453, r = 0.41, 95%Cl = 0.33 to 0.49, p < 0.001, Q = 116.84, p < 0.001, l ² = 82.03		
Note: results quoted above are corrected for attenuation; adjusted to account for measurement error (internal consistency) in both the predictor and dependent variables.		
25 studies (N = unclear), assessed internalised stigma in relation to differences in diagnoses. Of these, 10 studies reported a significant difference in internalised stigma across diagnoses, with 3 reporting increased stigma and 1 reporting decreased stigma in schizophrenia compared to the other diagnoses.		
Consistency in results	Consistent for hope.	
Precision in results	Precise	
Directness of results	Direct	

Maunder RD, White FA

Intergroup contact and mental health stigma: A comparative effectiveness meta-analysis

Clinical Psychology Review 2019; 72: 101749

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Comparison	Intergroup contact for reducing stigma towards people with a mental disorder.
Summary of evidence	Moderate to high quality evidence (large samples, inconsistent, precise, direct) indicates a medium effect of reduced social stigma towards people with schizophrenia following intergroup contact, particularly for improving attitudes, prejudice, and intentions.
Social stigma	
Intergroup contact significantly reduced social stigma towards people with a mental illness;	
Immediate - all disorders contact: 100 studies, N = 15,826, d = -0.478, 95%Cl -0.554 to -0.403, p < 0.05, l^2 = 95%	
Immediate - bipolar disorder contact: 31 studies, N = 3,139, d = -0.348, 95%CI -0.438 to -0.258, p < 0.05, I ² = 82%	
1-12 weeks - all disorders contact: 40 studies, N = 3,697, d = -0.572, 95%CI -0.725 to -0.419, p < 0.05, I^2 = 94%	
16-52 weeks - all disorders contact: 8 studies, N = 842, d = -0.526, 95%Cl -0.828 to -0.225, p < 0.05, l^2 = 95%	
Subgroup analysis of all disorders reporting immediate outcomes showed the effect of contact was strongest in non-Western countries and in university students and health professionals compared to community members. Results were significant for improving attitudes, prejudice, and intentions, but not for changes in implicit bias or behaviour. Results were similar in published and unpublished studies, and in those with or without educational component, face to face, electronic, or imagined contact.	
Consistency in results	Inconsistent
Precision in results	Precise
Directness of results	Direct

Morgan AJ, Reavley NJ, Ross A, Too LS, Jorm AF

Interventions to reduce stigma towards people with severe mental illness: Systematic review and meta-analysis

Journal of Psychiatric Research 2018; 103: 120-33

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Comparison 1	Contact with a person or persons with mental illness (in person, via video, or imaginary) vs. various control conditions.
	The included studies predominately targeted schizophrenia.
Summary of evidence	Moderate quality evidence (large samples, precise, some inconsistency, indirect) suggests medium-sized effects of reduced stigmatising attitudes and less need for social distance immediately after contact interventions, although this effect did not last at follow-up (up to two months).
	Stigmatising attitudes
Significant, medium	-sized effect of reduced stigmatising attitudes post-intervention;
17 comparisons,	N ~1,703, $d = 0.39$, 95%Cl 0.22 to 0.55, $p < 0.001$, $l^2 = 56\%$
There was no significant effect at follow-up (up to two months);	
6 comparisons,	N ~559, $d = 0.08$, 95%Cl -0.20 to 0.36, $p = 0.566$, $l^2 = 41\%$
There was a significant asso sizes. There	ociation between studies with more female participants and larger effect were no associations with type or length of intervention.
	Need for social distance
Significant, mediun	n-sized effect of less need for social distance post-intervention;
13 comparisons, N <1,703, $d = 0.59$, 95%Cl 0.37 to 0.80, $p < 0.001$, $l^2 = 64\%$	
There was no significant effect at follow-up (up to two months);	
7 comparisons,	N ~559, $d = 0.25$, 95%Cl -0.09 to 0.59, $p = 0.566$, $l^2 = 41\%$
Adjusting for possible publ reduce	ication bias reduced the effect size to $d = 0.40$. Removing two outliers d heterogeneity but did not change the effect size.
Consistency in results	Moderate inconsistency.
Precision in results	Precise
Directness of results	Indirect; mixed control conditions.
Comparison 2	Educational interventions vs. various control conditions.
	The included studies predominately targeted schizophrenia.
Summary of evidence	Moderate quality evidence (large samples, precise, some inconsistency, indirect) suggests small to medium-sized effects of reduced stigmatising attitudes and less need for social distance immediately after educational interventions, with need for social distance continuing to be reduced for over six months.

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Significant, small to medium effect of reduced stigmatising attitudes post-intervention;

12 comparisons, N ~3,218, d = 0.30, 95%Cl 0.14 to 0.47, p < 0.001, $l^2 = 65\%$

There was no significant effect at follow-up;

 \leq 6 months: 5 comparisons, N ~1,833, d = 0.16, 95%CI -0.09 to 0.40, p = 0.208, $I^2 = 64\%$

Removing one outlier: 4 comparisons, N ~1,745, d = 0.03, 95%CI -0.12 to 0.18, p = 0.705, $I^2 = 0\%$

> 6 months: 1 comparison, N ~88, d = 0.39, 95%CI -0.06 to 0.84, p = 0.088

Stigmatising attitudes reduced when information about causal explanations focused on biological rather than psychosocial factors. There were no associations between study effect sizes and type of intervention, or participants' sex.

Need for social distance

Significant, small to medium effect of reduced need for social distance post-intervention;

8 comparisons, N <3,218, d = 0.27, 95%Cl 0.08 to 0.46, p = 0.005, $l^2 = 72\%$

This effect persisted for over six months;

 \leq 6 months: 6 comparisons, N ~1,833, d = 0.27, 95%Cl 0.05 to 0.49, p = 0.015, $l^2 = 67\%$

Removing one outlier: 5 comparisons, N ~1,745, *d* = 0.15, 95%Cl 0.03 to 0.28, *p* = 0.015, l² = 0%

> 6 months: 1 comparison, N = 88, d = 1.16, 95%CI 0.67 to 1.64, p < 0.001

Need for social distance increased when information about causal explanations focused on biological rather than psychosocial factors. There were no associations between study effect sizes and type of intervention, or participants' sex.

Consistency in results	Inconsistent, apart from 6 month follow up with removal of one outlier.
Precision in results	Precise
Directness of results	Indirect; mixed control conditions.
Comparison 3	Contact + educational conditions vs. various control conditions. The included studies predominately targeted schizophrenia.
Summary of evidence	Moderate to low quality evidence (medium to large samples, precise, inconsistent, indirect) suggests small to medium-sized effects of reduced stigmatising attitudes and less need for social distance immediately after contact + educational interventions, with need for social distance continuing to be reduced for up to six months.
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Significant, sma	all effect of reduced stigmatising attitudes post-intervention;
6 comparisons, N ~785, $d = 0.32$, 95%Cl 0.08 to 0.56, $p = 0.010$, l ² = 60%	
There wa	s no significant effect at follow-up (up to six months);
2 comparisons,	N ~286, $d = 0.24$, 95%Cl -0.46 to 0.93, $p = 0.505$, $l^2 = 85\%$
	Need for social distance
Significant, mediun	n-sized effect of less need for social distance post-intervention;
2 comparisons,	N <785, <i>d</i> = 0.43, 95%Cl 0.01 to 0.86, <i>p</i> = 0.045, l ² = 53%
	This effect persisted for up to six months;
1 compari	son, N <286, <i>d</i> = 0.44, 95%Cl 0.08 to 0.80, <i>p</i> = 0.016
Consistency in results	Inconsistent
Precision in results	Precise
Directness of results	Indirect; mixed control conditions.
Comparison 4	Contact vs. educational interventions.
	The included studies predominately targeted schizophrenia.
Summary of evidence	Moderate to high quality evidence (large samples, precise, some inconsistency, direct) suggests no significant differences in stigmatizing attitudes or need for social distance between contact and educational interventions.
	Stigmatising attitudes
There w	ere no significant differences between interventions;
Post-intervention: 3 com	parisons, N ~907, $d = 0.03$, 95%Cl -0.17 to 0.23, $p = 0.779$, $l^2 = 0\%$
Up to four months: 2 com	parisons, N <907, $d = -0.07$, 95%Cl -0.31 to 0.16, $p = 0.527$, $l^2 = 0\%$
	Need for social distance
There w	ere no significant differences between interventions;
Post-intervention: 4 comparisons, N ~907, $d = 0.06$, 95%Cl -0.23 to 0.35, $p = 0.692$, $l^2 = 59\%$	
Up to four months: 4 com	parisons, N <907, $d = 0.22$, 95%Cl -0.07 to 0.51, $p = 0.140$, $l^2 = 51\%$
Consistency in results	Consistent for stigmatising attitudes only.
Precision in results	Precise

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Directness of results	Direct
Comparison 5	Family psychoeducation vs. treatment as usual.
	The included studies predominately targeted schizophrenia.
Summary of evidence	Moderate quality evidence (medium to large samples, precise, inconsistent, direct) suggests family psychoeducation may reduce stigmatizing attitudes post-intervention, with lower quality evidence (small sample, imprecise) unsure of the longer term effects.
	Stigmatising attitudes
Significant, medium	-sized effect of reduced stigmatising attitudes post-intervention;
3 comparisons,	N = 517, $d = 0.41$, 95%Cl 0.11 to 0.70, $p = 0.007$, $l^2 = 44\%$
	This effect persisted for up to six months;
1 comparison, N = 59, <i>d</i> = 0.82, 95%Cl 0.23 to 1.42, <i>p</i> = 0.007	
Consistency in results	Inconsistent
Precision in results	Precise for post-intervention only
Directness of results	Direct
Comparison 6	Hallucination simulations vs. various control conditions.
	The included studies predominately targeted schizophrenia.
Summary of evidence	Low quality evidence (small samples, some imprecision, inconsistent, indirect) is unsure of the effects of hallucination simulation on stigmatising attitudes and need for social distance.
	Stigmatising attitudes
There were no	significant differences between groups post-intervention;
3 comparisons,	N = 194, $d = 0.17$, 95%Cl -1.09 to 1.42, $p = 0.795$, $l^2 = 94\%$
Significant, medium-sized effect of reduced stigmatising attitudes at one week follow up;	
1 comparise	on, N = 103, d = -0.51, 95%CI -0.91 to -0.11, p = 0.011
	Need for social distance
There were no significant differences between groups;	
Post-intervention: 3 comparisons, N = 194, $d = -0.31$, 95%CI -0.81 to 0.19, $p = 0.222$, $I^2 = 63\%$	
One week follow up: 1 comparison, N = 103, d = -0.28, 95%CI -0.67 to 0.11. p = 0.166	

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Consistency in results	Inconsistent
Precision in results	Precise, apart from stigmatising attitudes post-intervention.
Directness of results	Indirect; mixed control conditions.

Read J, Haslam N, Sayce L, Davies E

Prejudice and schizophrenia: a review of the 'mental illness is an illness like any other' approach

Acta Psychiatrica Scandinavica 2006; 114: 303-318

View review abstract online

Comparison	General population surveys of beliefs and attitudes towards people with schizophrenia, schizophrenia itself and perceptions about its causes and treatments.
Summary of evidence	Moderate to low quality evidence (unclear sample size, unable to assess consistency or precision, direct) indicates that the public, patients and their relatives predominantly view psychosocial factors as being the cause of schizophrenia, while clinicians predominantly endorse biogenetic causes of schizophrenia. Overall, there may be a relationship between increased psychosocial causal views and increased positive attitudes towards schizophrenia, while increased biogenetic causal views may be linked to increased negative attitudes.

Causal beliefs - psychosocial vs. biogenetic

20 studies (N = unclear) investigated *general public's* causal beliefs about schizophrenia, and 16 studies reported the public believed schizophrenia has predominantly psychosocial causes (i.e. environmental stressors coping abilities); 3 reported they endorsed predominantly biogenetic causes; and 1 study reported equal psychosocial/biogenetic causes11 studies (N = unclear) investigated the *patients*' causal beliefs about schizophrenia. 10 studies reported patient's fostered predominantly psychosocial causal beliefs, and 1 reported they believed schizophrenia had predominantly biogenetic causes.

11 studies (N = unclear) investigated their *relatives*' causal beliefs about schizophrenia.9 studies reported they believed predominantly psychosocial causes; and 2 reported predominantly biogenetic causes.

5 studies (N = unclear) investigated *clinicians*' causal beliefs about schizophrenia and 4 supported predominantly biogenetic causes; and 1 survey of hospital staff reported predominantly

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psychosocial causal beliefs.	
Relationships between causal beliefs and attitudes towards schizophrenia	
19 studies (N = unclear) inv and public attitudes. 18 rep increased negative attitud between increased bi	restigated the relationship between <i>biogenetic causes</i> of schizophrenia borted a relationship between increased biogenetic causal beliefs and les towards schizophrenia, while only 1 study reported a relationship iogenetic causal beliefs and increased positive attitudes towards schizophrenia.
12 studies (N = unclear) investigated the relationship between <i>psychosocial causes</i> of schizophrenia and public attitudes. 11 reported a relationship between increased psychosocial causal beliefs and increased positive attitudes towards schizophrenia, and 1 study reported a relationship between increased psychosocial causal beliefs and increased negative attitudes towards schizophrenia.	
Consistency in results	Unable to assess; no measure of consistency is reported.
Precision in results	Unable to assess; no measure of precision is reported.
Directness of results	Direct

Schomerus EG, Lucht M, Holzinger A, Matschinge, H, Carta MG, Angermeyer MC

The Stigma of Alcohol Dependence Compared with Other Mental Disorders: A Review of Population Studies

Alcohol and Alcoholism 2011; 46(2): 105-112

View review abstract online

Comparison	General population surveys of beliefs and attitudes towards schizophrenia, alcohol dependence and depression.
Summary of evidence	Moderate quality evidence (large samples, unable to assess consistency or precision, direct) indicates that people in the general population viewed schizophrenia as a mental illness more frequently than depression or alcohol dependence; alcohol dependence was associated with higher levels of blame. People with alcohol dependence and schizophrenia were considered more unpredictable or dangerous than people with depression. There was greater negative emotion and desire for social distance towards people with alcohol dependence and

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	schizophrenia than people with depression.
Beliefs and attitudes about schizophrenia vs. alcohol dependence vs. depression	
	13 population surveys, N = 21 489
Definition as a mental illn menta	ess: 4 studies reported that more people viewed schizophrenia as a I illness than depression or alcohol dependence.
Blame: 4 studies reported m depression and less again schizo	nore blame apportioned to people with alcohol dependence, less so for for schizophrenia. 3 studies reported equivalence for depression and phrenia, but more blame for alcohol dependence.
Unpredictability/dangerousne with alcohol dependend depression. 2 studies repo dependence	ess: 3 studies reported higher unpredictability/dangerousness in people ce than in people with schizophrenia and less again in people with rted equivalent unpredictability/dangerousness in people with alcohol or schizophrenia, and less in people with depression.
Negative emotional reaction with alcohol dependence, le	n: 2 studies reported more negative emotional reaction towards people ess towards people with schizophrenia, and less again towards people with depression.
Desire for social distance: 6 dependence, less from peo study reported most desire alcohol dep	studies reported most desire social distance from people with alcohol ple with schizophrenia, and less again from people with depression. 1 social distance from people with schizophrenia, less from people with endence, and less again from people with depression.
Approval of structural discrimination: 2 studies reported more approval of structural discrimination (preferences for public funding) against people with alcohol dependence than against people with depression or schizophrenia. 2 studies reported more approval of structural discrimination against people with schizophrenia than against people with alcohol dependence or depression.	
Consistency in results	Unable to assess; no measure of consistency is reported.
Precision in results	Unable to assess; no measure of precision is reported.
Directness of results	Direct

Explanation of acronyms

CI = confidence interval, d = Cohen's d, standardised mean difference, I² = the percentage of the variability in effect estimates that is due to heterogeneity rather than sampling error (chance), N = number of participants, OR = odds ratio, 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

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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.

† 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 effect¹⁸.

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^{19} . InOR stands for logarithmic OR where an InOR 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 strong association. а 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. regression Standardised coefficients represent the change being in units of standard deviations to allow comparison across different scales.

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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.

‡ 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. I² 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. l² can be calculated from Q (chi-square) for the test of heterogeneity with the following formula;

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

§ 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 relaxed²⁰.

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 intervention. particular population, 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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