

EFFECTIVENESS OF ANTI-STIGMA INTERVENTIONS FOR MENTAL HEALTH IN CHINA: A SYSTEMATIC REVIEW OF PUBLIC PERCEPTION AND AWARENESS

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Received: July 15, 2024

Revised: August 15, 2024

Accepted: August 30, 2024

Published: September 10, 2024

ABSTRACT

The general population in China often endorses the stigma surrounding mental disorders. Efficient anti-stigma treatments supported by empirical proof are necessary to decrease public stigma. Nevertheless, the majority of research on the effectiveness of anti-stigma treatments was conducted in Western nations, and current systematic assessments often omitted current Chinese findings. This systematic study assesses the effectiveness of anti-stigma therapies in the general public of China's mainland, our study comprised 9 trials, including a total of 2042 individuals. The interventions resulted in a modest impact on the decrease of stereotypes and a comparable impact on enhancing mental health awareness. Discrimination results were not evaluated in any conducted study. Consumer interaction interventions did not show superiority over those without such contact. The available data on moderate and long-range impacts needed to be improved. Analysis revealed moderate variation among the research investigations. The assessment of research quality was average.

Keywords: Chinese people, Anti- stigma: Interventions, Public perception and awareness.

1. INTRODUCTION

Individuals who have mental illness frequently encounter two types of stigma-related obstacles. On one hand, individuals may interpret bias and lack fair treatment that is supported by the broader society. The impression of public stigma is often associated with the encounter and expectation of social ridicule, which prompts the adoption of coping mechanisms such as concealment or social isolation. Conversely, the internalization of perceived prejudice can result in self-discrimination, therefore preventing stigmatized persons from actively seeking possibilities such as employment or housing [1]. Symptoms of self-stigma manifest when individuals with mental illness not only possess knowledge of unfavorable preconceptions about themselves and their social group but also endorse and implement these stereotypes towards themselves.

This phenomenon, known as the "why try" Impact, can reduce self-worth and confidence in persons who feel unwilling or undeserving of attaining their life objectives. Moreover, individuals with mental

illness may develop self-prejudice if they suffer from a faulty or inadequate understanding of their condition and available therapies [2]. Hence, elements of psychological literacy pertaining to the identification of depression and seeking assistance are pertinent for the mitigation of (self-) stigma.

Section II of this two-part research examines the effectiveness of anti-stigma treatments aimed at individual's disorders in China. In order to maintain clarity, this study will use the term "China" not as a governmental designation but rather to denote a geographical area characterized by a shared language, culture, and legacy, namely Mainland China, Hong Kong, Taiwan, and Macau [3].

Recent studies indicate that the prevalent inclination towards individuality in China could potentially lead to a greater social detachment from individuals with schizophrenia. Conversely, because of the conventional collectivistic characteristics of Chinese society, persons suffering from mental disorders are more prone to

accept and absorb the negative perception experienced by the public [4]. Consequently, the Effect of stigma may be particularly profound among Chinese persons who have mental illness. There is a prevalent and expected stigma faced by Chinese individuals with mental illness in social relationships, work environments, and psychological facilities. The research reveals that over 50% of those diagnosed with mental disorders in China absorb unfavorable stereotypes and encounter self-stigma [5]. The presence of stigma among Chinese individuals with mental disorders is linked to adverse feelings, diminished happiness in life, restricted social connections, and reduced productivity. Approximately 40% of persons who have mental illness in Hong Kong actively avoided socializing and expressed a desire to commit suicide due to the prejudice that they faced.

In recent years, Western nations have devised many strategies to mitigate the social stigma experienced by those with mental illness. Psychotherapy and the promotion of knowledge about mental disorders are frequently employed to enhance information regarding mental illness, comprehension of stigma, and the development of coping mechanisms to avoid stigma. Cognitive reorganization is a fundamental approach in psychological treatment that aims to recognize and confront self-stigma as unreasonable assertions [6]. Acceptance-based medication, the narrative gets closer, and help with disclosure choices have been shown to decrease social stigma-related anxiety and stigma toward themselves.

A multitude of methodologies have been employed or culturally modified in an increasing body of research to mitigate discrimination and its consequences among those with mental disorders in China. Recent assessments have gathered significant evidence supporting the effectiveness of treatments aimed at reducing stigma among the public. However, it is worth noting that most of the research investigations included in these analyses from Western nations [7]. The consensus-building research carried out proposed many approaches or objectives for anti-stigma treatments tailored to certain situations. Subsequent evaluation highlighted that the effectiveness of implemented measures might temper the observed impacts.

Previous cross-cultural research indicates that Chinese persons exhibit poorer proficiency in emotional literacy and tend to maintain greater

social distance from those with mental disorders compared to Western Participants The applicability of findings from Western nations to Chinese cultural situations is limited. Therefore, the objective of this review was to assess the effectiveness of current anti-stigma measures for the general community in China.

2. Methodology

The present systematic review was conducted using the guidelines of the PRISMA checklist as outlined. Prior to commencing this comprehensive investigation, the review process had been submitted on PROSPERO. This article (part I) will present the results of treatments aimed at decreasing stigma related to mental disorders among people of all ages [9]. Part II will focus on anti-stigma strategies specifically targeting individuals with mental disorders.

2.1. Requirements of qualification

Our analysis encompassed both RCTs (randomized controlled studies) and non-randomized controlled trials that investigated the effectiveness of treatments against psychological stigma in China as a whole, Hong Kong, Taiwan, and Macau. Only prospectively randomized trials in a concurrent group design met the criteria for inclusion in the present review. Researchers were required to be individuals from the general population [10]. The inclusion criteria encompassed studies that documented any form of treatment that effectively decreased stigma among the public or enhanced emotional education, as compared to either nothing done or actively regulated conditions. The investigations included were required to assess at least a single outcome associated with stigma. Encompassed were publications written in either English or Chinese.

2.2. Exploration method

Study identification was conducted through the use of computerized database servers, manual examination of reference lists from pertinent assessments, and conversations with individuals knowledgeable about relevant publications. The databases, which comprise “PubMed, PsycINFO, Social Science Citations Index, EMBASE”, A Cochrane randomized trials registering, and three Chinese sources, were queried for results published between 1981 and September 2017 [11]. The

search method employed in both English and Chinese languages was as follows: 'stigma' OR 'discrimination' OR equivalents with 'mental health' mental illnesses OR equivalent AND 'intervention' OR substitutes. We initially searched ResearchGate and, subsequently, CNKI. The following search methods were developed based on the PubMed and CNKI approach and customized for each resource.

2.3. Selection of studies and gathering of data

Two authors, ZX and FH, conducted separate screenings and made selections of papers for subsequent consideration. The initial evaluation involved carefully reviewing the headings and abstracts of articles obtained from the search to identify possibly related trials. Furthermore, all the texts of pertinent studies that were revealed through the screening of abstracts and titles were acquired and then evaluated based on the aforementioned qualifying criteria [12]. The resolution of any issue was achieved by means of debate. When deemed essential, a third coworker (NR) was recruited.

2.4. Evaluation of the risk of bias

The co-authored 'Risk of Bias' tool was used to evaluate the risk of bias. This tool features 7 fields: order era, allocations hiding, visually impaired attendees, staff and results testers, unfinished outcome information, particular results reports, and other reasons for bias. The overall likelihood of bias in every field was assessed to be high, low, or uncertain [13]. The hazards for stigma-related and behavioral literacy outcomes were assessed based on the standards outlined. Actions created by the research authors in Chinese without any psychological testing data evaluated with a Cronbach's alpha value below 0.7 or unreferenced evaluates were considered to be at a 'high hazard of bias. Strategies created by the research authors with a criterion alpha value above 0.7, or those previously established as accurate or reliable in a Chinese populace, were classified as 'low risk' [14]. Measures without any indication of reliability or validity for Chinese participants had been assessed as 'unclear risk'.

2.5. Critical examination

Our classification of all documented results included the classifications of stereotypes, 'prejudicial views', 'bias', and mental healthcare awareness. This review focused on comparing the post-intervention differences between the treatment and the control categories. Quantified were the standardized average variations together with their corresponding 96% assurance intervals. We aggregated every investigation that reported multiple outcomes within every group into a single average magnitude of Effect. When trials included multiple intervention groups, we merged the groups to generate a single pairwise contrast for each research [15]. Wherever data were accessible, we conducted a comparison between intervention and either absence or proactive control. Positive Standardized Mean Difference results consistently demonstrate a pro-stigma therapy impact. We performed designed subgroup evaluations to compare the summary of differences for every category, namely therapies, regardless of consumer interaction. Each analysis utilized random impact variables and was computed using Review Manager.

Analysis of statistical variability was conducted using "I² and chi-square testing at a threshold of significance of $p < 0.1$ ". The effects were classified into small (0.2), moderate (0.5), or high (0.8), according to Cohen (1992). The meta-analytic findings are visually displayed using plots of trees. Where it was not possible to assess the significance of each investigation for the meta-analytic, the results were reported in a descriptive manner where suitable [16]. When data on outcomes were absent, we reached out to the authors of the studies. Failure to get such data necessitated the narrative reporting of the research's findings.

3. Results

3.1. Key attributes of the considered research

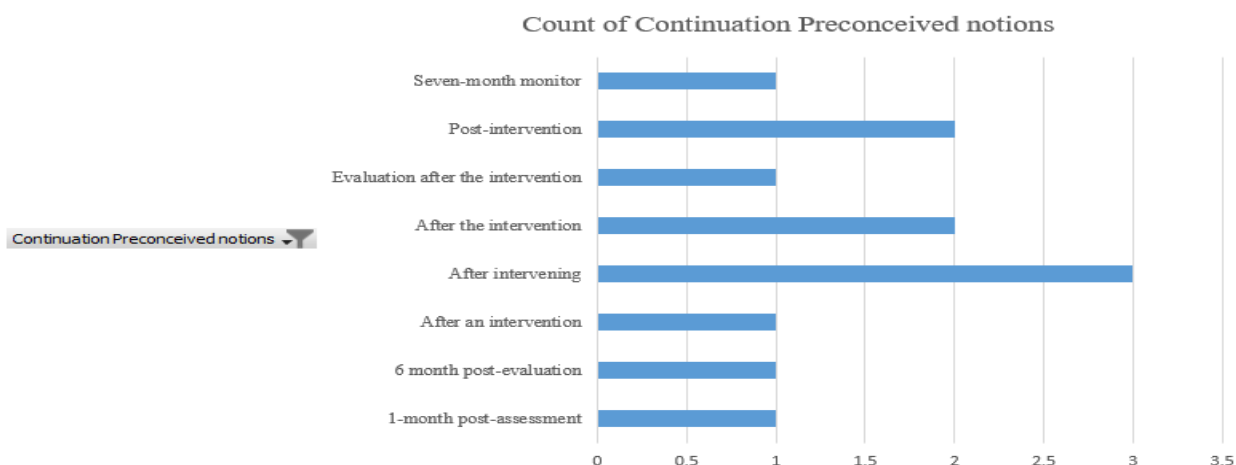
A literature review yielded 3863 citations. Ultimately, the review incorporated 8 research studies with 2041 people. Except for a single investigation, all the studies were randomized. Two research investigations documented financial assistance provided by funds from the nearby university and the municipal government. Table 1 presents a review of the features of the research included.

Table 1. Key attributes of the considered studies.

| Author, publication period | Attendee | Therapeutic approach | Regulation | Previously existing condition | Scales | Continuation Preconceived notions | Efficacy | Mental wellness |
|----------------------------|---------------------------------|--|--------------------------------|-------------------------------|--------------------|--|---|--|
| [17] | Elementary school pupils | Education combined with video-based consultation (n=167) | Academics(n=89) | Dementia | “(PSC, SDS, KTS)” | Evaluation after the intervention 1-month post-assessment | 0.11 (-0.17, 0.37) -0.012(-0.23, 0.26) | 0.19 (-0.07, 0.44) 0.46 (0.19, 0.71) |
| [18] | Individuals from the local area | Education (n=33 7) | Lack of intervention n (n=168) | Schizophrenia | “(DSS)” | Post-intervention | 0.35 (0.16, 0.63) | |
| [19] | Elementary school students | Education (n*) | Lack of intervention (n*) | Schizophrenia | “(SDS, SoS, ASMI)” | Post-intervention | NA [†] | NA [†] NA [†] |
| [20] | medical learners | Instruction + face-to-face interaction (n=81) | Lack of intervention (n=86) | Depression | “(ATP)” | After the intervention | 0.23 (-0.08, 0.53) | |
| [21] | Higher education learners | Education (n=224) | Lack of intervention (n=76) | Mental illness | “(BAS, PBS, HSWS)” | After intervening | | 0.18 (-0.11, 0.48) |
| [22] | Higher education students | Academics (n=67) | Lack of intervention (n=67) | Depression | “(BAS, PBS, DSD)” | After intervening | | 0.88 (0.44, 1.15) 0.12 (-0.25, 0.55) |
| [23] | Higher education students | Academics (n=35) | Lack of intervention (n=301) | Psychic problems | “(SAS, WSPSHS)” | After the intervention | 0.53 (0.03, 1.14) | 0.89 (0.39, 1.41) |
| [24] | Elementary school students | Instruction + face-to-face interaction (n=116) | Lack of intervention (n=104) | Psychopathology | “(OMICC)” | After an intervention Seven-month monitor | NA [‡] NA [‡] | |
| [25] | Enrolled medical learners | Education combined with video- | Education exclusively (n=104) | Depressed mood | “(IDLS, MICA)” | After intervening | 0.02 (-0.37, 0.38) | NA [†] |

| Author, publication period | Attendee | Therapeutic approach | Regulation | Previously existing condition | Scales | Continuation Preconceived notions | Efficacy | Mental wellness |
|----------------------------|----------|----------------------------|------------|-------------------------------|--------|-----------------------------------|-------------------|-----------------|
| | | based consultation (n=103) | | | | 6 month post-evaluation | 0.32 (0.04, 0.59) | NA [†] |

Figure 1 count of continuation of preconceived notions in mental health stigma studies across various post-intervention time frames.



References:

HK = Hong Kong; SMD = Standardized mean deviation; CI = Confident interval; * = not provided; NA = Not Given; ... = neither values and standardized deviations nor frequency for events could be derived; = provided values lacking standard deviations or normal errors; "Public Stigma Scale (PSC), Social Distance Scale (SDS), Knowledge Test regarding Schizophrenic (KTS), Dementia Stigma Scale (DSS), and Stereotype of Schizophrenia (SoS)" are two scales used to measure stigma. The "Attribution Scale of Mental Illness (ASMI), Attitudes Towards Psychiatry (ATP), Biological Responsibility Scale (BAS), Psychosocial Blaming Scale (PBS), Help-Seeking Willingness Scale (HSWS), and Desired Social Distance (DSD) are interconnected constructs. The Stigma Attitudes Scale (SAS) and the Disposition to Get Professionals Psychologist Help Scale (WSPSHS)" Opinions of Mental Disorders in

Chinese Communities Measure and International Depressive Learning Research are two survey methods. Mental Health: Professionals' Opinions.

3.2. Intervention and comparative analysis

The research included educational activities implemented either by themselves or in conjunction with consumer interaction, including face-to-face interact and online interaction (refer to Table 1. The educational methods employed encompassed courses, scenarios, films, and instructional resources. Instructional approaches generally focus on enhancing knowledge about mental health and dispelling misconceptions about mental disease [26]. Two investigations utilized face-to-face interactions and conversations exploring histories of mental disorders, experiences of stigma, or potential futures with individuals in rehabilitation who have schizophrenia or bipolar disorder or with

hospitalized patients recuperating from mental disorders.

The study employed video-based interaction to present brief recorded videos of individuals with schizophrenia discussing their own experiences with mental disorders and their journey towards a satisfying life. Another investigation included firsthand accounts of an undergraduate and famous person who had suffered from depressive disorders, discussing their perspectives and the consequences on their life [27]. Therapies were administered exclusively in communal settings. The investigations documented the implementation of an anti-stigma training handbook. The intervention duration varied from around 6 minutes to 21 hours and was divided across 1 to 11 components or visits.

Two research investigations conducted a comparison between interventions and active oversight circumstances, while seven studies involved a not intervening controls state. Assessments of results were typically conducted either right away or 1–2 weeks after the therapy was administered. The research included a final monitoring evaluation at 1, 6, or seven years following the therapy's completion.

3.3. Risk of bias

Almost 50% of the investigations indicated that participants were assigned arbitrarily without any other details. Hence, the potential for bias was ambiguous with respect to the random production of sequences and the hiding of distribution. Not a single study documented the concealment of participants and staff. A low risk was identified in 45% of the investigations for blinded evaluations of outcomes and in 68% of the trials for attrition bias. A large proportion of investigations (7/9) exhibited an indeterminate risk of reporting prejudice due to the absence of study procedures or applicable information [28]. Based on our predetermined criteria, the investigation conducted by Chung and Chan in 2005 employed a scale with a poor level of accuracy to evaluate social isolation.

3.4. Effectiveness of programs targeting stigma

Two investigations were omitted from the quantitative synthesizing of the 9 research included because of inadequate data. As a consequence, the overall review contained five investigations with absence groups and two investigations with active

control subjects. This study did not assess bias or binary results.

3.4.1. Preconceived notions

The research evaluated the effects when comparing intervention versus absence situations. The measures, involving 734 individuals, had a modest but statistically important impact on negative preconceptions. Therapies utilizing touch and those lacking showed no meaningful distinction in effectiveness. The level of heterogeneity among trials was minimal. Research conducted follow-up evaluations 1 month and six months afterwards following the treatment, accordingly, to contrast the effects of education combined with involvement in instruction alone. Incorporating contact into a teaching strategy did not have a statistically significant impact on preconceptions after the session. The level of variance among trials was minimal. [29] observed no significant impact of the therapy at the 1-month monitoring (Shear et al. = -0.02, 96% confidence interval = -0.37 to 0.35, $p=0.56$). However, Rong et al.'s (2011) research identified a modest to moderate impact of education paired with connection at the 6-month follow-up period "(SMD=0.32, 96% CI =0.04 to 0.68, $p=0.04$)".

3.4.2. Psychological literacy

Three research studies, including 449 individuals, found a modest and not significant impact on their psychological literacy (standardized mean difference = 0.44, a 95% confidence interval = -0.07 to 0.84, $p=0.08$) [30]. Every investigation enlisted undergraduates as participants. The level of variability was substantial and of statistical importance.

3.4.3. Effect of interventions promoting a biological model of depression

A pair of research specifically examined biological causes of depression. The treatments did not have a significant impact on psychological awareness (self-mean difference = 0.12, 96% confidence interval = 0.34 to 0.35, $p=0.55$; standard deviation = 0.19, 96% confidence interval = 0.12 to 0.57, $p=0.33$, accordingly) = [31]. A substantial impact size (standardized mean difference =0.79, 95 per cent confidence interval =0.53 to 1.24, $p<0.01$) was observed for reducing bias.

3.4.4. Impact of interventions on pupils at educational institutions

Approximately 76.8% of those taking part were undergraduates enrolled in higher education institutions. Our study employed an analysis of narratives to investigate the Impact of interventions in this specific group. A single investigation found that schooling alone failed to have an important effect on reducing adverse perceptions, bias, and psychological literacy among students despite explicitly presenting outcomes. A separate investigation conducted by Ng and Chan in 2002 found that the combination of education and face-to-face interaction had a substantial positive impact on reducing preconceptions towards individuals with mental disorders.

Initial, afterwards, and 7-month monitoring mean values of stereotypical sections indicated little enhancements, no modification, or even exacerbated preconceptions in the treatment along with control categories compared with background. An additional study [32] discovered that instruction in combination with video-based interaction had an important impact on psychological knowledge at 1-month monitoring. The meta-analysis above of psychological awareness revealed that schooling had a modest to moderate impact on undergraduates. An investigation conducted [33] found that schooling had a moderate impact (standard deviation =0.54, 95 per cent confidence interval =0.04 to 1.04, $p=0.05$) on prejudices in this particular group. Nevertheless, two investigations conducted by [34] utilized a combination of education and interactions with medical school students. These studies found that the impacts on stereotypes after the training program were minimal and not statistically significant. One investigation demonstrated that education simply decreased bias "(standardised mean difference =0.79; 96% confidence interval =0.53–1.24, $p<0.01$)".

4. Discussion

The objective of this review was to assess the effectiveness of anti-stigma programs for the entire population in China. A total of nine research investigations were identified, all of which had a modest impact on negative perceptions and psychological literacy. Regarding stereotypes, therapies involving touch did not show greater

effectiveness compared to therapies without interaction. The results of our study align with the review conducted, which indicated that approaches targeting stigma had a modest effect on diminishing individual prejudice or social isolation. Furthermore, the study found that education was the most prevalent and equally successful approach compared to contact therapies.

Furthermore, our results align with the most recent evaluation of anti-stigma programs that showed a notable decrease in stigmatizing beliefs. While connection-based measures, particularly face-to-face interaction, have shown efficacy in diminishing perceived disadvantage, our findings did not provide evidence supporting the superiority of education paired with connection over education alone. The effectiveness of contact-based therapies in our study is derived from a sampling of medical learners and teenagers, perhaps accounting for the discrepancy shown in our results compared to earlier studies.

A comprehensive analysis in 2015 revealed that interpersonal treatments effectively decreased the stigma associated with mental health amongst undergraduates but did not have the same Effect on medical school students. One possible explanation for this phenomenon is the prevalence of biological disease models amongst medical learners, which may be linked to more deeply ingrained negative views. A systematic review found that connection was more efficacious than learning for older people, but education was superior to interaction for teenagers.

The ideas of teenagers regarding mental disorders may still need to be fully established, and they are more receptive to educational interventions. Moreover, the Impact of interaction-based therapies may be associated with the specific sorts of messages employed during the encounter. The use of messages that allow those listening to perceive the full individual and have faith in the possibility of healing is strongly advised for anti-stigma initiatives. Nevertheless, some research that formed the present review should have involved these themes in contact treatments more extensively. The nature of interactions with individuals with mental disorders, including their pleasantness, voluntariness, and perception of cooperation according to comparable status, might also impact the Impact of such interactions on decreasing stigma. Contrary to decreasing social

isolation, an inadequate level of interaction might actually reinforce stereotypical views, intensify unpleasant emotions, and more.

Subsequent investigations should focus on determining the most effective components (such as presenter kinds, time frame, story content, connection methods, and contentment levels) of interaction-based anti-stigma initiatives in China. Two research conducted by the same investigator examined biophysical causal theories for depressive disorders with the aim of enhancing psychological awareness and diminishing stigma. The therapies did not yield statistically significant impacts on psychological literacy. While a significant effect magnitude was observed for bias, this could be attributed, in part, to initial disparities between both groups of participants.

Hence, there is insufficient empirical support to suggest that enhancing biological accusations leads to better mental health awareness or reduced bias. Significant correlations were shown between higher support of medical theories and increased mental health knowledge and therapeutic positivity within Chinese adults. Nevertheless, the Chinese population has shown a higher propensity to acknowledge the potential risk of genetic inheritance of mental disorders, therefore potentially exacerbating the social detachment experienced by individuals with mental disorders. Hence, rather than prioritizing scientific messages, efforts aimed at diminishing stigma among the general population in China should prioritize its biopsychosocial paradigm and address culturally unique challenges associated with mental disorders. The use of cultural elements is essential in anti-stigma initiatives and policies targeting Chinese individuals. Conventional Chinese values emphasize the pursuit of the development of peace within oneself, family, and community. The prevailing common beliefs about the peril and uncertainty linked to mental disorders directly confront these social standards, resulting in the perpetuation of stigma. Successful strategies should focus on the aspects that have the highest importance in Chinese culture.

The incorporation of Chinese expressions, such as “overthinking”, into anti-stigma initiatives could effectively diminish negative preconceptions and social isolation associated with mental disorders. Predictably, the therapies examined in this analysis largely relied on educational methods and were

overseen by mental health experts. Future studies should promote the involvement of individuals with mental illness in spearheading anti-stigma campaigns by sharing their firsthand experiences. Given the strong reverence of Chinese individuals for established hierarchical alliances, such as the doctor-patient dynamic, it might be difficult for individuals with mental disorders and mental health practitioners to develop and implement interventions collaboratively.

However, it can concurrently enable contact-based anti-stigma initiatives and offer chances to enhance individual autonomy for individuals with mental disorders. The bulk of respondents in this study consisted of students from higher education institutions. Further investigation should encompass a wider array of target demographics, such as mental health practitioners, teachers, legislators, and other pertinent constituencies. The majority of the research was carried out in Hong Kong and Taiwan, which are categorized by the International Monetary Fund as high-level countries. The other investigations were done in Beijing and Tianjin, the two prominent cities in Mainland China, which are categorized as middle-class countries. The geographic spread of mental illness may be associated with differences in income, the quality of mental health care, funding for study, or knowledge of the stigma surrounding mental disease. The primary focus of therapies was on schizophrenia and despair. Additional illnesses, including anxiety-related conditions, bipolar disorders, and susceptible mental health, would be valuable subjects for further investigation. To date, no investigation has assessed discriminating effects.

Further research should incorporate discriminatory indicators to evaluate whether individuals behave based on preconceived notions and bias. No research utilized long-term therapies. The majority of studies evaluated results straight away or soon after the treatment was administered without any subsequent monitoring. Hence, the method of review did not allow for the anticipated investigation of subgroup evaluations that would compare short-term against long-term measures and, in addition, immediate vs ongoing efficacy. The research's integrity was moderate, indicating that these results ought to be taken with discretion. An assessment of the Impact of interventions among school pupils was not feasible. Two of the

three investigations conducted with school children needed to yield more outcome data. An investigation conducted by Ng and Chan in 2002 determined that the therapy was successful in reducing preconceptions. However, it remains to be seen how this finding can be logically explained based on the data provided. Further research indicated that the combination of education and video-based interaction had a substantial and enduring impact on mental health literacy.

Prior evaluations have highlighted that inadequate research methodology, substandard reporting effectiveness, and incongruous findings often hinder the ability to make definitive judgements regarding the effectiveness of educational treatments in this domain. Anti-stigma measures targeting the general population have shown efficacy in diminishing unfavourable attitudes towards individuals with mental disorders in China. The efficacy of education programs in combination with contact was not superior to that of activities without contact. Additional research using rigorous methodological frameworks is necessary to examine the efficacy of consumer engagement in diminishing stigma. Considering the significant impact of prejudice on the daily activities of individuals with mental disorders, future studies must investigate the efficacy of interventions aimed at mitigating discriminating behaviours. Evaluation of therapies should be conducted with extended follow-up periods to assess their long-lasting impact. Finally, successful anti-stigma initiatives should be examined by meticulously considering cultural features.

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