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Special Feature Article

Mental Health-Related Stigma in Non-Psychiatric Professionals: A Mini-Review of Systematic Reviews

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Abstract

Mental health-related stigma is an international issue among non-psychiatric professionals, and relevant research findings have been accumulated. This mini-review aimed to explore systematic reviews that conduct meta-analyses of stigma among non-psychiatric professionals and to summarize international trends. The database search using PubMed and hand search found the four relevant meta-analysis papers. Based on the two meta-analyses, although mental illness-related stigma in medical staff has gradually improved, medical staff in general hospitals tended to hold negative attitudes toward people with schizophrenia, drug dependence disorders and alcohol dependence disorders. Two meta-analyses on anti-stigma interventions reported that anti-stigma interventions involving simulated training such as role-playing and voice simulation and social contact may contribute to reducing stigma in medical staff. On the other hand, each meta-analysis included individual studies with psychiatric staff and psychologists as study participants. Therefore, the systematic review of meta-analysis included in this mini-review did not examine the extent of stigma or effective interventions that focus exclusively on non-psychiatric professionals. In addition, the long-term effects of anti-stigma interventions were still unclear since the follow-up period of individual studies were short. Future research is expected to address these issues.

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Keywords: anti-stigma, discrimination, non-psychiatric professionals, prejudice, mini-review

Introduction

Mental health-related stigma among healthcare professionals is an internationally common issue. American sociologist Goffman defined stigma as a personal characteristic that unjustly differentiates an individual in human relationships.[4] Since Goffman, many studies have examined stigma from multiple perspectives, and the term has come to have a broad meaning, referring to attitudes and acts that attach a devaluing label to an individual.[23] Specifically, stigma has been classified into: "structural stigma," pertaining to institutions, culture, and media coverage; "public stigma," referring to knowledge (ignorance), attitudes (prejudice), and behavior (discrimination) of individuals toward people with mental illness; "self-stigma," in which the person with mental illness internalizes the stigma; and "Stigma by association," directed at family members and mental health staff.[19] Healthcare professionals are included among the "public" in public stigma. In Japan, non-psychiatric professionals have been noted to hold negative attitudes toward mental illness at a level comparable to that of the general public,[5] and reducing their stigma remains a significant challenge.

Several characteristic adverse effects of stigma among non-psychiatric professionals have been identified. A frequently noted problem is the relationship between stigma and appropriate treatment for individuals with mental illness. A review examining the physical health of individuals with mental illness reported that those with severe mental illness, such as schizophrenia, are more likely to have comorbid physical conditions, including HIV/AIDS, obesity and metabolic syndrome, obstetric conditions, and heart disease.[2] Another review indicated that, compared with people without mental illness, individuals with mental illness have approximately twice the mortality rate and a median life expectancy approximately 10 years shorter (median of 22 studies).[20] A cohort study of long-term hospitalized patients with mental illness in Japan after discharge estimated a threefold higher mortality rate and life expectancy approximately 20 years

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shorter, indicating an even more serious situation.[7)]

It has been reported that structural problems in psychiatric care and stigma among medical staff may underlie these issues.[8)] More specifically, Zolnierek, C.D. noted that non-psychiatric professionals tend to hold negative stereotypes about individuals with mental illness based on psychiatric symptoms and related behavioral disorders, leading them to be reluctant to provide treatment.[24)] Thus, individuals with mental illness may be deprived of opportunities to receive appropriate treatment for physical conditions due to stigma.

Stigma can also be directed at psychiatric staff. For example, psychiatric care is sometimes viewed negatively as "unscientific" or "not medicine,"[6)] and as a result, staff treating physical illness may perceive psychiatric medicine as lacking authority.[19)] There is concern that such bias also influences the career aspirations of residents and medical students.[6)] Therefore, stigma among non-psychiatric professionals is disadvantageous to both individuals with mental illness and psychiatric staff, and is therefore considered a challenge that needs to be addressed.

Research on stigma and its adverse effects among non-psychiatric professionals has been accumulating internationally. However, in Japan, opportunities to introduce the findings of previous studies are limited. The purposes of this paper were to review the current state of stigma targeting non-psychiatric professionals by overviewing systematic reviews that performed meta-analyses, and organize international trends in a mini-review.

I. Methods

1. Study overview and eligibility criteria

This mini-review involved searching for systematic review articles, particularly those that performed meta-analyses, on stigma related to mental illness among non-psychiatric professionals, and then the results were summarized. Regarding eligibility criteria, the inclusion criteria required that all four of the following conditions were met: 1) the study targeted non-psychiatric clinical staff; 2) mental health-related stigma was addressed as an outcome; 3) a systematic review was conducted and meta-analysis was performed; and 4) the study was published in a peer-reviewed academic journal. Exclusion criteria were: 1) the study targeted only students or psychiatric staff; 2) the primary theme was stigma toward specific populations, such as those with dementia, intellectual disabilities, drug dependence, or behavioral disorders such as self-harm; and 3) the paper was

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limited to studies from a specific country. Articles meeting any one of the exclusion criteria were not eligible for this mini-review.

2. Search and selection of review articles

Relevant systematic review articles were searched for using the academic database PubMed. The search targeted article titles and abstracts, using the following keywords: staff OR professional* OR provider* OR doctor OR clinician OR physician OR nurs* AND stigma* OR attitude* OR discriminat* AND mental OR psychiatr* OR psycho* OR schizophrenia OR depress* OR bipolar AND systematic review OR meta-analysis (final search date: January 12, 2022). In addition, relevant studies were manually identified by screening the reference lists of reviews included in this mini-review, and the search engine Google was used to find further review articles. Screening using article titles and abstracts was performed of the retrieved article records, and records clearly not meeting the eligibility criteria were excluded. Full texts of the remaining records were obtained and carefully examined for conformity with the eligibility criteria. All selection procedures were performed by the first author.

3. Synthesis of evidence

The study selection process was described based on "PRISMA 2020 Reporting Guidelines."[12] From the included review articles, author names, publication year, primary objectives, participants, interventions, and main results were extracted. A summary table was then created for each study. Information was collected from each study by the first author, and its content was verified by the second author.

II. Results

1. Selection and characteristics of included articles

A database search identified 512 records (Figure 1), which were subject to title/abstract screening. Seventeen records proceeded to full-text screening, and three review articles were included. A manual search identified one additional record, resulting in one additional review article being included. In total, four review articles were included in this mini-review.[3][9][10][14] All included review articles had been published within the past five years, with the oldest dating from 2018.[3] Two review articles (i and ii in Table 1) were meta-analyses of attitude surveys,[3][9] and the remaining two articles (iii and iv in Table 2) were meta-analyses of the effectiveness of interventions aimed at reducing stigma.[10][14] Apart from one review article (ii),[9] the proportion of

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individual studies within each review article that targeted psychiatric staff, psychologists, or psychology students was small (Tables 1 and 2).

2. Findings on attitudes

Table 1 summarizes the review articles that performed meta-analyses on attitudes toward mental illness. The review article by Giandinoto, J.A. et al. (i)[3] focused on medical staff in general hospital settings, although it also incorporated studies that included psychiatric nurses working within general hospitals. The oldest individual study included had been published in 1997, while all others underwent publication in 2007 or later. The meta-analysis found that 53% (95% CI = 33–74%) of participants perceived individuals with mental illness as "dangerous (people)." This tendency was particularly marked for schizophrenia (OR = 6.71, 95% CI = 1.59–28.30), drug dependence (OR = 0.17, 95% CI = 0.04–0.69), and alcohol dependence (OR = 0.25, 95% CI = 0.07–0.94) compared with depression.

Lien, Y.Y. et al. (ii)[9] conducted a meta-analysis of temporal trends in scores on the Social Distance Scale and attitude scales toward individuals with mental illness (Community Attitudes towards Mental Illness Scale: CAMI; Opinions about Mental Illness Scale: OMI) among medical staff (including psychiatric staff) and healthcare university students (nursing, psychology, social work, pharmacy, and other majors). In the review article by Lien et al., approximately 40% of the individual papers included were targeting psychiatric staff or students majoring in psychology.[9] Meta-analysis results showed that scores on the Social Distance Scale, where lower scores indicate more favorable attitudes, declined over time ($\beta = -0.32$, $P < 0.001$). Trends in CAMI/OMI scores, where higher scores indicate more favorable attitudes, also showed improvement over time ($\beta = -0.43$, $P = 0.007$).

3. Effects of anti-stigma interventions

The results of meta-analyses on the effectiveness of interventions to reduce stigma among medical staff and healthcare university students are summarized in Table 2. Piot, M.A. et al. (iii)[14] examined the effects of simulated training, including role-play and voice simulation, targeting physicians, graduate students, and medical students. Meta-analysis results showed that, for follow-up periods from immediately post-intervention to one month, simulated training yielded significant improvements across all outcome domains: knowledge, attitudes, clinical skills, and behavior toward patients (conduct), regardless of whether the comparison was an inactive

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control or simulated training (active control). For follow-up periods of 2–4 months, significant improvements were reported for skills (standardized mean difference [SMD] = 0.34, 95% CI = 0.02–0.66) and behavior (SMD = 0.83, 95% CI = 0.42–1.24), although with smaller effect sizes. In contrast, no significant improvement was demonstrated for attitudes (SMD = 0.19, 95% CI = −0.22–0.60).

Lien et al. (iv)[10] conducted a network meta-analysis on direct and indirect social contact interventions, educational interventions, and combinations thereof, targeting clinical staff and healthcare university students. Based on Surface under the Cumulative Ranking (SUCRA) analysis, the most effective intervention was indirect social contact (video viewing) plus lecture (SUCRA = 81.5%), followed by direct social contact plus problem-based learning (SUCRA = 77.4%), and indirect social contact alone (SUCRA = 72.2%).

III. Discussion

This mini-review summarized the findings of meta-analyses targeting non-psychiatric professionals on stigma, and organized international trends. Results from the two review articles confirmed the presence of mental health-related stigma among medical staff in general hospitals, while suggesting that the degree of stigma among medical staff may be gradually improving over time. Furthermore, anti-stigma interventions, including simulated training and social contact, were suggested to be educational content that contributes to reducing stigma among medical staff. This mini-review discusses the challenges and prospects related to this evidence.

One concern regarding the findings of this mini-review relates to the participant populations of the individual studies included in each review article. The four review articles included in this mini-review did not target only non-psychiatric professionals; they also included university students and psychiatric staff in their analyses, and some papers were ambiguous in their description of participants.[9)10)14)] With the exception of the review article by Lien et al. (ii),[9)] the number of individual studies targeting psychiatric staff or university students in psychology and similar fields was small in each review. Therefore, careful interpretation of the findings from this mini-review is warranted.

The present mini-review confirmed that medical staff hold a certain level of stigma toward those with mental illness. In particular, an average of approximately half of the staff in general hospitals perceived individuals with mental illness as “dangerous (people),” and this image was more

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marked for individuals with schizophrenia and drug dependence than for depression.[3] A study of the general public similarly indicated that schizophrenia and drug dependence are associated with more negative stereotypes such as perceptions of dangerousness or social unapproachability relative to other mental disorders.[1] When general hospital medical staff are positioned as members of the general public, the findings of this study may be valid.[5] However, in the review article by Lien et al. targeting medical staff and healthcare students,[9] negative attitudes toward mental illness improved over time. However, the review synthesized evidence across mental disorders as a whole and did not provide diagnosis-specific analyses. For example, longitudinal studies tracking stigma-related attitudes over 20–30 years in the United States and Germany, as well as Europe-focused meta-analyses, reported that public attitudes toward depression have improved, whereas comparable improvements have not been observed for schizophrenia.[13][16][17] Accordingly, it remains unclear whether attitudinal changes among medical staff and students are transdiagnostic or primarily driven by improvements for certain conditions (e.g., depression). Further diagnosis-specific research is therefore warranted.

Two review articles included in this mini-review (iii, iv) also proposed effective interventions aimed at reducing stigma among medical staff. Specifically, direct contact experiences and indirect contact experiences using video tools were shown to be potentially effective for medical staff as well.[10] Additionally, simulated training including role-play and voice simulation led to significant improvements across all outcome domains: knowledge, attitudes, skills, and behavior.[14] These intervention methods have also been reported as effective in studies targeting the general adult population.[11][21] Because healthcare professionals often encounter individuals at times of symptom exacerbation, anti-stigma interventions incorporating contact experiences may help staff hear firsthand accounts from individuals with mental illness and gain insight into their daily lives, facilitating an image of recovery and thereby potentially reducing stigma.[18] Training such as role-play, which involves active participation by learners, has been shown to be effective in reducing stigma among medical and other university students.[15][21] Among healthcare professionals, interventions that incorporate active participation are also

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considered to be among the approaches associated with larger effect sizes.

The review article on the evaluation of the effectiveness of anti-stigma interventions (iii)[14] also highlighted challenges. Specifically, the long-term effects are unclear. This review article analyzed results separately for follow-up periods from immediately post-intervention to one month, and for 2–4 months; effect sizes for the 2–4-month follow-up period were smaller than those for immediately post-intervention to one month. In particular, no significant improvement was observed at the 2–4-month follow-up for the attitude outcome. However, long-term effects are a common challenge in stigma research.[19] For example, a Japanese study following university students for two years reported that attitudes toward mental illness that had improved with the intervention were not maintained.[22] The goal of anti-stigma interventions is not temporary improvement, but rather sustained change that enhances everyday practice. Therefore, the development of anti-stigma interventions for healthcare professionals with expected long-term effects, the exploration of systems enabling ongoing interventions, and evaluation of their effectiveness remain future challenges.

This mini-review paper had several limitations. First, only one database was used in the literature search, and the keywords applied were not comprehensive. Therefore, there may be eligible systematic reviews beyond those included in this review. Second, since this mini-review included only review articles that conducted meta-analyses, findings from reviews that did not carry out such analyses are not reflected. As a result, the findings of this mini-review do not constitute comprehensive evidence. Third, this mini-review did not assess the risk of bias of the included review articles; therefore, it may have incorporated biased findings from each review article. Given these limitations, the results of this mini-review should be interpreted with caution. However, there are few reports that have summarized international findings on stigma centered on non-psychiatric professionals, and this mini-review may serve as a useful resource for examining the existence of stigma among medical staff and approaches to its reduction.

Conclusion

This mini-review organized findings from meta-analyses in stigma research that included non-psychiatric professionals as participants. The results suggested that mental health-related stigma among medical staff tends to be gradually improving, but schizophrenia and substance use

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disorders involving drugs and alcohol remain conditions toward which negative attitudes are easily directed. Furthermore, anti-stigma interventions including simulated training and social contact may contribute to reducing stigma, and their implementation and dissemination in clinical settings is expected. However, since each meta-analysis included individual studies targeting psychiatric staff and psychologists, this mini-review was unable to determine the extent of stigma or identify effective interventions specifically for non-psychiatric professionals. Moreover, the long-term effects of the anti-stigma interventions included in the meta-analyses remain uncertain, and the durability of effects following a single intervention has not been established. Future research should address these issues.

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There are no conflicts of interest to disclose regarding this mini-review.

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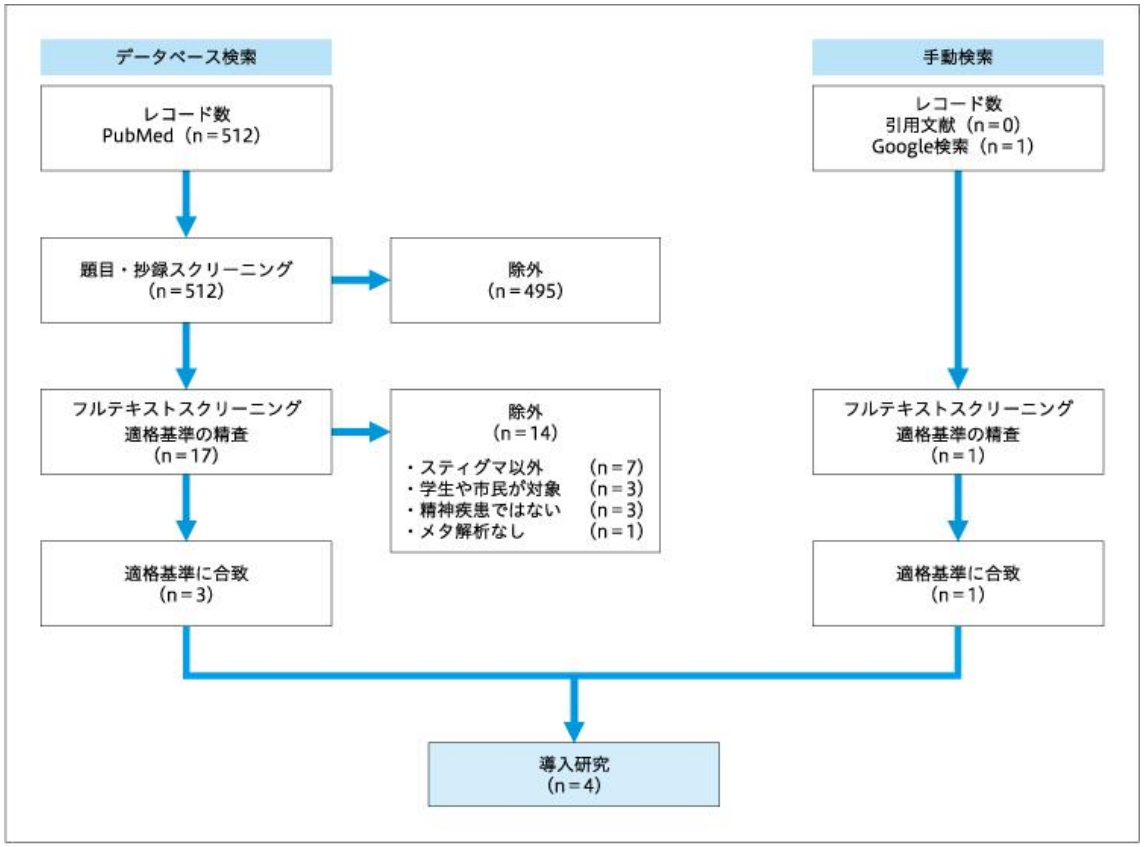

図1　導入研究の選定フロー

Figure 1: Selection flowchart for included studies

表1　医療関係者における精神障害に関する態度についてのメタ解析の結果

主著者，発表年	主目的	対象	導入研究数	主たる結果
【i】Giandinoto, 2018[3]	総合病院医療スタッフにおける精神障害に関するスティグマの程度を検証すること	・総合病院の医療スタッフ	8 (1)[a]	●各診断における「危ない（人）」とする認知の割合 ・精神疾患：0.53（0.33～0.74）[b] ・統合失調症：0.42（0.33～0.52） ・薬物依存症：0.60（0.32～0.88） ・アルコール依存症：0.46（0.03～0.88） ●「危ない（人）」とする認知の診断間の比較 ・統合失調症 vs うつ病：OR＝6.71（1.59～28.30） ・うつ病 vs 薬物依存症：OR＝0.17（0.04～0.69） ・うつ病 vs アルコール依存症：OR＝0.25（0.07～0.94） ・統合失調症 vs 薬物依存症：OR＝0.41（0.15～1.06） ・統合失調症 vs アルコール依存：OR＝0.85（0.26～2.82） ・薬物依存症 vs アルコール依存：OR＝1.33（0.93～1.91）
【ii】Lien, 2019[9]	医療専門職における精神障害者に対する態度の時代変遷を検証すること	・精神科の医療スタッフ ・精神科以外の医療スタッフ ・医療系の大学生	34 (12)	・社会的距離尺度の得点における年ごとの推移：$\beta = -0.32$，$P<0.001$ ・OMI/CAMI の得点における年ごとの推移：$\beta = -0.43$，$P=0.007$

a＝（ ）内はメタ解析に導入された個別の研究のうち，精神科医療スタッフ・心理師を対象とした研究数
b＝（ ）内は 95％信頼区間
CAMI：Community Attitudes towards Mental Illness scale，OMI：Opinions about Mental Illness scale，OR：odds ratio

Table 1: Results of meta-analysis on attitudes toward mental disorders among healthcare professionals

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Lead author, year of publication
Primary objective
Participants
Number of included studies
Main results

[i]
Giandinoto, 2018[3)]

To examine the degree of stigma regarding mental disorders among medical staff in general hospitals
・ Medical staff in general hospitals
8 (1) [a]
Proportion of respondents who perceived individuals with each diagnosis as "dangerous (people)"
・ Mental disorders: 0.53 (0.33–0.74) [b]
・ Schizophrenia: 0.42 (0.33–0.52)

・ Drug dependence: 0.60 (0.32–0.88)
・ Alcohol dependence: 0.46 (0.03–0.88)

Comparison of perceptions of "dangerous (people)" across diagnoses
・ Schizophrenia vs. depression: OR = 6.71 (1.59–28.30)

・ Depression vs. drug dependence: OR = 0.17 (0.04–0.69)
・ Depression vs. alcohol dependence: OR = 0.25 (0.07–0.94)
・ Schizophrenia vs. drug dependence: OR = 0.41 (0.15–1.06)

・ Schizophrenia vs. alcohol dependence: OR = 0.85 (0.26–2.82)
・ Drug vs. alcohol dependence: OR = 1.33 (0.93–1.91)

[ii]
Lien, 2019[9)]
To examine changes over time in attitudes of healthcare professionals toward people with mental disorders

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・ Psychiatric staff
・ Non-psychiatric professionals
・ Healthcare students

34 (12)

・ Annual trend in social distance scale scores: β = −0.32, P < 0.001
・ Annual trend in OMI/CAMI scores: β = −0.43, P = 0.007

a = The number in parentheses ( ) indicates the number of individual studies included in the meta-analysis that targeted psychiatric staff and psychologists
b = The number in parentheses ( ) indicates the 95% confidence interval
CAMI: Community Attitudes towards Mental Illness scale, OMI: Opinions about Mental Illness scale, OR: odds ratio

表 2　医療関係者に対する精神疾患に関するアンチスティグマ介入についてのメタ解析の結果

主著名，発表年	対象者	デザイン	介入	導入研究数	主たる結果
【iii】Piot, 2020[14]	・臨床医 ・大学院生 ・医学生	・RCT ・Non-RCT ・事前事後調査 *メタ解析の対象は RCT のみ	ロールプレイ，音声シミュレーションなどを含む模擬訓練	27 (2)[a]	知識 ・統制群との比較，1 ヵ月までの追跡（k＝5）：SMD＝0.72（0.14〜1.30）[b] ・他の介入との比較，1 ヵ月までの追跡（k＝2）：SMD＝1.22（0.57〜1.88） 態度 ・統制群との比較，1 ヵ月までの追跡（k＝5）：SMD＝0.28（0.04〜0.53） ・他の介入との比較，1 ヵ月までの追跡（k＝5）：SMD＝0.52（0.31〜0.73） ・他の介入との比較，2〜4 ヵ月間の追跡（k＝2）：SMD＝0.19（−0.22〜0.60） スキル ・統制群との比較，1 ヵ月までの追跡（k＝5）：SMD＝1.49（0.39〜2.58） ・統制群との比較，2〜4 ヵ月間の追跡（k＝4）：SMD＝0.34（0.02〜0.66） ・他の介入との比較，1 ヵ月までの追跡（k＝7）：SMD＝1.37（0.56〜2.18） 行動 ・統制群との比較，1 ヵ月までの追跡（k＝4）：SMD＝0.45（0.11〜0.79） ・他の介入との比較，1 ヵ月までの追跡（k＝3）：SMD＝1.07（0.49〜1.65） ・他の介入との比較，2〜4 ヵ月間の追跡（k＝3）：SMD＝0.83（0.42〜1.24）
【iv】Lien, 2021[10]	・臨床スタッフ ・医療系の大学生，大学院生	・RCT	・当事者との直接的な社会的接触介入 ・当事者との間接的な社会的接触介入 ・教育的介入 ・上記介入の組み合わせ	18 (1)	ネットワークメタ解析による介入効果の順位付け 1 位　間接的な社会的接触（ビデオ視聴）＋講義：SUCRA＝81.5% 2 位　直接的な社会的接触＋問題解決型学習：SUCRA＝77.4% 3 位　間接的な社会的接触：SUCRA＝72.2%

a＝（ ）内はメタ解析に導入された個別の研究のうち，精神科医療スタッフ・心理師を対象とした研究数
b＝（ ）内は 95%信頼区間
RCT：randomized controlled trial，SMD：standardized mean difference，SUCRA：surface under the cumulative ranking

Table 2: Results of meta-analysis on anti-stigma interventions regarding mental illness for healthcare professionals

Lead author, Year of publication
Participants
Design
Intervention
Number of included studies

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Main results

[iii]

Piot, 2020[14)]

- Clinicians
- Graduate students
- Medical students

- RCT
- Non-RCT
- Pre-post survey

* Meta-analysis including only RCTs

Simulated training, including role-playing and audio simulations

27 (2) [a]

Knowledge

- Comparison with control group, follow-up to 1 month (k = 5): SMD = 0.72 (0.14–1.30) [b]
- Comparison with other interventions, follow-up to 1 month (k = 2): SMD = 1.22 (0.57–1.88)

Attitudes

- Comparison with control group, follow-up to 1 month (k = 5): SMD = 0.28 (0.04–0.53)
- Comparison with other interventions, follow-up to 1 month (k = 5): SMD = 0.52 (0.31–0.73)
- Comparison with other interventions, follow-up of 2–4 months (k = 2): SMD = 0.19 (–0.22 to 0.60)

Skills

- Comparison with control group, follow-up to 1 month (k = 5): SMD = 1.49 (0.39 to 2.58)
- Comparison with control groups, follow-up of 2–4 months (k = 4): SMD = 0.34 (0.02–0.66)
- Comparison with other interventions, up to 1 month of follow-up (k = 7): SMD = 1.37 (0.56–2.18)

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Behavior

- Comparison with control groups, follow-up to 1 month (k = 4): SMD = 0.45 (0.11–0.79)
- Comparison with other interventions, follow-up to 1 month (k = 3): SMD = 1.07 (0.49–1.65)
- Comparison with other interventions, follow-up of 2–4 months (k = 3): SMD = 0.83 (0.42–1.24)

[iv]

Lien, 2021[10)]

- Clinical staff
- Undergraduate and graduate students in healthcare fields

- RCT

- Direct social contact interventions for individuals with mental illness
- Indirect social contact interventions for individuals with mental illness
- Educational interventions
- Combinations of the above interventions

18 (1)

Ranking of intervention effects based on network meta-analysis
1st: Indirect social contact (video viewing) + lectures: SUCRA = 81.5%
2nd: Direct social contact + problem-solving learning: SUCRA = 77.4%
3rd: Indirect social contact: SUCRA = 72.2%

a = The number in parentheses ( ) indicates the number of individual studies included in the meta-analysis that targeted psychiatric staff and psychologists
b = The number in parentheses ( ) indicates the 95% confidence interval
RCT: randomized controlled trial, SMD: standardized mean difference, SUCRA: surface under the cumulative ranking

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