

Filmed v. live social contact interventions to reduce stigma: randomised controlled trial†

Sarah Clement, Adrienne van Nieuwenhuizen, Aliya Kassam, Clare Flach, Anisha Lazarus, Melanie de Castro, Paul McCrone, Ian Norman* and Graham Thornicroft*

Background

Direct social contact interventions are known to reduce mental health stigma. Filmed social contact may be equally effective and have practical and cost advantages.

Aims

To compare the effectiveness of a DVD, a live intervention and a lecture control, in reducing stigma, testing the hypotheses that: (a) DVD and live interventions will be equally effective; and (b) the interventions with social contact (DVD/live) will be more effective than the lecture. Cost-effectiveness, process and acceptability are also assessed.

Method

Student nurses were randomised to: (a) watch a DVD of service users/informal carers talking about their experiences, (b) watch a similar live presentation, or (c) attend a lecture. Primary outcomes were changes in attitudes (using the Mental Illness: Clinicians Attitudes Scale, MICA), emotional reactions (using the Emotional Reactions to Mental Illness Scale, ERMIS), intended proximity (using the Reported and Intended Behaviour Scale, RIBS), and knowledge (using the Social Contact Intended Learning Outcomes, SCILO), immediately after the intervention and at 4-month follow-up.

Results

For the 216 participants, there were no differences between the DVD and live groups on MICA, ERMIS or RIBS scores. The DVD group had higher SCILO (knowledge) scores. The combined social contact group (DVD/live) had better MICA and RIBS scores than the lecture group, the latter difference maintained at 4 months. The DVD was the most cost-effective of the interventions, and the live session the most popular.

Conclusions

Our hypotheses were confirmed. This study supports the wider use of filmed social contact interventions to reduce stigma about mental illness.

Declaration of interest

G.T., P.M., A.K. and S.C. have undertaken collaborative research with the charity Rethink, which sells the DVD studied here. G.T. and A.K. were involved in the development of the DVD but they and their institution receive no payment in relation to it.

People with mental illness face stigma and discrimination in many areas of life, with serious adverse consequences for health, social inclusion and quality of life.¹ Given findings that interpersonal contact is associated with more positive attitudes towards outgroup members,^{2,3} social contact interventions in which individuals affected by mental illness share their personal stories have been developed. These are common components of mental health anti-stigma programmes,^{4,5} and are increasingly being used in the training of health professionals⁶ as their attitudes and behaviour may also be stigmatising.^{7,8} Several randomised controlled trials (RCTs) attest to the effectiveness of live social contact interventions in reducing stigma.^{9–12} Filmed social contact may have practical and cost advantages and is more easily scaled up for use at the population level. We have identified four RCTs comparing filmed social contact interventions with a control without any form of social contact^{13–16} and all but one¹⁵ reported the intervention improved at least one stigma outcome. In none of the above RCTs were outcomes assessed beyond 1-week follow-up, and in the majority of cases follow-up was immediate only. We have located only one RCT directly comparing filmed v. live social contact.¹⁷ This compared a 10-minute live and filmed presentation of one individual giving the same presentation in the two delivery modes. No significant difference in reported social distance was found between those watching the live and filmed presentations. The study was limited by having no power calculation and only immediate follow-up. Furthermore, it was an explanatory rather than a pragmatic trial.¹⁸ The former has the benefit of control, but the latter tests the effectiveness of an

intervention in real-life conditions. There is a need for a study of interventions of a duration more commonly used in education and in which the benefits of the different delivery modes can be utilised (such as film allowing editing and the inclusion of more presenters). Consequently we conducted a pragmatic RCT with medium-term assessment of stigma outcomes, and investigation of cost-effectiveness, process and acceptability. We tested the hypotheses that: (a) there would be no difference in stigma between the filmed (indirect social contact) and live (direct social contact) interventions; and (b) the conditions with social contact, either direct or indirect (live or filmed) would be more effective in reducing stigma than a control condition with no social contact (lecture).

Method

Study design and procedure

More detailed information about the methods used is available in online supplement DS1. The study was a three-arm parallel-groups pragmatic RCT. Consenting participants were randomised to a single training session consisting of: (a) watching a DVD of mental health service users and informal carers talking about their experiences; or (b) watching a service user and carer talk about their experiences in person; or (c) hearing a lecture about stigma and mental health awareness. Participants completed measures at baseline, immediately post-session and at 4-month follow-up.

Participants

Participants were student general nurses in their university foundation year following diploma, degree or accelerated diploma

†See editorial, pp. 7–8, this issue.

*These authors contributed equally to the work.

courses with their intended specialty being adult nursing, child nursing or mental health nursing.

Randomisation and masking

Participants were randomised to the three interventions, with stratification by level of study and intended specialty, and were given an opaque envelope containing group allocation (for example, group 2, time and location). This rendered them masked to group allocation until arrival at the session. Questionnaire data were entered masked to group allocation.

Intervention and control conditions

The interventions and control were presented to the participants as different forms of 'mental health awareness training', and took place concurrently to avoid contamination. As this was a pragmatic trial we did not aim for exact matching, but interventions were matched for intended total duration of 75 min (actual duration was 71, 85 and 70 min for DVD, live and lecture respectively); coverage of the same key areas; and in the DVD and live interventions presenters having personal/family experience of similar illnesses (primarily psychosis).

DVD intervention

The DVD¹⁹ had two main parts: the first being personal narratives about mental health and stigma presented by two service users, an informal carer and a carer couple. The second part comprises short clips of service users and carers talking about their experiences in relation to nine key areas together with factual information. The DVD was followed by a researcher-facilitated discussion.

Live intervention

In the first part of the live session an informal carer and a service user presented personal narratives about their experiences of mental health and stigma. In the second part a researcher presented brief information about key areas with the main presenters, and one additional service user and carer sharing their experiences regarding these areas. Finally, there was researcher-facilitated discussion, with the presenters answering students' questions.

Lecture control

The lecture was presented by a mental health nurse researcher with lecturing experience, but no specialised knowledge of stigma. This reflects the traditional approach that might be taken if a typical nursing school decided to provide additional coverage on stigma. The lecture covered stigma and other aspects of mental health and contained no indirect social contact elements.

Measures

The outcome measures reflected the conceptualisation of stigma as comprising knowledge, attitudes (cognitive and emotional) and behaviour.^{20,21} Thus, there were four primary outcome measures with cognitive attitudes selected for the trial power calculation.

Knowledge-related measure

The Social Contact Intended Learning Outcomes (SCILO) schedule, devised specifically for this study, comprises five statements true/false response categories (online Table DS1). The internal reliability

of the SCILO was $\alpha = 0.38$, consequently in the secondary analysis item-level testing was undertaken.

Attitudinal measures

The first attitudinal measure was the Mental Illness: Clinicians Attitudes Scale (MICA), which has good psychometric properties.²² In the present study $\alpha = 0.76$. The second attitudinal measure was the Emotional Reactions to Mental Illness Scale (ERMIS).²³ This consists of a vignette about a friend experiencing schizophrenia and nine statements about feelings towards the friend. It has three subscales: fear, prosocial emotions, and anger, and α -values in the present study were 0.75, 0.47 and 0.34 for each subscale respectively.

Behaviour-related measures

As a proxy for behaviour, the Reported and Intended Behaviour Scale (RIBS) was used to measure future intentions to have social proximity with people with mental health problems.²⁴ Previous research reports a test-retest reliability of 0.75 and good internal reliability ($\alpha = 0.85$).²⁵ In the present study $\alpha = 0.75$. At 4-month follow-up two further behavioural intention items were included as secondary outcomes: intention to disclose and seek healthcare in the event of mental ill health.²⁵

Acceptability and process measures

Closed and open-ended questions assessed participants' views on, and the emotional impact of, the sessions; whether they had talked or thought about the sessions and what they recalled.

Sample size and power

Our pilot trial found a mean MICA score of 37.8 (s.d. = 8.0). To detect a standardised effect size of 0.5 on MICA scores (reflecting a 4-point difference) with 90% power and a 0.5% significance level when comparing the DVD to the live condition, 64 participants per group (total $n = 192$) would be needed. For our comparison of DVD/live *v.* lecture a sample of this size would enable us to detect a standardised effect size of 0.43 (3.4 points on MICA).

Data analysis

Data were analysed using SPSS version 15 (Windows) and Stata version 10 (Windows), and was by intention to treat. We conducted longitudinal regression analyses using cross-sectional time series modelling allowing for random effects at the individual level. We included data from all three groups with an indicator assessing the overall significance of allocation group. Where group was significant, post-regression contrasts for the comparisons reflecting our hypotheses were conducted: (a) DVD *v.* live, and (b) DVD/live *v.* lecture. We first ran an unadjusted regression with group and the baseline score for the outcome variable as independent variables only adjusting for time. The analysis was additionally adjusted for design factors used to define the randomisation strata and by all sociodemographic variables, variables associated with non-attendance and variables that could have a confounding effect (knowing someone with mental illness, mental health work experience). For each analysis the experimental factors, group and time (post-session or follow-up) were included in the model as fixed main effects and a group \times time interaction was investigated.

Economic analysis

The costs of each intervention varied according to the time and personnel involved in their development and delivery. Of direct

relevance to healthcare providers and commissioners are the amounts charged for the interventions. Consequently the economic analysis was based on time and purchase costs (see online supplement DS1).

Ethical review

The study received approval from the King’s College London Psychiatry, Nursing and Midwifery Research Ethics Sub-Committee (reference: PNM/07/08-67).

Results

Three hundred and sixty students consented to participate and were randomised. The characteristics of these students are shown in Table 1 where it can be seen that the groups were broadly comparable, although those allocated to the lecture group appear to be less likely to have work experience with people with mental illness and to know someone with a mental illness.

A total of 216 students attended an intervention, and attendance of those randomised was not affected by level of study, branch of study or gender. However, randomised students who were older ($t = -4.913, P < 0.001$), who personally knew ($\chi^2 = 6.493, P = 0.11$) or had work experience with ($\chi^2 = 4.762, P = 0.029$) people with mental illness, were more likely to attend. Those allocated to the lecture condition, which took place on an unfamiliar and more distant campus, were less likely to attend ($\chi^2 = 7.709, P = 0.021$). Because of this differential attendance, we compared the characteristics of intervention attenders by group allocated. The groups were found to be balanced for all characteristics listed in Table 1.

Two of the participants attended a different training session from the one allocated and were analysed according to group allocation. Post-session data were collected for all attenders and the response rate at 4-month follow-up was 89% (193/216). Participant flow through the trial is shown in Fig.1.

Primary outcomes analysis

Mean scores for each outcome are summarised by randomisation group and time point in Table 2. Comparing change scores for the DVD and live groups, the DVD group showed a greater improvement in intended social proximity immediately after the

intervention ($t = -0.71, P = 0.022$) and at follow-up there was greater improvement in prosocial emotional reactions to people with mental illness ($t = -0.99, P = 0.011$). Groups with social contact (DVD/live) performed better than the lecture group immediately post-intervention for MICA scores ($t = -2.72, P = 0.003$) and at follow-up had greater change in intended social proximity ($t = 0.86, P = 0.015$).

The data from all three time points were used together in longitudinal regression analyses. The analyses indicated that there was a significant difference between intervention groups for the MICA (stigmatising attitudes), RIBS (intended social proximity) and SCILO (knowledge) scores (Table 3) but not for ERMIS scores (online Table DS2). Scores for SCILO were shown to differ between the DVD and live training approaches when baseline levels, stratification variables and possible confounding variables were accounted for. There was no significant group \times time interaction for the knowledge outcome. The estimated coefficients for all other outcomes were low and not statistically significant for this DVD v. live comparison.

When comparing the DVD/live group to the lecture group (Table 3) differences in MICA and RIBS scores were indicated. On average the RIBS intended social proximity score was 0.59 points higher in the DVD/live group compared with the lecture group (fully adjusted model, 95% CI 0.31–1.23, $P = 0.004$). There was a significant reduction in RIBS score of 0.56 points (fully adjusted model, 95% CI -0.84 to $-0.27, P < 0.001$) over time between post-session and follow-up in all groups but there was no significant interaction, indicating that the comparative benefit was maintained. On average, MICA scores, indicating stigmatising attitudes, were 1.9 points lower (fully adjusted model, 95% CI -3.25 to -0.57) in the DVD/live group compared with the lecture group after adjustment. However, there was a significant interaction with time indicating a greater difference in MICA scores immediately after the intervention between DVD and lecture groups (-3.1 points, 95% CI -4.98 to -1.17 , fully adjusted) and between live and lecture (-3.0 points, 95% CI -4.82 to -1.10 , fully adjusted). By follow-up there was little difference in scores; DVD v. lecture -0.92 points (95% CI -2.92 to 1.07 , fully adjusted), live v. lecture -0.5 points (95% CI -2.39 to 1.48 , fully adjusted).

Secondary outcomes analyses

Responses did not differ significantly with respect to intended disclosure of a mental illness for the DVD v. live comparison

Table 1 Participants’ characteristics for all those randomised

	DVD group (n = 117)	Live group (n = 119)	Lecture group (n = 124)
Level of study, % (n)			
Diploma	37.6 (44)	41.2 (49)	39.5 (49)
Degree/accelerated diploma	62.4 (73)	58.8 (70)	60.5 (75)
Branch of study, % (n)			
Adult nursing	69.2 (81)	67.2 (80)	72.6 (90)
Child nursing	11.1 (13)	10.9 (13)	8.9 (11)
Mental health nursing	19.7 (23)	21.8 (26)	18.5 (23)
Age, years: mean (s.d.)	23.9 (6.9)	25.1 (7.7)	23.5 (6.2)
Gender, % (n)			
Female	87.2 (102)	84.9 (101)	89.5 (111)
Male	12.8 (15)	15.1 (18)	10.5 (13)
Personally know someone with a mental illness, % (n)			
Yes	58.1 (68)	61.3 (73)	54.9 (67) ^a
No	41.9 (49)	38.7 (46)	45.1 (55) ^a
Any work experience with people with mental illness, % (n)			
Yes	46.2 (54)	46.2 (55)	33.1 (41)
No	53.8 (63)	53.8 (64)	66.9 (83)

a. n = 122.

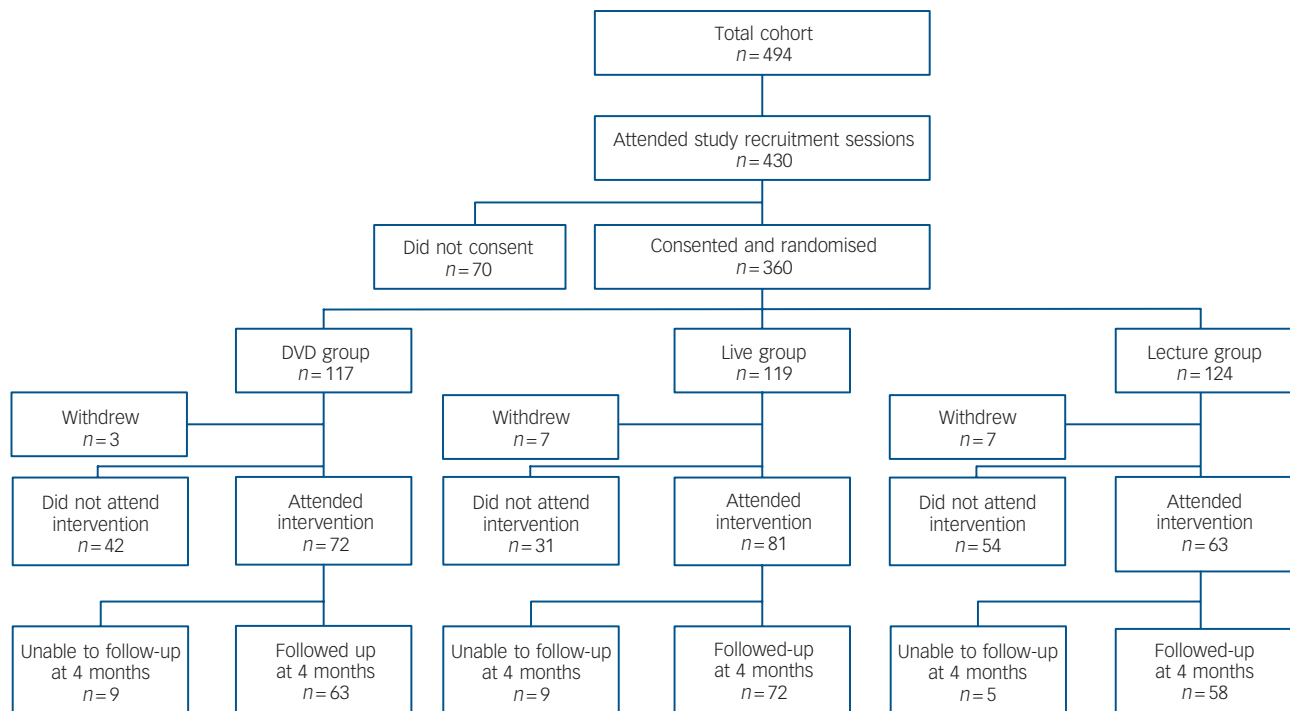


Fig. 1 Consort diagram: participant flow through the trial.

(Mann–Whitney $U = 1930$, $P = 0.327$) or the DVD/live *v.* lecture comparison ($U = 3422$, $P = 0.269$). Responses for intended healthcare-seeking did not differ for the DVD/live *v.* lecture comparison ($U = 3305.5$, $P = 0.138$), but those in the DVD group reported being more likely to seek help than those in the live group ($U = 1640.5$, $P = 0.018$).

As SCILO knowledge scores had low internal consistency, to better understand the nature of the difference in knowledge scores found between the DVD and live groups we conducted *post hoc* comparisons for these two groups on each of the SCILO items. The percentages of students correctly answering the items at each time point is shown in online Table DS1. Those in the DVD group were significantly more likely to correctly answer item 1 ‘People with severe mental illness can fully recover (true)’ both post-session ($\chi^2 = 34.542$, $P < 0.001$) and at follow-up ($\chi^2 = 10.744$, $P = 0.001$). No statistically significant differences were found for any other items at either time point. There was a pre-session difference for item 3, consequently we conducted a change analyses for this item and found no differences between the DVD and live group.

Cost-effectiveness

The total costs for each session were DVD UK £100; live £675; and lecture £199. The DVD had costs that were £575 lower than the costs for the live session. It also had better outcomes in terms of stigmatising attitudes and was therefore dominant (superior). The DVD had costs that were £99 lower than for the lecture, and with better outcomes was again dominant. Finally, the live session had higher costs (by £476) and better outcomes (adjusted difference of 1.77 on the MICA) compared with the lecture and therefore the incremental cost-effectiveness ratio indicates that it costs £269 per extra unit decrease in stigmatising attitudes for the live session compared with the lecture.

Participants’ views

The students in the live group were significantly more likely to strongly agree that the session was interesting (72% *v.* 50%, $\chi^2 = 7.51$, $P = 0.006$) and useful (67% *v.* 42%, $\chi^2 = 9.12$, $P = 0.003$) compared with those in the DVD group, but did not differ on the three other views items listed below. Those receiving interventions with social contact (DVD or live) had more positive views on all five views items compared with those in the lecture group; being more likely to strongly agree that the training was interesting ($\chi^2 = 12.62$, $P < 0.001$), confidence generating ($\chi^2 = 12.24$, $P < 0.001$) and useful ($\chi^2 = 9.86$, $P = 0.002$), to believe their attitude to people with mental health problems had positively changed ($\chi^2 = 4.32$, $P = 0.038$) and that their behaviour towards these individuals will be different ($\chi^2 = 10.95$, $P = 0.001$).

What those in both the DVD and live groups liked best was hearing service user and carer stories, particularly the former (online Table DS3). The DVD group also often valued hearing a diversity of views. Both groups felt the structure/quality of their intervention could be improved and wanted particular aspects of mental healthcare to be covered. The DVD group sometimes reported that the DVD was too long, repetitive, focused too much on schizophrenia and should have included nurses’ experiences, views echoed, but to a lesser extent, in the live group. The live group would have liked to hear from more service users/carers or wanted more diversity (for example of age, gender, experiences) in the presenters.

Process variables

Those in the DVD group reported having a stronger emotional response to the training session than those in the live group ($U = 2247.5$, $P = 0.029$), and those in the combined social contact group (DVD or live) had a stronger emotional response than those in the lecture group ($U = 2224$, $P < 0.001$). The most common emotions in all groups were empathy, sadness, anger and

Table 2 Comparison of outcomes of training interventions (unadjusted) by group and time point

Concept (scale, possible range)	Baseline assessments				Post-session assessments				4-month follow-up assessments									
	DVD		Live		Lecture		DVD		Live		Lecture		DVD		Live		Lecture	
	n	Mean (s.d.)	n	Mean (s.d.)	n	Mean (s.d.)	n	Mean (s.d.)	n	Mean (s.d.)	n	Mean (s.d.)	n	Mean (s.d.)	n	Mean (s.d.)	n	Mean (s.d.)
Stigmatising attitudes (MICA, 15–90)	72	37.28 (8.50)	81	34.81 (6.92)	60	35.62 (8.30)	72	31.71 (6.75)	81	30.44 (6.36)	63	33.38 (8.46)	63	33.53 (7.04)	72	33.15 (7.63)	58	34.00 (8.26)
Intended social proximity (RIBS, 4–20)	71	16.76 (2.82)	81	17.49 (2.20)	60	17.27 (2.35)	72	17.94 (2.08)	82	18.01 (2.16)	63	17.71 (2.43)	63	17.44 (2.48)	71	17.59 (2.25)	58	16.78 (2.85)
Knowledge (SCILO, 0–5)	71	3.58 (1.19)	75	3.72 (1.07)	59	3.90 (0.99)	68	4.50 (0.68)	80	4.16 (0.86)	62	4.52 (0.72)	63	4.30 (0.93)	71	4.21 (0.92)	55	4.36 (0.78)
Emotions (ERMIS, 3–15)																		
Fear	69	6.42 (2.63)	80	5.88 (2.35)	60	6.42 (2.69)	70	5.16 (2.00)	81	5.06 (2.33)	63	5.37 (2.24)	63	6.21 (2.33)	71	6.30 (2.46)	57	6.23 (2.36)
Prosocial	66	12.18 (1.79)	79	12.65 (2.09)	59	12.76 (1.89)	69	12.91 (2.34)	81	13.27 (1.88)	62	13.50 (1.40)	62	12.90 (1.95)	70	12.21 (2.21)	56	13.00 (1.87)
Anger	66	4.14 (1.58)	79	3.91 (1.37)	59	3.90 (1.16)	70	3.76 (1.21)	78	3.85 (1.92)	62	3.74 (1.13)	62	4.05 (1.80)	71	4.04 (1.25)	57	4.16 (1.63)

MICA, Mental illness: Clinicians Attitudes Scale; RIBS, Reported and Intended Behaviour Scale; SCILO, Social Contact Intended Learning Outcomes; ERMIS, Emotional Reactions to Mental Illness Scale.

sympathy, with sadness being particularly evident in the DVD group. Hope, shock, motivation and surprise were almost exclusive to the social contact groups (DVD and live), and respect was confined almost solely to the live group (online Table DS4).

There were no significant differences for either comparison regarding whether the participants reported having thought about the training session during the follow-up period. Those in the groups with social contact (DVD/live) were more likely to report having talked to others about the training during the follow-up period ($\chi^2 = 4.071, P = 0.044$), however, the DVD and live groups did not differ significantly in this respect.

Participants' responses when asked about the main thing recalled about the sessions were categorised into personal stories, facts or recommendations (online Table DS5). Post-session there were no differences between the DVD and live group in type of information recalled ($\chi^2 = 2.986, P = 0.225$), however at follow-up the live group were more likely than the DVD group to recall stories and the DVD group to recall facts ($\chi^2 = 8.781, P = 0.012$). In all three groups the most frequent fact recalled was that people can recover from mental illness, but this was particularly evident in the DVD group.

Discussion

Key findings

Our hypotheses were broadly confirmed. The DVD and live interventions did not differ in three of the four primary stigma outcomes: attitudes (cognitive); attitudes (emotional) and intended social proximity. The DVD performed better on intended learning outcomes (knowledge), but this was found to be the result of one item about recovery. The combined group with any form of social contact (DVD/live) had better attitudes (cognitive) and intended social proximity than the lecture group. The latter difference was maintained at 4-month follow-up, which makes this study the first to provide RCT evidence for the long-term effects of social contact interventions. The magnitude of differences was small at 1.9 MICA points and 0.56 RIBS points, however small differences may make important differences with large-scale implementation and such implementation is more feasible with filmed social contact.

The purchase costs of the DVD are lower than for the live session or the lecture and the outcomes with the DVD are broadly equivalent to those with the live session, and better than the outcomes with the lecture. The DVD appears therefore to represent the best value for money. The live session has better outcomes than the lecture but produces these at a higher cost. It is a value judgement as to whether the extra cost of £269 to achieve a unit improvement in outcome as a result of the live session is acceptable, especially when similar outcomes can be achieved, at less cost than the lecture, with the DVD.

The live session was viewed as more interesting and useful than the DVD session, and the responses to the open-ended questions supported the greater popularity of the live session. However, this did not translate into improved outcomes. It is also unclear whether some of the lesser satisfaction with the DVD could be accounted for by modifiable specific characteristics of the DVD.

Strengths and limitations

The main strengths of the study are that it was a RCT addressing key evidence gaps, with longer-term follow-up and a high response rate at follow-up, incorporating a cost-effectiveness analysis and examination of process and acceptability, and its large and appropriately powered sample size. It was limited by there being some selective attendance at the intervention, although all

Table 3 Multiple regression models for Mental Illness: Clinicians Attitudes Scale (MICA), Reported and Intended Behaviour Scale (RIBS), and Social Contact Intended Learning Outcomes (SCILO)^a

	<i>n</i>	Coefficient	<i>P</i>	DVD v. live, <i>P</i>	DVD/live v. lecture <i>P</i>
<i>Stigmatising attitudes (MICA)</i>					
Unadjusted	213		0.049	0.539	0.017
DVD v. lecture		−1.82 (−3.32 to −0.31)			
Live v. lecture		−1.38 (−2.84 to 0.08)			
Adjusted	208		0.020	0.708	0.005
DVD v. lecture		−2.05 (−3.59 to −0.50)			
Live v. lecture		−1.77 (−3.27 to −0.28)			
<i>Intended social proximity (RIBS)</i>					
Unadjusted	212		0.009	0.100	0.008
DVD v. lecture		0.77 (0.28 to 1.26)			
Live v. lecture		0.38 (−0.09 to 0.86)			
Adjusted	207		0.005	0.111	0.004
DVD v. lecture		0.77 (0.31 to 1.23)			
Live v. lecture		0.42 (−0.03 to 0.87)			
<i>Knowledge (SCILO)</i>					
Unadjusted	203		0.016	0.007	0.392
DVD v. lecture		0.06 (−0.16 to 0.27)			
Live v. lecture		−0.22 (−0.43 to −0.01)			
Adjusted	199		0.021	0.008	0.493
DVD v. lecture		0.07 (−0.15 to 0.29)			
Live v. lecture		−0.21 (−0.42 to 0.01)			

a. See online Table DS2 for the multiple regression model for the Emotional Reactions to Mental Illness Scale.

three groups of attenders were comparable on all participant characteristic variables examined. The knowledge and emotional reactions findings are tentative due to the low reliability of these scales. It is possible that socially desirable responding and cognitive dissonance may have contributed to more positive outcomes for the novel interventions (DVD and live). Despite intentions, the live session was longer than the other sessions. The effects may have been influenced by the qualities of the particular live presenters or the quality of the DVD or lecture, although all were selected with both quality and similarity to real-life conditions in mind. The pragmatic nature of the trial¹⁸ can be seen as either a limitation (lesser control and matching of interventions) or a strength (more like real-life, interventions maximising the benefits of the different delivery modes).

Understanding processes underlying social contact interventions

Pettigrew theorised that interpersonal contact decreases prejudice via four processes: (a) learning about the outgroup; (b) changing behaviour; (c) generating affective ties through emotion, especially reducing anxiety and increasing empathy; and (d) ingroup reappraisal.²⁶ We found limited evidence for effects of social contact on learning outcomes, and a larger effect on intended behaviour. We found no ERMIS scale evidence for social contact reducing anxiety (fear) or increasing empathy (prosocial) and the open-ended data showed empathy reported in all three conditions. The social contact interventions generated a set of emotions not present in the lecture: hope, shock, motivation and surprise, so particular affective responses other than those identified by Pettigrew may be mobilised by social contact. In classic intergroup theory work Allport proposed that four conditions were necessary for prejudice reduction through social contact: equal status, common goals, intergroup cooperation and support of authorities.²⁷ Live contact involves greater equality and cooperation and so might be expected to outperform a DVD on these grounds, however, a meta-analysis demonstrated that Allport's conditions should not be regarded as necessary for producing positive contact outcomes.²

Narrative theory is an alternative, or complementary, conceptualisation for understanding processes underlying the

interventions studied here, with stories rather than contact being the primary mechanism. Kumagai proposes a conceptual framework for the use of illness narratives in medical education that may explain our finding of the DVD working as well as the live intervention.²⁸ He proposes that from older childhood onwards responses may include 'mediated associations' in which an individual feels empathy towards the suffering of another, and consequent commitment to social justice, without the other's physical presence, but rather elicited through language (stories, films) or pictorial representation (for example, photographs), and thus we can see how a DVD of personal testimonies may reduce stigma.

The DVD and live groups were more likely to report talking about the interventions to others and this may help to embed stigma changes and contribute to long-term change in stigma. There was some evidence of different processes acting with the DVD and live interventions. The live group reported more respect, with comments suggesting this was, in part, in response to the act of presenting face to face. At 4 months the live group were more likely to recall stories and the DVD group facts, which may render the live intervention more memorable beyond 4 months as stories enhance long-term clinical learning.²⁹ The DVD group reported having a greater emotional response to the intervention than the live group, especially sadness. This group were also more likely to believe recovery is possible. The open-ended data suggest these findings are related to some specific content in the DVD. A consensus development study found 'see the person' messages highly recommended for anti-stigma interventions,³⁰ and both the DVD and live interventions enabled the audience to see the person behind the illness.

What types of people should appear in social contact interventions?

Research by Reinke *et al*¹⁷ has demonstrated that both moderate and high, but not low, stereotype disconfirmation are most effective in reducing stigma. Both the DVD and live interventions included individuals who moderately or highly disconfirmed stereotypes, although it is easier to select for this and control this element in a DVD. Our study was unusual among the RCTs for including

carer as well as service user experience, although this is relatively common practice in some anti-stigma programmes. Service users and carers do not always share common perspectives. Social contact theory²⁶ would suggest that only people with direct experience should be included, although from a narrative perspective carers' testimonies may be effective because they are stories that encompass the experiences of both the person they care for and themselves.²⁸ In our study more people mentioned liking the service user stories than the carer stories, although the latter were also appreciated and there were only two comments that carers should be excluded. There was strong support for diversity of presenters in terms of age, gender, ethnicity, types of experience and especially types of illness experienced. It is easier to include a wider range of presenters in a DVD than a live intervention, although the DVD we used focused mainly on one condition.

Advantages and disadvantages of filmed and live social contact not directly addressed by the study

From a policy perspective there are a number of advantages and disadvantages of each delivery mode not directly assessed in this study that are also merit consideration. Live interventions have the advantage of showing people with mental health problems taking a lead role (presenting to groups) that can in itself be destigmatising; give the opportunity to ask questions; provide empowerment or employment-related experiences to presenters; and are never 'out of date'. Filmed interventions are more easily scaled up to the population level and so have the potential to reach large audiences; can fit flexibly into training programmes; are internet-ready; can include more people, and hence more diversity of presenters; offer consistency; provide greater control through editing; and may have less risk of harm to presenters.

Implications

Given that the DVD and live interventions were largely comparable and where they differed there was no clear pattern favouring one group over the other, our findings support the use of either type of social contact intervention for student nurse populations. When cost, practical benefits and ease of wide-scale implementation are factored in, the wider use of filmed social contact interventions in student nurse training can be recommended.

Future research is needed to further elucidate the optimal content (types of presenter, duration, narrative content) for direct/indirect social contact interventions; to investigate the stigma-reducing effects of other forms of indirect contact such as fictional films, plays, autobiographical and fictional literature, and internet materials; to study the impact of social contact interventions on outcomes such as actual behaviour and healthcare-seeking; and to replicate this study with a general public population.

Sarah Clement, PhD, **Adrienne van Nieuwenhuizen**, MSc, Section of Community Mental Health, Health Service and Population Research Department, King's College London, Institute of Psychiatry, London, UK; **Aliya Kassam**, MSc, PhD, Opening Minds Initiative, Mental Health Commission of Canada, Calgary, Canada; **Clare Flach**, MSc, **Anisha Lazarus**, MSc, **Melanie de Castro**, PGDip RMN, **Paul McCrone**, MSc PhD, Section of Community Mental Health, Health Service and Population Research Department, King's College London, Institute of Psychiatry, London, UK; **Ian Norman**, PhD FRCN, Florence Nightingale School of Nursing and Midwifery, King's College London, UK; **Graham Thornicroft**, PhD FRCPsych, Section of Community Mental Health, Health Service and Population Research Department, King's College London, Institute of Psychiatry, London, UK

Correspondence: Sarah Clement, Section of Community Mental Health, Box PO29, Health Service and Population Research Department, King's College London, Institute of Psychiatry, De Crespigny Park, London SE5 8AF, UK. Email: sarah.clement@kcl.ac.uk

First received 15 Feb 2011, final revision 20 Jul 2011, accepted 15 Sep 2011

Funding

This paper presents independent research commissioned by the National Institute for Health Research (NIHR) under its Programme Grants for Applied Research scheme (RP-PG-0606-1053). G.T. is also funded through a NIHR Specialist Mental Health Biomedical Research Centre at the Institute of Psychiatry, King's College London and the South London and Maudsley NHS Foundation Trust. The views expressed in this publication are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health. The DVD was developed with funding from an unrestricted educational grant from Lundbeck and funding from the mental health charity Rethink.

Acknowledgements

The Mental Health Research Network (South London and South East Hub) assisted in finding presenters for the live arm of the study. We are very grateful to those who shared their personal stories in the live intervention, and to those who did so in the DVD. We thank Jo Loughran and others from Rethink for their development of the DVD and for information on Rethink's version of the live intervention. We are grateful to the students for their participation in the study. We also thank Sosei Yamaguchi whose systematic review work we drew upon in writing the background section of this paper. We thank Lara Marinello, Elaine Brohan, Tanya Graham, Georgia Black, Stefanie O'Hara, Belinda Ross, Olwen McLaren and Jaqualyn Moore for practical assistance with the study.

References

- 1 Thornicroft G. *Shunned: Discrimination Against People with Mental Illness*. Oxford University Press, 2006.
- 2 Pettigrew TF, Tropp LR. A meta-analytic test of intergroup contact theory. *J Pers Soc Psychol* 2006; **90**: 751–83.
- 3 Couture SM, Penn DL. Interpersonal contact and the stigma of mental illness: a review of the literature. *J Mental Health* 2003; **12**: 291–305.
- 4 Stuart H. Fighting the stigma caused by mental disorders: past perspectives, present activities, and future directions. *World Psychiatry* 2008; **7**: 185–8.
- 5 Henderson C, Thornicroft G. Stigma and discrimination in mental illness: time to change. *Lancet* 2009; **373**: 1928–30.
- 6 Repper J, Breeze J. User and carer involvement in the training and education of health professionals: a review of the literature. *Int J Nurs Stud* 2007; **44**: 511–9.
- 7 Sartorius N. Iatrogenic stigma of mental illness: begins with behaviour and attitudes of medical professionals, especially psychiatrists. *BMJ* 2002; **324**: 1470–1.
- 8 Schulze B. Stigma and mental health professionals: a review of the evidence on an intricate relationship. *Int Rev Psych* 2007; **19**: 137–55.
- 9 Corrigan PW, River LP, Lundin RK, Penn DL, Uphoff-Wasowski K, Campion J, et al. Three strategies for changing attributions about severe mental illness. *Schizophr Bull* 2001; **2**: 187–95.
- 10 Rusch LC, Kanter JW, Angeline AF, Ridley RC. The impact of 'In Our Own Voice' on stigma. *Am J Psychiatr Rehabil* 2008; **11**: 373–89.
- 11 Corrigan P, Rafacz J, Hautamaki J, Walton J, Rusch N, Rao D, et al. Changing stigmatizing perceptions and recollections about mental illness: the effects of NAMI's In Our Own Voice. *Community Ment Health J* 2010; **46**: 517–22.
- 12 Corrigan PW, Rowan D, Green A, Lundin R, River P, Uphoff-Wasowski K, et al. Challenging two mental illness stigmas: personal responsibility and dangerousness. *Schizophr Bull* 2002; **28**: 293–309.
- 13 Corrigan PW, Larson J, Sells M, Niessen N, Watson AC. Will filmed presentations of education and contact diminish mental illness stigma? *Community Ment Health J* 2007; **43**: 171–81.
- 14 Brown S, Evans Y, Espenshade K, O'Connor M. An examination of two brief stigma reduction strategies: filmed personal contact and hallucination simulations. *Community Ment Health J* 2010; **46**: 494–9.
- 15 Kerby J, Calton T, Dimambro B, Flood C, Glazebrook C. Anti-stigma films and medical students' attitudes towards mental illness and psychiatry: randomised controlled trial. *Psychiatr Bull* 2008; **32**: 345–9.
- 16 Mann C, Himelein M. Putting the person back into psychopathology: an intervention to reduce mental illness stigma in the classroom. *Soc Psychiatry Psychiatr Epidemiol* 2008; **43**: 545–51.
- 17 Reinke RW, Corrigan PW, Leonhard C, Lundin RK, Kubiak MA. Examining two aspects of contact on the stigma of mental illness. *J Soc Clin Psychol* 2004; **23**: 377–89.
- 18 Roland M, Torgerson DJ. Understanding controlled trials: what are pragmatic trials? *BMJ* 1998; **316**: 285.
- 19 Rethink. *Combating Stigma*. Rethink, 2008 (http://www.rethink.org/mental_health_shop/products/rethink-publications/combating_stigma.html).
- 20 Thornicroft G, Rose D, Kassam A, Sartorius N. Stigma: ignorance, prejudice or discrimination? *Br J Psychiatry* 2007; **190**: 192–3.

- 21 Angermeyer MC, Holzinger A, Matschinger H. Emotional reactions to people with mental illness. *Epidemiol Psychiatr Soc* 2010; **19**: 26–32.
- 22 Kassam A, Glozier N, Leese M, Henderson C, Thornicroft G. Development and responsiveness of a scale to measure clinicians attitudes to people with mental illness (medical student version). *Acta Psychiatr Scand* 2010; **122**: 153–61.
- 23 Angermeyer MC, Matschinger H. The stigma of mental illness: effects of labelling on public attitudes towards people with mental disorder. *Acta Psychiatr Scand* 2003; **108**: 304–9.
- 24 Evans-Lacko S, Rose D, Little K, Flach C, Rhydderch D, Henderson C, et al. Development and psychometric properties of the Reported and Intended Behaviour Scale (RIBS): a stigma-related behaviour measure. *Epidemiol Psychiatr Sci* 2011; **20**: 263–71.
- 25 Rüsich N, Evans-Lacko S, Henderson C, Flach C, Thornicroft G. Knowledge and attitudes as predictors of intentions to seek help for and disclose a mental illness. *Psychiatr Serv* 2011; **62**: 675–8.
- 26 Pettigrew TF. Intergroup contact theory. *Annu Rev Psychol* 1998; **49**: 65–85.
- 27 Allport GW. *The Nature of Prejudice*. Addison, 1954.
- 28 Kumagai AK. A conceptual framework for the use of illness narratives in medical education. *Acad Med* 2008; **83**: 653–8.
- 29 Roberts GA. Narrative and severe mental illness: what place do stories have in an evidence-based world? *Adv Psychiatr Treat* 2000; **6**: 432–41.
- 30 Clement S, Jarrett M, Henderson C, Thornicroft G. Messages to use in population-level campaigns to reduce mental health-related stigma: consensus development study. *Epidemiol Psychiatr Soc* 2010; **19**: 72–9.



reflection

Mayer-Gross, Slater and Roth's *Clinical Psychiatry*

Alan Lee

How can one revisit such a monumental psychiatric text in fewer than 500 words? There is no scope for the critical epic that it truly deserves. When I was a psychiatric trainee, fresh out of Newcastle Medical School, it had seemed that there was no other psychiatry textbook in the world. The elegant undergraduate lectures from our Professor Sir Martin Roth had promised a credible scientific discipline of psychiatry that would enable new recruits to hold up their heads alongside those of the big beasts in other branches of medicine. And this UK blockbuster with its stellar co-authorship, firm foundations in empirical research, and an integrated scientific model of mental illness, reinforced the ideal, pointing the way towards an ever-brighter future of rational understanding, diagnosis and therapy. Here was a book you could carry with pride into the grandest of all grand rounds, and that would also sustain you on the grimmest of grim backwards.

But such dinosaurian claims to dominance found challenge in unexpected quarters. An early example for me was when the impressive statistical underpinning of the endogenous/neurotic distinction which Roth, in Newcastle, had offered as definitive evidence of two types of depression, met its match in Kendell's demonstration of a continuum, a Maudsley idea which seemed to have equal scientific credence. And there were many similar debates, in many domains, often revealing differing Aristotelian and Platonic prejudices.

The Titans were clashing, and in the ensuing twilight, the stage was preparing itself for an army of competing models of scientific truth, for the claims of the anti-psychiatrists, for the pluralism of social psychiatry and psychodynamics, for multidisciplinary teamwork and latterly for the much maligned understandings of postmodernism.

But the notion of a definitive, authoritative account of our discipline remained attractive and comforting for many. I remember slipping the book into my briefcase as a classic reference for a grand round at the Hammersmith Royal Postgraduate Hospital. It was a sword and shield against enquiries from the best critical minds of the medical establishment. My final epiphany came with the realisation that esteemed medical colleagues were not seeking an evidence-based treatise on receptor changes in depression, but were rather looking to a young psychiatrist to help them understand why their patient might be feeling so painfully guilty. So the much thumbed but stately volume of *Clinical Psychiatry* now sits quietly on its bookshelf. It feels dated and often seems irrelevant, not so much because the science has been superseded, but because like a prehistoric skeleton it belongs to a different age, one when the best psychiatrists appeared like giants, illnesses were illnesses, and science commanded the widest respect.

It is rarely opened, but when one does read it again one cannot but be moved by the sheer scope of its ambition, the beauty of its scientific prose, and the utter commitment of its authors that psychiatry should one day become an integrated and authoritative scientific discipline. Above all, the belief shines through the years that psychiatric patients should always be accorded all of the respect and dignity that their devastating illnesses so deserve.

The British Journal of Psychiatry (2012)
201, 64. doi: 10.1192/bjp.bp.112.108605