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Can video interventions be used to effectively destigmatize mental illness among young people? A systematic review

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CAN VIDEO INTERVENTIONS BE USED TO EFFECTIVELY DESTIGMATIZE MENTAL ILLNESS AMONG YOUNG PEOPLE? A SYSTEMATIC REVIEW

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ABSTRACT:

Video is considered to be an effective, easy to use tool employed in anti-stigma interventions among young people. Mass media has been shown to be effective for reducing stigma; however, there is insufficient evidence to determine the destigmatization effects of videos specifically. This article systematically reviews the effectiveness of video intervention in reducing stigma among young people between 13 and 25 years.

We searched 13 electronic databases including randomized controlled trials, cluster randomized controlled trials, and controlled before and after studies. Of the 1426 abstracts identified, 23 studies (reported in 22 papers) met the inclusion criteria.

Video interventions led to improvements in stigmatising attitudes. Video was found to be more effective than other interventions, such as classical face-to-face educational sessions or simulation of hallucinations. According to results of two studies, social contact delivered via video achieved similar destigmatization effect to that delivered via a live intervention.

Although the quality of studies as well as the form of video interventions varied, the findings suggest that video is a promising destigmatization tool among young people; however, more studies in this area are needed. There was a lack of evidence for interventions outside of school environments, in low- and middle-income countries, and studies which looked at long-term outcomes or measured impact on actual behaviour and implicit attitudes. The review generates recommendations for video interventions targeted at young people.

Key words: stigma, discrimination, media, adolescents, psychiatry

1. INTRODUCTION

Although often going undetected and untreated until later in life, the onset of mental health problems usually occurs during childhood and adolescence [1, 2]. Mental illnesses which develop early in life may have long-lasting consequences, including limited work and education prospects and disrupted social interactions [3]. Additional research suggests that many young people report low levels of mental health literacy and moderate levels of mental illness stigma [4, 5]. These negative attitudes towards people with mental illness which may form early on during childhood [6] may play a role in the treatment gap.

Stigmatization can have a negative effect on seeking and using mental health care [7-9]. Particularly among young people, the stigma and embarrassment are the most often perceived barriers to help-seeking [10]. According to the US National Comorbidity Survey, only one third of adolescents with mental disorders received any mental health care [11]. Stigmatization may also contribute to other problems, such as lower self-esteem, or reduced hope for recovery [12, 13], decreased quality of life [14], difficulties in social relationships, and embarrassment of close relatives [15] and subsequent suicidal behaviour [16].

Film and video have a long tradition in medical and psychiatric education [17-19], especially for the education of medical students [20] and nurses [21]. They may be effective at creating an emotional response and enhance empathy [22, 23] alongside provision of information. Their importance has been growing in the context of development in media and technology during the last decades [24]. Video is considered to be an effective low cost, easy to use tool which can provide educational benefits [25]. It is also a tool that may be easily scaled-up and reach a broad audience [26], especially through social media.

The role of video in changing stigmatizing attitudes among adolescents has been documented in some previous reviews. However, these previous reviews involved video intervention only as part of a broader group of mass media [27], interventions targeting public stigma generally [28], educational interventions at secondary schools [29], school-based interventions [30], middle- and long-term follow-up of anti-stigma interventions more generally [31], short-term interventions for university and college students [32], and interventions in health care students and professionals [33].

However, none of the previous reviews focused specifically on destigmatization of people with mental illness used video as the sole medium among young people. Therefore we assess the effectiveness of video interventions in reducing stigmatization of mental illness among young people, identify key drivers of effectiveness and generate recommendations for effective video interventions targeted at this age category.

2. METHODS

2.1 Search strategy
Thirteen bibliographic databases were searched: MEDLINE, ERIC (Education Resources Information Center), Academic Search Complete, Cochrane (trials), Cochrane (reviews), open SIGLE (grey literature), Web of Knowledge, EMBASE (Excerpta Medica dataBASE), HMIC (Health Management

Information Consortium), PsycInfo, ProQuest, Social Policy & Practice and WorldCat dissertation. We used the combination of the following keywords: (intervention* OR program* OR educat* OR train* OR campaign) AND (video* OR film* OR movie* OR spot*) AND (psychiatr* OR schizophr* OR depres* OR "mental illness*" OR "mental disorder*" OR "mental health*") AND (student* OR school* OR adolesc* OR young* OR children OR teen*) AND (attitude* OR knowledge* OR discrimination OR stigma* OR awareness OR literacy OR prejudice OR "social distance"). There was no exclusion based on date of publication. The full search strategy is provided in the Appendix A. Additional data sources included reference lists of appropriate existing systematic literature reviews [29, 30, 32-36]. The relevant references from these reviews were included in the data set.

2.2 Inclusion criteria

PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines [37] were followed and we were searching for randomized controlled trials (RCTs), cluster randomized controlled trials (cluster RCTs) and controlled before and after studies (CBAs).

With respect to study subjects, eligible participants were those between 13 and 25 years: students at middle school, high school, college, or university. We decided to include studies with younger/older participants if mean age of sample was in the range stated above.

With regard to the intervention and possible comparisons, at least one of the interventions had to be a video (e.g. video spot, movie, documentary). The intervention had to be focused on mental illness or themes closely connected to mental health (e.g. help seeking for mental health problems, and psychiatry).

Finally, considering the outcomes, the intervention had to aim at reducing stigma towards people with mental illness. Stigma was conceptualized in line with Thornicroft's [38] approach comprised of three components: a) ignorance towards people with mental illness (e.g. knowledge about mental illness, believing in myths about mental illness), b) prejudice towards people with mental illness (attitudes towards or stereotyping of people with mental illness), and c) discrimination of people with mental illness (social distance from people with mental illness, actual behaviour etc.).

2.3 Data extraction and quality assessment

Each title and abstract was screened by one of the authors (ET, MJ, AW, PT, or JP). Full texts of potentially eligible articles were retrieved and examined in detail by one author; however in case of uncertainty second author evaluated the suitability. Articles which did not meet eligibility criteria were excluded. Studies included in the final analysis were assessed to synthesize evidence about effectiveness of video interventions in decreasing stigmatization among young people. If there were any details missing in the manuscript, respective authors were contacted and asked to provide them. Data did not allow a sensible meta-analysis to be conducted, so a narrative review of the included studies is provided. The process of quality assessment of the studies is described in Appendix B; variables extracted from each study are summarized in Appendix C.

3. RESULTS

In total, we identified and checked for duplicates 1426 articles. Titles and abstracts of 1097 remaining studies were screened and 101 potentially eligible studies were identified. Detailed

screening of full-texts led to the exclusion of a further 78 studies; 23 studies (reported in 22 papers) were included in the final analysis (Figure 1).

Figure 1 PRISMA flow diagram of selection process of studies

3.1 Included studies

3.1.1 STUDY DESIGN AND SETTING

Of the 23 studies (See detailed comparisons in Table 1, and list of references in Appendix D), out of which 15 were RCTs, two cluster RCTs, and six CBAs. One paper reported two individual studies [39]. Most of the studies (15) were conducted in the U.S., six in Europe, one in China, and one in Australia. The majority (19 studies) were conducted among university students, and four studies focused on students in secondary education. Participants of five studies were future medical professionals (medical or pharmacy students or students of general nursing). In eight studies investigators recruited psychology students, the rest of the studies were based on a diverse sample of university or college students and secondary school students. In total approximately 3900 students participated in all the studies reviewed. The sample size of the individual samples ranged from 45 [40] to 471 [41]. While 19 studies included respondents aged 18-24 years, four studies included students aged 14 to 16. Overall participants were between 14 and 26 years of age.

In relation to diagnosis, most of the interventions addressed stigmatization of schizophrenia (11 studies), five studies targeted stigmatization of people with mental illness in general; two studies focused on stigma related to help seeking for mental health problems; three studies dealt with Tourette's syndrome, one with severe mental illnesses, and one with depression and ADHD.

Follow-up measurement was conducted in 12 studies and the time between the intervention and the follow-up ranged from one week [42-44] to four months [25]. Two studies conducted two follow-up measurements [45, 46].

We assessed risk of selection bias in all the studies (See Appendix B). Overall, selection bias was high due to incomplete reporting. None of the studies reported the method of selection of schools, only nine studies reported the response rate for selecting participants, while three studies reported 100% response rate. Out of these three studies, one was cluster-RCT and the authors found no differences between participants from experimental and control groups [47], and one was RCT in which participants were randomly allocated into groups [48]. Attrition bias was assessed for the 12 follow-up studies. Two studies reached response rate at follow-up 95% and above [42, 49].

Table 1 Characteristics of included studies

3.1.2 TYPES OF STUDY OUTCOMES

We identified 51 outcome measures in total (Table 2). Link's social distance scale [by 50] was used in four studies (slightly modified version of the same scale was used in other two studies). The following scales were used twice: the affect scale [by 51], the attitudes towards seeking professional psychological help scale [by 52], the Positive and Negative Affect Scale [by 53], the Community

attitudes towards mental illness scale [by 54], the dangerousness scale [by 55], and the implicit attitudes test [by 56]. All the other scales were used just once.

We divided outcome measures into seven categories: 1. knowledge about aetiology, character of people having mental illness, and possible treatment, 2. social distance, 3. reported emotional reaction, 4. perceived dangerousness, 5. combination of the above mentioned dimensions (general attitudes), 6. attitudes toward help seeking while having mental illness, and 7. outcomes measuring actual behaviour toward someone with mental illness.

Table 2 Intervention effects

3.2 Findings

Intervention effects are presented by type of measure in Table 2 and a description of the video intervention is presented in Appendix E.

3.2.1 IS VIDEO INTERVENTION EFFECTIVE COMPARED TO OTHER INTERVENTIONS?

Seven studies compared video intervention to some other type of intervention; five of them compared video intervention to direct contact [25, 40, 41, 48, 57], three compared video to an educational session [25, 58], one to a session where the experience of hallucinations was simulated and experienced by the study population [42].

With respect to comparison between video and direct contact, two studies found the same positive effect-size for both interventions. Reinke et al. [48] found the same effect at post-test measurement using a social distance scale; Clement et al. [25] also conducted a follow-up measurement and the effect measured by four different scales persisted at four months. Both video intervention and direct contact intervention in these two studies had the same structure and content, which was a narrative of a person with mental illness. This might suggest that the content of the intervention, rather than its form, is important. Faigin and Stein [57] found that live theatrical performance was associated with significantly greater initial decrease in stigmatizing attitudes and increase in favourable behavioural intentions than a video-based theatrical performance. The greater affective response was also present at one month follow-up. Two remaining studies also found better results among direct contact groups [40, 41].

Clement et al. [25] compared a video intervention to an educational session, which included both a short discussion presented by a mental health nurse, and traditional lecture covering topics of stigma and discrimination. No direct social contact elements were present in this educational session. Two out of four measures (focused on general attitudes and social distance) indicated comparatively superior effect of the video intervention, while the rest of the measures indicated no difference. In Owen's et al. study [58], both the video and the lecture targeted the same myths and facts related to mental illness. The video contained clips from popular movies illustrating myths juxtaposed with fragments from documentary videos presenting facts. The lecture contained no video fragments. The video intervention had a more positive effect on knowledge about mental illness at a two week post-test compared with a lecture. Walachovska et al. [40] compared changes in knowledge about mental illness after a comprehensive documentary on schizophrenia, and a researcher lead lecture on character, causes, and consequences of schizophrenia. The lecture had more positive effect on knowledge acquisition and the effect lasted also at one month follow-up.

Simulation of hallucinations was not found to be effective in reducing social distance and enhancing positive affective reactions to someone with mental illness in comparison with a video intervention [42].

3.2.2 Video intervention compared with inactive control

Five studies compared the effect of a more complex intervention (consisting of video in combination with either discussion, or educational session, or direct contact or leaflet) with inactive control group [45, 49, 59-61].

Two complex interventions, which included a video, demonstrated positive effects at post-test when compared to an inactive control group [49, 59]. Esters et al. [49] investigated the effectiveness of video targeted on children and adolescents who have a family member with mental illness. The video was complemented by an educational session focused on the possibilities of treatment and help seeking, together with information on stigma related to mental illness. The effect in terms of increased knowledge and positive attitudes towards help seeking was present at 3 months follow-up. Altindag's et al. [59] study was based on a combination of education, direct contact and film (Beautiful mind). However, its positive effects demonstrated at post-test were not present at one month follow-up.

Saporito et al. [61] evaluated an intervention which consisted of educational session in combination with a video depicting the life of a person with mental illness. Positive effects were observed at post-test on attitudes towards people with mental illness and towards help seeking but not on affective reactions and implicit attitudes measured by Implicit Association Test. Lincoln et al. [60] supplemented a video recorded dialogue of a psychiatrist and a patient about living with schizophrenia with two types of leaflets; one with a psychosocial, and the second with a biological explanation of the disease. The first one had significant impact on reducing the stereotype of dangerousness and social distance in the group of medical students and it did not increase any of the stereotype components. The intervention based on a biological explanation decreased the stereotype of unpredictability and incompetence, as well as social distance in the group of medical students, decreased attribution of responsibility for the disorder in both groups, however, it strengthened opinions about poor prognosis of those with mental illness in the group of psychology students.

Pinto-Foltz et al. [45] evaluated the effectiveness of an intervention consisting of a video, an educational session, and direct contact (In Our Own Voice program). The program did not change stigmatizing attitudes, however, a change of knowledge about mental illness was observed at two follow-ups (the second conducted eight weeks after the intervention), but not at post-test. The evidence about factors that might cause the change between post-test and follow-up measurements was not conclusive.

Eleven studies compared a video intervention with control group having either no intervention whatsoever, or intervention that was not related to mental illness. Overall, the majority of video interventions had positive effect (shown either, in all or only in some of the measures used) in comparison with an inactive control group. Only one video intervention [42] demonstrated a positive effect at follow-up (out of three studies that conducted follow-up measurements). However, this follow-up was conducted only one week after the intervention. The three videos did not significantly differ in terms of their content. All of them depicted personal experience with

mental illness, contained information about symptoms, the related stigma, and the possibility to lead normal life.

Five video interventions which had a positive effect at post-test [39, 48, 62, 63] shared several common features. All of them depicted somebody with mental illness, mentioned symptoms and the possibility of leading a normal life. However, these videos did not differ substantially from those where the effect was not clearly positive.

Penn et al. [51] reported nearly no effect (measured by levels of social distance, reported emotional reaction to mental illness, general attitudes towards people with mental illness, and perceived dangerousness) of a documentary about schizophrenia that contained indirect contact with somebody with mental illness and his personal experience of living with illness. However, the video included information that the person committed suicide and this might have been too shocking for spectators.

Two studies measured actual behaviour of participants in an interaction with somebody with mental illness [39, 62, 64]. The first video [39, 62, 64] consisted of a combination of a brief video showing someone with mental illness in a queue for tickets, and an educational video based on personal experiences of somebody with the illness. In the second study [39, 62, 64], participants watched a video of positive interaction between two strangers; the experimental group was led to believe that one of the strangers had schizophrenia. Afterwards, the participants in the experimental group were observed to have more friendly interaction with a person with schizophrenia than those in the control group.

3.2.3 COMPARING DIFFERENT TYPES OF VIDEO INTERVENTIONS
Five studies compared effects of different video interventions: a feature film with the respective feature film complemented by six different short explanatory trailers [44]; an educational video to contact based video [43]; a disease-specific video with a video about mental illness in general [64]; three videos with different levels of disconfirmation of stereotypes [48]; repeated exposure to video with single exposure to the video [43, 44, 46, 48, 64]. The feature film (called Angel baby; 1995) was compared to six different short explanatory trailers. The role of the trailers was suggested to be crucial, because the effect of the film per se was rather negative concerning the level of stigmatizing attitudes. The trailers included brief information about the epidemiology of schizophrenia, symptoms, personal feelings, and treatability of the disease, possibility of leading a normal life, and the website link. Authors also investigated the effectiveness of different designs of the trailers. The most effective was the trailer in which the factual information was provided by doctor in a deductive style ("People suffering from schizophrenia…."), rather than the trailer with patient speaking in an inductive way ("People suffering from schizophrenia, like Kate in the movie…"). The empathetic nature of the movie was therefore complemented with the expert information provided by the doctor [44].

The contact-based video seemed to have broader impact on stigma change than the educational video, and the effect also lasted after one week. The educational video had limited effect, showing improvement only in items related to responsibility and blame. The contact video had positive effect on items related to pity, empowerment, coercion, and segregation [43].

The disease-specific video targeting Tourette's syndrome was found more appropriate in terms of stigma reduction against people with Tourette's syndrome than the video referring to mental illness in general [64].

Reinke et al. [48] found that videos (based on a testimony of a person having mental illness) with moderate and high level of disconfirmation (the first included balanced information about both positive and negative aspects of having mental illness, the second focused only on life triumphs of the person having the illness) were more effective than video with low level of disconfirmation (included only information about symptoms and negative impact of schizoaffective disorder on person's life). However, the video with high level of disconfirmation yielded results similar to the one with moderate disconfirmation.

The repeated exposure to video promoting positive attitudes towards help seeking yielded better results than the single-exposure, and the effect lasted also at 3 weeks follow-up. However, this trend was supported only by two (out of four) outcome measures [46].

4. DISCUSSION

This review provides a comprehensive overview of existing literature on video interventions to reduce mental health related stigma among young people, and it includes 23 randomized controlled trials and controlled before and after studies. Although the quality of studies as well as the form of video interventions varied, the findings suggest that video is a promising destigmatization tool. However, only eight studies evaluated the effects from the long-term perspective exceeding one month.

Based on our review, we recommend the following: First, given that all the studies were conducted in high-income countries, research is needed in low- and middle-income countries as there is currently no evidence available [65]. Second, all of the studies in the review were conducted in schools and thus it would be useful to evaluate the effectiveness of video interventions aimed at young people which are delivered in other settings where they might access the video on their own. Furthermore, studies at universities and colleges mostly engaged students of psychology, medicine and nursing; other disciplines should be involved as stigmatization is also important for the general public and not only for health care professionals. Additionally, interventions focusing on specific diagnoses such as severe depression, bipolar, personality and anxiety disorders are needed since the stigma differs across the conditions and it might be important to develop video interventions tailored accordingly. Including economic evaluation into future studies would also substantially improve our knowledge base. Further, measurement of actual behaviour and implicit attitudes could complement often used assessment of reported behaviour and social distance. Last but not least, included studies concentrated only on the general stigma; video interventions, however, could be also useful as a tool in self-stigma reduction, and this should be further explored.

Finally, we can sum up some aspects associated with successful video interventions. Most of effective videos included a social contact element with a narrative of a person who experienced a mental illness and this was accompanied by expert information (e.g. provided by a psychiatrist). At the same time, the majority of effective video interventions emphasized potential for recovery and/or possibility to lead a good life despite mental illness. This is in line with the expert

recommendations to use recovery-oriented and see-the-person messages [66] for anti-stigma interventions. It is recommended to supplement video with the information combining psychosocial and biological explanation of mental illnesses. A balanced picture of mental illness is useful when it comes to deconstruction of stereotypes. Both high and moderate levels of disconfirmation brought similar and more effective results than video with low level disconfirmation [48]. One should also be cautious in regard to the negative aspects such as suicide. The video used by Penn et al. [51] contained filmed contact with a real person and further an information that the person committed suicide which could have been too severe for spectators and actually could have decreased the effect of intervention. However, suicidal attempts mentioned in other videos were not shown to lower the effect of the intervention. Simulation of hallucinations (without any additional intervention) increased mental illness stigma which corresponds to the findings of previous research [67]. Only few video intervention highlighted early help-seeking although it is an important aspect of recovery. Videos which were entertaining were popular among young people and repeated exposure to the video led to improved attitudes. Video as part of education can enhance students' discussions; its incorporation after the education was more effective than vice versa [47]. Unfortunately, some of the video interventions were neither adequately described, nor available on-line. On-line sharing would enable others to replicate particular research or to use video interventions assessed as highly effective in practice. We had the opportunity to watch 12 out of 28 videos. Some of them were of low quality which could impede the message and thus, when possible, professional preparation is recommended.

4.1 Strengths and limitations of this review

Video interventions represent rather low-cost, engaging, and easily scalable tools and we believe this is the first review to focus specifically on the effectiveness of video interventions among young people. Although there are some reviews with overlapping scope, particularly a review of Clement at al. (2013) which was aimed at mass media in general, this is the first to look particularly at video. It allowed us to identify characteristics of effective video interventions, although these should be tested further in prospective trials, because the quality of included studies varied.

Risk of selection and attrition bias was considerable across the studies, external validity was not discussed in any of them; response rate was neither stated (in 15 studies), nor higher than 50% (in one study); only four studies explain strategies of enhancing response rate at follow-up; and none of the studies was from a low or middle income country. Results show different outcomes when compared to different types of interventions. According to some RCTs it seems possible to replace a social contact intervention by a video intervention with filmed social contact [25, 48] and to achieve similar destigmatizing effect, even in the long-term perspective, but with far less expense. However, only a single study collected data on the cost of developing or disseminating the intervention making economic evaluation unfeasible. Given we know that stigma can exert an economic impact [68, 69], it would seem important to assess the costs in order to better understand how these relate to the various outcomes and to make a clearer case about investment in these types of interventions.

We were not able to synthesize data meta-analytically because the studies showed substantial heterogeneity in terms of length and content of the video interventions, as well as in terms of tools to measure effectiveness of these interventions. Inclusion of studies reported in English only might

have had further limited our results. Also, data extraction and quality assessment was performed by one author for each of the studies only, so we were not able to look at possible discrepancies and determine inter-rater reliability. However, authors involved in data extraction and quality assessment share a common workplace and all ambiguities were discussed instantly among them.

5. Conclusions

This systematic review is focused exclusively on video interventions; it supports previous studies in showing that video is a potentially useful tool for destigmatization of mental illness among young people. The identification of fundamental features of successful video interventions can facilitate the development and implementation of even more effective videos. Further studies should focus on increasing the effectiveness of video interventions, and implementation of the most cost-effective videos in different settings, including low and middle income countries.

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Conflicts of Interest

None.

Authors' contribution

MJ had input into the research question, contributed into the search strategy and selection criteria, reviewed articles, advised on the inclusion of papers for which there was uncertainty, wrote the first draft of the manuscript, and revised the text after contributions from co-authors. ET had input into the research question, implemented the search strategy, reviewed articles identified through the search strategy, wrote the first draft of the section on methodology and findings, drafted tables 1 and 2, wrote the section Risk of bias in the appendix. AW had input into the research question, reviewed articles identified through the search strategy, reviewed the manuscript, drafted Appendices C and E. PT reviewed articles identified through the search strategy, and reviewed the manuscript. JP had input into the research question, reviewed articles identified through the search strategy, and reviewed the manuscript. SEL critically reviewed and provided comments on the manuscript, and edited the manuscript. PW contributed methodologically, especially to search

strategy and selection criteria, wrote the section Strengths and limitations, critically reviewed and provided comments to the manuscript and tables.

LIST OF FIGURES AND TABLES (INCLUDED IN THE MAIN MANUSCRIPT)

APPENDICES – ON-LINE SUPPLEMENTARY MATERIAL

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