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The Effectiveness of Video-Based Learning on Stigma Regarding Mental Illness Patients: A Randomised Controlled Trial

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Abstract

Stigma towards mental-illness remains a major problem towards individuals with mental illness as it is more stigmatised than other health-conditions. Stigma mainly consists of three core elements: knowledge (misinformation/differences in understanding due to culture or religion), attitudes (prejudice) and behaviour (discrimination). We conducted a randomized controlled trial that aims to find out the effectiveness of video intervention in reducing the stigma of mental illness among the medical students of Melaka Manipal Medical College (MMMC), Muar Campus, Muar, Johor, Malaysia. The eligible participants were randomized using block randomization and were separated into a control group and an intervention group. Both groups were given an article that highlights the struggle of being a person diagnosed with depression (a mental illness). However, only the intervention group was exposed to the video on stigma reduction for a total of 15 minutes. A OMH-SC questionnaire was used to measure stigma towards mental illness. This study showed that there is no significant difference in total test score between the participants that underwent article reading alone (mean= 31.55) and those that underwent article reading and video-based learning (mean= 31.00). But, when compared before and after intervention, the total mean stigma score is reduced from mean of 36.00 to mean of 31.00. Similarly, in the control, the total mean stigma score is reduced from mean of 35.15 to mean of 31.55. Our study concludes that there is significant efficiency in reducing stigma towards mental health by reading an article and watching a video about mental health stigma and ways to reduce them.

Keywords

Stigma, Mental Health, Attitude, Perception, Randomized Controlled Trial

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1. Introduction

Mental Health is defined by the World Health Organization as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity [1]. Mental health disorder is a global concern as it contributes to the burden of diseases and disabilities worldwide. Since it is essential in the development of the economy, mental illness is a major cause of loss of productivity and wellbeing [2]. Based on a survey done by the Malaysian Ministry of health, the prevalence of mental health problems among those aged 16 years and above approximately 4.2 million. [3]

It is important to define and distinguish the difference between public stigma and self stigma. An extent to which the general public negatively stereotypes and discriminates is identified as public stigma [4]. Self stigma is defined as a person's recognition that the public holds prejudice and will discriminate against them, because of their mental illness can be defined as public stigma. This is thought to lead to diminished self-esteem and self-efficacy [4]. The differences are seen in the stereotype, prejudice and discrimination. In which, public stigma is seen as a reaction of the public

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towards people with mental illness. In self stigma, it is the negative belief about one's self. In both types, discrimination is present. However, the behavioural response in the public stigma is such as avoidance of work and opportunities. In self stigma, the response is seen as the failure to pursue work [5].

In a study to evaluate the stigma of mental health in the military, it was seen that the public held negative stereotypes towards individuals affected. This influences the self stigma which in turn reduces the self esteem and then the willingness to seek help [6]. In the healthcare system, medical students play a big role with regards to attitudes towards people with mental illness. It is easier to mould to the attitudes early on in training as it tends to harden as students' progress through medical school and residency [7]. It's been shown that just because people have the knowledge on stereotypes, it does not necessarily mean they agree with them [8]. Due to associated stigma, Furthermore, medical students and physicians are at higher risk of burnout and addictions than others in the general public yet are reluctant to seek help due to the associated stigma [9] Part of this reluctance might also stem from the potential negative consequences on a physician's career if they disclose having a mental illness, as medicine is a regulated profession in which disclosure of a mental illness can limit a physician's ability to practice [10]

Mental illness remains profoundly stigmatized despite numerous initiatives to combat the negative stereotypes. There have been many studies in which different approaches were taken in reducing the stigma seen in mental health. In Tanzania, a group of healthcare women were given stigma reduction techniques towards HIV. As a result, it was seen that they had more positive patient outcomes. This included an improve in patient compliance towards the treatment and higher disclosure rate [11]. Though there have been many teaching methods used as part of their psychiatric curricula, the effectiveness of the programs on reducing the stigma of mental illness and increasing student confidence in working with people with mental illness has not been evaluated in depth. Furthermore, stigma has been criticized as being too vaguely defined and individually focused [12].

Stigma towards mental-illness remains a major problem towards individuals with mental illness as it is more stigmatised than other health-conditions [13-15]. Stigma mainly consists of three core elements: knowledge (misinformation/differences in understanding due to culture or religion), attitudes (prejudice) and behaviour (discrimination) [15]. These three core components allow vivid intervention targets.

The issue pertaining to lack of knowledge constitutes misinformation and ignorance towards psychiatric illness. In a study conducted in Nigeria, respondents thought the major cause of psychiatric disorders was of psychosocial aetiology (84.6%) and religious-magical means of causation (15.4%) [16]. Even among medical and nursing students, half of them thought that people with schizophrenia would not recover and 78% considered people with schizophrenia to be violent and dangerous [17]. In another study, 82% believed people with schizophrenia are frightening because of their unpredictable behavior [18]. The same study showed that 77% of students agreed that it was dangerous for mentally ill patients to live in an apartment by themselves [18]. However, an early teaching regarding psychiatric illness has proven to reduce negative beliefs amongst the medical students [19].

Attitude component of stigma includes social distance, which refers to the desire to maintain distance from people with psychiatric illness [20, 21]. In two studies using community samples, a large proportion of the general public revealed an unwillingness to marry and become family with someone with schizophrenia or depression compared to being a co-worker [22, 23]. Prejudice towards individuals with mental illness were observed among the general public. In an Internet‐based survey, 56% agreed that schizophrenic patients could cause harm to children [24]. In another general public survey, around 48–61% would not hire a person with schizophrenia, around 58–74% would not vote for a politician diagnosed with schizophrenia, and 54–58% would not vote for a politician diagnosed with depression [22]. Social contact has proven to be effective in reducing negative attitudes towards mental illness [25-26], however the impact of clerking psychiatric patients during medical school has shown mixed results in terms of both positive and negative changes in the students' attitudes [12, 26-27]. The main reason could be due to mainly seeing patients on the ward who are very unwell [12, 26-28]. On the other hand, studies showed that police officers and young people had reduced stigma when they after having social contact with a person who has mental illness [26-29].

Mental illness remains profoundly stigmatized despite numerous initiatives to combat the negative stereotypes. There have been many studies in which different approaches were taken in reducing the stigma seen in mental health. In Tanzania, a group of healthcare women were given stigma reduction techniques towards HIV. As a result, it was seen that they had more positive patient outcomes. This included an improve in patient compliance towards the treatment and higher disclosure rate [12]. Though there have been many teaching methods used as part of their psychiatric curricula, the effectiveness of the programs on reducing the stigma of mental illness and increasing student confidence in working with people with mental illness has not been evaluated in depth. Furthermore, stigma has been criticized as being too

vaguely defined and individually focused [12].

In another study carried out to evaluate the impact of contact-based educational interventions delivered at two points in time, it was seen that the confidence of students had increased in working with those with mental illness. The trial also showed an increase in interest of psychiatry as a specialisation [29]. Students also responded well to anti stigma programmes where an improvement was seen in their beliefs about the causes of schizophrenia, social distance, and management of schizophrenic patients [30]. Researchers have suggested that documentary films portraying people diagnosed with mental health problems may offer an effective approach to reducing stigma and judgement among student groups [31]. Using the same intervention, another study carried out at the University of Nottingham, showed significant progress general attitudes to serious mental illness and social distance, with a trend towards reducing perceived dangerousness [32].

Only a few studies had been conducted on attitudes towards mental health illness among undergraduate medical students in Malaysia. Their studies were mainly focused on how knowledge and getting trained during psychiatry clinical posting have an influence in reducing stigma against mental health illness among undergraduate medical students. Unlike other studies done in Malaysia, our study mainly focuses on how video intervention is more effective in reducing the stigma against mental health illness among undergraduate students. Furthermore, our study also analyses the attitudes towards people with mental illness, disclosure/help-seeking and also social distance against mental illness among undergraduate medical students.

Research Objectives

To confirm the efficacy of videos over text in reducing stigma towards mental illness among medical students.

Research Hypothesis

There is a difference in video-based learning compared to text-based learning only in reducing stigma towards mental illness.

2. Methodology

2.1. Study Design, Setting, Time, Population

The study design implemented for this research was a randomized controlled trial that aims to find out the effectiveness of video intervention in reducing the stigma of mental illness among the medical students of Melaka Manipal Medical College (MMMC), Muar Campus, Muar, Johor, Malaysia. The duration of the study was from January 2020 to February 2020. Melaka Manipal Medical College (MMMC) consists of 3 programmes which are the MBBS, BDS and FIS. Our study population is based on Bachelor of Medicine & Bachelor of Surgery (MBBS) students from Semester 6 consisting of 150 students in total.

2.2. Sample Size

Sample Calc was used in this research to calculate the sample size. Below is the sample size calculation by Sample Calc:

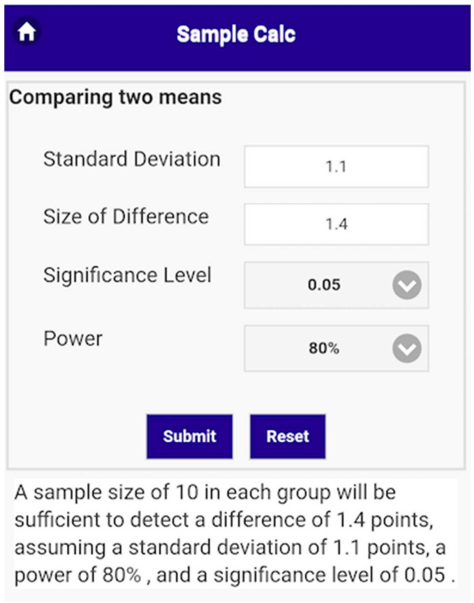

Figure 1. Sample size calculation by Sample Calc.

Where;

Standard deviation of the score of participants who have undergone video-based learning and article reading was 1.1. [29]

Size of difference: 1.4, mean score difference between participants who have undergone video-based learning and article reading together and participants who have undergone article reading only.[29] Therefore, based on the application Sample Calc, the minimum sample size per group is 10.

Drop-out

Where;

Standard deviation of the score of participants who have undergone video-based learning and article reading was 1.1. [29]

Size of difference: 1.4, mean score difference between participants who have undergone video-based learning and article reading together and participants who have undergone article reading only.[29] Therefore, based on the application Sample Calc, the minimum sample size per group is 10.

Minimum sample size per group needed: 10

Maximum percentage of drop-out allowed was 10%

To allow for drop-out, the final sample size was calculated

using the formula below:

n final = n calculated / (1-percentage of drop out)

n final = 10/1-0.1 = 11.11 (12)

The sample size we needed was 12 in control and 12 in the intervention group. However, we recruited a total of 40 participants who were randomly distributed to a control and intervention group where each group had 20 participants.

3. Sampling

Our study population consisted of 150 students in this study. 45 students had voluntarily participated in our study. Purposive sampling was used to recruit MBBS students in this research, which is a non-probability sampling method. Sample is selected specifically for this research as they fit into the eligibility criteria which were the inclusion and exclusion criteria as shown in *Table 1*. After excluding the participants who did not meet the eligible criteria, 40 participants were left which fitted in our final sample size (n=45). The sampling and randomization method were summarized in the Consort Flow Chart as shown in *Figure 2*.

4. Randomization

For randomization of the distribution of the students, Block Randomisation was used by using software called Research Randomizer (https://www.randomizer.org/). The following table (*Figure 3*) shows the block randomisation generated. Set #1 is video-based learning together with article reading whereas set #2 is only article reading.

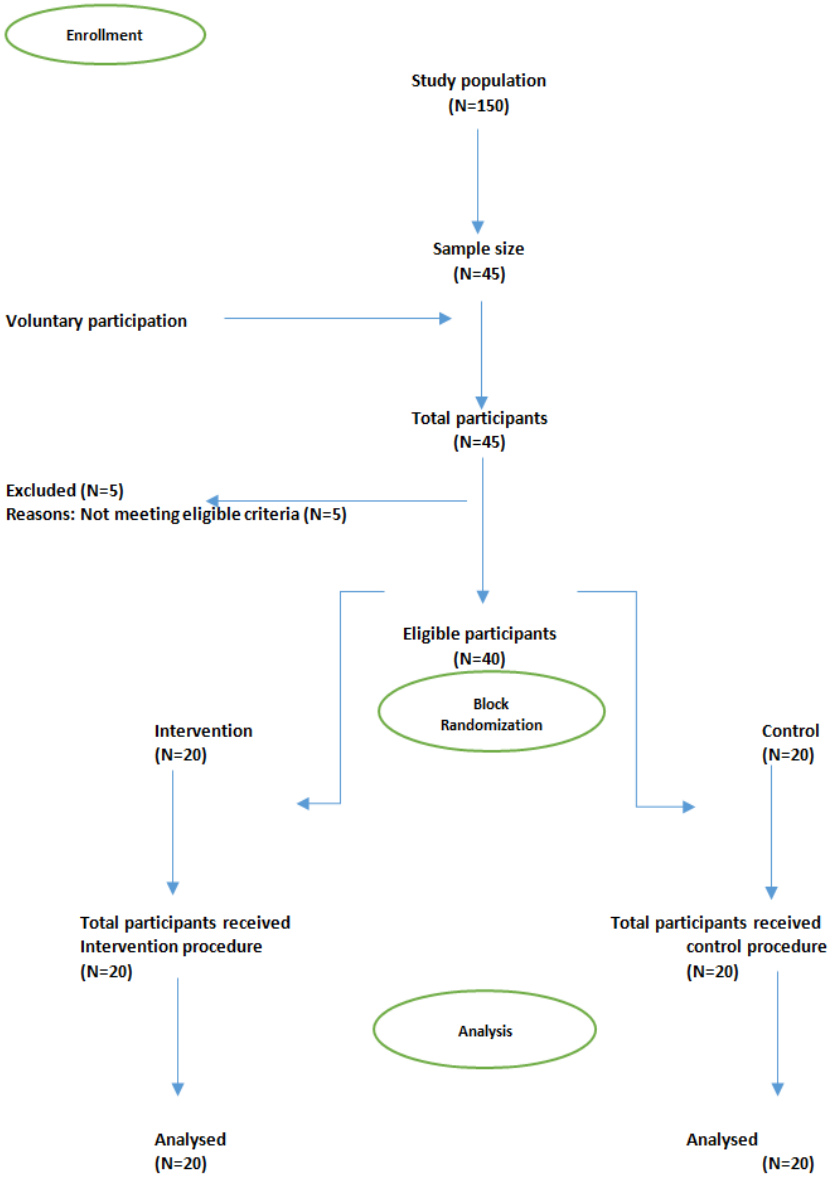

Figure 2. Consort Flow Chart.

Table 1. Inclusion and Exclusion criteria.

Inclusion criteria	Exclusion criteria
-18 years old or above	-Students who are not willing to provide consent
-Students who are willing to provide consent	-Students who had alcohol in less than 24 hours
Both gender	
Any ethnicity	-Students who are currently having fever, flu, headache
Any religion	

Table 2. Randomization to separate undergraduate participants into an intervention group and a control group.

Research Randomizer Results																				
Sets	**Set 1**	**Set 2**	**Set 3**	**Set 4**	**Set 5**	**Set 6**	**Set 7**	**Set 8**	**Set 9**	**Set 10**	**Set 11**	**Set 12**	**Set 13**	**Set 14**	**Set 15**	**Set 16**	**Set 17**	**Set 18**	**Set 19**	**Set 20**
	1	1	1	2	2	1	2	2	2	2	1	2	2	1	2	2	1	1	1	2
	2	2	2	1	1	2	1	1	1	1	2	1	1	2	1	1	2	2	2	1

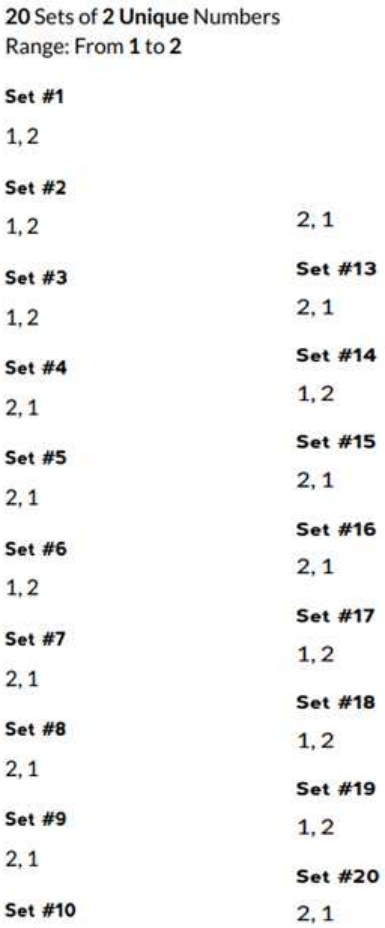

Figure 3. Randomisation used to separate the volunteers into intervention and control group of both traditional and text learning respectively.

5. Intervention Procedure

The study conducted to investigate the effectiveness of video intervention in reducing the stigma of mental illness among the year 4 students of Melaka Manipal Medical College.

The participants who volunteered were asked to gather in two separate classrooms. Prior to the intervention, they were asked to sign an informed consent form. A questionnaire was then handed over to the participants. The questionnaire consisted of 2 main parts. The first consisted of demographics and interests in psychiatry as a specialization. The second part consisted of the mental health stigma scale which was further divided into three factors being attitudes of health care providers towards people with mental illness, disclosure or help-seeking and social distance The first set of questionnaires were collected and after selection based on the inclusion and exclusion criteria. A total of 20 students were chosen.

Next, the eligible participants were randomized using block randomization and were separated into a control group and an intervention group. Both groups were given an article that highlights the struggle of being a person diagnosed with depression (a mental illness). The persona shares her quiet suffering being a symptomatic mental-illness patient and her day to day struggle to overcome it. The persona also explains the difficulty in admitting her disease in fear of being shunned by her friends. However, fortunately her family and friends were very supportive which gives a ray of hope for the persona to keep moving forward.

However, only the intervention group was exposed to the video on stigma reduction for a total of 15 minutes. The video compilation consisted of 4 sub videos where video 1 talks about is about the origin of stigma towards mental health. In this video, we can see that in the olden days mental health illness was not considered to be an illness, only physical ailments were considered to be illnesses. People who were mentally ill were considered to be possessed or involved in witchcraft. Instead of providing help, they were isolated and punished. Hence, people who were suffering from mental illness those days hid their illness in order to be accepted by society. They said they were fine even when they were not and chose to not seek help. Although times have changed and people have evolved, the stigma towards mental health has not changed or probably have just changed a little. The second video explains that although people have decided to speak up as they are no longer afraid to talk about mental illness, the remnants of the images from the olden days still persist and that is the reason some people are still uncomfortable

talking about it. The stigma has taken new forms as we have advanced in the science and technological fields. This video also shows how to tackle the stigma and talk about mental health in a more constructive way that is by using powerful and impactful words when talking to someone that is fighting mental health issues. In that way, people will feel more confident about opening up about their issues. The third video portrays a student that on the outside looked perfectly normal but was fighting his own demons in the form of depression. He was in a stressful situation in school and at home and did not speak up about it. The situation became very stressful and took a toll on him and he ended his life. The video also stated that 2 out of 3 teens struggling with mental illnesses do not seek help and that anyone can suffer from mental illnesses regardless of their gender, age, race or social status. This video also has a very important message and that is those that are struggling with mental illnesses are denied acceptance, hope, care and love because of the toxic stigma that surrounds it.

Lastly, the fourth video is about 2 people that are diagnosed with depression having talks with various people from various age groups, gender, race and social status regarding mental illness. This video shows the knowledge that they have regarding mental health. This video also shows that a vast majority of people tend to be ignorant and turn a blind eye towards mental health just because it has nothing to do with them. The answers gave by people in the video when they were questioned if they will hire a mentally ill patient or if they will date a mentally ill patient, clearly showed that the stigma is still very strong.

Once the control group had finished reading their text, and the intervention group had completed reading the text and watching the video, the same questionnaires were once again distributed so that we could assess the interests in psych as a specialisation to observe any changes in stigma scale in both groups. The difference of score in those that were exposed to the intervention and the changes before and after the exposure was compared and analysed.

6. Data Collection

Prior to intervention, MBBS students of Melaka-Manipal Medical College were assessed by a structured questionnaire that was distributed to the students who had voluntarily participated in the experimental study. Questionnaire was immediately returned after completion.

The questionnaire consisted of socio demographic questions, intended area of future specialty, any known friend or family member with mental illness, history of treatment for any mental illnesses, experience in clerking a patient with mental illness. Also, assessed their attitude and behaviour towards mental illness evaluated via The Opening Minds Scale for Health Care Providers (OMS-HC) [33].

The Opening Minds Scale for Health Care Providers (OMS-HC) is a self-report questionnaire which was developed to measure stigmatising attitudes and behaviours towards people with mental illness [33]. The questionnaire is divided into three different parts with a total of 15 items. The first part consisted of 6 items to assess the attitude towards people with mental illness. The second part consisted of 4 items which assessed if they would disclose or seek-help if they had mental illness. The last part consisted of 5 items to assess their social distance towards people with mental illness. A 5-point Likert scale was used and the response option for each question includes strongly agree, agree, neither agree nor disagree, disagree, strongly disagree. Each response is assigned a score 5 to 1 respectively. However, the following items requires reverse coding which includes " If I had a mental illness, I would tell my friends", "If a colleague with whom I work told me they had a managed mental illness, I would be as willing to work with him/her", "Employers should hire a person with a managed mental illness if she/he is the best person for the job", " I would still go to a physician if I knew that the physician had been treated for a mental illness " and "I would not mind if a person with mental illness lived next door to me ". A high score would indicate a more stigmatising attitude.

Post-intervention, the same students were re-assessed immediately with a different questionnaire which only consisted of the OMS-HC. Questionnaires were returned immediately after completion.

7. Ethical Consideration

An informed consent form with all important relevant details of the study was given to the participants. Written informed consents were obtained from the participants prior to the study. The informed consent form had a clear explanation about the study. The participants of this study were informed that their participation is completely voluntary and they have the right to withdraw from the study at any point of time if they wish to do so. In addition, we also listed out inclusion & exclusion criteria to the participants prior to the study to rule out participants who were not qualified. The exclusion criteria include some of the private information from the participants. Therefore, the participants of the study have been guaranteed that the research data will be strictly confidential and will not be shared with anyone. This study has included questionnaires generated by us, which was approved by the Research Ethics Committee, Faculty of Medicine, Melaka Manipal Medical College, Muar campus. This research topic has been approved by the Research ethics committee, Faculty of Medicine, Melaka Manipal Medical College, Malaysia.

8. Data Processing and Analysis

Softwares used in this study includes Microsoft Excel compiled version 2007, and Epi Info version 7.2 and GraphPad. The data obtained from the questionaires were arranged, tabulated and processed into the Microsoft Excel. Epi Info & GraphPad was used to calculate the statistical test and measure of association of the data. Values were cross-checked and double-checked to minimize errors.

Descriptive statistics used to summarize the data. For qualitative data such as sociodemographic data, intended area of future specialty, any known friend or family member with mental illness, history of treatment for any mental illnesses, experience in clerking a patient with mental illness frequency and percentage were used. On the other hand, mean and standard deviation were for the quantitative data – Opening Mind Stigma Scale for Health Care Providers (OMS-HC). The pre-intervention and post-intervention mean of the active control group (text-based learning) and intervention group (video-based learning) are compared to see which one was more effective in reducing stigma towards mental illness.

The Null hypothesis of this study is, there is no difference between active control group (text based learning only) and intervention group (video and text-based learning) in reducing stigma towards mental illness. On the other hand, Alternative hypothesis is there is a difference between active control group (text based learning only) and intervention group (video and text-based learning) in reducing stigma towards mental illness.

Table 3. The level of significance (α) is calculated by using Unpaired T-test.

Independent Variable	Dependent Variable	Statistical Test
Video and text based learning VS text based learning only	Attitude towards mental illness Disclosure/Help-seeking towards mental illness Social distance towars mental illness	Unpaired T-test

Table 4. The level of significance (α) is calculated by using Paired T-test.

Independent Variable	Dependent Variable (Before and After)	Statistical Test
Video and text based learning VS text based learning only	Attitude Disclosure Social distance	Paired T-test

Level of significance (α) of 0.05 is regarded as decisive evidence against the Null hypothesis.

Table 5. Baseline Characteristics.

Variable		Text-based learning n=20 (%)	Video and Text-based learning n=20 (%)	Total n=40 (%)
Age	Mean (SD)	22.4 (0.883)	22.3 (0.7164)	22.3 (0.797)
Gender	Male	7 (35)	9 (45)	16 (40)
	Female	13 (65)	11 (55)	24 (60)
Ethnicity	Malay	4 (20)	9 (45)	13 (32.5)
	Chinese	2 (10)	1 (5)	3 (7.5)
	Indian	8 (40)	7 (35)	15 (37.5)
	Others	6 (30)	3 (15)	9 (22.5)
Religion	Muslim	4 (20)	10 (50)	14 (35)
	Buddhist	3 (15)	2 (10)	5 (12.5)
	Christian	6 (30)	1 (5)	7 (17.5)
	Hindu	7 (35)	6 (30)	13 (32.5)
	Sikhism	0 (0)	1 (5)	1 (2.5)
Nationality	Malaysian	18 (90)	18 (90)	36 (90)
	Non-Malaysian	2 (10)	2 (10)	4 (10)
Semester	6	20 (100)	20 (100)	40 (100)
Future choice of specialty	Surgery	9 (45)	6 (30)	15 (37.5)
	General Medicine	0 (0)	3 (15)	3 (7.5)
	Paediatrics	7 (35)	1 (5)	8 (20)
	Gynaecology/Obstetrics	3 (15)	4 (20)	7 (17.5)
	Psychiatry	1 (5)	1 (5)	2 (5)
	Family Medicine	0 (0)	2 (10)	2 (5)
	Surgery, Family Medicine	0 (0)	3 (15)	3 (7.5)
Do you know a close friend or family member with mental illness	Yes	11 (55)	10 (50)	21 (52.5)
	No	9 (45)	10 (50)	19 (47.5)
Have you ever been treated for a mental	Yes	1 (5)	0 (0)	1 (2.5)
	No	19 (95)	20 (100)	39 (97.5)

Variable		Text-based learning n=20 (%)	Video and Text-based learning n=20 (%)	Total n=40 (%)
illness				
Have you ever clerked a patient with mental illness	Yes	15 (75)	13 (65)	28 (70)
	No	5 (25)	7 (35)	12 (30)

Table 6. Before Intervention.

Outcomes	Intervention Mean (SD)	Control Mean (SD)	Mean difference (95% CI)	P Value
Attitudes of health care providers towards people with mental illness	12.90 (3.09)	12.35 (3.85)	0.55 (-1.67, 2.77)	0.620
Disclosure/Help-seeking	12.50 (2.21)	12.00 (2.75)	0.50 (-2.10, 1.10)	0.530
Social Distance	10.60 (2.32)	10.80 (3.24)	0.20 (-1.07, 2.01)	0.824
Total stigma score	36.00 (6.05)	35.15 (7.42)	0.85 (-5.18, 3.48)	0.694

Table 7. After Intervention.

Outcome	Intervention Mean (SD)	Control Mean (SD)	Mean Difference (95% CI)	P Value
Attitudes of health care providers towards people with mental illness	10.80 (2.95)	10.85 (3.57)	0.05 (-2.05, 2.15)	0.962
Disclosure/Help-seeking	10.70 (3.06)	10.80 (3.41)	0.10 (-1.98, 2.18)	0.923
Social Distance	9.50 (3.30)	10.00 (3.30)	0.50 (-1.50, 2.50)	0.615
Total	31.00 (7.445)	31.55 (6.97)	0.55 (-4.07, 5.17)	0.811

Table 8. Before vs After Control.

Outcomes	Before: Control Mean (SD)	After: Control Mean (SD)	Mean difference (95% CI)	P Value
Attitudes of health care providers towards people with mental illness	12.35 (3.85)	10.85 (3.57)	1.50 (-0.01, 3.01)	0.052
Disclosure/Help-seeking	12.00 (2.75)	10.80 (3.41)	1.20 (0.08, 2.32)	0.037
Social Distance	10.80 (3.24)	10.00 (3.30)	0.95 (0.13, 1.77)	0.026
Total	35.15 (7.42)	31.55 (6.97)	3.60 (0.79, 6.41)	0.015

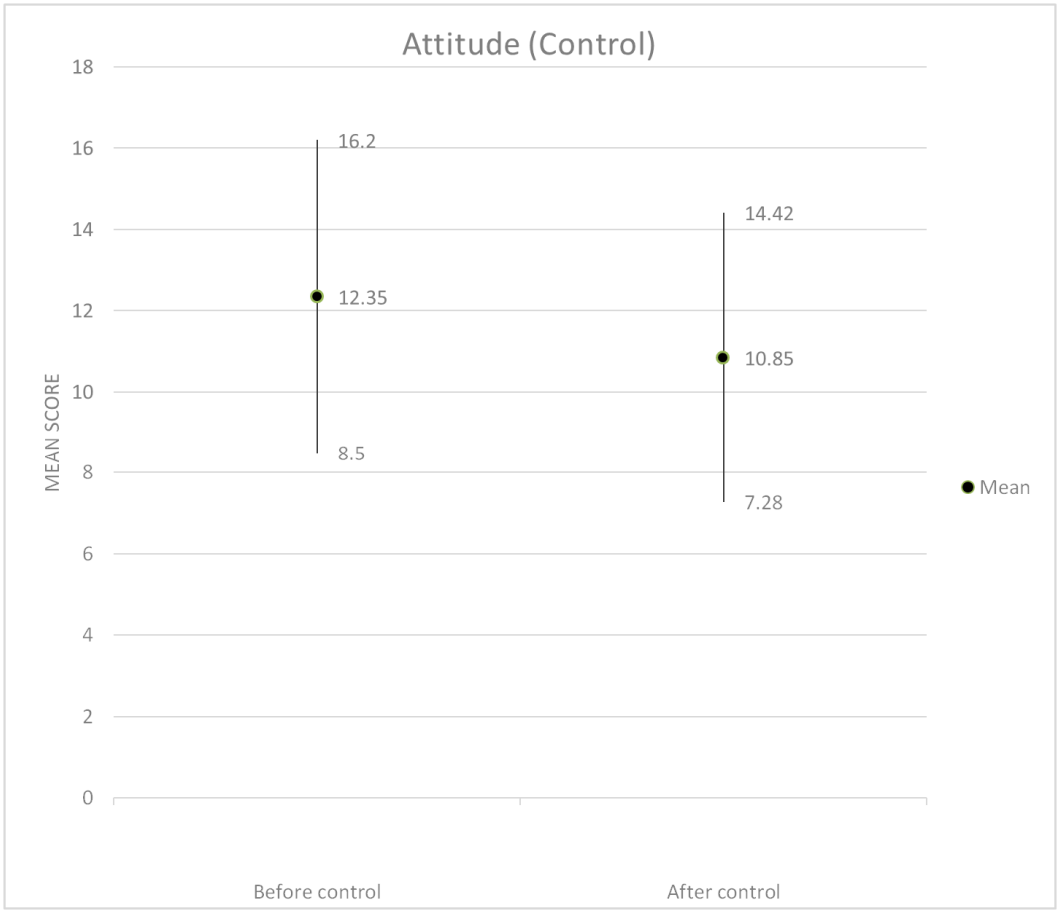

Figure 4. Simple error figure showing attitudes of health care providers towards people with mental illness after intervention.

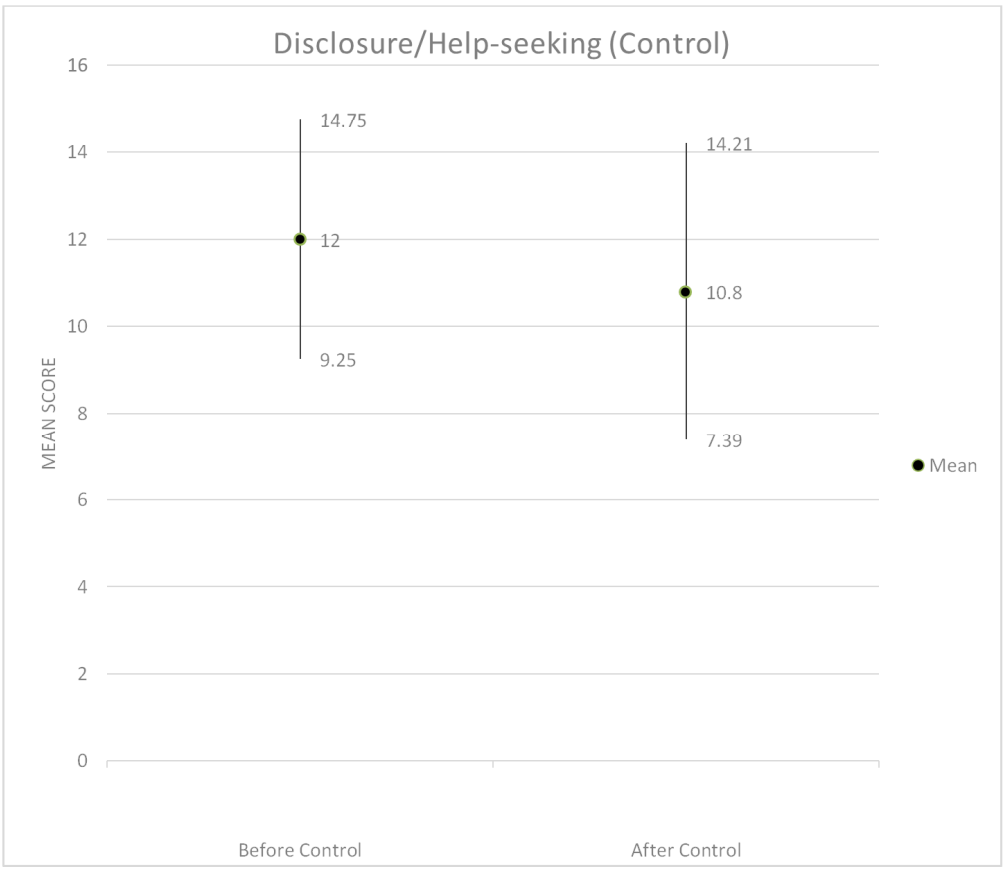

Figure 5. Simple error figure showing disclosure and help seeking with mental illness after intervention.

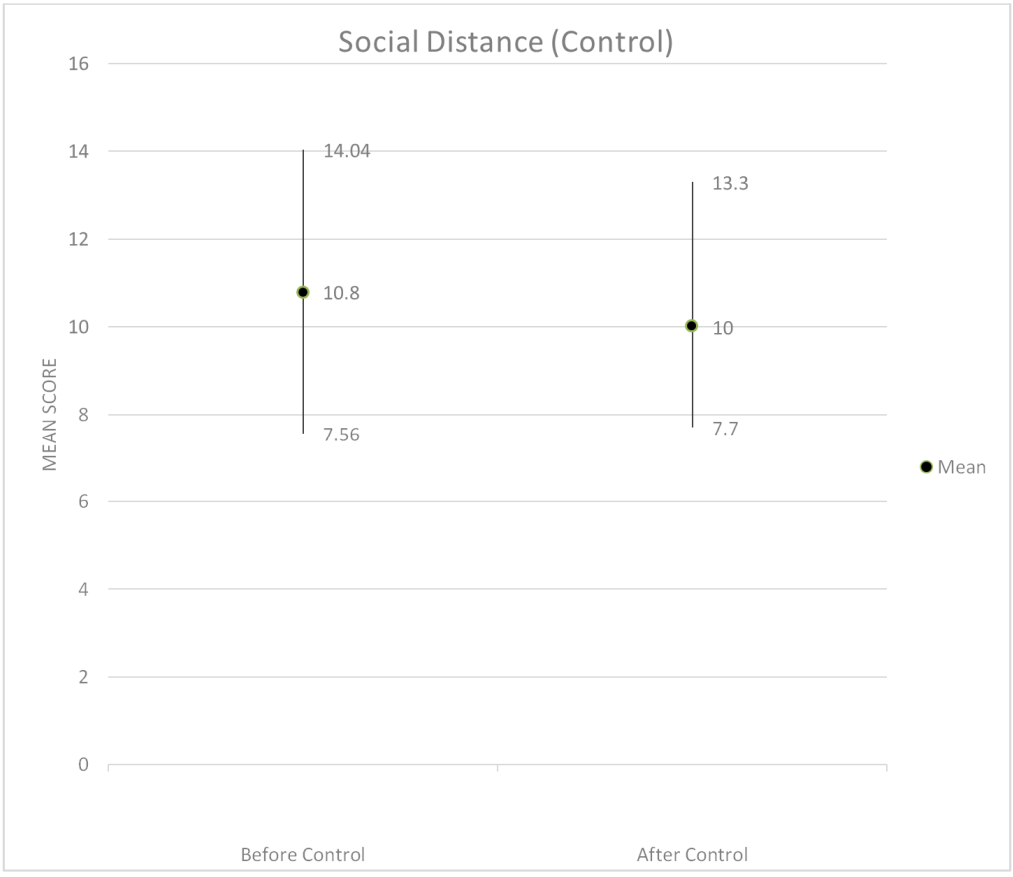

Figure 6. Simple error figure showing social distance with mental illness after intervention.

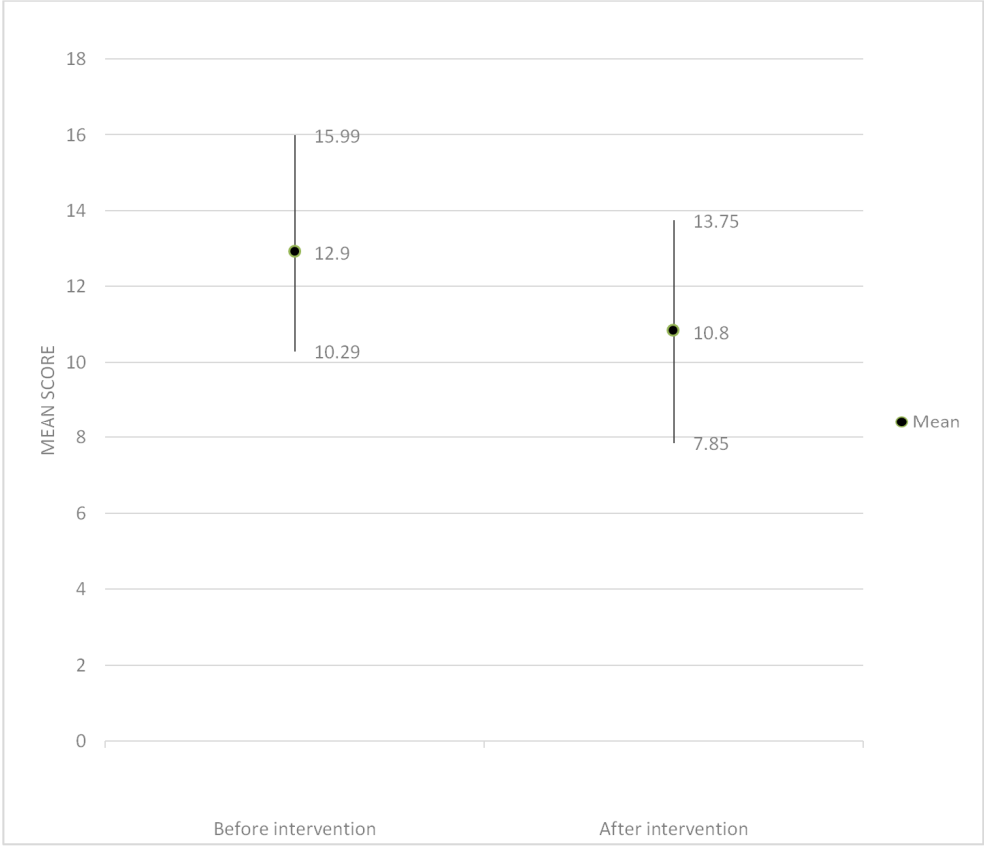

Figure 7. Simple error figure showing comparison of attitudes of health care providers towards people with mental illness before and after intervention.

Figure 8. Simple error figure showing comparison of social attitudes of disclosure and help seeking towards people with mental illness before and after intervention.

9. Discussion

A randomised controlled trial was conducted among the medical students in Melaka Manipal Medical College, Malaysia. This study aims to reduce the stigma regarding mental health among medical students and to see the efficacy of videos over text in reducing stigma about mental health among medical students. Both of the control and intervention groups were given an article that highlights the struggle of being a person diagnosed with depression (a mental illness). In the text, the persona explains the difficulties in admitting her disease in fear of being shunned by her friends and shares her quiet suffering being a symptomatic mental-illness patient. Fortunately, her family and friends were supportive which gives a ray of hope for the persona to keep moving forward. On top of that, only the intervention group was exposed to the video on stigma reduction for a total of 15 minutes. The video is a compilation of 4 videos. The first video portrays the origin of stigma towards mental health, the second video explains that although people have decided to speak up as they are no longer afraid to talk about mental illness, the remnants of the images from the olden days persist and that is the reason some people are still uncomfortable to talk about it. The third video is about a student who outside looks perfectly normal but is fighting his demons in the form of depression. Last but not least, the fourth video is about two people who were diagnosed with depression having a conversation with various people from different age, gender and race groups.

Our present study found that there is no significant difference in total test score among the participants that underwent article reading alone about stigma towards mental health and those that underwent article reading and video-based learning about stigma towards mental health, where the total mean stigma score for participants that took part in article reading alone is 31.55 while the total mean stigma score of participants that took part in article reading and video-based learning is 31.00. However, the total mean stigma score of the participants before undergoing video-based learning and article reading together is 36.00 while the total mean stigma score after undergoing video-based learning and article reading is 31.00. The lowered stigma score post-intervention shows that by article reading and video-based learning, there is significant reduction in stigma towards mental health.

A randomized control trial study that was done by the College of Medicine - Regina Campus, University of Saskatchewan, Canada, to reduce the stigma of mental illness in undergraduate medical education. The study aimed to combat the stigma towards mental health through educational initiatives.[33] This study examined the impact of a one-time contact-based educational intervention on the stigma of mental illness among medical students and compared this with a multimodal undergraduate psychiatry course at the University of Calgary, Canada that integrates contact-based educational strategies. Attitudes towards mental illness were compared with those towards physical ailments which was type 2 diabetes mellitus (T2DM). Stigma scores for both groups were significantly reduced upon course completion, but were not significantly changed following the one-time contact based educational intervention in the primary analysis. Student confidence in working with people with a mental illness and interest in a psychiatric career was increased at the end of the course. This corresponds to our study and shows that if the general population are given proper awareness regarding mental health, the stigma attached to it can be reduced. Another study of non-randomised controlled trial was conducted with 110 third year medical students at King's College London, in England to determine the effectiveness of a mental illness related stigma training package that targeted their knowledge, attitudes and behaviour. This study aimed to evaluate whether some kind of intervention would be effective in changing knowledge, attitudes and behaviour towards patients with mental health issues compared to the usual medical school curriculum, and whether the addition of user and carer enabled role-play training to a lecture with a factual component with service user and caregiver personal testimonies was more effective than the lecture alone.[29] The lecture sessions, with or without the role playing, were successful in increasing knowledge in a favourable direction but there was little evidence that the role-play training provided additional impact to the lecture. In addition, another randomized control trial study about anti-stigma films and medical students' attitudes towards mental illness and psychiatry was done in Nottingham, United Kingdom. Participants were 4th year medical undergraduates on their psychiatry training attachment. The study was done to explore the feasibility of a randomised controlled trial of the effects of two anti-stigma films on medical students' attitudes to serious mental illness and psychiatry. Attitudes to serious mental illness, perceived dangerousness, social distance and psychiatry, were measured before and after watching the films and at 8 weeks. At the end of the study, the results showed that intervention films significantly improved general attitudes to serious mental illness and social distance, with a trend towards reducing perceived dangerousness. These effects appeared to attenuate during the students' clinical placements, suggesting a possible interaction with their clinical experiences. [32]

The findings of the study have to be seen in light of some limitations. Firstly, the duration of our study. The total time

of our study was only for a month. With that, our intervention was for a total of 45 minutes where participants read the article then watched a video compilation on mental health and the stigma attached to it. Next, our sample size comprised of 40 students in semester 6 in total. The results of our study may cannot be generalised to other settings. This means that the stigma was measured amongst those in their first year of clinical rotations. The stigma may vary for those who have experience in the clinical postings for a longer time. Video intervention in reducing stigma is a study that is still being ventured. Therefore, we had limited resources as guidelines in carrying out this study.

Future studies should include a more holistic approach in effort to reduce stigma. Rather than just an educational overview about mental illness and the stigma that surrounds it (knowledge-based only), a contact-based approach with a patient suffering from mental illness (clinical-based) under supervision of a psychiatrist would be more effective. As this creates an opportunity for the medical student to discuss their misconceptions and create a more in-depth understanding and empathy towards psychiatric illness and the people suffering from it. This will not only just reduce stigma but also boost the student's confidence in treating psychiatric patients in their future practice. Other than that, future studies should also be conducted in a longer duration of study which includes more sessions and more assessments at different points of time. This allows a more thorough analysis in assessing the stigma amongst the students and the effectiveness of the educational and clinical-based approach in effort to reduce it. Finally, a larger sample size is preferred to ensure representativeness of the student population.

10. Conclusion

Our study concludes that there is significant efficiency in reducing stigma towards mental health by reading an article and watching a video about mental health stigma and ways to reduce them. However, when in comparison between the control and intervention group, not much significance was recorded.

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