Impact of a community-based mental health awareness program on changing attitudes of the general population toward mental health in Gujarat, India – A study of 711 respondents

ABSTRACT

Context: In India, there is a large mental illness treatment gap, especially in rural areas. Contributors to this problem include stigma and a general lack of mental health knowledge. The State Health Department of Gujarat, India, released a video tool, in 2003, with the goal being to educate the community on topics related to mental health. Aims: The aim of this study was to evaluate the ability of the government-developed video tool to improve attitudes toward mental health in rural Gujarat. Settings and Design: Eight hundred and sixty-five individuals, in 17 villages in Gujarat, agreed to attend a mental health awareness workshop that used the government-developed video tool. One workshop was held in each village. A structured questionnaire evaluating attitudes was administered to the participants before and after the workshop. Subjects and Methods: government-developed video tool, standardized questionnaire for attitude evaluation. Statistical Analysis Used: A McNemar’s test was used to evaluate the difference between pre- and post-scores. Results: A total of 711 participants completed the pre- and post-questionnaire. Attitudes related to psychosis, suicidal ideation, postpartum depression, learning disability, general mental illness, and perceptions of dangerousness showed significantly favorable improvement (P < .005). Attitudes related to substance abuse worsened (P < 0.005). Conclusions: Results suggest that a government-developed video tool can successfully improve short-term attitudes. Attitudes toward substance abuse may require a different approach than attitudes toward other types of mental illness.

Keywords: Attitudes, governmental tool, India, low-middle income countries, mental illness

Stigmatizing attitudes toward mental illness have been reported in India.1–20 Such attitudes have been pinpointed as barriers to treatment seeking and mental health services utilization.1,3,7,13,21,22 These attitudes play a major role in the social marginalization of mental health-care consumers leading to discrimination in housing, employment, marriage, and education.3,7,23–33 Considering the above, it makes sense that efforts to improve attitudes toward mental health have been encouraged in India.34–38 According to the NIMHANS 2016 survey, Gujarat is one of two states that has made progress regarding incorporating mental health into their public health agenda.

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Of note, Gujarat is one of the few states in India with a stand-alone mental health policy and publishing periodical reports of activities. Although budgets for mental health are often under 1% of the total health budget; Gujarat does have a separate budget head for mental health. Gujarat has carried out public awareness programs in >50% of the districts; however, the channels through which this has been done has yet to be effectively assessed.\textsuperscript{[39]}

The research, presented here, aims to evaluate a government-developed video tool on its ability to change attitudes toward mental health. The tool was made and promoted by the State Health Department of Gujarat for the purpose of educating the community on the topic of mental health. We hypothesized that this tool, when employed in the context of a mental health awareness workshop, would result in participants demonstrating improved attitudes toward mental illness.

SUBJECTS AND METHODS

Overview
In Vadodara, Gujarat, India, 17 villages were identified to conduct workshops which would incorporate the government-developed video tool. Using a 44-item questionnaire, a pre-post test design was used to assess changes in attitudes following the intervention. The questionnaire was administered to 865 participants at baseline prior to any mental health education information was provided. After the workshop, which included a video and discussion session, the same questionnaire was readministered to participants within a 5-day timeframe. The workshops followed a standardized protocol (available on request) and were led by a social worker, doctors from the Departments of Community Medicine and Psychiatry at Smt. B. K. Shah Medical Institute and Research Centre at Sumandeep Vidyapeeth (SV), and staff of The MINDS Foundation. The MINDS Foundation is a nongovernmental organization that partners with local hospitals to build capacity, eliminate stigma, and provide mental health services to rural regions. In the rural regions of Vadodara, Gujarat, The MINDS Foundation has partnered with SV to provide diagnostic, counseling, and medication services. The Department of Psychiatry at SV has catered to this population’s mental health needs since 2003, providing an ideal base for this study. The 17 villages were chosen based on their close proximity to a primary health clinic in Gola Gamdi, Vadodara that is operated by SV. This study, including the workshops and associated collected data, proceeded after approval from the Sumandeep Vidyapeeth Institutional Ethics Committee. Informed consent was obtained orally before administering the survey. Consent was obtained orally since a significant amount of respondents were illiterate (36.7%) and the research carried no more than minimal risk toward participants. These steps are in line with international standards for research involving human participants.\textsuperscript{[39]} No compensation was provided for participants. There was also a safety protocol in place, in which a certified social worker would be able to immediately provide counseling and escort the patient to our clinical partner at Dhiraaj General Hospital. All study forms and structured interview questionnaires are available upon request from the authors.

Procedure
On receiving informal permission and guidance from the locally elected head of the village, school teachers and other village leaders, the social worker went to each village and disseminated information on the time and location of an upcoming workshop for mental health. The social worker was a male with a master’s degree trained by the authors for the data collection. In addition, information on the time and location was spread by the previously consulted village leaders. As part of the protocol, the social worker agreed to administer the 44-item questionnaire to consenting participants who attended the workshop within 1 week.

Each educational workshop commenced with a brief introduction on the purpose and objectives of the session. Attendees were then shown the government-developed video on mental health (described below) that was provided to MINDS from the government health department. We are happy to share the video on request. Immediately after the screening, attendees were presented with a pamphlet on information regarding common mental health problems (e.g., schizophrenia, depression, anxiety, and substance abuse), common symptoms, and possible treatment options. The pamphlet included diagrams and pictures for illiterate persons. Any queries by participants were actively addressed through discussion and a Q&A session at each workshop by psychiatrists and social workers running the program.

Within 3 days of the workshop, the social worker returned to the villages and readministered the questionnaire to all participants who attended the workshop and were available and willing to retake the questionnaire. Figure 1 shows the timeline of the workshop. Discrepancies on when the survey was re-administered, was due to practical constraints, for example, if the social worker could not reach everyone on 1 day or if the participant was unavailable.

![Figure 1: Timeline of the data collection and intervention](image)
Sample: Inclusion, exclusion criteria and controls
This study used convenience sampling and snowball sampling. The social worker not only enrolled many participants through door-to-door visits but also encouraged participants to tell friends and relatives about the upcoming workshop. Any person was allowed to attend the workshop as long as they were in capacity and willing to partake. However, with regard to data analysis, data was excluded for participants who had not taken a postworkshop questionnaire (n = 154). An attendance sheet, used at the workshop, was referenced to identify people to be followed up with for the postworkshop questionnaire. Participants who did not complete the postsurvey were considered “dropout.” There were not any pre/post control groups as The MINDS Foundation aims to reach as many people in the rural communities as possible with the ultimate goal of reducing stigma in these communities.

Government-developed tool
The film was created by the State Health Department of Gujarat in 2003 and used with official consent. It was produced in Gujarati, the primary language of the state spoken by 85.5% of residents. The film is a 60 min, fictionalized account of a male teenager with mental illness who has poor social and academic functioning. The boy has several symptoms: Hallucinations, social anxiety, social withdrawal, and a loss of appetite. The film follows the boy and his family as they search for and pursue various treatments. The family pursues several traditional medicine avenues, for example, seeing a faith healer; however, none of these potentially therapeutic methods are effective. They finally meet with a psychiatrist who counsels the family and provides the boy with medication. The treatment reduces the boy’s symptoms and improves his quality of life as he is able to resume work, school, and engagement with family and friends. According to the description on the digital versatile disc box, the video was made with the purpose of educating the community at large on mental health. It also states that audio-visual aids will enhance the efforts in addressing the stigma and myths about mental illnesses in the community. We are able to provide viewing of this video upon request.

Dependent measure: 44-item questionnaire
Attitudes were assessed via a modified version of the Mental Health Awareness Assessment developed by the Hunter Institute for Mental Health (Australia). The questionnaire was chosen because it was designed to assess attitudes toward mental illness, can be used with children and adults, and covers a variety of illnesses (e.g., suicide and postpartum depression). The questionnaire assesses attitudes through 44 questions asking for participant opinion in an agree/disagree format. The same survey was administered before and after the workshop. The questionnaire was translated into Gujarati by a company in Vadodara and then back-translated by a local psychiatrist. After back-translation, two local psychiatrists and the social worker reviewed the questionnaire to ensure conceptual and linguistic equivalence of the items. This is in line with established translation procedure. The questionnaire was interviewer-administered due to the relatively low literacy rate in the villages (37.7%). Baseline and postworkshop assessments were handled exclusively by the social worker.

Data analysis
Data were analyzed using SAS 9.3. Baseline and postworkshop response frequencies were generated and reported as a percent. McNemar’s tests were used to determine the statistical significance of the difference between baseline responses and postworkshop responses. A McNemar’s test was chosen as the responses to the survey were dichotomous i.e., participants answered either “yes” or “no.”

RESULTS

Participant demographic characteristics
Table 1 shows the demographic profile for the participants whose data were analyzed in this paper. All demographic information was self-reported by the participant. The included data consisted of 711 (377 males, 334 females) community members. The average participant age was 40 years. The literacy rate was 63.3%. The primary form of employment was farming. A subset of people (n = 154) only completed the baseline survey as they were unable to be followed up with; their data were excluded.

Table 1: Demographic characteristics of included participants

| Included participants (n=711) |  |
|-----------------------------|--|
| Age, mean±SD                | 39.6±16.7 |
| Gender, n (%)               |  |
| Male                        | 377 (53.0) |
| Female                      | 334 (47.0) |
| Literacy rate, n (%)        | 451 (63.4) |
| Employment, n (%)           |  |
| Housewife                   | 330 (18.3) |
| Student                     | 22 (3.1)   |
| Farm worker                 | 383 (53.9) |
| Other                       | 52 (7.3)   |
| Unemployed, retired, or not employed | 124 (17.4) |
| Monthly income, mean±SD     | 1560.5±2393.4 |

*Included participants: completed both pre- and post-workshop questionnaires,
*Anyone who completed primary, secondary, or university-level school was considered literate,
*Responses include: “job,” “business,” “ailor,” “barber,” “labour,”
*service,” “shop keeper,” “Currency is Indian rupees.
*EUR (at the time of data collection). SD – Standard deviation

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Changes in attitudes
The effectiveness of the workshop was measured by comparing the preworkshop and postworkshop questionnaires. Participants were asked if they agreed or disagreed with all 44 questions [responses are reported in Table 2]. There were significant differences between pre- and post-scores (P < 0.005) for the following content areas: psychosis (question #1–5), suicidal ideation (question #7–15), substance abuse (question #16–24), someone with the label of having a “mental illness” (question #25–33), postpartum depression (question #34–36), learning disability (question #37–39), perception of dangerousness (question #40), appearance of those with mental illness (question #41 and 44), general outcome of having a mental illness (question #42), and predisposition to mental illness (question #43). The only question that did not show significant change was question #6, “If someone could hear voices that others could not hear, or saw things that no one else could see, it would mean that: they were sick and needed help.”

DISCUSSION
Attitudinal change is of broad interest to global mental health experts. There are several layers to their interest. First, stigmatizing attitudes have been noted as barriers to treatment seeking and mental health services utilization.[1,3,13,21,22] Furthermore, these attitudes play a major role in the social marginalization of mental health-care consumers leading to discrimination in housing, employment, marriage, and education.[5,7,33] To avoid stigmatizing attitudes and marginalization, people may avoid treatment and even deny mental illness.[5,6,43–51] Research suggests that compared to structural barriers, such as shortages of psychiatrists or long distances to health-care centers, attitudinal barriers may be more important to initiating and continuing treatment.[1] Therefore, training more psychiatrists will not have a major impact if communities are not equipped with the knowledge to recognize mental illnesses and seek treatment.[21] The research, specific to India, on interventions to reduce stigmatizing attitudes and increase MHL is very limited. One intervention showed promising results in a sample of community health workers[52] and MINDS has since provided mental health training for such health workers. The above research, taken altogether, bolsters the argument for interventions in India that focus on improving attitudes toward mental health with the end goal being to increase appropriate mental health services utilization and reduce the treatment gap. Gujarat has already paved the way by having a stand-alone mental health policy, along with a separate budget head for mental health programs. Moving forward, we aim to integrate our educational programming directly with the government schemes and guidelines for District Mental Health Programmes.

Given the impact of stigma on those with mental illness and the lack of research on the effectiveness of anti-stigma interventions in India, we aimed to assess the ability of a film developed by the State Health Department of Gujarat to improve attitudes toward mental illness. We found that there was a short-term improvement in attitudes toward mental illness after our mental health awareness workshop as demonstrated by improved postworkshop questionnaire scores for 33 of 44 (77%) statements. Specifically, there was improvement in the following content areas: psychosis, suicidal ideation, someone with the general label of “mental illness,” postpartum depression, learning disability, perception of dangerousness, and appearance of those with mental illness. Our findings are in agreement with research, across various settings, that shows improvement in attitudes after participation in a video intervention.[52–73]

Based on previous research in India, the presence of stigmatizing attitudes at baseline is not unexpected.[1,20] In addition, the authors knew, based on the past research, that this specific population of Vadodara held stigmatizing attitudes.[74–76]

Several findings are particularly important and worth discussing more in depth. The researchers were surprised by the worsening attitudes toward substance abuse (question #16–24) following the workshop. On these questions, participants seemed to become less accepting of “drinking alcohol and using drugs.” More so than other mental illnesses, people may see substance abuse as an illness with high “controllability.”[71,78] If people see substance abuse as an issue of morality under the individual’s “control,” they may demonstrate more stigmatizing attitudes compared to other types of mental illness. In addition, one study suggested that people with substance use disorders frequently encounter greater stigma.[79] Perhaps these facts, taken together, make substance abuse stigma particularly impervious to this type of intervention. Another potential reason for the unexpected finding is that the government of Gujarat has banned alcohol consumption, potentially contributing to the negative baseline attitude expressed among study participants. Finally, perhaps the cause for the worsening attitudes toward substance abuse is that the government-developed video tool did not explicitly cover substance abuse. The boy in the video was not abusing any substances. As a result of this, it is possible that participants categorically characterized substance abuse differently from the other mental illnesses. If this is the case, substance abuse may need to be addressed explicitly with another video or in some other scripted manner. Future work is necessary to determine exactly why attitudes toward
Table 2: Comparison of responses to the questionnaire before and after the workshop

| Ideal response | Proportion of respondents that picked the "ideal" response | p-value | n |
|----------------|----------------------------------------------------------|---------|---|
| Before (%)     | After (%)                                                |         |   |
| **1. Spirits had possessed them** | Disagree | 39.1 | 98.7 | <0.0001 | 708 |
| **2. They were immoral** | Disagree | 39.4 | 98.7 | <0.0001 | 708 |
| **3. I would not talk to them** | Disagree | 39.4 | 98.7 | <0.0001 | 705 |
| **4. My family would shun them** | Disagree | 39.6 | 98.7 | <0.0001 | 709 |
| **5. Their family would be ashamed** | Disagree | 39.6 | 97.2 | <0.0001 | 709 |
| **6. They were sick and needed help** | Agree | 98.2 | 98.3 | NS | 709 |
| If someone could hear voices that others could not hear, or saw things that no one else could see, it would mean that: | | | | |
| **7. I would feel disgusted or angry or that they were shaming their family** | Disagree | 73.9 | 97.7 | <0.0001 | 706 |
| **8. My family would feel disgusted or angry or that they were shaming their family** | Disagree | 74.2 | 98.0 | <0.0001 | 705 |
| **9. Their family would feel disgusted or angry or that they were shaming their family** | Disagree | 74.0 | 98.0 | <0.0001 | 705 |
| **10. I would avoid or shun them** | Disagree | 83.6 | 98.6 | <0.0001 | 709 |
| **11. My family would avoid or shun them** | Disagree | 83.5 | 98.6 | <0.0001 | 709 |
| **12. Their family would avoid or shun them** | Disagree | 83.5 | 97.6 | <0.0001 | 709 |
| **13. I would want to help them** | Agree | 85.9 | 98.9 | <0.0001 | 708 |
| **14. My family would want to help them** | Agree | 85.8 | 99.0 | <0.0001 | 709 |
| **15. Their family would want to help them** | Agree | 86.2 | 99.0 | <0.0001 | 709 |
| If I learned that someone in the village thought about or tried to kill himself or herself: | | | | |
| **16. I would feel disgusted or angry or that they were shaming their family** | Disagree | 13.1 | 2.50 | <0.0001 | 709 |
| **17. My family would feel disgusted or angry or that they were shaming their family** | Disagree | 12.7 | 2.70 | <0.0001 | 706 |
| **18. Their family would feel disgusted or angry or that they were shaming their family** | Disagree | 13.1 | 3.00 | <0.0001 | 709 |
| **19. I would avoid or shun them** | Disagree | 6.60 | 3.20 | 0.0019 | 711 |
| **20. My family would avoid or shun them** | Disagree | 6.60 | 3.10 | 0.0011 | 710 |
| **21. Their family would avoid or shun them** | Disagree | 6.90 | 3.40 | 0.0009 | 711 |
| **22. I would want to help them** | Agree | 6.50 | 2.30 | <0.0001 | 710 |
| **23. My family would want to help them** | Agree | 6.30 | 2.30 | <0.0001 | 711 |
| **24. Their family would want to help them** | Agree | 6.30 | 2.00 | <0.0001 | 711 |
| If someone drank alcohol or used drugs every day and it interfered with their ability to perform daily tasks: | | | | |
| **25. I would feel disgusted or angry or that they were shaming their family** | Disagree | 88.0 | 98.6 | <0.0001 | 711 |
| **26. My family would feel disgusted or angry or that they were shaming their family** | Disagree | 88.0 | 98.6 | <0.0001 | 711 |
| **27. Their family would feel disgusted or angry or that they were shaming their family** | Disagree | 88.0 | 98.6 | <0.0001 | 711 |
| **28. I would avoid or shun them** | Disagree | 81.7 | 98.3 | <0.0001 | 711 |
| **29. My family would avoid or shun them** | Disagree | 81.7 | 98.3 | <0.0001 | 711 |
| **30. Their family would avoid or shun them** | Disagree | 81.4 | 97.9 | <0.0001 | 711 |
| **31. I would want to help them** | Agree | 83.0 | 98.3 | <0.0001 | 711 |
| **32. My family would want to help them** | Agree | 83.0 | 98.3 | <0.0001 | 711 |
| **33. Their family would want to help them** | Agree | 83.0 | 98.3 | <0.0001 | 711 |
| If someone has a mental illness, or behaves in a way that is not normal: | | | | |
| **25. I would feel disgusted or angry or that they were shaming their family** | Disagree | 88.0 | 98.6 | <0.0001 | 711 |
| **26. My family would feel disgusted or angry or that they were shaming their family** | Disagree | 88.0 | 98.6 | <0.0001 | 711 |
| **27. Their family would feel disgusted or angry or that they were shaming their family** | Disagree | 88.0 | 98.6 | <0.0001 | 711 |
| **28. I would avoid or shun them** | Disagree | 81.7 | 98.3 | <0.0001 | 711 |
| **29. My family would avoid or shun them** | Disagree | 81.7 | 98.3 | <0.0001 | 711 |
| **30. Their family would avoid or shun them** | Disagree | 81.4 | 97.9 | <0.0001 | 711 |
| **31. I would want to help them** | Agree | 83.0 | 98.3 | <0.0001 | 711 |
| **32. My family would want to help them** | Agree | 83.0 | 98.3 | <0.0001 | 711 |
| **33. Their family would want to help them** | Agree | 83.0 | 98.3 | <0.0001 | 711 |
| If a new mother was very depressed and not excited to see her new baby: | | | | |
| **34. She must be a bad mother** | Disagree | 52.3 | 94.5 | <0.0001 | 711 |
| **35. She must be immoral** | Disagree | 52.2 | 96.1 | <0.0001 | 711 |
| **36. She must be sick and need help** | Agree | 96.1 | 99.2 | 0.0001 | 711 |
| If a child was not as smart as other children his or her age and looked different: | | | | |
| **37. The child is a shame to his or her parents** | Disagree | 406 | 94.1 | <0.0001 | 711 |
| **38. The child should be disowned** | Disagree | 406 | 94.8 | <0.0001 | 711 |
substance abuse worsened following the intervention. Further, we would like to look at gender discrepancies that may be present.

Question #41, “Someone with a mental illness would look the same as anyone else,” and question #43 “Mental illness could happen to anybody” also had unexpected changes following the workshop. On both questions, attitudes appeared to worsen. It is possible that the answer choices were too dichotomous and as a result, were unable to catch the subtleties in how respondents wanted to answer the question. For example, on question #41 “Someone with a mental illness would look the same as anyone else,” a person may disagree with this statement with the reasoning that someone in the middle of a psychotic episode would literally not “look the same as anyone else,” as they would be showing symptoms not generally displayed by other people.

The change regarding the perceived danger of those with mental illness (question #40) is particularly important. The perception of dangerousness is one of the most influential predictors of social distance. Consequently, it has been used as a proxy measurement for discrimination. Following the intervention, 52% of participants disagreed with the statement “People with a mental illness are usually violent and dangerous. You have to be careful with them,” this was up from 26% at baseline. While this is an extremely significant change it is worth noting that, still, nearly half of all participants held that those with mental illness are violent and dangerous. There is still plenty of room for improvement. Nonetheless, this intervention and government-developed tool are able to improve MHL and attitudes with regard to perceived danger.

### Limitations of the study

This study had few limitations. First, we cannot definitively conclude that the workshop and government-developed tool were responsible for changes in stigmatizing attitudes. However, it seems unlikely that other factors could be responsible given the relatively short period of assessment following the workshop. Second, the program achieved its goal of improving attitudes toward mental illnesses, but only measured attitudes within the 3 days following the workshop. Third the translation procedure was not followed by determination concurrent validity. Fourth we could have applied Wilcoxon signed-rank test on the data however we did the statistical analysis applying the McNemar’s test. Future work can examine the long-term effects of such workshops to test the durability in change of attitudes. Finally, this questionnaire was administered by a social worker.

Despite these limitations, future research should focus on examining government produced stigma reduction efforts. These studies should incorporate multiple time points in order to understand the progression of attitudes over time. Specifically, we aim to develop and incorporate a study comparing the effectiveness of this type of mental health intervention in comparison to a control arm group of villages. In addition, incorporating consumers of mental healthcare services to the workshops could further improve attitudes. The introduction of consumers is supported by studies showing that nonthreatening contact with mental healthcare consumers can improve attitudes. This will provide a better understanding of how to fine tune government-developed tools and programs to make the most impact.

The government-developed video tool and associated workshop, described in this paper above, was able to improve attitudes related to psychosis, suicidal ideation, postpartum depression, learning disabilities, the perception of dangerousness, and the appearance of those with mental illness. Efforts to improve attitudes toward substance abuse will require a different plan of approach as the strategy employed in this program seemed to attitudes toward substance abuse. Overall, our work suggests that in the short-term, campaigns toward stigma reduction, which incorporate government resources, can improve attitudes among villagers with relatively low education in India.

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**Table 2: Contd...**

| Question                                                                 | Ideal responseat | Proportion of respondents that picked the “ideal” response | P Value | n  |
|--------------------------------------------------------------------------|------------------|-----------------------------------------------------------|---------|----|
| 39. The parents must have done something wrong                          | Disagree         | 39.6                                                      | <0.0001 | 711|
| 40. People with a mental illness are usually violent and dangerous. You have to be careful with them | Disagree         | 26.0                                                      | <0.0001 | 709|
| 41. Someone with a mental illness would look the same as anyone else    | Agree            | 89.5                                                      | <0.0001 | 711|
| 42. Once you become a patient in a mental hospital you are a failure for life | Disagree         | 24.8                                                      | <0.0001 | 711|
| 43. Mental illness could happen to anybody                              | Agree            | 88.5                                                      | 0.0055  | 711|
| 44. Someone with a mental illness is more likely to be smelly or dirty  | Disagree         | 12.2                                                      | <0.0001 | 711|

*aAmong patients with nonmissing pre- and post-questionnaire scores, tThis is the selection that the researchers would like to see from the participants. This is the least stigmatizing response, tP value is from a McNemar’s test; Indicates statistical significance at the 0.05 level; NS – Not significant
t
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Conflicts of interest
There are no conflicts of interest.

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