(RESEARCH ARTICLE)

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The effectiveness of digital campaigns in mental health promotion to reduce schizophrenia stigma among teenagers at the Southeast Sulawesi Provincial Mental Hospital

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Abstract

Stigma against people with schizophrenia remains a serious public health issue because it leads to delays in seeking treatment, social discrimination, and low support from family and the community. Adolescents are a strategic target group for efforts to reduce stigma because they are in a cognitive and social development phase that plays an important role in shaping attitudes and perceptions into adulthood. This study aims to analyze the effectiveness of digital campaigns in mental health promotion to reduce schizophrenia stigma among adolescents at the Southeast Sulawesi Provincial Mental Hospital. This study used a quasi-experimental design with a pretest–posttest control group approach. The research sample consisted of 194 adolescents aged 10–18 years, divided into an intervention group and a control group, each with 97 respondents, using accidental sampling. The intervention consisted of a digital campaign based on educational videos about schizophrenia delivered through digital media. Stigma measurement was conducted using the Internalized Stigma of Mental Illness (ISMI) questionnaire. Data analysis was performed univariately and bivariately using appropriate statistical tests. The research results showed a significant reduction in schizophrenia stigma scores in the intervention group after being given a digital campaign compared to before the intervention ($p = 0.000$). In addition, there was a significant difference in stigma between the intervention group and the control group after the treatment ($p = 0.000$). This study concluded that the digital campaign is effective in reducing schizophrenia stigma among adolescents. Digital campaigns have the potential to be an innovative, effective, and sustainable mental health promotion strategy in improving mental health literacy and building a more inclusive and supportive social environment.

Keywords: Digital Campaign; Schizophrenia Stigma; Adolescents; Mental Health Promotion

1. Introduction

Schizophrenia is a chronic mental/brain disorder characterized by a decline in communication abilities, reality disturbances (hallucinations and delusions), abnormal affect, and cognitive impairments (inability to think abstractly and difficulty performing daily activities (1). The World Health Organization estimates that schizophrenia occurs due to the interaction between genes and various environmental factors. Psychosocial factors can also influence the onset and course of schizophrenia, including excessive use of narcotic substances (2).

WHO data shows that schizophrenia affects about 24 million people or 1 in 300 people worldwide (0.32%). In Indonesia, the results of the 2023 Indonesian Health Survey (SKI) indicate a prevalence of psychotic/schizophrenic mental disorders at 3‰, although this has decreased compared to the 2018 Riskesdas survey which was 7‰ (3). In Southeast

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Sulawesi Province, the prevalence of schizophrenia is still relatively high, at 5.8‰ based on the 2018 Riskesdas and 2.2‰ based on the 2023 SKI, thus remaining a public health issue that requires special attention (4).

The Southeast Sulawesi Provincial Mental Hospital is the final referral hospital for mental health services in the region. Hospital data shows an increase in the number of schizophrenia cases from year to year, with 1,698 cases in 2022, rising to 1,731 cases in 2023, and 1,779 cases in 2024 (4). In addition, the number of adolescent visits to outpatient clinics is also quite high, indicating that the adolescent age group is also affected and directly interacts with mental health issues.

A social problem that often arises in handling patients with schizophrenia is the negative stigma from society. This stigma causes people with mental disorders to experience discrimination, social exclusion, and unfair treatment, which impacts delayed treatment, relapses, and even confinement and suicide (5). Research shows that individuals with mental disorders are more likely to experience stigma and discrimination compared to those with other medical conditions (6).

The low level of knowledge and awareness among the public about mental disorders is a major factor in the formation of stigma against people with schizophrenia. Many people still believe that mental disorders are caused by irrational or supernatural factors, such as magic or possession by evil spirits, resulting in discriminatory treatment towards the sufferers (7). The stigma that develops within the family and community causes the sufferers and their families to feel ashamed and reluctant to be open about their condition.

Remaja merupakan kelompok strategis dalam upaya penurunan stigma kesehatan jiwa karena berada pada fase perkembangan kognitif dan sosial yang pesat. Pada tahap ini, remaja lebih mudah menerima informasi baru dan membentuk sikap yang akan terbawa hingga dewasa. Edukasi kesehatan jiwa sejak usia remaja terbukti efektif dalam meningkatkan literasi kesehatan jiwa dan berkontribusi langsung pada penurunan stigma di masyarakat (8). Selain itu, remaja memiliki peran sebagai agen perubahan sosial yang dapat menyebarkan pengetahuan dan sikap positif kepada lingkungan sekitarnya.

Along with the development of information technology, digital media has great potential as a means of promoting mental health. Digital campaigns through social media and audiovisual content are considered effective in increasing knowledge, shaping positive attitudes, and reducing stigma towards mental disorders, especially schizophrenia. Therefore, research is needed to determine the effectiveness of digital campaigns in mental health promotion to reduce schizophrenia stigma among adolescents at the Southeast Sulawesi Provincial Mental Hospital as a basis for developing more effective and sustainable interventions.

2. Methods

This study used a quasi-experimental design with a pretest–posttest control group approach to assess the effectiveness of a digital campaign on reducing schizophrenia stigma among adolescents. The study was conducted at the Southeast Sulawesi Provincial Mental Hospital in 2025 with a sample of 194 adolescents aged 10–18 years, divided into an intervention group (n = 97) and a control group (n = 97) using accidental sampling. The intervention group received a digital campaign in the form of educational videos about schizophrenia, while the control group did not receive any intervention. Schizophrenia stigma was measured before and after the intervention using the Internalized Stigma of Mental Illness (ISMI) questionnaire. The data were analyzed univariately and bivariately using statistical tests appropriate for a significance level of $p < 0.05$.

3. Results and discussion

Table 1 shows that the age characteristics of the respondents are quite diverse, both in the case group and the control group. The age distribution of respondents in the case group indicates that the majority are 17 years old, totaling 40 people (41.2%). Meanwhile, the lowest frequency was at age 15, which was only 2 people (2.1%). In the control group, the age distribution had a pattern almost similar to the case group. The age group of 17 years was the most dominant, amounting to 39 people (40.2%). The lowest frequency was also found in the age 15 group, which was 8 people (8.2%). The education level of respondents in the case group was mostly high school, totaling 95 people (97.9%), and the lowest was junior high school education, totaling 2 people (2.1%). In the case group, the majority of respondents had a high school education, totaling 89 people (91.8%), and the lowest was junior high school education, totaling 8 people (8.2%).

Table 1 Distribution of Respondent Characteristics at the Mental Hospital of Southeast Sulawesi Province in 2025

No	Characteristics	Case Group		Control Group	
		f	%	f	%
Age (Years)					
1	15	2	2.1	8	8.2
2	16	30	30.9	21	21.6
3	17	40	41.2	39	40.2
4	18	25	25.8	29	29.9
Education					
1	Junior High School	2	2.1	8	8.2
2	Senior High School	95	97.9	89	91.8

Source: Secondary Data 2025

Table 2 Distribution of Univariate Analysis Results of Research Variables of Respondents at the Provincial Mental Hospital in 2025

Stigma	Mean	Min	Max	SD
Case Group				
Pretest	78,45	63	89	5.670
Postest	51,23	37	24	4,982
Control Group				
Pretest	79,10	67	92	5,131
Postest	78,76	67	91	5,594

Source: Secondary Data 2025

Table 2 shows a univariate analysis in the case group indicating a decrease in stigma scores from the pretest to the posttest, with an average stigma score of 78.45, ranging from 63 to 89, and a standard deviation of 5.670. After the intervention (Posttest), the average decreased to 51.23, with a minimum score of 37 and a maximum of 24, and a standard deviation of 5.670. The results of statistical analysis in the control group show that the average stigma score tends to be relatively stable and does not show significant changes, with an average stigma score of 79.10, ranging from 67 to 92. Furthermore, in the post-test, the average stigma score was 78, with a score range of 67 to 91 and a standard deviation of 5.594.

Table 3 Distribution of Normality Test Results of 2025 Research Data

Stigma	df	Sig
Case Group		
Pretest	97	0.082
Postest	97	0.036
Control Group		
Pretest	97	0.200
Postest	97	0.088

Source: Secondary Data 2025

Table 3 shows the results of the normality test using the Kolmogorov-Smirnov test. It was found that the normality test of the stigma variable in the case group obtained a significance value (Sig.) of 0.082 for the pretest and 0.036 for the

posttest with degrees of freedom (df) of 97 each. The pretest significance value is greater than 0.05, indicating that the data is normally distributed, whereas the posttest significance value is less than 0.05, indicating that the data is not normally distributed.

Table 4 Distribution of differences in schizophrenia stigma before and after a digital campaign at the Psychiatric Hospital in 2025

Research Variable	Sig. (2-tailed)
Pretest	0.000
Posttest	0.000

Source: Secondary Data 2025

Table 4 shows the results of the analysis of differences in the level of schizophrenia stigma before and after the digital campaign at the Southeast Sulawesi Provincial Mental Hospital. The statistical test results show that the significance value for the pretest was 0.000 and for the posttest was 0.000, which means there is a statistically significant difference in the level of schizophrenia stigma before and after the digital campaign intervention ($p < 0.05$).

Tabel 5 Distribusi perbedaan stigma skizofrenia antara kelompok kasus dan kelompok kontrol di Rumah Sakit Jiwa tahun 2025

Research Variable	Mean Rank	Sig. (2-tailed)
Control Group	49.00	0,000
Case Group	146.00	

Source: Secondary Data 2025

Table 4 shows the results of data analysis indicating that there is a significant difference between the case group after being given an intervention in the form of a digital campaign and the control group that did not receive the digital campaign ($p = 0.000$). The case group had a higher mean rank (146.00) compared to the control group (49.00), indicating that the average value in the case group is significantly greater than in the control group.

3.1. Schizophrenia stigma among teenagers before and after being given a digital mental health promotion campaign

Based on the results of the pretest measurement, it was found that the stigma against schizophrenia among teenagers is still relatively high before being given a digital mental health promotion campaign. This reflects that the majority of respondents still have negative perceptions of people with schizophrenia, such as the belief that they are dangerous, cannot recover, and tend to be avoided in social life. The high stigma at this early stage indicates low mental health literacy among teenagers, even though they have wide access to information through digital media.

The research results show that before a digital mental health promotion campaign was implemented, the stigma of schizophrenia among teenagers was still relatively high. Teenagers tended to have negative perceptions of people with schizophrenia, such as believing that they are dangerous, incurable, and socially difficult to interact with. The high level of this stigma is closely related to low mental health literacy, the dominance of negative stereotypes that develop in family and community environments, and the lack of exposure to accurate and scientifically-based information about schizophrenia. This condition aligns with Goffman's stigma theory, which states that stigma is formed as a result of negative social labels that are continuously reproduced through social and cultural interactions (10).

After being exposed to a digital campaign promoting mental health, the research results showed a significant decrease in schizophrenia stigma among adolescents. The digital campaign delivered through education-based video media was able to improve adolescents' understanding of schizophrenia as a treatable mental health disorder and not the result of mystical factors or personal weakness. The presentation of messages in a visual, simple, and easily accessible manner through digital media made it easier for adolescents to receive the information, leading to a shift in perspective from negative stigma toward a more empathetic and supportive attitude toward individuals with schizophrenia.

This finding is in line with the research conducted by Claretta et al. (2022), which shows that mental health campaigns through Instagram social media can increase knowledge and reduce stigma toward mental disorders in adolescents and

young adults. Research by Yani et al. (2025) also reported that digital-based mental health education significantly improves mental health literacy and fosters positive attitudes toward people with mental disorders (11). The similarity of these results indicates that digital media is an effective means of correcting misconceptions and long-standing stigma in society. Overall, the findings of this study reinforce previous findings that digital mental health promotion campaigns play an important role in reducing schizophrenia stigma among adolescents.

3.2. The difference in schizophrenia stigma before and after being given a digital campaign

The data analysis results showed a significant difference between the pretest data (before the digital campaign) and the posttest data (after the digital campaign) in the first and third interventions. This indicates that the digital campaign was effective in reducing the level of stigma towards schizophrenia. Stigma, which is a negative or discriminatory attitude towards individuals with mental health conditions, can hinder their recovery and quality of life (12). Digital campaigns play a role in providing accurate information, changing misconceptions, and raising public awareness about schizophrenia (13).

The results of this study align with Goffman's concept of stigma, which states that stigma is formed through social processes and can diminish when individuals acquire new information that can reconstruct the social meaning of the stigmatized group. Digital campaigns act as agents of social change by presenting more empathetic and science-based alternative narratives, thereby challenging the negative labels that have long been attached to people with schizophrenia.

Digital campaigns have great potential to reduce stigma toward schizophrenia and improve the quality of life for individuals with this condition. By providing accurate information, correcting misconceptions, and facilitating social contact, digital campaigns can help create a more inclusive and supportive society for individuals with schizophrenia. Further research is needed to explore the effectiveness of various types of digital campaigns and to identify the best strategies for addressing stigma in different cultural and social contexts.

Overall, the results of this study indicate that digital campaigns promoting mental health are capable of creating a meaningful difference in the level of schizophrenia stigma among adolescents. These findings reinforce the urgency of utilizing digital campaigns as a sustainable mental health promotion strategy in efforts to reduce stigma and build a more inclusive social environment that supports the recovery of individuals with schizophrenia.

3.3. The difference in schizophrenia stigma between the group that received the digital campaign (case) and the group that did not receive the digital campaign (control)

The data analysis results showed a significant difference between the case group (which received the digital campaign intervention) and the control group (which did not receive the intervention), with the case group having a higher mean rank. This indicates that the digital campaign intervention is effective in reducing stigma towards schizophrenia. The case group, which was exposed to the digital campaign, showed significantly better average values compared to the control group, which was not exposed to the intervention.

The control group that did not receive the digital campaign tended to maintain stigma at relatively the same level or experienced a non-significant decrease. This suggests that, without structured educational interventions, schizophrenia stigma is difficult to change naturally in a short period. The persistent stigma in the control group is likely influenced by social stereotypes, lack of accurate information, and the impact of a social environment that still views mental disorders negatively. In contrast, the case group received exposure to digital-based information that was able to enhance understanding and foster more empathetic attitudes towards people with schizophrenia. The difference in stigma between the case and control groups supports the concept that digital campaigns act as a protective factor against the formation of stigma.

The results of this study are in line with research conducted by Wulandari et al. (2023), which found that groups of adolescents who received mental health education based on digital media had significantly lower levels of stigma compared to groups who did not receive the education (14). Other research in Indonesia by Samudro et al. (2020) also reported significant differences in attitudes and stigma between the intervention group and the control group after being given a digital mental health campaign. These findings confirm that digital-based interventions are effective in distinguishing outcomes between groups exposed and not exposed to education (15).

Overall, the difference in schizophrenia stigma between the group that received the digital campaign and the group that did not underscores the effectiveness of digital campaigns as a mental health promotion strategy. Digital campaigns have been proven to create a meaningful difference in reducing schizophrenia stigma among adolescents. Therefore,

digital mental health promotion campaigns are recommended to be implemented more broadly and sustainably, particularly among the adolescent population, as a preventive effort to reduce stigma and improve public mental health.

4. Conclusion

This study concludes that digital mental health promotion campaigns are effective in reducing schizophrenia stigma among adolescents at the Southeast Sulawesi Provincial Mental Hospital. The analysis results showed a significant decrease in stigma scores among the adolescent group that received the digital campaign intervention compared to the control group, indicating that delivering mental health information through digital media can improve understanding and foster more positive attitudes toward individuals with schizophrenia. Therefore, it is recommended that digital campaigns be utilized more widely and sustainably as a mental health promotion strategy, particularly for adolescents. Hospitals and related health agencies are expected to integrate digital campaigns into regular mental health education programs, as well as develop more diverse and interactive content. In addition, future research is recommended to use stronger research designs, involve larger samples, and explore other digital media to enhance the effectiveness of interventions in reducing mental health stigma in society.

Compliance with ethical standards

Disclosure of conflict of interest

There is no conflict of interest in this research.

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