



Video-based Training for Health Cadres on Mental Health and Social Support for Pregnant Women

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Abstract

The lack of knowledge of cadres about mental health causes a lack of social support for pregnant women. This study aims to analyze the effectiveness of mental health education for maternal and child health cadres on the knowledge and social support of cadres. This study was conducted with a quasi-experimental pre-test and post-test design with a control group. Sampling was carried out by cluster random sampling in the city of Surakarta. The intervention group consisted of 45 cadres in the Gajahan health center area and the control group consisted of 47 cadres in the Pajang health center area. While educational interventions use short story video media equipped with infographics. Data on knowledge and social support were collected using a questionnaire that had been tested for validity. Data analysis used independent t-tests and paired t-tests because the data were normally distributed. To analyze the data, this research used free statistical software. The results of this study are there were differences in the scores of mental health knowledge and social support between the intervention group and the control group (p -value < 0.001). The intervention effectiveness test was carried out on the difference between the two groups' pretest and post-test data. This study concluded that mental health education with video media for maternal and child health cadres is effective in increasing mental health knowledge and cadre social support for pregnant women.

Introduction

The Covid-19 pandemic, which has occurred for two years, has had a significant impact on the mental health of the entire community. Pregnant women are the most vulnerable group for mental health problems, especially anxiety and depression. The COVID-19 pandemic has also caused a reduction in social interaction which can lead to loneliness. Survey results obtained from Groarke's research, that restrictions imposed during Covid-19 in England caused a quarter of respondents to experience loneliness (Groarke et al., 2020). Pregnant and postpartum women are vulnerable to stress related to COVID-19.

Women who have had previous mental health problems have higher mental health symptoms. Worry and grief over health issues during a pandemic increase the likelihood of symptoms of mental health disorders (Liu et al., 2021).

Multinational studies have also found high levels of depressive symptoms and general anxiety in pregnant and lactating women during the COVID-19 outbreak. These findings emphasize the importance of monitoring perinatal mental health during pandemics and other social crises to maintain the mental health of mothers and babies (Ceulemans et al., 2021). The results of the meta-analysis also provide evidence that there is a significant

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increase in anxiety scores in pregnant women and the perinatal period during the COVID-19 pandemic compared to before the pandemic (Hessami *et al.*, 2020).

The impact of Covid-19, apart from limiting social interactions, can also disrupt the mental health of pregnant women. In Asyanti's research, 9.23% of respondents described the characteristics of a person's mental health as being disturbed, as shown by never smiling and always having dreams all the time. (Asyanti & Karyani, 2018).

Mental health disorders have an impact on declining physical health conditions. Limited access to health services and lack of social support from various parties, as well as concerns about the health of themselves and their babies, if infected with COVID-19 are factors that underlie pregnant women to experience mental health problems (Santi *et al.*, 2021). The proportion of anxiety disorders in the global population in 2015 is estimated to be 3.6%. Depression globally in women (4.6%) is higher than in men (2.6%) (Laksono & Wulandari, 2022). Worldwide data about 10% of pregnant women and 13% of women who have just given birth experience mental disorders, especially depression. Data in developing countries is higher, namely 15.6% during pregnancy and 19.8% after the birth of a child (Laksono & Wulandari, 2022).

The prevalence of mental-emotional disorders in Indonesia in 2010, such as anxiety and depression, was 11.6% of the general adult population. In 2013, it became 6% (McGowan *et al.*, 2023). Specific data on pregnancy depression in Indonesia are not available, but several studies have shown a prevalence of depression. However, it was found that the prevalence of adolescent pregnant women who were identified as experiencing postpartum depression ranged from 14% to 53% (Syamantha *et al.*, 2023). Several studies have identified the causes of postpartum depression as low income, low educational background, primigravida, low birth weight, prematurity, and lack of social support (Andajani Sutjahjo *et al.*, 2007). In previous studies, it was found that pregnant women with depressive symptoms in Surakarta City were 25.3% (Kusumawati *et al.*, 2022).

One of the factors that is significantly related to pregnancy depression is low social support (Rashid & Mohd, 2017). Research in Turkey showed the absence of family support related to the severity of depressive symptoms during pregnancy (Aktas *et al.*, 2015). Systematic review studies and past meta-analyses concluded that pregnant women are more likely to report antenatal depression, have a history of economic hardship, poor marital relations, common mental disorders, poor obstetric history, exposure to violence, and poor social support (Dadi *et al.*, 2020).

Social support was a significant predictor of depression and anxiety from mid-pregnancy. Social support is also a protective factor against parenting stress (Milgrom *et al.*, 2019). Social support can be in the form of emotional or practical support which may be objective which is what is received or subjective, that is what is considered to have been received from spouses, family members, friends, co-workers, neighbors, and others. Social support is encouragement that is felt and received from family members of the husband/spouse and friends. Previous studies have shown that social support protects all women against postpartum depression (Muzik *et al.*, 2017).

Educational interventions based on social support and self-efficacy are effective in increasing maternal care behavior (Izadirad *et al.*, 2017). During pregnancy, women experience physical changes, followed by psychological changes which result in unstable emotional conditions. These changes increase susceptibility to anxiety and depression (Biaggi *et al.*, 2016). Unstable emotional changes have an impact on fetal development, premature birth, low birth weight babies, and the baby's emotions after birth (Gelaye *et al.*, 2016; Ibanez *et al.*, 2015; Saeed *et al.*, 2016). Pregnant women often do not realize that they have mental disorders, especially depression. Husbands and families sometimes also don't know the psychological condition of unstable pregnant women, so they don't give enough attention and support. Previous meta-analytic studies reported a significant association between low social support and the risk of developing mental health problems [i.e. depression, anxiety, and self-harm] during pregnancy (Bedaso *et al.*,

2021).

The results of previous studies at several public health centers in Surakarta City showed that pregnant women with symptoms of pregnancy depression were 39.3%, and those who had shown a pregnancy depression score of 13.3%. The level of knowledge of pregnant women about mental health and its disorders during pregnancy is in the moderate category of 70% and less category of 10%. Health cadres are one of the closest people to pregnant women in their environment. Cadres have an important role in providing health care and support to pregnant women. However, so far, cadres do not have much knowledge about mental health and the disorders that often occur in pregnant women. Cadres also do not know exactly the mental health problems of pregnant women, so they are sometimes unable to provide social support to pregnant women. This study aims to analyze the effectiveness of mental health education with video media on the knowledge and social support of cadres in pregnant women. The video in this research is a video developed from the results of previous research on mental health education for pregnant women (Kusumawati *et al.*, 2023), where this video contains a broadcast of a short story about the importance of family support for pregnant women, played by several characters and there is information in the form of graphic info. The video used in this research has been tested for validity by media experts with valid results and has received a Letter of Creation from the Indonesian Ministry of Human Rights with creation number No. 000181298.

Methods

This research was conducted with a quasi-experimental design, namely the pretest-posttest control group design. The population of this study was maternal and child health (MCH) cadres who provided services at integrated service posts in Surakarta. The sample for this study was MCH cadres in the primary health center (PHC) area who were selected as the sample. The sampling technique used cluster sampling based on the PHC area. The sample for the intervention group was 47 cadres from the Gajahan Health Center and the control group was 45 cadres from the Pajang

Health Center. Data collection used a validated questionnaire. Before participating in the study, participants signed their consent by filling out informed consent. The questionnaires were filled in directly by the cadres before the intervention [pretest] and after the intervention (posttest) one week after the intervention. Intervention, namely mental health training using video media and direct debriefing. The video used for this intervention study was developed from the results of previous research in the form of a broadcast video containing short stories and information in the form of infographics. The video has been tested for validity by media experts from Gadjah Mada University's communication science and ISI Bandung's film art experts on the criteria for graphic suitability to the theme, color clarity with messages, readability of message writing, language, video transition effects, story and music suitability, clarity of infographic audio accompaniment and messages. All experts were assessed separately with valid results and obtained a certificate of creation from the Ministry of Law and Human Rights of the Republic of Indonesia with creation number No. 000181298.

For the control group, the material was not given during the research process but was given after the research process ended. Data analysis using paired t-test and independent sample t-test, then analyzed using free statistical software. This study has passed the ethical review by the ethical committee of the Medical Faculty, Universitas Muhammadiyah Surakarta, and granted the ethical clearance letter of No. 4807/B.1/KEPK-FKUMS/III/2023. All the subjects have received informed consent and agree to participate in the study as shown by their signing in the informed consent forms.

Result and Discussion

The characteristics of maternal and child health cadres in the intervention and control groups are shown in Table 1. In Table 1, the average age of cadres in the intervention group was higher than the control group, this shows that the age of cadres in the Gajahan Health Center is more senior than the age of cadres in the Pajang health center group. In both age groups for cadres, the oldest is 75 years old. The

youngest age in the intervention group was 31 years and 34 years in the control group.

Based on the length of time as a cadre, the average period of service as a cadre in the intervention group was longer than that of the control group. This shows that the cadres in the intervention group had a longer working period than the control group. So, it can be concluded that MCH cadres in the two public health centers have had a lot of experience in running health programs in the community. Some of the cadres in the intervention and control groups graduated from high school, but the proportion in the intervention group (73.3%) was higher than that in the control group (55.3%). Based on the occupation of the cadres, most of the MCH cadres in both groups work as housewives. In the control group (88%) more than the intervention group (66.6%). Experience related to mental health training, most of the two groups of MCH cadres have never attended or have not received mental health training. Cadres who had received

mental health training were more than one-third in the intervention group (38.8%) higher than the control group (12.8%).

Table 2 shows the results of the analysis of differences in the average knowledge scores before and after mental health education using video media. In the pretest scores between the intervention group and the control group, there was no difference in the average score of maternal and child health cadres' knowledge about mental health in both the intervention group and the control group (p-value 0.409). This shows that before the intervention was given, the initial conditions in both groups showed that the knowledge scores in both groups were homogeneous [comparable]. Likewise, in the social support pretest scores, between the video media intervention group and the control group, there was a difference in the mean social support scores of maternal and child health cadres (MCH). This shows the initial conditions of cadre social support for pregnant women in both homogeneous groups.

Table 1. Characteristics of Maternal and Child Health Cadres [MCH], in the Intervention and Control Groups

Variable	Group		p-value
	Intervention n=45 (%)	Control n=47 (%)	
Age of cadres (years)			
Mean ± SD	56.56 ± 10.32	58.00±10.48	0.68
Minimal	34	31	
Maximal	75	75	
Length of time as a cadre (years)			
Mean ± SD	19.64 ± 10.32	9,85±6.45	0.0001
Minimal	1	1	
Maximal	73	30	
Education			
Graduated from elementary school	0 (0.0)	3 (6.4)	0.266
Graduated from middle school	6 (13.3)	9 (17.0)	
Graduated from high school	33 (73.3)	26 (55.3)	
College graduated	5 (11.1)	9 (19.1)	
No school	1 (2.2)	1 (2.1)	
Occupation			
Housewife	30 (66.6)	38 (80.8)	0.233
Entrepreneur	6 (13.3)	4 (8.5)	
Tailor	8 (17.7)	3 (6.9)	
Doesn't work	1 (2.2)	2 (4.3)	
Mental Health Training			
Never	28 (62.2)	41 (87.2)	0.183
Ever	17 (38.8)	6 (12.8)	

Data resources: Primary data

Table 2. Results of Analysis of Differences in Knowledge and Social Support for Mother and Child (MCH), Cadres in the Intervention and Control Groups in Surakarta City

Variable	Measurement Result		
	Intervention n=45	Control n=47	p-value*
Knowledge Score			
Pretest			
Mean \pm SD	21.1 \pm 3.07	20.62 \pm 2.9	0.409
Median	22	23	
Posttest			
Mean \pm SD	22.3 \pm 2.47	20.91 \pm 2.48	
Median	21	22	
p-value**	0.010	0.104	
Social Support Score			
Pretest			
Mean \pm SD	46.89 \pm 12.31	43.55 \pm 11.9	0.191
Median	49.57	54	
Posttest			
Mean \pm SD	55.87 \pm 11.64	44.74 \pm 10.3	
Median	57.00	44	
p-value**	0.003	0.000	

*Independent sample t-test

**paired t-test

Table 3. Results of Analysis of the Effect of Mental Health Training Interventions on Mother and Child Cadres (MCH), on Knowledge and Social Support in the Intervention and Control Groups in Surakarta City

Variable	Measurement result		
	Intervention n=45	Control n=47	p-value*
Difference (pre-post) Knowledge Score			
Mean \pm SD	1.57 \pm 3.31	0.29 \pm 1.23	0.018
Median	2	0	
Min	-6	-3	
Max	13	3	
Difference (pre-post) Social Support score			
Mean \pm SD	8.98 \pm 10.78	1.19 \pm 3.02	<0.000
Median	0	0	
Min	-8	0	
Max	35	14	

*Independent t-test

In the educational intervention group with video media, the average knowledge score increased from before the intervention which was 21.1 ± 3.07 , to 22.3 ± 2.47 after the intervention, and the results of the analysis showed that there was a significant difference (p-value 0.010). Whereas in the control group, the average score of knowledge did not increase from before the intervention to after the intervention and the results of the analysis showed no significant difference (p-value 0.409). Social support scores in both the intervention and control groups experienced an increase. However, the increase occurred higher in the intervention, namely 8.98 points, while the control group experienced an average increase of 1.19 points. The effect of mental health training interventions on MCH cadres using video media was analyzed based on changes in scores, which were determined by the difference between the pre-test and post-test in each group. Furthermore, the influence of the intervention was analyzed by the difference in score change between groups with the results showing that there was a difference in knowledge scores between the two groups (p-value 0.018), and there was a difference in social support scores between the intervention group and the control group (p-value <0.0001) (Table 3). Thus, it can be concluded that mental health training with video media for MCH cadres influences increasing knowledge and social support.

Educational interventions using video media affected the mental health knowledge of pregnant women among MCH cadres. Although both groups experienced an increase in knowledge scores, the increase was higher in the intervention group. An increase in scores in the control group also occurred, possibly due to participants getting information from another source, and trying to find information through social media after doing the pretest. The results of this study are in line with the research, that audiovisual media in the form of videos can increase the knowledge and behavior of external genital hygiene of pregnant women. Other researchers concluded that video media has proven to be more effective in increasing knowledge and attitudes toward preventing Covid 19 than leaflet media (Lee & Kim, 2021).

Video is an audiovisual medium that can help convey mental health material information through picture and sound messages (Taufik *et al.*, 2021). The video used in this study is the development of the results of previous research, with material according to needs regarding the meaning, signs and symptoms, and the impact of pregnancy depressive disorder. The video provides illustrations of mental health problems that often occur in pregnant women with short stories and is equipped with clear infographics with a duration of about 13 minutes. Cadres participating in the training were able to receive and understand well the information conveyed, considering that the intervention group had an average age of cadres who had reached 56.56 years, which was included in the category of senior cadres.

The average length of service as a cadre has reached 19.64 years, which is a time that is quite mature and experienced in helping manage health programs. Cadres are the spearheads who assist midwives in implementing health programs in the community. With mental health training for MCH cadres, it is hoped that the cadres can help midwives accompany pregnant women, and provide support in both informational, instrumentation, emotional, and social support aspects. With good support from cadres, it is hoped that the mental health of pregnant women can be maintained, thereby reducing the risk of depression during pregnancy and postpartum. Following the findings of previous studies that the type of social support received by postpartum mothers can reduce the physical and psychological burden during the postpartum period (Desy Meldawati, 2021)

Most of the MCH cadres, both in the intervention group and the control group, had never received training on pregnant women's mental health. Most of the trainings attended by cadres included Community-Based Total Sanitation, Nutrition, preventing stunting, Eradicating Mosquito Nests, Family Medicinal Plants, Immunization, Exclusive Breastfeeding, Complementary Feeding, Early Breastfeeding Initiation, Introspective Surveys and Village Community Consultations. There are a small number of cadres who have received training on the Assistance Group for pregnant women

and are tasked to assist pregnant women in monitoring the development of the health of pregnant women, preventing anemia and other complications, and leading to healthy deliveries. Some of the cadres who have had mental health training are about assisting people with mental disorders in general, not specifically pregnant women. Assistance for people with mental disorders is clearer because the symptoms and signs are very clear. However, assistance to pregnant women who are likely to experience mental health problems, the symptoms are not very visible, if pregnant women do not convey their complaints and cadres are not very attentive.

This research was conducted to provide education and information to MCH cadres about the mental health of pregnant women and to increase mental health knowledge and social support for pregnant women cadres. Social relationships shown by social support play an important role in maintaining mental health and persons with disabilities (Tough *et al.*, 2017), the same as for pregnant women who need special attention because they belong to a vulnerable mental health group. Previous studies have also proven that social support from husbands and families can reduce maternal depressive symptoms in postpartum mothers. This statement is in line with the research conducted by Tania *et al.*, that affectional support, self-confidence, involvement of health experts, and the environment are fundamental for postpartum mothers' mental health (Tania *et al.*, 2023).

Training for MCH cadres using video media has also been proven to increase social support for pregnant women by cadres. The provision of knowledge about mental health provided in the MCH cadre training can increase the role of cadres in carrying out their duties as companion groups for pregnant women. Because prenatal care groups, prenatal education, and peer support programs have the potential to increase social support (Hetherington *et al.*, 2018). Social support must be given to pregnant women because social support can increase the confidence of pregnant women in undergoing pregnancy and childbirth. Social support has an important role in protecting the general population

against depression (Wang *et al.*, 2018), as well as pregnant women who need attention during pregnancy and childbirth (Milgrom *et al.*, 2019).

Social support is a form of one's attention to the condition of other people which includes aspects of instrumental support, emotional support, informational support, and appreciation support. The support that was mostly given to pregnant women was instrumental support, both in the intervention and control groups where cadres never refused to take the time to take pregnant women for check-ups. However, most (79%) cadres also never provide emotional support to pregnant women to draw closer to God when facing problems in both groups, even though it is an easy thing to do. In terms of emotional support, cadres also sometimes help in solving problems faced by pregnant women. The most common emotional support from cadres is always asking about the mother's health condition and reassuring pregnant women when they feel anxious. Almost all cadres always give appreciation for the sacrifice of mothers during their pregnancy (Karuniawati *et al.*, 2021)

The cadres also gave praise when pregnant women wanted to take the vitamins given by the midwife. The smallest thing that can be given to pregnant women is emotional support, namely paying attention by asking about health news and giving praise for the good things done. Social support provided by people around such as health workers and relatives can reduce the risk of antenatal depression. Social support factor is a predictor of antenatal depression (Sigalla *et al.*, 2017). High levels of social support in early pregnancy are associated with a reduced risk of depression during pregnancy (Friedman *et al.*, 2020).

Research at a Xián China hospital found that decreased social support during the COVID-19 pandemic in perinatal women was associated with poorer mental health. Virtual social support and support from friends during the COVID-19 pandemic had a positive effect on the mental health of perinatal mothers (Zhou *et al.*, 2021). This shows that the importance of social support that can be provided by friends or the closest people in their environment, such as cadres, can prevent depression and

improve the mental well-being of pregnant and postpartum women. Mental health education and training for cadres can equip cadres to provide appropriate social support according to their abilities. Social support may be a powerful protector against antenatal depressive symptoms, but only that of a partner (Handayani *et al.*, 2023). Strengthening support for pregnant women may be a successful strategy to reduce the incidence or severity of maternal mental health problems, to compensate for the lack of social support from partners (Umuziga *et al.*, 2022).

The limitations of this study, only providing information on the mental health of pregnant women and the possibility of disturbances occurring, were conveyed to cadres via video media. This training has not yet provided detailed methods for detecting mental disorders, so it is considered very important and urgent to provide pregnancy mental health training to cadres so that the cadre's duties as a support group for pregnant women can be more complete in terms of monitoring mental health. Following the results of previous research, training on themes and technical preparation is needed to develop materials and curricula for detecting maternal mental health problems (Surjaningrum *et al.*, 2022), so that cadres can detect mental disorders and provide good social support, to prevent depression in pregnancy and the postpartum.

Conclusion

Mental health education with video media for MCH cadres is effective in increasing mental health knowledge and cadre social support for pregnant women. Programs for assisting pregnant women by health cadres can provide social support to improve the mental health of pregnant women and prevent pregnancy and postpartum depression, especially for pregnant women who do not receive social support from their partners.

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