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Psychological support guidelines on elderlies during the COVID-19 pandemic era: A systematic review

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Abstract---Background: Elderlies are susceptible to be infected with the COVID-19 virus physiologically and psychologically. Psychological problems often emerge in elderlies during pandemics are stress, anxiety, and depression. Objectives: This article aimed to discover interventions and psychological impacts in elderlies due to the COVID-19 pandemic. Method: This article used a combination of consensus and evidence-based methodologies discussing psychological intervention guidelines in elderlies during the COVID-19 pandemic era. Article search used databases of Pubmed, ProQuest, EBSCO, and ScienceDirect of 2020. Articles were selected using PRISMA based on the predetermined inclusion and exclusion criteria. The next step was to analyze, determine, and consult mental health professionals. Results: There were two consensus and nine articles related to mental health/psychological interventions in elderlies from health organization websites and databases. The evidence-based analysis results produced 454 articles from four databases using the determined keywords. Based on the article review, obtained 8 full-text articles to be analyzed. Then, the authors arranged a psychological intervention guideline in elderlies during the COVID-19 pandemic. The intervention guideline recommendation includes COVID-19 pandemic impacts in elderlies' psychology, recommendations of intervention types, and psychological intervention methods in elderlies. Conclusion: This study is expected to provide a practical guideline to perform psychological interventions in elderlies with mental health

problems during the COVID-19 pandemic. Psychological impacts in elderlies during pandemics are diverse, such as stress, anxiety, and insomnia. Therefore, it is vital to have a psychological intervention guideline.

Keywords---Impact, COVID-19, intervention, psychology, and elderly.

Introduction

Coronavirus is an epidemic case with a respiratory infection that first occurred in Wuhan, China, as reported by WHO on 31 December 2019.(Yang et al., 2020) Coronavirus disease 2019 (COVID-19) is an acute systemic and respiratory disease that can develop into severe hypoxemia and requires intensive care.(Lippi & Henry, 2020) The COVID-19 virus can spread to anyone as in the general public,(Windarwati et al., 2020) but several groups have a high risk of contracting the coronavirus, including elderlies.(Gardner et al., 2020; Jordan et al., 2020; Niu et al., 2020) Elderlies experience a decrease in the immune system due to the aging process and tend to have congenital diseases.(Yu, 2020) Elderlies are very susceptible to infection with the COVID-19 virus. It also affects elderlies psychologically. Psychological problems that often arise in elderlies during a pandemic are stress, anxiety, and depression.(Meisner et al., 2020).

Elderly group is often associated with vulnerable groups infected with the COVID-19 virus. Pre-elderly (50-59 years), the mortality rate is almost 2%, aged 60-69 years 4, and continues to increase to 8 to 15% at the age above 70 years. Most deaths occurred in people with COVID-19 aged 80 years and over, with a percentage reaching 21.9% (WHO and CDC). Studies of several patients with COVID-19 in China,(Leung, 2020; Li et al., 2020; Niu et al., 2020) showed that the risk of transmission and death in elderlies is higher than that of the younger age group. Thus, increasing age has a significant effect on health risks.

COVID-19 has had impacts in elderlies, such as social isolation and loneliness.(Uvais, 2020) Elderlies who do self-quarantine tend to feel lonely. It can trigger psychological impacts in elderlies.(Perrotta et al., 2020; Uvais, 2020) As many as 23% of the population of elderlies (> 55 years) in China experienced depression and stress, which worsen the psychological condition of elderlies.(Semo & Frissa, 2020) Other psychological impacts in elderlies are anxiety, anxiety, and depression.(Meng et al., 2020; Shrestha et al., 2020) 60.8% of elderlies aged> 70 years in Sweden said they were worried about their health condition, and 80% were worried about their loved ones during the COVID-19 pandemic.(Gustavsson & Beckman, 2020).

Psychological/mental health problems in elderlies are often ignored and untreated due to a lack of knowledge.(K.K, 2020) If this problem is not addressed, it will impact the physical health of elderlies and a high risk of suicide.(Lysenko et al., 2017; Ross et al., 2017) To overcome the problems that occur, development and knowledge of psychotherapy are needed. Some researchers said that psychotherapy could bring positive changes to psychological/mental health in elderlies.(Lysenko et al., 2017; Swartz, 2020) One of the psychotherapies for

elderlies in the nonpharmacological method or commonly called the complementary therapy. Complementary therapy is frequently used to reduce anxiety and depression in elderlies due to its minimal side effects.(Bazrafshan et al., 2020) Based on the explanation above, this study aimed to discover interventions and psychological impacts in elderlies due to the COVID-19 pandemic.

Method

Search criteria

This study used a combination of consensus and evidence-based methodologies discussing psychological intervention guidelines in elderlies during the COVID-19 pandemic era. The method used comprised two analysis stages. The first stage was conducting consensus analysis regarding psychological intervention guidelines in elderlies during the COVID-19 pandemic era. The second stage analyzed scientific articles from databases related to interventions and COVID-19 pandemic impacts in elderlies' psychology. The search was carried out using databases of PubMed, ProQuest, EBSCO, and ScienceDirect from 2015-2020 using keyword combinations of "Impact of the COVID-19 Pandemic, Psychology, Elderly, Mental Health, Intervention, Therapy". The Boolean searching method of AND, OR, and NOT was employed to obtain articles relevant to the objective. Consensus of psychological intervention guidelines in elderlies during the COVID-19 pandemic era was obtained from the world, state, and several countries' health institution websites on electronic literature. The second evaluation in this study used the PRISMA checklist to select scientific literature discovered from databases to be adjusted to the objective. The next stage after these two stages was analysis and grade determination of recommendations. The last stage after grade determination was that the authors consulted mental health professionals.

Inclusion and exclusion criteria

According to the following criteria, the consensus search was limited: psychological intervention guidelines in elderlies during the COVID-19 pandemic. Consensus contained interventions related to mental/psychological health in elderlies during the COVID-19 pandemic. Consensus can be accessed electronically and in English.

The search for scientific articles from various sources was limited by inclusion and exclusion criteria. Inclusion and exclusion criteria were considered using PICO (Population (P), Interventions/Exposure (I), Comparator (C), and Outcome (O)). The articles obtained during the search process were then selected based on the inclusion and exclusion criteria shown in Table 1.

Results

The review obtained 17 articles related to interventions and mental/psychological health impacts in elderlies during the COVID-19 pandemic. There were two consensus of psychological intervention guidelines in elderlies during the COVID-19 pandemic that we obtained from WHO and India's health institution

websites. The respective guidelines were published in 2020. WHO published in March 2020 and India in February 2020.

At the beginning of getting 1,815 articles, the second stage results were obtained from the search on four databases using predetermined keywords. Researchers identified duplication and found 36 duplicated articles. Based on articles with no full-text, 696 articles were issued. Based on abstract and title reviews, 1,066 articles were inappropriate. A total of 17 articles were analyzed based on their full text. The studies came from China (n = 17.65%), North America (n = 5.88%), Sweden (n = 5.88%), Hong Kong (n = 5.88%), Spain (n = 17, 65%), Iran (n = 11.77), India (n = 5.88%), Germany (n = 5.88%), South Korea (n = 5.88%), Brazil (n = 5, 88%), Jordan (n = 5.88%), and Taiwan (n = 5.88%). The study participants consisted of elderlies. Most of the articles, i.e., 87.5% of the articles, used participants aged > 60 years and the remaining 12.5% were over 50 years old.

The study participant amount was at least 583 respondents and at most 2,194 respondents. All studies included in the systematic review were 94.1% quantitative studies, with the majority of the study approach used a cross-sectional approach, and 5.9% were qualitative studies. Seventeen articles matched the JBI, inclusion, and exclusion criteria of this review. COVID-19 pandemic impacts on elderlies' mental health/psychology were anxiety, depression, stress, panic attack, insomnia, loneliness, suppression, and concentrating difficulties. Interventions performed to reduce mental health problems and psychological effects in elderlies included relaxation therapy, CBT, horticultural therapy, spiritual therapy, music therapy, logotherapy, and herbal therapy to reduce depression. The intervention provision method was direct. Therapies for elderlies with comorbidities were combined with psychopharmacology therapies.

We identified 17 articles of impacts and interventions and two consensuses of intervention guidelines to be developed as an intervention therapy guideline based on the search result. The results obtained were then reviewed and evaluated according to the needs of elderlies. Researchers then examined each recommendation from intervention guidelines, starting from the origin of the guideline and its possibility to be applied to elderlies experiencing psychological impacts due to the COVID-19 outbreak. Intervention guideline recommendations that were successfully compiled include the impact of the COVID-19 pandemic in elderlies' psychology, recommendations for psychological interventions given, and psychological intervention methods for elderlies.

Discussion

The Effect of the COVID-19 Pandemic in Elderlies' Psychology Recommendation 1

Elderlies' psychological and mental health changes due to the COVID-19 outbreak emerged were anxiety, panic attacks, depression, stress, and insomnia.(Lee et al., 2020) Anxiety impacts alone generally produce excessive stress.(Uvais, 2020) Stress produced will worsen elderlies' immunity, particularly vulnerable elderlies with comorbidities.(Armitage & Nellums, 2020) Most of the literature stated that

psychological impacts arose in elderlies during the COVID-19 pandemic included stress, depression, anxiety, insomnia,(Banerjee, n.d.; Bobes-Bascarán et al., 2020; Carriedo et al., 2020; García-Fernández et al., 2020; Uvais, 2020) feelings of guilt, and concentrating difficulties.(Gustavsson & Beckman, 2020)

Psychological Intervention Forms in Elderlies Recommendation 2

Due to the COVID-19 virus, all activities and activities outside the home must be stopped. It posed elderlies to feel isolated and lonely. At times like this, elderlies' emotional states become unstable. They will be confused, afraid of contracting, and feel confined in the house.(Banerjee, n.d.) Hence, family support and knowledge related to the COVID-19 pandemic are necessary to reduce anxiety faced by elderlies.(Meng et al., 2020) Effective interventions must be determined to provide a problem-solving approach and improve the situation to reduce depressive symptoms and elderlies' sleep quality.(Wang et al., 2017) Psychological interventions in elderlies during the COVID-19 pandemic mostly used relaxation therapy (JPMR with background music, followed by physical exercises and laughter therapy, 1 hour each in the morning and evening) to lower the depression scale(K.K, 2020), CBT therapy to deal with elderlies' stress,(Gellert et al., 2020) and horticultural therapy in the form of herbal plant cultivation activities to reduce depression, anxiety, sleep disorders, and symptoms of dementia.(Han et al., 2018; Tu et al., 2020) Furthermore, music, spiritual, and logotherapy therapy can also be used as intervention therapies to overcome psychological problems in elderlies.(Abood et al., 2020; Correã et al., 2020; Heidari et al.)

Psychological Intervention Methods in elderlies Recommendation 3

Psychological interventions can improve health and reduce mental health problems in elderlies.(Sutipan et al., 2017) Most of the interventions were carried out directly to elderlies with psychological/mental health problems. Interventions were applied using a quantitative experimental method with a pretest and posttest control group design.(Heidari et al.; K.K, 2020) It is also essential to maintain a regular routine and schedule as much as possible or useful activities such as regular exercise, doing routine work, singing, painting, or other activities. Keep in regular contact with loved ones (e.g., via telephone, email, social media, or video conferences) is advised.(Baroque & Baroque, 2020) Interventions were given to elderlies through the examination stage, diagnostic determination, administration of therapy, and examination after therapy.(Gellert et al., 2020) Another psychological intervention can also be administered by giving herbal tea (Golkooh 2 g lavender teabag), which can reduce the scale of depression in elderlies.(Bazrafshan et al., 2020)

Study Limitations

There were many limitations to be considered in this systematic review. Most of the studies were cross-sectional designs that did not significantly explain the psychological impacts of elderlies. Also, articles found in this study were

insufficient. Most of the articles discussed the general public from the age group 18 years to > 75 years and did not discuss the elderly group who are the vulnerable group infected with the COVID-19 virus. The search for appropriate interventions in elderlies amid a pandemic is minimal, so we combine it with elderlies' psychological interventions before the COVID-19 pandemic.

Conclusion

This study is expected to provide practical guidance for providing psychological interventions for elderlies with mental health problems during the COVID-19 pandemic. Psychological impacts in elderlies during pandemics vary widely from stress, anxiety to insomnia. Therefore, it is essential to have guidance on psychological interventions. These psychological interventions are used to reduce psychological impacts and increase elderlies' immunity. The intervention guide can be in psychotherapy for elderlies who have experienced the impact during the COVID-19 pandemic. Psychological intervention methods were carried out in elderlies directly using a quantitative experimental method with pretest and post-test control group design.

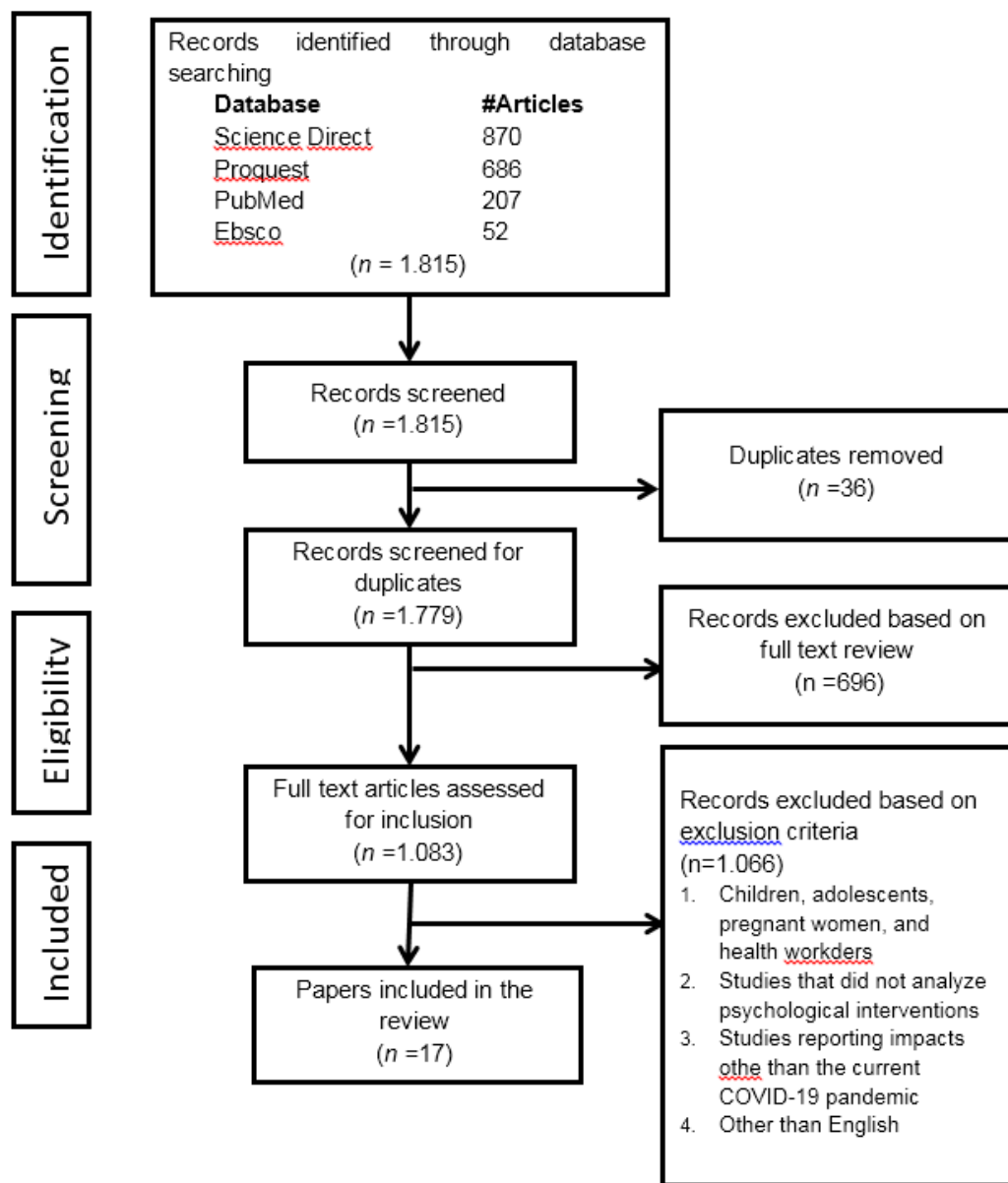


Figure 1: Flow diagram article selection study results

Table 1
Inclusion and Exclusion Criteria

PICOS	Inclusion Criteria	Exclusion Criteria
Population	Elderlies (>50 years)	Children, adolescents, pregnant women, and health workers
Intervention/Exposure	Psychological therapies	Studies that did not analyze psychological interventions
Comparison	-	-
Outcome	The leading outcome is COVID-19 pandemic impacts in elderlies' psychology and mental health	Studies reporting impacts other than the current COVID-19 pandemic
Study design	Research and Non-Research Full-text available	-
Language	English	Other than English

Table 2
Resume of Psychological Intervention Recommendation in Elderlies during the COVID-19 pandemic era

No	Author	Resume
Recommendation 1 Psychological Impacts on Elderlies		
1	Bobes-Bascaran et al., 2020	• Anxiety • Depression • Stress
2	Uvais., 2020	• Panic • Depression
3	Banerjee, 2020	• Anxiety • Panic • Stress • Depression • Insomnia
4	Fernandez et al., 2020	• Anxiety • Depression • Acute stress
5	Callow et al., 2020	• Health mental problems • Social isolation
6	Wong et al., 2020	• Loneliness • Anxiety • Insomnia
7	Gustavsson & Beckaman., 2020	• Concerns • Sleep difficulties • Stress • Concentrating difficulties
8	Carriedo et al., 2020	• Depression
9	WHO., 2020	• Anxiety • Anger • Stress • Restless
10	NIMH., 2020	• Anxiety • Depression

Recommendation 2 Psychological Intervention Forms on Elderlies			
1	WHO., 2020	Cognitive and Physiological Therapies	• Education for elderlies regarding COVID-19, its impacts and prevention • Daily physical exercises
2	NIMH., 2020	Cognitive, Affective, Physiological, and Psychosocial Therapies	• Education • Psychosocial therapy • Supportive encouragement
3	K K et al., 2018	Affective and Physiological Therapies	• Relaxation therapy
4	Bazrafshana et al., 2019	Physiological Therapy	• Herbal therapy using tea therapy to reduce depression and anxiety • Evaluate elderlies' depression and anxiety levels
5	Gellert et al., 2019	Cognitive and Behavioral Therapies	• CBT using psychotherapy techniques
6	Han et al., 2018	Behavioral Therapy	• Horticultural therapy • Horticulture is designed to include plant cultivation activities such as creating bed, transplantation planting, watering, weeding, and harvesting
7	Heidari et al., 2020	Spiritual Therapy	• Spiritual therapy plays a vital role in reducing and increasing stress perceived
8	Corrêaa et al., 2020	Affective and Emotional Therapies	• IGPM music tract is chosen by elderly participants • It is meant for caregivers and/or family members when they report parts clearly sung by elderlies (used to find certain songs) and admired by elderlies
9	Mohammad et al., 2019	Affective, Cognitive, and Behavioral Therapies	• Logotherapy can decrease depression and increase life quality
10	Tu et al., 2020	Cognitive and Behavioral Therapies	• Horticultural therapy generally used in elderlies
11	Wang et al., 2017	Affective, Cognitive, and Behavioral Therapies	• Healing therapy • Our intervention objective is to provide an effective intervention, knowledge, and interactive skills to participants • Help them identify, assess, and changes their negative thoughts into positive ones • Improve their social support and repair their depression symptoms
Recommendation 3 Psychological Intervention Methods on Elderlies			
1	WHO., 2020	Education and Physical Exercises	• Inform current condition according to facts and provide clear information regarding how to reduce infection risks by words understandable to elderlies with/without cognitive disorders • Instructions are given by clear, brief, respectful, and patient communication

			• Information can be presented in written or through pictures • Involve family members and supporting groups when providing information and help people to pay more attention to prevention measures such as washing hands • Physical exercises during quarantine to reduce boredom • Schedule regular activities such as gardening, exercising, cleaning, singing, painting, or other hobbies • Keep in regular contact with loved used (e.g., by telephone, email, social media, or conference video)
2	NIMH., 2020	• Education • Physical Exercises • Daily Activities	• Provide education regarding information and appropriate clarification upon various myths or false messages circulating from various sources • Guidances on keeping routines, physical exercises, yoga, mediation, healthy diet, mental stimulation through home activities with proper safety prevention measures are necessary • Short relaxation exercises and supportive therapy can be performed for those experiencing severe psychological stress
3	K K et al., 2018	Relaxation Therapy	• Relaxation therapy provision from day-2 to 29. The experiment group was given a relaxation therapy (JPMR with background music, followed by physical exercises and laughter therapy) and continued for the consecutive 28 days. • Post-test I on day-30 and post-test II at the end are conducted using the same pre-test scoring scale • Post-test II, after the therapy for four month post-test II, is conducted using the same scale.
4	Bazrafshana et al., 2019	Herbal Tea Therapy	• Each teacup is made from one teabag (source: Golkooh Company, Iran; 2 g lavender teabag). It is soaked for 10-15 minutes in 30 mL hot water, prescribed to be consumed twice as morning and evening brew. • Thirteen patients are taught to use the complete herbal tea. According to the precedent study, this intervention lasts for 2 weeks. Participants in the experiment group are advised to take time to drink herbal tea and inhale the arome. No side effects are found in this study.
5	Gellert et al., 2019	CBT	• CBT with psychotherapy is applied with a) reminiscences of the past, empowerment and inclusion of the participants' social systems • This therapy is effective in stabilizing emotional and reducing psychogeriatric problems • This therapy is a psychotherapy approach for elderly people who are prone to depression.
6	Han et al., 2018	Horticultural Therapy	• Horticultural therapy for (10 sessions) consisted of 90-minute session each week • The participants cultivate seasonal crops, such as potatoes (<i>Solanum tuberosum</i>),

			lettuce (<i>Lactuca sativa</i>), tomatoes (<i>Lycopersicon esculentum</i> Mill), pepper (<i>Staphylea bumalda</i>), and spices (<i>Anethum graveolens</i>, <i>Matricaria chamomilla</i>, <i>Mentha species</i>). Participants in the horticultural therapy program are asked to wear comfortable clothes, shoes and hats. Before starting each session, the instructor provides an explanation and demonstration of the activity, as well as therapist assistants, social workers, and staff to monitor participants to ensure the safety of participants in cultivating seasonal crops, such as potato (<i>Solanum tuberosum</i>), lettuce (<i>Lactuca sativa</i>), tomato (<i>Lycopersicon esculentum</i>) Mill), pepper (<i>Staphylea bumalda</i>), and spices (<i>Anethum graveolens</i>, <i>Matricaria chamomilla</i>, <i>Mentha species</i>).
7	Heidari et al., 2020	Spiritual Therapy	- Listening to elderlies for 30 minutes every day and listen to their stories - Aim to determine the effect of spiritual care on stress perception and mental health of elderly living in nursing homes
8	Corrêaa et al., 2020	Music Therapy	- Classic music and piano therapies - There are four sessions of about 20 minutes each, held once a week. This takes place in a suitable and quiet room, previously ready. - Using headphones in the pavilion during listening, a comfortable situation, with dimensions of 207x57x271mm (AxLxP), of the circular or over-ear type (which is attached around the ear), in a frequency of 60-70 decibels (according to the volume of a normal conversation), together with the book notes with pre-selected songs for each participant
9	Mohammad et al., 2019	Logotherapy	- The intervention group starts the 12-session logotherapy counseling for six weeks - Post-tests are administered for the intervention and waiting list groups - Then, follow-up action after one month of the post-test is given only for the intervention group.
10	Tu et al., 2020	Horticultural Therapy	- The program is conducted twice in a week from 8 Januari to 18 January 2019, for four sessions (average of 1 hour/session). In each healthy horticultural session, four phases are present: 1. Pretest (5 minutes) 2. Explanation of activities (10 minutes) 3. Healthy horticultural activities (40 minutes) 4. Post-test (5 minutes). - Participants conduct healthy horticultural sessions in groups of five to six people. The first two sessions focus on culture techniques. - In Session 1, Grass Doll is an activity based on sowing and seed germination skills. - In Session 2, Kokedama is an activity on potting techniques, planting, and culture. - In Session 3, the Stone Leaf Mold is an activity based on artistic creations combined with hand massage.

			• In Session 4, Tasting and Smelling Herbs is an activity that combines aroma and taste to study various herbs (eg, mint, rosemary, lavender, and stevia)
11	Wang et al., 2017	Healing Therapy	• There are several intervention sessions in the healing therapy: 1. Introduction to depression and self-management: participants' brief self-introduction, basic knowledge of mental health, particularly depression, "acquaintances" activities for each other, and summary of sessions 2. Relaxation techniques: warm-up games and exercises of relaxation techniques, including guided imagery of progressive muscle relaxation, and meditation 3. Emotional regulation: acceptance and tolerance of emotions; share stories 4. Problem-solving: problem-solving skills such as seeking social support; introduction, and modification of maladaptive ways of thinking 5. Sleep hygiene: sleep hygiene education, hypnosis training, and sharing of experiences 6. Nutrition and exercise: knowledge of physical activity, physical relaxation, and a healthy diet; the relationship between nutrition, exercise, and depression; simple competition health knowledge and sports training 7. Booster session: session summary, sharing of learning experiences and praise.

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