

The Impact of Keroncong Music Therapy on Agitation Reduction in Senior Dementia Patients

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ABSTRACT

Agitation is the most common symptom of dementia that should be avoided, as dementia normally develops with aging. Feelings like anger or extreme anxiousness are brought on by this disorder. An intellectual decline that manifests as cognitive, emotional, and psychomotor problems may result from this. Prior to using medical therapy, which is known to have a high side effect rate, a continuous therapy with few side effects is necessary. The purpose of this study is to examine how keroncong music therapy affects agitation levels in senior dementia patients. Using a straightforward random sample method for elderly dementia patients. There were 29 treatment groups and 29 control groups in the sample. Mann-Whitney was the statistical test employed.

Keywords: Agitation, Dementia, Music Therapy

BACKGROUND

There is no stopping the aging process; it just keeps happening. The body changes as we age due to anatomical, physiological, and biochemical changes that impact the body's overall abilities and function (Murphy et al., 2018). Dementia is one of these alterations that might agitate people. Anger, irritation, or extreme restlessness brought on by a provocation small or large are examples of agitation. While dementia is classified as a decline in intellectual capacity marked by cognitive, emotional, and psychomotor impairments, this disease may indicate a medical or psychiatric condition (Lumbantobing, 2014). According to research conducted on 487 senior citizens in the Netherlands by Bakker, Duivenvoorden, Lee, & Trijsburg (2015), psychological issues among senior citizens with dementia include agitation (41.6%), anxiety (41.6%), depression (43.9%), and apathy (43.1%).

Because of metabolic problems, agitation has a substantial risk of morbidity and mortality. The prognosis of the patient deteriorates in the presence of concomitant symptoms, such as delirium, which typically accompany these symptoms (Tsoi et al., 2017). The development of emotional and psychological illnesses, family therapy, and the work of medical professionals are all impacted by agitation. Older people who are agitated may strike, kick, swear, become restless, be negative, or repeat words throughout a conversation. Agitation causes a higher risk of falls, delayed sleep start, and disruptions in sleep during the night for older adults (Gerdner, 2010). Foreign medical professionals treat agitated elderly patients with both pharmaceutical and non-pharmacological treatments. Anxiolytics and antipsychotic medications are used in pharmacological therapy (Mitchell et al., 2015). Utilizing pharmaceutical.

The vestibule, the axons of the ascending sensory fibers, and finally the neurons of the Reticular Activating System (RAS) receive the stimulus produced by music therapy. After then, the signal enters the limbic system and combines with the hypothalamus. The reticular

formation receives cues from the hypothalamus, which also acts as an impulse transmitter for autonomic fibers. Additionally, the pituitary gland receives signals from the hypothalamus and uses them to boost endorphine secretion. As ejectors of the resulting sensation of peace and relaxation, the midbrain additionally releases beta endorphine, enkephalin, and gammaaminobutyric acid (GABA) (Tanaka et al., 2012). This material has an analgesic action that can remove stress-related neurotransmitters from the brain's somatic sensory area.

OBJECTIVE

This study aims to determine the effect of keroncong music therapy in reducing agitation in elderly people with dementia.

METHODS

A pre-post test quasi-experiment was carried out on 58 senior patients with dementia who were agitated and had a control group. In the operating region of the Tapanrejo Community Health Center, this study was carried out in August and September of 2022. Simple random sampling was the method of sampling that was employed. Researchers employed the Cohen Mansfield Agitation Inventory (CMAI) questionnaire (Mansfield, 2001) to measure agitation in older adults. In the past, researchers employed the Mini Mental State Examination (MMSE) questionnaire to identify older adults suffering from dementia. In the meantime, music therapy serves as the independent variable's instrument. The researchers employed Airlangga University, Surabaya-adapted SOPs for music therapy (Hariyanto & Effendi, 2011b).

The treatment group and the comparison group were formed from respondents who satisfied the inclusion criteria. Division of the group was done.

On the same day of the intervention, researchers split the respondents into two groups: the comparison group and the treatment group. In contrast to the comparison group, which did not get keroncong music therapy, the treatment group received it once a day for 15 minutes. This was done 14 times in a row. Elderly family members who have received training to implement the SOP help administer Keroncong music therapy on an individual basis in the morning. In order to comply with the ethical and legal standards for research involving human subjects, the comparison group will get keroncong music therapy intervention after completing the post-test questionnaire. After the intervention, the researcher's next step was measuring agitation.

RESULTS

Table 1 reveals that the majority of participants in both the treatment and control groups were between the ages of 76 and 85. In both the treatment and control groups, the majority gender was female, accounting for 55.2% and 58.7% of the total. Elementary school accounted for the greatest percentage of education levels in both the treatment and control groups (41.3% and 44.8%, respectively). Additionally, a p value > 0.05 indicates that there are no significant differences in the characteristics of the respondents between the two groups, indicating that the characteristics of the respondents in the two groups are equivalent based on the difference test using chi-square on each respondent's characteristics.

Table 1. Socio-demographic Characteristics (n=58)

No		Socio-demographic	Group				p-value
			Treatment (n=29)		Control (n= 29)		
			N	%	n	%	
1	Age						0,076
	1)	76 - 85 y.o	24	82,7	22	75,8	

No	Socio-demographic		Group				p-value
			Treatment		Control		
			(n=29)		(n= 29)		
		N	%	n	%		
	2)	65 - 75 y.o	5	17,3	7	24,2	
2	Gender						0,725
	1)	Male	13	44,8	12	41,3	
	2)	Female	16	55,2	17	58,7	
3	Education						0,441
	1)	Non School	8	27,5	7	24,2	
	2)	Elementary School	12	41,3	13	44,8	
	3)	Junior High School	4	13,7	6	20,6	
	4)	Senior High School	5	11,2	3	10,4	

Table 2. Level of Agitation in Dementia Elderly Before Keroncong Music Therapy

No	Level of Agitation Pre-test	Group			
		Treatment		Control	
		N	%	n	%
1	Mild Agitation	8	27,5	9	31,1
2	Moderate Agitation	11	37,9	10	34,4
3	Severe Agitation	8	27,5	9	31,1
4	Very Severe Agitation	2	5,1	1	3,4
	Total	29	100	29	100

Statistical Test

Mann-Withney

p = 0,748

According to Table 2, the proportion of moderate agitation was highest in both the treatment and control groups, at 37.9% and 34.4%, respectively. Very severe agitation was only experienced by a tiny percentage of older dementia patients 3.4% and 5.1%, respectively in the control group. The results of the Mann-Whitney statistical test showed that there was no discernible difference in the two groups' levels of agitation during the pre-test.

Table 2. Level of Agitation in Dementia Elderly After Keroncong Music Therapy

No	Level of Agitation Post-test	Group			
		Treatment		Treatment	
		n	%	n	%
1	Mild Agitation	13	44,8	9	31,1
2	Moderate Agitation	9	31,1	11	37,9
3	Severe Agitation	7	24,1	8	27,5
4	Very Severe Agitation	0	0	1	3,5
	Total	29	100	29	100

Statistical Test

Mann-Withney

p = 0,008

Table 2 showed that moderate agitation (37.9%) was the greatest level of agitation in the control group, while mild agitation (44.8%) was the highest level in the treatment group. 3.5% of senior adults with dementia in the control group had very severe levels of agitation, but no very severe levels of agitation were detected in the treatment group following 14 days of receiving 15 minutes of keroncong music therapy daily. The results of the Mann-Whitney difference test indicated that there was a significant difference in the two groups' levels of agitation following 14 days of receiving 15 minutes a day of keroncong music therapy (p

DISCUSSION

The study's findings demonstrated that the treatment and control groups, at 37.9% and 34.4%, respectively, had the highest percentages of moderate agitation prior to the implementation of keroncong music therapy. Very severe agitation was only seen by a limited percentage of older dementia patients—5.1% in the treatment group and 3.4% in the control group. The results of the Mann-Whitney statistical test showed that there was no discernible difference in the two groups' levels of agitation prior to the implementation of Keroncong music therapy. A quarter (25%) of the elderly with moderate agitation in the therapy group had completed junior high school. The majority (37.5%) were male and between the ages of 65 and 75. Of all the elderly receiving therapy and exhibiting moderate agitation.

According to the study's findings, every member of the treatment group had agitation prior to receiving keroncong music therapy; the group with the highest agitation score, 59, fell into the category of extremely severe agitation. Gerdner (2010) states that extreme weariness, changes in routines and roles, overwhelming external stimuli, and insufficient stimulus can all cause agitation in older adults. Researchers claim that shifts in respondents' roles and routines were the cause of their agitation symptoms. The bulk of responders, it is known, are between the ages of 75 and 85. As people age, all body organs face a decline in function, which causes changes in roles and routines that also tend to deteriorate.

The maximum level of agitation for the elderly in the treatment group during the pre-test dropped to 44 (down 15 points) after receiving music therapy; this score was included in the category of severe agitation, which was previously very severe. Additionally, this study discovered that following 14 days of receiving 15 minutes of keroncong music therapy once a day, about half of the participants in the treatment group experienced mild agitation. The study's findings are consistent with research by Craig, J. (2014) that was published in the *Nursing Times Journal* and claims that music therapy affects older people's verbal behavior, which is one sign of agitation. An more study with comparable findings was research.

The researchers found that individuals whose agitation levels persisted experienced extreme psychological distress, to the point where music therapy could only lower the agitation score by two. Furthermore, the reason behind the psychological pain experienced by respondents whose level of agitation does not go away is unknown because these people are difficult to research and are closed off persons. The CMAI post-test results demonstrated that the participants' repetitive behavior removing lice from their head hair persisted. In addition, the respondent's family reported that, despite having clean hair and being lice-free, the respondent frequently rehashed the same memories about his early years every day. A difference test was conducted between the treatment groups to ascertain the differences between them.

It is believed by researchers that beta endorphins and GABA can be stimulated by keroncong music therapy. In order to lessen agitation in older individuals who are agitated, it is thought that an increase in GABA will affect their behavior and cause them to feel comfortable since beta endorphine is released. Darlina (2008) provides support for this view, stating that generally speaking, the stimulus from music is then transferred by specific nuclei from the thalamus through the areas of the cerebral cortex, limbic system, corpus collosum, autonomic system, and neuroendocrine system. After that, the limbic system and the hypothalamus will merge. The stimulation will be sent by the hypothalamus to the reticular formation, which serves as a distributor of impulses to the sympathetic and parasympathetic autonomic fibers.

Among the many varieties of relaxation music, keroncong music has a very calming impact. Particularly when the mellow keroncong tones will organically evoke inner serenity, producing the best effects for distraction and relaxation. The calming tones of the keroncong music genre are audible and will activate the brain's target organs. The internal rhythm of hearing is formed by the way that this music interacts with different brain areas to coordinate

the perception of sounds (Hariyanto & Effendi, 2011a). In addition, brain waves with distinct alpha, beta, theta, and delta frequencies are produced when electrical energy from musical sound waves is transmitted to the brain via nerve tissue. While beta waves are linked to mental activity, alpha waves induce calm.

The frequency of the listener's brain waves can be influenced by the tone of music they hear. This process, known as frequency following response, or FFR, takes place in the brain, more precisely in the two superior olivary nuclei. FFR is described as a response to an auditory stimuli that causes a modification in the frequency of brain waves generally as well as the consciousness level. The thalamocortical system's spontaneous feedback oscillations produce these waves. Serotonin levels will rise as brain waves shift to alpha waves. The neurotransmitter serotonin is in charge of regulating mood and hunger. The body subsequently transforms serotonin into the hormone melatonin, which regulates body relaxation and eventually causes changes.

CONCLUSION

According to the research findings, elderly dementia patients at the Tapanrejo Community Health Center Working Area, Muncar District, Banyuwangi Regency, who received keroncong music therapy for 15 minutes each day for 14 days in a row, showed less agitation. Future studies in music therapy should focus more on confounding factors like stress, anxiety, and physical activity. It is also possible to view Keroncong music therapy as an extra resource for students' hands-on learning activities related to managing mild to moderate agitation in patients who do not require medication. The study's findings can also be applied as extra information while teaching and learning, particularly when it comes to geriatric nursing. At the Puskesmas, medical staff members can mingle.

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