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This study investigated the effect of relaxation training on depression for the Korea elderly immigrants. Participants were 22 Korean elderly volunteers (mean age 82) recruited from a nursing home in a suburban area of Chicago and randomly assigned to either the experimental or the waiting list control group. The experimental group was treated with relaxation training 20 minutes a day for 14 days. The experimental group showed significant decrease in BDI and increase in relaxation states after the relaxation training. Relaxation treatment provides a simple but effective coping skill for elderly to increase well-being.

*Key Words: Korea elderly immigrant, depression, relaxation, relaxation states*

Nowadays the growing number of adults living to an old age and depression in the elderly has become important issues in public health. Although depression does not discriminate among age groups, depression in old age has been regarded as a predictable and reasonable response to the detriment and declines of later life. Research on depression in elderly has shown that aging and age-related life experiences play considerable roles in depression (Newmann, Engel and Jensen, 1991). Gerontological literature shows that rates of depressed state, depressive manifestation, and depressive disorder become more widespread among older adults (Newmann, 1989). Depression has been found to be the most prevailing psychiatric disorder within older populations. There is no question that depression in later life is a serious and augmenting problem.

However, after controlling the impact of race, gender, cohort and other associated factors (e.g., ailment and bereavement), age is not a significant correlate (Henderson, Korten, Jacomb and MacKinnon, 1997; Roberts, Kaplan, Shema and Strawbridge, 1997). The result showed age alone is not a significant predictor of depression. Initial age-related effects have been shown to be mainly due to chronic health problems and functional difficulties (Roberts et al., 1997a). For older adults with generally favorable health and socioeconomic resources, there may be a connection between positive affect

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and cognitive functioning. If the elderly are Healthy and show normal functioning, they are at no greater chance for depression than younger adults are.

The best predictors of depressive symptoms are rather poor health, mental disorders, lower social support, and low motion levels. What seems to be age-related depression may be attributable to physical health problems and related disabilities. Age and illness is not the same thing (Cohen-Sachs, 1993), and the aging process should not be considered pessimistically as stages of extensive degeneration.

The current consensus is that depression can occur at any age level. Clinically, although there are some differences, depression in old age is generally the same disorder as that experienced by younger people (Beckham & Leber, 1995). Obviously, not all old people facing loss become depressed, and it is only recently that researchers have pointed out just how well older people contend with life (Coleman, 1990). It is necessary not to exaggerate the degree of depression in elderly.

Research on depression has increasingly focused on the role of stressors that play in the etiology, sequence, and progress of depression (Reynolds & Gilbert, 1991). Research that investigated the causal association between stressors and depression suggested that chronically depressed people might be inclined to encounter specific patterns of stressors, such as interpersonal dependence difficulties. Older adults tend to think of stressful situations as more out of control, utilize passive coping, and use less social network than younger adults do (Monroe et al., 1992). However, it is difficult to empirically establish whether or not stressors are cause, accompanying results, or outcomes of depression, but stressors act as etiological factors in depression which affect coping styles and quicken a recurrence (Cronkite & Moos, 1995).

Elderly Korean immigrants to the United States are doubly burdened in the adjustment process because of their late entry and old age (Lee, Crittenden, & Yu, 1996). Although Korean immigration to America began in the late 19<sup>th</sup> century, the United States Census reports increases in Korean immigration from 70,000 (1970s), to 345,529 (1980s) and 815,447 (1990s). Most elderly Koreans enter the United States to maintain family connection, typically following their sons (Moon & Pearl, 1991). Kuo (1984) reported the disadvantage of recently arrived Korean immigrants psychological well-being. Changes in cultural bases and social surroundings are particularly strenuous for elderly immigrants who often lack essential knowledge about their new community. Thus, elderly immigrants are acknowledged as a high-risk group in terms of psychological health (Lee et al., 1996).

Dacosta (1993) reported that factors that may contribute to depression and or other mental disorder were immigration related circumstances, rather than migration itself. DaCosta classified those factors as lack of skill in language, separation from family, discrimination from the new society, detachment from culture, and immigration difficulties. It is also essential to perceive immigration as stressors in the evolvment of depression because immigration accompanies abrupt modification in many areas of personal life

during the adjustment period.

Research also suggests that Korean immigrants may suffer depression arising from immigration stress (Kim, 1985; Lee, 1988; Hurh & Kim, 1990). Kim and Berry (1985) described the acculturation stressors encountered by Korean immigrants such as physiological changes, socio-cultural issues, and psychological difficulties. Kuo (1984) identified depresogenic factors of Korean immigrants as recent settlement, underemployment, language obstacle, and business in risky areas. Kim (1985) also reported that 60 % of disease and complaints of Korean immigrants were stress associated. Koh and Bell (1987) examined the adjustment problems of elderly Korean immigrants and found that the difficulties the elderly perceived were language skill, health care, loneliness, travel difficulties, low income, and residence. Kiefer, Kim, Choi, Kim and Kim (1985) found that those who lived alone, were less educated, and arrived recently were a greater risk group for mental disorders.

Psychosocial stresses related with cultural change are especially intense for elderly immigrants. Examining the nature of depression among Korean immigrants in America, Pang (1995) suggested that health professionals should consider separation, familial bonds, and culture-related somatic symptoms before diagnosing depression. From international studies, Weissman and Klerman (1992) reported lower lifetime prevalence rates of depression in the urban centers of Taiwan as well as in the rural areas of Korea. However, Kuo (1984) studied the prevalence rate of depressive symptoms among four Asian American groups and found that the Korean Americans who entered recently manifested the highest depression, compared with Chinese, Japanese, and Filipino Americans (Kuo, 1984). These contrasting prevalence rates between the two statistics might be related to immigrant position and lack of cultural continuity. In a study of elderly Koreans, Lee et al. (1996) also showed the significance of social ties for depression in elderly. Lee et al. (1996) concluded that emotional support, which included various personal and family relations, reduced the negative consequence of stressors, and thus decreased depressive symptoms.

Culture also acts as a confounding factor in depression. The Korean culture forbids public disclosure of mental problems; maturity is defined by the competence to control affect. Kim (1994) reported that the Korean culture regards psychological disorders as disgrace and socially frightening. Nakane (1991) compared the characteristics and rates of depression in people from Japan, Korean, and China. The results showed that most Korean subjects were diagnosed as neurotic, Japanese subjects were major depression, and Chinese subjects were found to be in-between the two. To avoid the humiliating effect of mental disease, Koreans have a tendency to manifest depression in physical ways such as back pain, headaches, stomach pain, and heart discomfort (Lin, Lau, Yamamoto and Zheng, 1992). Pang (1996) examined Korean socio-cultural factors influencing treatment of depression in elderly. Korean elderly deal with depression through emotional self-care and social relationships are not inclined to use mental health professional or medical help. The particular self-care tactics for depression include religion, physical and social activities.

Depression results from the interplay of several variables, such as individual resources, environment, stressful events, as well as appraisal and coping responses. According to Lazarus and Folkman (1984), stress level is not a simple linear effect of stressors. These researchers classified five essential factors in stress: (a) environmental stimuli, (b) physical arousal, (c) cognition and appraisals, (d) coping style and social support, and (e) the cost of stress. An individual can effectively reduce stress levels by changing one of these factors. The function of coping can be emotional regulation (emotional-focused coping) or task management (problem-focused coping) (Lazarus and Folkman, 1984).

Relaxation training is a form of emotion-focused coping, and its primary goal is nondirected emotional control. Relaxation procedures can be used either as a component of behavioral intervention, such as systematic desensitization, or as major therapeutic tools. Relaxation techniques are an assembly of behavioral approaches that differ in philosophical ground, as well as in process. However, they share two basic elements: (a) passive focusing on a simple stimulus such as a muscle, breathing, meaningless sound, and (b) letting go of the intrusive stimulus and sustaining the focus.

Benson's Relaxation Response Model (1975) defined relaxation as reduced physiological arousal. Arousal reduction is the antithesis of the Flight-or-Fight Response. Benson argued that all relaxation techniques produce the same arousal reduction, regardless of relaxation forms.

Smith's Attentional/Affective Relaxation Theory (A/ART) proposes that all relaxation techniques are not the same and have quite different effects (1998a). Previous research has viewed relaxation benefits from a simple stimulus-response perspective. However, Smith has suggested that relaxation effects only occur if relaxation techniques trigger relaxation states (R-States). Smith claimed that R-States make relaxation work and mediate all potential benefits of relaxation by increasing health, psychological functioning, and well being. Smith organized R-States according to awareness, from sleep to heightened alertness. His distinctions include: Drowsy, Disengaged, Physically Relaxed, Mentally Calm, Aware, Joyful, Thankful, Transcending and Speechless (1998b).

Relaxation appears to be effective in decreasing depression. Murphy, Carney, Knesevich and Wetzel (1995) has shown that cognitive behavioral therapy and relaxation training was better than drug therapy as a treatment of depression, and the effect of cognitive behavioral treatment is not significantly greater than that of relaxation training. In a study of depressed child and adolescent psychiatric patients, both groups were relieved from less than one-hour of relaxation therapy. Relaxation therapy might also decrease depression in depressed adolescent mothers.

Relaxation therapy may be effective for the elderly. Goldberg (1995), from the literature reviews on transcendental meditation (TM) from 1890 to 1989, found that TM practitioners had used less medical help and showed increased physiological health. Alexander, Chandler, Langer, Newman and Davis (1989) studied whether or not meditation can extend human life in the elderly. The results showed that the TM and the Mindfulness meditation

subjects improved most on perceived control and word fluency, and all the TM participants survived three years after follow-up while 20 % of control subject died. DeBerry, Davis and Reinhard (1989) compared the effectiveness between meditation-relaxation and cognitive-relaxation techniques on depression and other variables in an elderly population. Meditation-relaxation was shown to effectively lessen depression and anxiety. Several studies have also provided evidence for advantageous outcomes of meditation for the elderly in the area of physiological, psychological, and sociological functioning (Golderloos, Ahlstrom, Orme-Johnson & Robinson, 1990). Frequent meditators reported significantly fewer stress level and disease manifestation, diminished anxiety and depression, and positive experiences (Beauchamp-Turner & Levinson, 1992). Progressive muscle relaxation and breathing combined with stretching were also found effective in depression (Broota & Dhir, 1990).

To summarize, this study examined the effect of relaxation training on depression in an elderly Korean sample. This Study hypothesized that relaxation training will decrease depressive symptoms and increase self-reported relaxation states (R-States). Additionally, I examined the relation between R-States and depression.

## Method

### Participants

Participants were 22 Korean elderly volunteers recruited from a nursing home in a suburban area of Chicago. Their mean age was 82 years ( $SD = 9.99$ ). After pre-testing, 22 participants were randomly assigned to either the experimental or the waiting list control group. Relaxation group and control group did not differ in age or initial BDI and relaxation states. All APA ethical guidelines were followed.

### Instruments

Depression was measured using Becks Depression Inventory (BDI: Beck, 1961). BDI has been a widely used tool for measuring the level of depression and for treatment outcome studies to assess change of depression across the adult life-span. The BDI was translated into Korean and showed an internally consistent and valid measure for depression (Hahn, Yum, Shin, Kim, Yoon, & Chung, 1986). Lee and Song (1991) investigated the reliability and validity of translated BDI with other relevant scales and the results showed a good validity index. Relaxation States were measured using the Smiths Relaxation State Inventory (SRSI). The SRSI is a self-report questionnaire designed to measure the psychological experience of relaxation (Smith, 2001). The researcher, along with Korean psychologist, translated SRSI into Korean and compared the differences between two translations. After discussing areas of agreements and disagreements, we retranslated the SRSI. In this study, the researcher met with each participant individually, presented BDI, SRSI, and recorded responses.

### Procedure

The researcher met with elderly residents and explained that, as a part of this research project, they will be offered a widely used approach for helping cope with daily life. No deception was involved. The experimental group received relaxation, whereas the waiting list control group received no treatment until this research project was completed.

Before the experiment, participants were given BDI and SRSI as pre-tests. Subjects were randomly assigned to the experimental group or control group.

Experimental group: After instruction, participants met as a group with their instructor for about 20 minutes a day. Relaxation consisted of Progressive Muscle Relaxation (PMR), Autogenic Training, Breathing, Yoga-form Stretching, Imagery, and Meditation (rocking meditation). After introducing all techniques, the instructor made a 20-minute composite relaxation script based on the preference of practitioners in the relaxation group and repeated it the remaining weeks. Relaxation instructions were taken from Smith (1998a, 1998b). The final relaxation script consisted of PMR, breathing, meditation, guided imagery combined with traditional Korean flute music. The instructor personally presented relaxation training for the following period about 20 minutes. Relaxation training followed this schedule:

Pre-tests: Becks Depression Inventory (BDI), Smith Relaxation State Inventory (SRSI), and assessment of demographic variables.

Day 1 Introduction to six relaxation techniques

Day 2 PMR, Autogenic Training, Assessment of preference

Day 3 Breathing, Stretching, Assessment of preference

Day 4 Imagery, Meditation, Assessment of preference

Day 5 Review and revision of preferred techniques

(PMR, Autogenic training, Breathing, Stretching, Imagery, Meditation)

Day 6 Presenting the first script and making revision

Day 7 Presenting second revised script and making final revision

Day 8 Final Relaxation script

- This script was used for the rest of the study:

Day 9, Day 10, Day 11, Day 12, Day 13, Day 14

Post-tests: BDI, SRSI.

Control group: The researcher provided no treatment for the waiting-list control group. This is the schedule for the control group.

Pre-tests: Becks Depression Inventory (BDI), Smith Relaxation State Inventory (SRSI), and assessment of demographic variables

No treatment through the following period.

Post-tests: BDI, SRSI.

## Results

Before comparing treatment outcome, groups were compared in terms of age (M=83, SD=10), sex (M=8,F=14) pre-test BDI, and pre-test SRSI scores. There were no significant differences between the experimental and the control groups for these variables.

Independent group  $t$ -tests comparing pre-post test difference scores

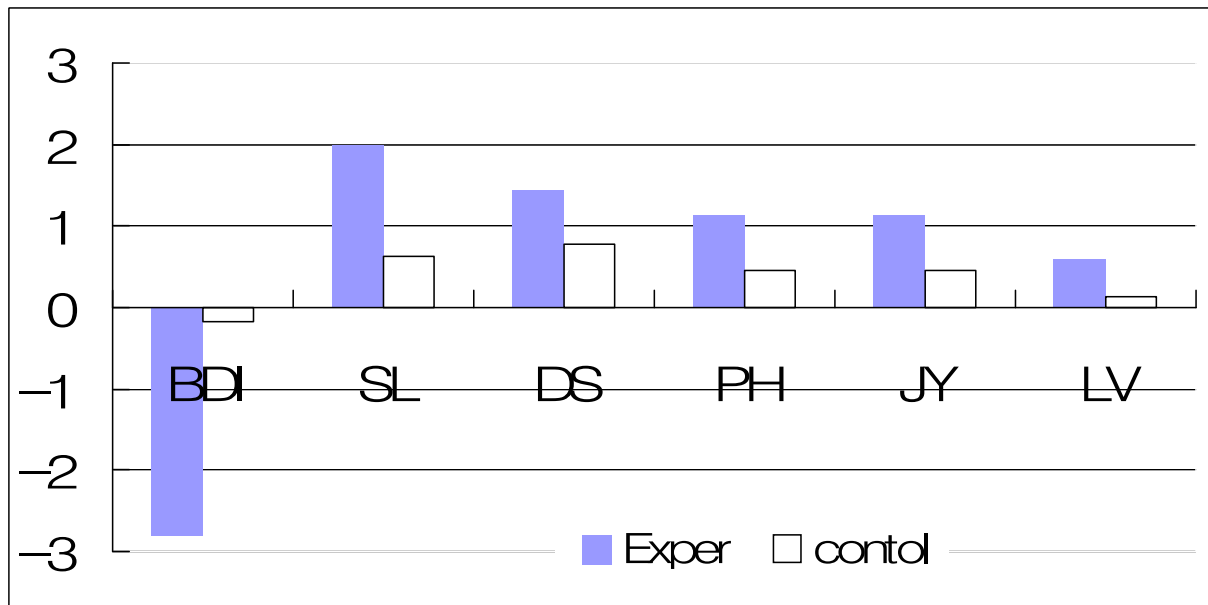
revealed that the experimental group displayed significant reduction in depression ( $t [20] = -2.04, p < .05$ ), see Table 1). The experimental group reported significantly better psychological well-being after attending relaxation training than control group.

This finding invite the possibility that relaxation training can enhance positive states by increasing motivation to practice and expectation of results. For those elderly who suffering from daily haggling, physical symptoms or psychopathology, an optimistic and sustained passive focusing bring internal healing power which assist in reduction of distress.

Table 1. Comparison of pre-post test Mean Difference Scores of BDI

	Group	Pre-test	Post-test	Mean Diff	SD	df	t
BDI	Experimental	16.27	14.09	-2.18	2.71	20	-2.04*
	Control	17.18	17.00	-.18	1.77		

Figure 1. Comparison of pre-post test Mean Difference Scores of BDI



Note: BDI: Beck Depression Inventory. SL: Sleepy. DS: Distancing. PH: PHYSICAL RELAX. JY: Joyful. LV: loving.

Experimental subjects also displayed significant increases on the following R-States: Sleepy ( $t [20] = 3.81, p < .00$ ), Physically Relaxed ( $t [20] = 2.23, p < .03$ ), Disengaged ( $t [20] = 2.11, p < .04$ ), Joyful ( $t [20] = 2.65, p < .01$ ), and Loving ( $t [20] = 2.25, p < .03$ , See Table 2).

R-states are the immediate psychological states associated with relaxation exercise. Smith (2001) identified different relaxation states; sleepiness, disengagement, physical relaxation, mental quiet, at easy/peace, joy, love/thankful, prayerful/transcendence. An R-states can be experienced as free-floating psychological condition during the exercise. A practitioner

feel joy might recognize that I am happy I am alive, a physical relaxed may report my muscle feel nicely warm and loose because I just let go the tension of the day. A person feel disengaged because worry and trouble disappeared in the time of exercise.

Table 2 Comparison of Mean Difference Scores of SRSI Between Pre-Post test

	Group	Before	After	Mean Diff	SD	df	t
Sleep	Experimental	1.63	3.63	2.00	.80	20	3.81**
	Control	1.72	2.36	.63	.86		
Disengagement	Experimental	3.04	4.50	1.45	.85	20	2.11*
	Control	3.00	3.77	.77	.64		
Physical relax	Experimental	2.68	3.81	1.13	.59	20	2.23*
	Control	2.59	3.04	.45	.82		
Joyful	Experimental	3.04	4.18	1.13	.63	20	2.65*
	Control	3.00	3.45	.45	.56		
Loving	Experimental	3.31	3.90	.59	.43	20	2.25*
	Control	3.13	3.27	.13	.50		

\* p .05, \*\* p .01

As predicted, there were also significant negative correlations between BDI and R-States. Depression negatively correlates with Disengagement ( $r = -.52, p < .01$ ), Mental Calmness ( $r = -.64, p < .001$ ), Joy ( $r = -.54, p < .01$ ), and Speechlessness ( $r = -.53, p < .01$ , see Table 3). Individual who score high on R-states also score low on BDI, thus showed R-states as an important correlate of low level of distress. It is understandable that those who experienced relaxed psychological states find coping strategy for distress and enjoyed healing power of R-states.

Table 3. Pearson Correlation for post-test BDI and R-States

	BDI	AW	SL	DS	PH	MC	JY	LV	TS
BDI									
AWARE	-.39								
SLEEPY	.07	-.05							
DISENGAGING	-.52*	.38	-.07						
PHYSICAL RELAX	-.34	.61**	.22	.55**					
MENTAL CALM	-.64**	.73**	.18	.60**	.39				
JOYFUL	-.54**	.55**	-.08	.68**	.55**	.61**			
LOVING	-.35	.59**	.04	.44*	.41	.50*	.80**		
TRANSCENDENCE	-.36	.58**	-.08	.38	.44**	.60**	.55**	.55**	
SPEECHLESS	-.54**	.65**	-.12	.53*	.67**	.65**	.78**	.71**	.74**

\* p .05, \*\* p .01



## Discussion

The present study examined the utility of relaxation training to decrease depressive mood and increase positive affects by redirecting emotional focus in elderly. The results support the effectiveness of relaxation training even in a short time period. The results of this study indicate that relaxation training alleviates the impact of stress and depression among the elderly. Participants who reported increased relaxation states may have discovered a way to enhance their psychological health. Relaxation training may provide an emotion-focused coping skill enhancing ones self-reliance. One might speculate that the Physical Relaxation and Disengagement reduce worry, and thereby decrease depression and enhance other R-States such as Joy and Loving. Perhaps future researchers will further examine the impact of Physical Relaxation and Disengagement on decreased depression in elderly.

It is understandable that those who experience healing power of relaxation would see the exercise as distress proof. Perhaps an attitude of accepting things that cannot be changed would bring trainee to transcend or discontinuous with ordinary discursive worries. In moments of discursive, one may wander through or focus on works that require continuous efforts and analytic thoughts. In contrast, relaxation involve sustaining passive simple focus stimulus such as breathing or imagery. The mindful states of relaxation described as pure consciousness, a content free and discontinuous with discursive thought. Though difficult to activate, these states set cycle of renewal; withdrawal from ordinary burden, recovery from fatigue and effort or tension, and opening up to the world renewed and refreshed. Relaxation is hypothesized to work only when they evoke certain relaxation states.

Depression in the elderly is often viewed as different from depression in younger persons. Older people experience loss of vigor, despondent mood, and sleep disturbances. Depression in old age is more influenced by health than other factors. The elderly reported more physical symptoms and reflections regarding dying. Although age does not necessarily lead to depression in itself, age-related stressors have been demonstrated to be contributing factors in depression. A person who has had a hard time adapting to the aging process is more vulnerable to depression. The elderly relaxation group profit from relaxation training by incurring elevated renewal states, and thus decrease depressive symptoms.

Korean elderly immigrants are doubly handicapped; they are less educated, poor health, live without family, and less adapted to culture. It is hard to them to defend off age related depression and social environmental stressors living in different culture. Relaxation is simple and east to learn as a form of emotional coping strategy for stressors. Especially for elderly, relaxation training does not ask any intellectual resource or physical fitness for practicing. Relaxation training gives elderly technique to discontinuous with ordinary tiresome and recovers psychologically fresh. The training may act as good coping skill for their everyday fatigue into new opening up.

The results of this study are consistent with several studies of relaxation and depression (Murphy et al, 1995; Goldberg, 1995; Golderloos et al, 1990; Alexander et al, 1989). One interesting finding is the positive correlation between Disengagement and Joy ( $r = .68$ ,  $p < .000$ ). Others have found that Disengagement and Joy are independent (Smith, Amutio, Anderson, & Aria, 1996). Perhaps, for our subjects, Disengagement is associated with fewer analytic thoughts and less goal directness, thereby enhancing feeling of Joy in relaxation. Alternatively, the elderly subjects may have defined their relaxation time as recreation, resulting in simultaneous feelings of Disengagement and Joy, or elderly concerned with issues of health and death might be disengaged from worries and enjoy relaxation.

To activate optimal effect, relaxation training script should be tailored to specific subject group needs. In elderly, it is not convenient to practice progressive muscle relaxation procedure; old age hinder to squeeze muscles, which incurred rather distressing sensation. Guided imagery works fine if it delivers a pleasant memory such as meeting what they dreamed or coming back home. So it is advisory to ask them about pleasant motif before formulate imagery scripts. Deep breathing should be used cautiously though breathing is a basic procedure in the training; breathing is easy but long breaths are sometimes harmful considering their shorts inhale habit. The relaxation trainer should leave the trainee to choose his or her own pace of breath rhythm. It may be advisory to make the script shorter than about 20 minute because old age might hinder to focus on for long time.

The lack of random sampling and sample size limits how far the findings of this study can be generalized to the general population. Future researchers are encouraged to use a large and randomly selected sample. Another limitation is that the results might be due to social support provided by the instructor. Future researchers can consider controlling social support effects perhaps by adding a social support group or reducing experimenter contact by using tape-recorded relaxation instructions.

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# 긴장이완 훈련이 한국인 노년 이민자의 우울에 미치는 영향

방석찬

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본 연구는 한국인 노년 이민자들이 겪는 어려움 및 우울을 감소시키기 위한 정서적 대처 방법의 하나인 긴장이완 훈련을 실시하여 그 효과를 알아보고자 하였다. 본 연구의 참여자들은 22명의 시카고 교외의 양로원에 거주하는 한국인 노인으로 실험집단과 대기자 집단으로 무선 할당하였다. 실험집단에 대해 14일 회기에 걸쳐 20분 씩 표준화된 대본에 의한 긴장 이완 훈련을 처치하였다. 각 집단에 대해 실험 전 후 BDI와 이완상태를 측정하여, 사전-사후 검사의 차이 점수를 t-test한 결과 실험집단이 대기 집단에 비해 BDI의 감소와 함께 신체적으로 편안해지고 졸리며 근심걱정이 멀어지고 즐겁고 사랑받는 느낌의 이완 상태의 증가를 보고하였다. 긴장 이완 훈련은 따라하기 쉬울 뿐 아니라 간단하여 노인과 같은 고령 집단에 실시하기에 용이하며, 노인들의 심리적 건강을 증진시키는 것으로 나타났다.

주요어: 한국인 노년 이민자, 우울, 긴장이완, 이완 상태

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