



## Effectiveness and Practicality of Usik Wiwitan Relaxation to Improve Quality of Life in Elderly with Hypertension in West Java

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### ABSTRACT

**Introduction:** The quality of life of elderly people tend to decline with the increase of age. Some theories and evidence had shown that relaxation can improve the quality of life of the elderly. Usik Wiwitan (UWI) in West Java, which is the local wisdom of relaxation practice, has a potential to improve quality of life. This research is a field experiment with to assess the effectiveness and practicality of UWI in improving the quality of life of the elderly.

**Method:** Subjects were divided into two groups A and B randomly. The group A underwent the guided UWI for 10 weeks, while group B acted as controls. Measurement of quality of life in each group was performed at weeks 0, 5 and 10 using the WHOQOL-BREF instrument. The Generalized Estimating Equations analyses were used to evaluate the improved quality of life in repeated measurements. The confounding variables were socio-demographic factors and blood pressure.

**Results:** There was a decrease in systole and diastolic blood pressures after intervention in both groups. However, there were no differences in blood pressure in the two groups after the intervention program ended. UWI increased quality of life scores by 5 points at 5th week and 7 points at 10th week.

**Conclusion:** UWI is a simple method for the elderly and easy to do as well as entertaining and vastly improve the quality of life. UWI has the potential method for the elderly's health programs.

**Key words:** Quality of life, Elderly, Usik wiwitan, Relaxation

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### INTRODUCTION

A person's quality of life reflects an individual's view of his subjective well-being [1]. The Elderly's quality of life has its specific characteristics [2]. The quality of life of healthy elderly people is certainly different from the elderly who suffer from the disease. At a global level, the most common chronic diseases suffered by the elderly are hypertension, arthritis, cataracts, and diabetes [3]. In Indonesia, the disease

most often found in the elderly is hypertension, followed by arthritis, stroke, and other diseases [4,5]. In a study, it was reported that generally hypertension sufferers have a lower quality of life scores compared to healthy elderly people [6].

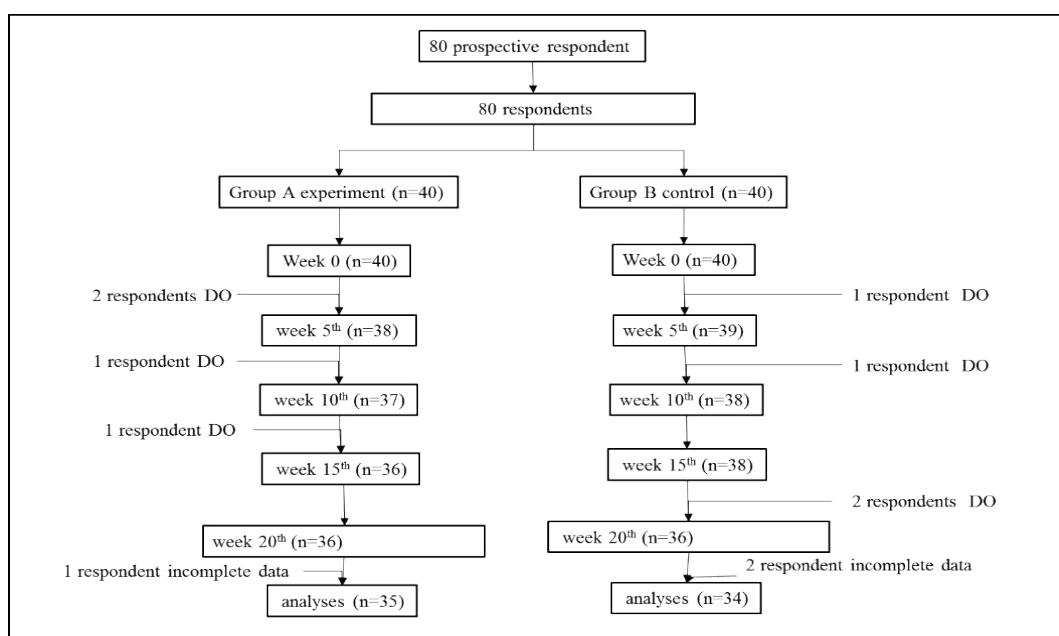
Relaxation techniques can overcome hypertension and improve quality of life. Relaxation practices that are done regularly are proven to improve the quality of life [7], increase the body's immune system and reduce stress [8], lowered blood pressure, oxygen consumption and heart rate [9], reducing negative attitudes, psychological discomfort and negative perceptions [8], and overcome anxiety and pain among elderly patients [10].

There is one type of relaxation practice that comes from local wisdom, Usik Wiwitan (UWI). This method was first introduced by Ms. Karlina Adikusumah because of Sundanese cultural contemplation based on Islamic spiritual beliefs. The term Usik Wiwitan comes from the Sundanese base, which means the first movement. She believed that all movement that happened in nature is always first never be second or third. The name UWI is given to remind the existence of God who moves anything in nature. The practice of UWI relaxation is relatively easy to do anywhere without the need for large space or special devices and includes spiritual aspects that can further enhance the elderly's belief in the Creator's compassionate nature. Until now the practice of UWI relaxation has not been tested for its effectiveness and practicality for improving the quality of life of the elderly, therefore the purpose of this study is to assess the possibility of applying the practice of UWI relaxation practice to improve the quality of life of the elderly with hypertension in Bandung, West Java Province.

## METHOD

This is a field experiment research with randomized waitlist-controlled trial design [11]. Subjects were recruited from elderly citizens in RW 01, Antapani District, Bandung. Inclusion criteria are (1) Residents aged 60 years or older, (2) Willing to be respondents, (3) Suffering from hypertension (systolic blood

pressure is more than 140 mmHg or diastolic blood pressure is more than 85 mmHg [12]), (4) Able to communicate in Sundanese/Indonesian, and (5) Able to sit cross-legged on the floor. Exclusion criteria are elderly who have or are currently taking other relaxation training. The sampling technique uses the hypothesis testing formula for 2 population means (one-sided test) [13]. A total of 80 subjects were selected to become respondents. Subjects were divided into 2 groups randomly. The number of subjects to the end of the intervention is as follows (Figure 1). Group A acts as an experimental group given UWI Art relaxation which is guided by an instructor for 10 weeks with a frequency of one hour per week, based on a previous study [14]. Group B as a control was not given any treatment. Data collection on quality of life was carried out at week 0, 5th, 10th (Figure 2). The WHOQOL-BREF (Figure 3) retrieved from World Health Organization, was used to assess a quality of life profile [15]. The WHOQOL-BREF assessment was valid and reliable for measuring quality of life in Indonesian people [16]. It has four domain scores (physical, psychological, social and environment). The questions were related to an individual's overall perception of their health. Score of life quality was calculated by using a Likert scale with 4 levels: not at all, a little, moderate, excessive amounts. Domain scores are scaled in a positive direction (i.e. higher scores denote higher quality of life). The practice of UWI art relaxation consists of two



**Figure 1: Respondents selection process.**

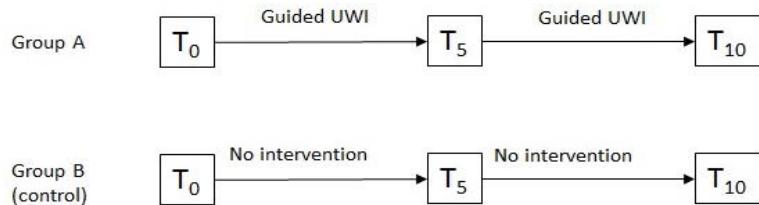


Figure 2: Data Collection stages.

	Equations for computing domain scores	Raw score
Domain 1	$(6-Q3)+(6-Q4)+Q10+Q15+Q16+Q17+Q18$ $\square + \square + \square + \square + \square + \square + \square$	a. =
Domain 2	$Q5+Q6+Q7+Q11+Q19+(6-Q26)$ $\square + \square + \square + \square + \square + \square$	a. =
Domain 3	$Q20+Q21+Q22$ $\square + \square + \square$	a. =
Domain 4	$Q8+Q9+Q12+Q13+Q14+Q23+Q24+Q25$ $\square + \square + \square + \square + \square + \square + \square + \square$	a. =

Figure 3: Domains of the WHOQOL-BREF.



Figure 4: The 15 Stages of UWI Art Relaxation.

forms of activity, (1) bodywork in the form of gently and slowly movement accompanied by prayer in a sitting position called ngajurus and (2) sitting still then lying down while praying called tumekung (Figure 4). The technique is carried out for one hour, guided by the instructor.

Approval of ethical research was given by FKMUI Health Research Ethics Committee through certificate number 58 / H2.F10 / PPM.00.02

/ 2014 signed by the chairman of the Ethics Committee. The numerical-scale demographic data and blood pressure data were analyzed using the Kolmogorov-Smirnov test to determine normality, then Students' t test and Mann-Whitney U test. The categorical demographic data were tested using the chi-square test [17]. Measurement of quality of life using the WHOQOL-BREF instrument, Generalized

Estimating Equations analysis is used to find out if there are significant differences in the pair of data measured repeatedly [18].

## RESULTS

Characteristics of respondents can be seen in the table below. There were no significant differences between the two groups in terms of age ( $p=0.315$ ), gender ( $p=0.851$ ), last education ( $p=0.150$ ), family income (0.059), consumption of antihypertensive drugs ( $p=1.000$ ) and marital status ( $p=1.000$ ) and quality of life scores (0.576) (Table 1).

There was a decrease in systole and diastolic blood pressure after intervention in both groups (Table 2). However, there were no differences in blood pressure in the two groups after the intervention program ended ( $p$ -value systole and diastole 0.28 and 0.25, respectively).

Total quality of life consists of 4 domains namely physical, psychological, social, and environmental relations. In group A (intervention) there was an increase in the total quality of life score at weeks 5th and 10th. There were differences in scores between groups at the 10th week (Table 3).

There were effects of time ( $p$ -value=0.00) and formal education ( $p$ -value=0.00) on total quality of life. There is an interaction between the intervention and time ( $p$ -value=0.01) (Table 4).

Based on the results of statistical analysis, this method can increase the average score of total quality of life by 5.3 ( $2.1 \pm 3.2$ ) points at week 5th and 7.2 ( $2.1 \pm 5.1$ ) points at 10th week (Table 5). The results of this test prove that UWI art relaxation is effective in improving the quality of life of the elderly with hypertension.

Table 1: Characteristics of respondents.

Characteristic	Group A (n=35)		Group B (n=34)		P-value
	freq/mean	%	freq/mean	%	
Age (year)	63.7 ± 4.7		62.7 ± 4.9		0.375
	<b>Gender</b>				
Male	11	13.6	9	12.1	
Female	24	36.4	25	37.9	0.851
	<b>Formal Education</b>				
Elementary	24	33.3	16	24.2	
High School	11	16.7	16	22.7	
University	0	0	2	3	0.15
	<b>Family Income</b>				
>regional minimum salary	28	39.4	19	27.3	
< regional minimum salary	7	10.6	15	22.7	0.059
	<b>Marital Status</b>				
Married	26	37.9	26	37.9	1.000
Not married/Widow/ Widower	9	12.1	8	12.1	
	<b>Drug Consumption</b>				
Yes	5	7.2	5	7.2	
No	30	43.5	29	42	1.000
	<b>Blood pressure</b>				
Systole (mmHg)	158.3 ± 6.6		147.9 ± 14.3		0
Diastole (mmHg)	92.6 ± 4.4		88.8 ± 5.9		0.004
Quality of Life	71.5 ± 6.9		72.6 ± 8.0		0.576

Table 2: The change in blood pressure within weeks.

Systole	Week 0	Week 5th	Week 10th
Group A	158.3+6.6	150.3+7.9	142.3+9.4
Group B	147.9+14.3	143.8+16.9	145.6+15.2
P-value			0.28
	Diastole		
Group A	92.6+4.4	90.6+5.4	88.0+5.8
Group B	88.8+5.9	85.9+7.0	86.2+7.4
P-value			0.25

**Table 3: The difference of total quality of life mean score.**

Week	Group	N	Mean	Std. Dev	p- value
0	A	35	71.5	6.9	0.58
	B	34	72.6	8	
5	A	35	77.3	5.4	0.15
	B	34	75.4	5.1	
10	A	35	79.3	5.8	0.01*
	B	34	75.4	5.3	

**Table 4: Effect of some indicators on total quality of life.**

Item	Wald Chi-Square	p
Intervention	14.2	0
Week	37.7	0
Gender	1.2	0.26
Marital Status	0.7	0.39
Formal Education	32.7	0
Family Income	3.2	0.07
Drug Consumption	0.7	0.39
Blood Pressure (Systole)	0.4	0.5
Blood Pressure (Diastole)	1.8	0.17
Age	0	0.94
Intervention*week	8.7	0.01

**Table 5: Effect of time to total quality of life.**

Predictor	Koefisien	Simpang Galat	p-value*
Constanta	38.3	20.4	0.06
Group A	2.1	1.7	0.21
Group B	0	-	-
<b>Measurement</b>			
Week 0	0	-	-
Week 5th	2.5	1	0.01
Week 10th	2.4	1.2	0.04
<b>Interaction</b>			
Kel A*Week 0	0	-	-
Kel A*Week 5th	3.2	1.3	0.01
Kel A* Week 10th	5.1	1.7	0.04

## DISCUSSION

The UWI relaxation technique can be accepted as a local traditional complementary medicine application. Many studies have reported that the most complementary medicine applications result in the decrease of psychological stress through decreasing sympathetic activity and increasing parasympathetic activity in the body. For example, it has been reported that wet cupping therapy restored sympathy-vagal imbalances and decreased psychological stress by decreasing sympathetic activity and increasing parasympathetic activity [19]. In some recent studies, it was reported that foot reflex therapy [20], footbath therapy [21], and wet cupping therapy increases [22] beta and gamma activities of the brain EEG in young healthy humans. Also, some different complementary approaches were reported to be very useful to decrease pain in some other pain syndromes, for example, foot

bathing therapy for surgical pain in women with cesarean section [23], moving dry cupping for upper shoulder and neck pain [24], wet cupping for shoulder pain and neck pain [25] and foot reflex therapy for acute low back pain [26].

The results of the present study show UWI technique causes important bodily and psychological relaxation through decreasing the sympathetic activity and increasing parasympathetic activity. The practice of UWI art relaxation can improve the quality of life scores of elderly people with hypertension. These results are in line with previous research about the effect of meditation on the quality of life of elderly hypertension [27]. Another study analyzing the effect of meditation on quality of life using different instruments, the MLWHFQ (Minnesota Living with Heart Failure Questionnaire) also showed an increase in the average quality of life score [28]. It was found that there were

no differences in the total quality of life scores between guided and independent exercise, both of which were equally effective for raising the total quality of life score. But the guided exercise carried out together can provide more benefits compared to the training itself. Exercises carried out together in a group can create coherence from the heartbeat. This is especially useful for creating harmony in the group if one group member has reached a frequency of heartbeat harmony, then the other group members will naturally adjust immediately [29].

### CONCLUSION

The UWI relaxation exercises can improve the quality of life scores of the elderly with hypertension effectively. UWI relaxation independently can still improve the quality of life score as well as guided UWI relaxation. The demographic factors of education and independency increases the total quality of life score. Further research needs to be done to prove the effectiveness of interventions on larger populations and to use indicators of physical changes that can be directly influenced by the practice of UWI relaxation such as levels of endorphins and cortisol, changes in brain waves, heart rate and IgG levels as components of the system immune system.

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