

# The Effect of Hydrotherapy on Depression Conditions in Patients with Mental Disorders

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**Abstract**– Depression is a mood disorder that form display symptoms that indicate the presence of affective dysfunction, emotions, thoughts and general activities. Hydrotherapy can be used for treatment of psychological conditions such as depression. This study aims to determine the effect of hydrotherapy towards depression condition in patients with mental disorders. The study design was “quasy experimental pre-post test with control group”. The population was all mental patients with depression in psychiatric wards at Banyumas Hospital. Research subjects taken by total sampling technique, totaling 30 patients were divided 15 patients in the intervention and 15 control group patients. The intervention group received hydrotherapy treatment. Analysis of the data is by pair t-test. The results showed a significant difference in depression scores before and after treatment in the intervention group ( $p$  value 0.138). The study recommended that hydrotherapy can be used as one of the treatment of patients with mental disorders with depression to support medical and nursing therapy.

**Keywords**- Hydrotherapy, depression, mental disorder.

## I. INTRODUCTION

The number of mental health problems in Indonesia is quite high and tends to increase from year to year, including cases of depression. WHO report stated that 31.7% of morbidity due to mental disorders resulting in disability in patients caused by five neuropsychiatric conditions that is 11.8% unipolar depression, 3.3% alcohol abuse, 2.8% schizophrenia, 2.4% bipolar depression and 1.6% dementia. In Central Java the prevalence of depression has increased from 0.49% in 2007 to 17.18% in 2009 . Based on the Riskesdas the prevalence of depression in Indonesia is 6.1 per mile and only 9% of depressed sufferers take medication or undergo medical treatment [1].

Depression is a form of natural disruption that causes symptoms that indicate dysfunction of affect, emotions, thoughts and general activities [2]. Individuals who experience depression generally show typical psychic, physical and social symptoms, such as moodiness, prolonged sadness, sensitivity, irritability and stress, loss of morale, loss of self-confidence, loss of concentration and decreased endurance [3].

According to Kaplan and Saddock [4], the therapy needed for depressed patients can be in the form of psychosocial therapy, such as cognitive therapy, interpersonal therapy, behavioral therapy, psychotherapy, and family therapy; drug therapy (antidepressant administration) and Electro Compulsive Therapy (ECT) measures with an indication that the drugs are less effective or the patient cannot receive the drugs. In addition there are alternative therapies for depressed

patients, namely water therapy or hydrotherapy. Hydrotherapy is a disease treatment using either hot or cold water [5].

Hydrotherapy can be used for the treatment of various conditions such as arthritis, digestive problems, sleep disorders, stress and depression [6]. Naturopath Bongiorno in Boulanger presents a study of a combination of the use of naturopathic therapy to treat depression [7].

Banyumas Hospital which is the main referral hospital for mental disorders in the South Central Java region found quite a number of mental disorder patients. From November to December 2008, in the mental ward of Banyumas Regional Hospital, there were 29 depressed patients [8]. No research has been done on hydrotherapy for depressed patients.

## II. METHOD

The design used in this study was "Quasy experimental pre-posttest with control group". The target population in this study was all mental disorder patients with depression in the Psychiatric Room of Banyumas Regional Hospital. The sampling method used is total sampling in which all populations that meet the inclusion criteria within the period October-November are sampled. The inclusion criteria are: no bedridden (bed rest condition) and mild-moderate depressed patients (depressed score  $\leq 29$ ) and the criterion for exclusion is severe illness. The hypothesis of this study is that there is an effect of hydrotherapy on depressive conditions in psychiatric patients. The research instrument used the depression screening scale from the Beck Depression Inventory Test (BDI), which amounted to 21 questions, with a choice of answers 0,1,2 and 3. The range of scores obtained was 0-63.

The research process was carried out by means of pre-testing in the control and intervention groups. Then in the intervention group, after the pre test was done immediately carried out water therapy which was started by flushing the entire body with warm water (36.7°C-38°C) then the water temperature was lowered slowly in 5 minutes until reaching the temperature (20°C) and pouring the whole body with water at 20°C for 2-3 minutes, 1 time per day for 7 days. This group was also given treatment actions according to an established procedure that is given a tranquilizer drug and nursing interventions according to hospital standards. Whereas the control group was not given treatment only treatment measures according to the applicable procedures, namely given the drug tranquilizer and nursing intervention according to hospital standards. After 7 days on the eighth day there will be a test post on both groups. To prove the research

hypothesis, look at the effect of hydrotherapy on the condition of depression using paired t-test.

III. RESULT

1. Respondent Characteristics

Table 1. Distribution of mental disorder patients with depression based on sex and education level (N=30)

Characteristics	Intervention Group		Control Group		Total	
	n	%	n	%	n	%
Gender						
1. Male	7	46.7	7	46.7	14	46.6
2. Female	8	53.3	8	53.3	16	53.4
Education						
1. No education	1	6.7	0	0	1	3.30
2. Elementary and Junior High school (SD,SMP)	8	53.3	11	73.4	19	63.3
3. Senior high school (SMA)	5	33.3	4	26.6	9	30.0
4. University (S1)	1	6.7	0	0	1	3.30

From Table 1, the number of depressed patients with female sex is slightly higher, namely 16 women (53.4%) and 14 men (46.6%). While based on the level of education most of them have elementary and junior high school education of 19 people (63.3%).

2. Conditions of Depression Before and After Intervention

Table 2 explains that the condition of depression before treatment was mostly at moderate-severe level, namely in the intervention group of 9 people (60%), whereas in the control group 12 people (80%). Depressed condition after treatment in the intervention group there were 2 patients (13.3%) in the normal category, whereas in the control group there were no patients found in normal conditions.

Table 2. Depressive conditions in the intervention and control groups before and after hydrotherapy in psychiatric patients (N = 30)

Depression Rate	Before		After	
	n	%	n	%
Intervention Group				
1. Normal	0	0,00	2	13.3
2. Light	4	26.7	5	33.3
3. Light-Medium	2	13.3	5	33.3
4. Medium-High	9	60.0	3	20.0
Control Group				
1. Normal	0	0,00	0	0,00
2. Light	2	13.3	2	13.3
3. Light-Medium	1	16.7	2	13.3
4. Medium-High	12	80.0	11	73.4

3. Differences in Depressive Scores in the Intervention and Control Groups before and after Hydrotherapy

Table 3. Differences in depressive scores in the intervention and control groups before and after hydrotherapy (N = 30)

Variabel	n	Average	SB	SE	t count	p value
Intervention Group					7.2	0.000
1. Before	15	20.6	5.8	1.5		
2. After	15	15.6	6.2	1.6		
Control Group					1.6	0.138
1. Before	15	23.6	4.6	1.2		
2. After	15	22.7	4.8	1.2		

Table 3 explains that there are significant differences in depression scores before and after hydrotherapy in the intervention group (p value 0,000). While in the control group there were no significant differences in depression scores before and after (p value 0.138).

IV. DISCUSSION

The number of depressed patients with female sex is slightly more than 16 women (53.4%) and 14 men (46.6%). While based on the level of education most of them have elementary and junior high school education of 19 people (63.3%). The average age of the whole patient was 31 years and in the intervention group the average age was 32 years while the control group was 30 years.

At the young adult age the patient has the task of developing integrity and hopelessness. Integrity is success in adjusting to successes and failures in life [9]. If the task of development is not achieved, it will cause depression. According to Broewer a low educational status in someone, will cause a person more easily experience stress than those with high educational status [10].

In the intervention group there was a significant difference in depression scores before and after the hydrotherapy treatment (p value 0.000). Whereas in the control group, the p value was 0.138, meaning that there was no significant difference in the depression scores before and after.

According to Bongiorno [7], providing water therapy with temperature differences to our skin can change psychological and mood. Exposure to wet (wet) and cold blood vessels cause vasoconstriction, causing blood to move from the surface to the core, causing the spread of heat, increasing circulation of the brain and vital organs. This movement also carries nutrients, oxygen, helps detoxify tissues. Warm water makes vasodilatation (relaxation) and which will bring blood to the surface, this will bring blood out of the core, and clean it. Brief changes in body temperature such as swimming in cold water or warm baths will help improve brain function. Hydrotherapy with hot and cold techniques is suitable for depression treatment [11].

As Shevchuk's study entitled "Adapted cold showers as a potential treatment for depression" states that due to the high density of cold receptors, cold water splash will cause the sending of a number of electrical impulses from the peripheral nerves to the brain which will produce antidepressant effects. This is in accordance with changes in depressive symptoms found in patients after being given water therapy that is an increase in mood for the better, increased self-esteem, comfort, changes in physical symptoms [11].

V. CONCLUSION

The conclusion of this study is that the characteristics of depressed patients are more than 16 women (53.4%), the level of education is mostly elementary and junior high school education that is equal to 19 people (63.3%) and the average age is 31 years. The level of depression of psychiatric patients before treatment is mostly at moderate-severe level, namely 21 people (70%). There was a significant difference in depression scores before and after treatment in the intervention group (p

value 0,000). While in the control group there was no significant difference in depression scores before and after treatment (p value 0.138).

The advice given is that hydrotherapy can be used as a therapy for patients with mental disorders with depression to support medical and nursing therapy in clinics and communities. Nurses can teach hydrotherapy to families and patients so that it can be carried out independently at home and get optimal results. Need further research on hydrotherapy with a longer time so that changes in depression scores are expected to be more visible.

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