

# THE IMPACT OF USING NIGELLA SATIVA OIL ON PRESSURE SORES PATIENTS FOR RISK REDUCTION OF CONSCIOUSNESS

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## ABSTRACT

**Introduction:** Treatment of pressure sores complications caused by consciousness patients is not only influenced by non-pharmacological and pharmacological treatment but also much needed in order to avoid pressure sores. From the field data obtained are still many patients who are at very high risk of pressure sores so given Nigella sativa oil (NSO). NSO is a non-pharmacological therapy can reduce the number of occurrence of pressure sores. Interest NSO study to determine the effect on the risk of pressure sores in consciousness patients. **Method:** The study design using a quasi-experimental approach non-randomized pretest-posttest control group divided control and treatment groups. This study was conducted in patients with loss of consciousness in the ICU hospitals Bangkalan. Number of samples 18 people with purposive technique sampling, measuring instruments using observation sheet with Braden scale. The treatment group was given enough basting NSO in hind limb for 3 days. Data were analyzed by univariate and bivariate Independent T- test. **Results:** The results showed the difference in the average score significant risk of pressure sores between the limb and the control group  $p$  value = 0.000 ( $p < 0.05$ ). **Discussion:** There effect of nigella sativa oil on the risk of pressure sores in consciousness patients. Based on these results, it is suggested that nurses can use nigella sativa oil as an alternative to prevent pressure sores that can reduce the incidence of pressure sores.

**Key words:** *nigella sativa oil, pressure sore, unconsciousness patients*

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## INTRODUCTION

One of the patients who indicated admission to the ICU patients who are experiencing loss of consciousness. Loss of consciousness is a state where the patient is not conscious in the sense of not awake/ not awakened in their entirety so as not able to give a normal response to stimuli (Weinstock, 2013). There are six levels of consciousness are: confusion, disorientation, lethargy, somnolence, stupor and coma. Patients with loss of consciousness is not able to mobilize, which means the patient will be lying in bed (Nursalam, 2012). Patients who experience loss of consciousness should be treated intensively. The impact that occurs in patients with loss of consciousness one is immobilized. Patients who experience immobilized indirectly would lie in bed without being able to change position, it is at high risk for developing pressure sores (Nursalam, 2012).

According to Nursalam (2012), pressure sores is a localized tissue damage caused by the compression of the soft tissue over the bone, protruding and external pressure

in the long term. Compression network will cause interference with the blood supply to the depressed area. Meanwhile, according to Widodo (2007) explains that the prevalence of pressure sores in ASEAN ranges from 2.1 % to 31.3 %, the prevalence rate is still too low when compared with the incidence of pressure sores in Indonesia, which reached 33.3 % . From preliminary studies conducted in ICU Syarifah Ambami Rato Ebu hospitals data obtained in June, there are 3 the incidence of pressure sores, July 4 the incidence of pressure sores, and the month of August 6 the incidence of pressure sores.

Based on the statement of head room in the Intensive Care Unit (ICU) in 2014 pressure sores incidence rate of 0.1 % of the total patients as many as 648. This figure still too high for the target quality hospital standard stated that the incidence of pressure sores should be 0 % . Based on the preliminary study on Tuesday, 15 September until 14 October 2015 to ten patients in ICU Syarifah Ambami Rato Ebu Hospital Bangkalan using Braden Scale with a maximum score of 23, a low risk >

20, the risk was 16- 20, high risk 11-15, found 1 patients had pressure sores, 5 patients have a high risk of pressure sores while 4 patients had pressure sores were. Based on the description above can be concluded that there is still a high risk of pressure sores in patients in ICU Syarifah Ambami Rato Ebu Hospital Bangkalan.

According Nursalam (2012) there are two main things that relate to the risk of pressure sores, the pressure factor and tissue tolerance. Factors which affect the duration and intensity of pressure over the prominent bone is immobilized, and decreased perception inactivity. While the factors that affect the tissue tolerance divided into two extrinsic and intrinsic factors. Patients who experience decreased consciousness has a high risk of pressure sores. among other extrinsic factors include pressure, friction and friction, moisture, other than that there are intrinsic factors include age, temperature and nutrition. These factors may cause the occurrence of pressure sores characterized by erythema or redness, skin edema, and tempratur in the area increased to hearty. If pressure sores happens it will make the state of the client gets worse, the patient also will be longer treated in hospital.

Pressure sores are the main problem for patients to be treated in hospital longer with the limitations of multiple activities and life threatening medical complications can occur as a result of the incidence of pressure sores during hospitalized. In addition, the pressure sores were not treated properly will result in long- term care into the hospital and increased cost. Therefore, nurses need to understand comprehensively about pressure sores in order to provide prevention and appropriate nursing interventions for patients at risk (Nursalam, 2012). Pressure sores can be a major complication of loss of consciousness. To prevent complications do passive ROM, but it can be given nigella sativa oil. From the above phenomenon researchers interested in studying whether the use of nigella sativa oil can cope with the risk of pressure sores.

## **METHOD**

In this study, using a quasi experimental study design, this design seeks to reveal causal relationships by engaging with the control group in addition to the experimental group (Notoatmodjo, 2010). In a quasi-experimental design, the experimental group and the control group was given no treatment. In both treatment groups beginning with the pre

test and after the treatment was held re-measurement.

The independent variable in this research was the nigella sativa oil and the dependent variable is the risk of pressure sores. The population in this study were patients admitted to the ICU Syarifah Ambami Rato Ebu Hospital Bangkalan who suffered loss of consciousness as much as 43 respondents. Where respondents will be divided into two control groups were 9 respondents and the treatment group 9 respondents, in which the two groups will be measured against the risk of pressure sores using Braden scale before being given nigella sativa oil.

The inclusion criteria are the criteria by which research subjects may represent a sample that qualifies as a sample (Hidayat, 2008). Patients covers loss of consciousness in the ICU Syarifah Ambami Rato Ebu Hospital Bangkalan are new patients, patients without prior treatment of pressure sores. In this study nonprobability sampling technique used mainly by using purposive sampling technique. Place of research is in ICU Syarifah Ambami Rato Ebu hospitals Bangkalan held for 2 months starting in January and February 2016. The study was conducted over five days for the treatment group and 5 days for the control group.

In this study using the analysis as follows: to determine differences in the risk of pressure sores pre and post treatment group using the Wilcoxon test. To determine differences in the risk of pressure sores pre and post control group using Wilcoxon test. To know the effect of nigella sativa oil on the risk of pressure sores patients with loss of consciousness using the Mann -Whitney test. Statistical test in this study using  $\alpha \leq 0.05$

## RESULT

Table 1 Frequency distribution of respondents in patients in the ICU who received therapy nigella sativa oil (treatment group) in January 2016.

Respondents Code	Pre	Post
P1	10	12
P2	12	14
P3	11	10
P4	8	10
P5	9	11
P6	10	12
P7	9	14
P8	12	15
P9	9	12
Mean	10,00	12,22
$\alpha = 0,05$	$p = 0,003$	

Data Source : Data Acquisition On The Ground

After analysis of the data showed that 9 respondents were given treatment for nigella sativa oil treatment group found that the average value of the observation post pre 10.00 and 12.22 value. From table 4.4 minimum value of 8.00 and a maximum value pre 12.00, for a minimum value and a maximum value of 10.00 post post 15.00. From the results of different test that uses paired t-test didapatkan  $\rho = 0.003$ . So the significance is smaller than the degree of fault which has been established by researchers is 0.05 . So it can be concluded there is difference observed values are given pre and post therapy Nigella Sativa Oil.

Table 2 frequency distribution of respondents in patients in the ICU who do not get treatment nigella sativa oil (control group) in January , 2016.

Respondents Code	Pre	Post
P10	14	16
P11	11	7
P12	7	6
P13	10	7
P14	10	6
P15	11	7
P16	14	11
P17	14	10
P18	11	8
Mean	11,33	8,67
$\alpha = 0,05$	$\rho = 0,004$	

Data Source : Data Acquisition On The Ground

After analysis of the data showed that 9 respondents were not given treatment for nigella sativa oil (the control group) found that the average value of the results of observations pre test 8.67 and post test 11.33. From table minimum value of 7.00 and a value pre maximum value of 14.00, for a minimum value and a maximum value of 6.00 post post 16.00 . From the results of different test that uses paired t -test is obtained  $\rho = 0.004$ . So the significance is smaller than the degree of fault which has been established by researchers is 0.05. It can be concluded no difference observed values pre and post therapy were not given nigella sativa oil.

Table 3 Distribution of comparison of observed risk of pressure sores in patients with reduced consciousness between the treatment group and the control group in the ICU Syarifah Ambami Rato Ebu Hospital Bangkalan in January .

Respondents	Difference	
	Treatment	Control
1	-2	-2
2	-2	4
3	1	1
4	-2	3
5	-2	4
6	-2	4
7	-5	3
8	-3	4
9	-3	3
Mean (rata-rata)	5,44	13,56
$\alpha = 0,05$	$\rho = 0,000$	

Data Source : Data Acquisition On The Ground

After analysis of data obtained from the difference between the 2 groups were given treatment for nigella sativa oil and were not given therapy nigella sativa oil found that the average value of observations risk of pressure sores in patients with loss of consciousness given nigella sativa oil value of 5.44 and were not given nigella sativa oil worth 13.56 and test results independent t -test statistical treatment group and the control group  $\rho$  is 0,000 so that its significance is smaller than the error rate ( $0.000 < 0.05$  ) were determined researcher significance 0.05 (5 %). Therefore we can conclude there is no difference after therapy nigella sativa oil and that is not done giving nigella sativa oil.

Table 4 Distribution of frequency differences observed values risk of pressure sores in patients with reduced consciousness between the treatment group and the control group in the ICU Syarifah Ambami Rato Ebu Hospital Bangkalan month of January 2016.

Group	Change			
	Down	Permane	Up	Tota
	$\Sigma$ (%)	nt $\Sigma$ (%)	$\Sigma$ (%)	1 $\Sigma$ (%) )
Treatme nt	1 (11,11 )	0 (0)	8 (88,89 )	9 (100 )
Control	8 (88,89 )	0 (0)	1 (11,11 )	9 (100 )

Data Source : Data Acquisition On The Ground

After analysis of data obtained that changes the value of the risk of respondents who have received therapy nigella sativa oil (treatment group) as being significant both because of the 9 respondents fraction decreased that is 1 respondent (11.11 %), respondents experiencing entirely and almost the increase is 8 respondents (88.89 %). While the value of the risk of pressure sores respondents who did not receive therapy nigella sativa oil (control group) classified as not good because of the 9 respondents almost entirely of respondents that are 8 respondents impaired observations risk of pressure sores (88.89 %) and a small percentage experience increase in the first respondents (11.11 %), it reinforces that therapy nigella sativa oil effective to raise the value of observation risk of pressure sores in patients with loss of consciousness.

## DISCUSSION

Based on the results that there are differences in observed values of risk of pressure sores in patients with impairment of consciousness between pre and post therapy nigella sativa oil. Of the nine respondents almost entirely observed values increased risk of pressure sores by 7 respondents and a small decline observed values pressure sores risk that as many as 2 respondents.

In the opinion of researchers from the research that has been done that people with loss

of consciousness observed values tend to decrease from day to day due to a decrease in sensory perception, moisture is getting worse, lack of mobility so that it can worsen the patient's condition and cause other complications one of them the risk of pressure sores. Therefore, researchers provide therapy nigella sativa oil as much as six times in a row within a period of 3 days. This provides good benefits to increase the value of the risk of pressure sores on patient observation loss of consciousness. That amount changes occurred in the treatment group because there is an increase in value is positive, especially on points of mobility, moisture.

In addition it provides therapy gradually nigella sativa oil daily for three consecutive days in the morning and the afternoon was able to help a patient to mobilize passively ie right oblique, left oblique, and most importantly it provides nigella sativa oil may keep the moisture patients.

This study is also in line with what was described by Leir in Wasinto (2012) states that the black cumin oil has the benefit of protecting the skin against pressure and friction, provide optimal hydration and prevents cell anoxia. Essential fatty acids are effective in increasing the hydration and elasticity of the skin and effectively help prevent decubitus ulcers.

Factors affecting the decrease in pressure sores including sensory perception, moisture, mobility, activity, nutrition, friction and shear, and age. The first is a decrease in sensory perception here researchers used the respondents decreased consciousness so indirectly patients who experienced loss of consciousness has certainly decreased perception. Patients who experience loss of consciousness usually experience sensory disorder that limits the ability to feel pain or discomfort in the extremities. This is in line with the theory put forward by Nursalam (2012) in which patients with decreased sensory perception will decrease the ability to feel the sensation of pain due to pressure on the bone protruding, and if this happens in a long duration the patient will be susceptible to pressure sores.

The second factor is the humidity, the results of research that has been done using nigella sativa oil to get the results that the pre intervention most patients experience skin is very moist and results of post intervention

nigella sativa oil was found that nearly all respondents sometimes clammy skin. This suggests that patients with loss of consciousness which continues to lie in the absence of activity can lead to the degree of skin becomes moist, the results of research that has been conducted by researchers showed that there was an increase in scores on the variable humidity this shows that the therapy nigella sativa oil well to improve the degree of moisture patients, because the skin is constantly damp can increase the risk of pressure sores.

The third and fourth factor is the mobility and activity, the results of research conducted by the researchers can conclude that patients experiencing loss of consciousness entirely bed rest sleep. Activities which plummeted almost inevitable physical activity can cause stress that may lead to the occurrence of pressure sores. This is consistent with the theory put forward by Maklebust in Wasisto (2014) the body tissues have different tolerance to pressure and ischemia, decubitus ulcers can occur for at least 2 days if the patient is experiencing a decrease in activity and can only fall asleep on the bed. Patients who have experienced significant decline in activity and can only lay in bed if not done mobilization will certainly exacerbate the risk of pressure sores.

This is according to research Sabandar (2008, in Suheri 2010) marks decubitus ulcers will appear within a period of 6 hours in a patient immobilization during the entire treatment. Factors that five is nutrition, the results of research conducted by the researchers found that the results of pre intervention nigella sativa oil for almost half of the respondents pattern of nutritional intake is inadequate, after being given nigella sativa oil intervention result most respondents increased to more adequately. According to the researchers improved nutrition that occurs in the respondents are also very important because if the good nutrition it can indirectly provide nutrients to the skin, giving nigella sativa oil also has the objective to provide nutrients from the outside, namely by applying black cumin oil contains vitamin, anti-histamine, anti-inflammatory and also good to suppress the risk of pressure sores.

Factors that six is friction and shift, from the pre and post intervention nigella sativa oil majority of respondents experienced problems. According to researchers of patients who experienced a loss of consciousness

automatically require help full to move, patients who experience loss of consciousness often slumped down on the bed, where the patient is not often given rom passive and mobilization will occur skin friction with bed sheets apabil the patient slumped, with interventions given to patients, the researchers also provide meringkan rompasif with right and left. This is consistent with that put forward by Nursalam (2012) is a friction force as factors that lead to injury, this usually occurs when the patient is in bed and often degenerate.

Factors that affect the risk of pressure sores which in turn is age. Age in the intervention group mostly aged 20-60 years. According to investigators the older the age, the more susceptible to pressure sores . According Nursalam (2012) Aging is easy to occur Pressure sores. Criteria of respondents at least age early adulthood aims to optimize the provision of interventions to be administered, as proposed by Alvello and Braden (2007) Widodo in Wistanto revealed that the risk of pressure sores begins when someone has entered early adulthood and are increasingly at risk of the occurrence of pressure sores on age above 80 years.

From the observation of pre-treatment at early adulthood found that the average value of 10.4 it means that in early adulthood have a very high risk for the occurrence pressure sores. After therapy given nigella sativa oil (post treatment ).

Based on the results that there are differences in observed values of risk of pressure sores in patients with impairment of consciousness between pre and post are not given nigella sativa oil. Of the nine respondents almost completely impaired the risk of pressure sores.

In the opinion of researchers from the research that has been done that the risk of pressure sores on respondents tended to decrease it's all because of the decrease in sensory perception, moisture can not be controlled, activity, mobility is almost completely done, the nutrients consumed by the patient and also the consumption of external inadequate, friction and shift and also the age of the respondents who had entered early adulthood.

The first factor is the decrease in sensory perception, in this study the respondents put the patient loss of consciousness. If the patient is already

experiencing penuruanan consciousness then automatically will also experience penureunan sensory perception, respondents who experienced a decrease in sensory perception would be easier struck pressure sores. The second factor is the humidity, the patient's loss of consciousness is not given therapy nigella sativa oil are subjected to constant moisture. It can be caused by skin moist almost constantly sweat, urine, and others.

The next factor that is activity and mobilization. From the research that has been conducted by researchers found the majority of respondents experienced a decline in scores on the variables of activity and mobility. The patient's loss of consciousness tend to be unable to perform its activities can only be lying in bed, in the respondents control group patients tend not often given the mobilization of the patient is only able to make a little change in position of the extremities but not often or meaningful independently, this is what causes the risk of decubitus tends to increase.

This is in line with the one described by Nursalam (2012) mobility is the ability to change and control the position of the body, while activity is the ability to move. Patients who lie constantly in bed without being able to change the position of high risk of developing pressure sores.

The next factor that is nutrition. From the results of research conducted by the researchers found that a majority of patients experienced a decrease of nutrients it may be affected because patients are less able to digest nutrients provided resulting in retention, when nutrition is inadequate, it can cause pressure sores.

The next factor that is friction and shift. From the research that has been conducted by the researchers found that nearly all respondents decreased scores and need the help of moderate to maximal when moving, lifting fully without rubbing on the sheets is impossible, the body often slid off the bed, spasticity, contractures caused constant friction, this can lead to pressure sores occur. In accordance with Nursalam (2012) is a friction force as factors that lead to injury, this usually occurs when the patient is in bed and often degenerate.

All of these factors can increase the risk of pressure sores. So that in the control group who did not receive the intervention nigella sativa oil have little possibility to

increase the value of the risk of pressure sores. Of the factors that have been outlined by Nursalam (2012) all of which can be measured by the Braden scale and the results of the control group pre average value of respondents was 10.33% and the value of post control group was 7.44%, this shows that in the control group occurred impairment observations risk of pressure sores.

In addition to these factors there is still the age factor that can increase the risk of pressure sores in patients with loss of consciousness. Where most aged over 60 years. According to researchers increasingly older age it will create greater risk of developing pressure sores because the older a person will decrease skin elasticity, regeneration of new skin cells. Measurement values observed in the control group showed that there was no increase in value even tends to a decline in scores. It can be caused due to the withholding of therapy black cumin oil (nigella sativa oil) which can affect the skin moisture, nutrients to the skin. The control group did not receive specific information about the risk of pressure sores that do not know the patient's family should take precautions.

Based on the research that has been conducted by researchers no therapeutic effect of nigella sativa oil against the risk of pressure sores in patients with loss of consciousness in the ICU Syarifah Ambami Rato Ebu Hospital, Bangkalan. The results of the analysis of statistical tests independent t-test showed that significant  $0,000 p$  is smaller than the degree of culpability ( $0,000 < 0,05$ ).

The results showed that the respondents that given nigella sativa oil can improve scores observed in the treatment group. This is caused by the nature of nigella sativa oil can provide nutrients to the skin, keeping the skin moist, it is similar to the one described by Ariestya (2009) contains nigella sativa oil consists of four components of the active substance which contains Thymohydroquinone (THQ), Thymoquinone (TQ), ditymouinone (DTQ), thymol (TH). The fourth active substance which contains an assortment ie amino acids, proteins, carbohydrates, saponins and many other content. In addition to the chemical content and the general content of the fatty acid composition of nigella sativa oil also contains vitamins (A, B, B2, C), mineral salts, calcium, potassium, iron, zinc, magnesium, selenium, omega 3, omega 6. Besides nigella

sativa oil is also known for sure to have anti-histamine, anti-inflammatory, (anti-inflammatory), anti-oxidants, and are adding a good immune system (Zulkifli, 2013).

In the study therapy nigella sativa oil 2 times a day within a period of 3 days in a row and made the observation before being given nigella sativa oil is on the first day of the meeting and after given nigella sativa oil in meetings to five, this is done to provide therapy optimally and really useful for respondents. Additionally when the researchers gave the intervention of nigella sativa oil researchers also provide information to the patient's family to give stimulus like to invite to speak, chanting for patients who experience loss of consciousness can still hear when to communicate but cannot afford to respond to the stimulus. When the family got the information that should indeed they know that indirectly have a positive impact for patients. Researchers also provides pasive ROM automatically to the respondent at the time of therapy in responders. All things done by researchers of the respondents expected to have a positive impact. According to the theory Suheri in Wasinto (2014) skin care that is not planned and consistent can result in impaired skin integrity, the integrity of skin disorders may be caused by the pressure of time, skin irritation, immobilization, and affect the onset of decubitus sores. So if we plan a good skin care and consistent with the risk of pressure sores can be prevented.

There are differences in the risk of pressure sores in patients before and after the loss of consciousness is given black nigella sativa oil in the ICU Syarifah Ambami Rato Ebu Hospital, Bangkalan. There are differences in the risk of pressure sores in patients before and after the loss of consciousness without given nigella sativa oil in the ICU Syarifah Ambami Rato Ebu Hospital Bangkalan. No effect of nigella sativa oil on the risk of pressure sores in patients with loss of consciousness in the ICU Syarifah Ambami Rato Ebu Hospital Bangkalan. For hospital services to be able to provide nigella sativa oil in patients with decreased awareness to reduce the risk of pressure sores.

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