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THE INFLUENCE OF BED TRANSFER TOWARD DECUBITUS PREVALENCE OF PATIENTS AT ARAFAH ISLAMIC HOSPITAL REMBANG

Noor Faidah[1], Siti Hajriani[2], Heriyanti Widyaningsih[3], Devi Setya Putri[4]
[1-4] ITEKES Cendekia Utama Kudus
Jl. Lingkar Raya Pati-Kudus. 5 Desa Jepang, Mejobo, Kudus 59381
Corresponding Author: mamiinung96@gmail.com

Abstract

Background: the decubitus prevalence reaches a percentage of 28.4%. The Basic Health Research Data in Central Java in 2018 found that decubitus prevalence reached a percentage of 40.16%. The decubitus prevalence in Rembang, in the recent three years, reached a percentage of 29.3%. The Arafah Islamic Hospital, Rembang, had 198 bed rest-inpatient patients in 2021 for the last three months. Some patients suffered from decubitus. This research determines the influence of bed transfer on the decubitus prevalence of patients at the Islamic Hospital Arafah Rembang. Method: This quasi-experimental design research used the post-test-only control group design with non-randomization. The applied samples were 40 respondents, grouped into two with a randomization technique. Results: The research results were based on the observation sheet about the influence of bed rest on the decubitus prevalence of bed rest patients. The results showed 40 respondents from two groups: 20 respondents in the control group and 20 respondents in the intervention group. The control group had first-level decubitus on 8 respondents, 40%; second-level decubitus on 5 respondents, 25%; and 7 respondents without decubitus, 35%. For the intervention group, no respondents suffered from decubitus, 20 respondents (100%). Conclusion: the result shows the influence of bed transfer on decubitus prevalence at Islamic Hospital Arafah Rembang.
Keywords: Bed transfer, Bed rest, Decubitus

INTRODUCTION

Decubitus refers to a situation of damaged local tissues or scars due to excessive pressure. This problem mostly occurs in patients suffering from chronic diseases and lying on the bed for a long period (Sari, 2018).

The skin integrity damage comes from traumatic scars or surgeries. However, the pressure against the skin for prolonged periods irritates the skin and damages the nerves. These problems may be observable in stroke, injury trauma, diabetes, and comma with the most specific location on the backbone or back (Sari, 2018). Therefore, patients must receive some changes to improve their activity, perception, and daily routine by having bed transfers for two or four hours. This effort could provide the feeling of convenience for the patients, keep the body posture, and avoid further complications due to prolonged bed rest such as decubitus.

Bed transfer could prevent decubitus on the protruded backbone area to relieve the pressure due to the patient's weight in a certain lying position. This nature could make the skin scuffed so that bed transfer could relieve the pressure and the friction against the skin (Perry & Potter, 2014).

Decubitus could occur in individuals with lower consciousness. Decubitus incident also increases the length of care and cost of hospital care (Potter & Perry, 2014). The dependency level of the patient's mobility directly influences the risk of injury (Ignatavicius & Linda, 2015). For the inpatient patients in the inpatient care unit, have different dependency levels. Orem's theory, cited by Taylor &

Renpenning (2016), classifies the dependency levels of the patients into three: minimum care/self-care, partial care, and total care. The initial review of the skin integrity is important to do by nurses because accurate care and prevention during the inpatient and discharging period could lower the risk of decubitus prevalence (Bansal & Cheryl, 2017).

Bed rest is crucial for risky patients. Bad transfer management is important for care by tilting the body regularly and keeping the skin clean. Decubitus occurs due to the pressure against skins that leave spots on the skin, such as the whitened spots. Prolonged pressures against the skins may provide disadvantages for the blood flow. The prolonged pressures could lead to new problems in blood circulation in terms of nutrition and acid compound distribution to the pressured skin. Any tissues with inadequate nutrition and acid compounds will die and leave scars of decubitus (Gisbreng, 2015).

The prevalence of decubitus in Europe is between 8.3% and 22.9% based on the Survey European Advisory Panel ((EPUAP, cited by Young, 2018). In Korea, decubitus has become a serious problem in the Intensive Care Unit, ICU. The decubitus prevalence increases from 10.5% to 45% (Jun et al, Kim et al, 2017). In the Netherlands, a percentage of 1% health budget of the Netherlands Government was only to manage decubitus (Elliot et al, 2018). All hospitalized patients may suffer from a high prevalence level of decubitus, especially in the Intensive Care Unit with percentages between 14% - 42%. The prevalence of decubitus in ICU, observed in some countries across continents, reached a percentage of 49% in Western Europe, 22% in the United States of America, 50% in Australia, and 29% in Jordan.

Gosnell and Vanatten (2017) found one million people suffered from decubitus in the United States of America. However, the definitive information and the explanation about the exposed lesions are still limited. The incidence of inpatient patients reached the percentages between 27% and 29%; and 69%. Patients with orthopedic care or bone fracture care could reach the decubitus prevalence percentage of 66%. The hospitalized patients may also suffer from decubitus with the percentages of 3-10% and 2.7% with newly formed decubitus.

In Indonesia, based on Basic Health Research (2018), decubitus prevalence reached a percentage of 28.4%. The decubitus prevalence in Indonesia is higher than those other countries. Therefore, decubitus incidence requires specific management. The ratio of decubitus based on the health service management shows that the decubitus percentage of nursing home care reaches the percentages of 2.4%-23% while hospital care has the percentage of 2.7%-28.4%. The results also show that the lowest prevalences are in the Capital City of Jakarta (percentage mean of 1.03%) and Makassar (15.8%).

The Basic Health Research Data in Central Java in 2018 found that decubitus prevalence reached a percentage of 40.16%. The decubitus prevalence in Rembang, in the recent three years, reached a percentage of 29.3%. Mareta Fitri Andani et al (2016) found the effectiveness of bed transfer with a back massage to relieve the decubitus risk of bed rest patients at the Regional Public Hospital of Ambarawa. The researcher also found that the decubitus risk level of bed rest patients before the intervention was about 36.7%. For the intervention group, the bed transfer

group, the patients without decubitus problems reached a percentage of 43.3%. Therefore, the result shows the effectiveness of bed transfer in relieving the decubitus risk of bed rest patients at the hospital. Umi Faridah, Sukarmin, and Sri Murtini (2018) also found the implementation of tilting position toward the decubitus risk of stroke patients at the Regional Public Hospital RAA Soewondo, Pati. The control group had a decubitus level of 1 with a percentage of 35.3%; a decubitus level of 2 with a percentage of 58.8%; and a decubitus level of 3 with a percentage of 5.9%.

Based on the patient data at Arafah Islamic Hospital, Rembang, from 2019-2021, 18.806 patients were taken care of at the hospital. Of those data, the highest patient total was observable in 2020, 6.375 patients. These patients were inpatients at the hospital. The bed rest patients consisted of 800 patients while the patients suffering from decubitus consisted of 28 patients. In 2019, the inpatient patients reached 6.169 patients at Arafah Islamic Hospital, Rembang. Of those patients, 679 patients received bed rest while 25 patients suffered from decubitus. In 2021, the inpatient patients at the hospital reached 6.292 patients. 792 patients received bed rest care while 28 patients suffered from decubitus. In August 2021, 463 patients were hospitalized at Arafah Islamic Hospital, Rembang. 60 patients received bed rest care. 3 patients suffered from decubitus. In September 2021, 592 patients were hospitalized at Arafah Islamic Hospital, Rembang. 70 patients received bed rest care. 4 patients suffered from decubitus. In October 2021, 589 patients were hospitalized. 68 patients received bed rest care. 2 patients suffered from decubitus. In November 2021, 420 patients were hospitalized. 66 patients received bed rest care. 2 patients suffered from decubitus. In December 2021, 420 patients were hospitalized. 66 patients received bed rest care. 2 patients suffered from decubitus.

The preliminary study found, based on the interview, that 5-bed rest patients received bed transfer once a day by a shift nurse. The nurse taught and asked the family to promote the bed transfer for the patient. Then, the nurse educated the family members to provide the bed transfer and taught them to promote it independently once every two hours. In this mechanism, the family members had to provide a sweat-absorbing pad, apply lotion, and apply powder. The result showed that of 5 patients, three patients did not suffer from decubitus. The other patients also had different decubitus situations from one to the other. The interview result shows that the patients only suffered mild to moderate decubitus. The families found that the butts and the backs of the patients were reddish and feeling heat. The patients also explained that the butts and the backs felt wet, scuffed, and stung. The patients and the families were afraid of the situation and frequently asked the nurses about the situation. These phenomena are the indications of mild to moderate decubitus.

The observation results found different results such as reddish and feeling heat on the butts, wet butts and backs, and scuffed parts on the backs and butts that got pressured. Patients with scuffed injuries on the skin, after receiving the prolonged bed rest, originally had normal skin on the butts and backs. Some patients did not suffer from the reddish and scuffed skins on the butts and backs. The monthly bed rest patients at Arafah Islamic Hospital, Rembang, reached 66 patients.

3 patients suffered from decubitus so the patients had to determine the influence of bed transfer on the decubitus prevalence at Arafah Islamic Hospital, Rembang.

RESEARCH METHOD

This quasi-experimental research design applied the post-test-only control group design with non-randomization. The researchers used an observation sheet to determine the influence of bed transfer on the decubitus prevalence of the patients at Arafah Islamic Hospital, Rembang. In this research, the samples were the bed rest patients at Arafah Islamic Hospital, Rembang. The researchers determined the samples with the theory of Nursalam (2018). The samples were 40 respondents grouped into two groups with randomization technique. This research lasted from April to May 2022.

RESULTS AND DISCUSSION

A. The Respondent Characteristics

1. The Ages of the Respondents

Table 4.1 shows the research results based on the ages of the bed rest patients.

Table 4.1
The Distribution of the Respondent Age at Arafah Islamic Hospital, Rembang

The Ages of Respondents	F	%
35-55	18	45
56-75	22	55
Total	**40**	**100**

Table 4.1 shows 40 respondents are mostly aged between 56-75 years old, with 22 respondents (55%). The 18 respondents are aged between 35 and 55 years old, 45%.

2. The Sex Types of the Respondents

Table 4.2 shows the sex types of the bed rest respondents.

Table 4.2
The Sex Type Distributions of the Bed Rest Respondents at Arafah Islamic Hospital

The Sex Types of the Respondents	F	%
Males	23	57,5
Females	17	42,5
Total	**40**	**100**

Table 4.2 shows 40 respondents with most respondents being males, 23 respondents (57.5%); 17 respondents are females, 42.5%.

3. The Occupations of the Respondents

Table 4.3 shows the occupations of the respondents.

Table 4.3
The Occupation Distributions of the Bed Rest Respondents at Arafah Islamic Hospital Rembang

Occupations	F	%
Farm workers	7	17,5
Housewives	13	32,5
Entrepreneurs	6	15
Civil servants	7	17,5
Others	7	17,5
Total	**20**	**100**

Table 3 shows most respondents are housewives, 13 respondents (32.5%), 7 farm workers (17.5%), 6 entrepreneurs (15%), 7 civil servants (17.5%), and 7 respondents with other jobs (17.5%).

4. The Education of the Respondents

Table 4.4 shows the education of the respondents.

Table 4.4
The Educational Distributions of the Bed Rest Patients at Arafah Islamic Hospital

The Education of the Respondents	F	%
Having no school background	15	37,5
PS	4	10
JHS	2	5
SHS	11	27,5
University	8	20
Total	**20**	**100**

Table 4.4 shows 40 respondents with 15 respondents having no educational background, 37.5%; 4 respondents graduated from PS, 10%; 2 respondents graduated from JHS, 5%; 11 respondents graduated from SHS, 27.5%; and 8 respondents graduated from university, 20%.

B. The Univariate Analysis

1. The Intervention Group

Table 4.6
The Frequency Distributions of the Decubitus Prevalence on Intervention Group - the Bed Rest Patients with Bed Transfer at Arafah Islamic Hospital Rembang

The Decubitus Indications	F	%
No decubitus	20	100
First level	0	0
Second level	0	0
Total	**20**	**100**

Table 4.6 shows 20 respondents of the intervention group receiving the bed transfer for 5 days. The intervention group respondents did not suffer from decubitus, 20 respondents (100%).

2. Control Group

Table 4.5
The Frequency Distribution of the Decubitus Prevalence on the Control Group

The Decubitus Indications	F	%
No decubitus	7	35
First level	8	40
Second level	5	25
Total	**20**	**100**

Table 4.5 shows 20 respondents of the control group with bed rest intervention for 5 days suffer from the first level decubitus on 8 respondents (40%); 5 respondents suffer from the second level decubitus (25%); and 7 respondents do not suffer from decubitus (25%).

C. **The Bivariate Analysis**

This bivariate analysis determines the correlation between two variables: the independent and dependent variables. The analysis determined the influence of two variables: the bed transfer and the decubitus prevalence of patients at Arafah Islamic Hospital, Rembang. The applied test is the Whitney statistic test.

Table 4.6
The Influence of Bed Transfer toward the Decubitus Prevalence of Bed Rest Patients at Arafah Islamic Hospital, Rembang

The Bed Transfer Administration	The Decubitus Indications						P value
	No decubitus	%	First level	%	Second level	%	
Control Group	7	17,5	8	20	5	12,5	0,000
The Intervention Group	20	50	0	0	0	0	
Total	**27**	**67,5**	**8**	**20**	**5**	**12,5**	

Table 4.6 shows the decubitus prevalence after the administration of bed rest for 5 days. The results show all respondents in the intervention group have no decubitus, 20 respondents (100%) From the control group, 8 respondents suffer from first-level decubitus (45%), 5 respondents with second-level decubitus (25%), and 7 patients without decubitus prevalence (35%).

The Mann-Whitney statistic test found the mean of decubitus prevalence after the administration of bed transfer in the intervention group and those from the control group. The obtained Z-count is (-4.333) and a p-value of 0.000, lower than $\alpha = 0.05$ ($p < \alpha$). Thus, the result denies Ho and accepts Ha. Therefore, the implementation of bed transfer influences the decubitus level of the patients at Arafah Islamic Hospital, Rembang.

Discussion

This part provides the discussion results based on the observation about bed transfer toward the decubitus prevalence of the bed rest patients in April 2022 at Arafah Islamic Hospital, Rembang. The researchers involved 40 respondents, grouped into two teams: the intervention and control groups. The influential respondent characteristics toward decubitus include age, sex types, occupation, and education.

1. The Decubitus Prevalence of Bed Rest Patients at Arafah Islamic Hospital, Rembang, based on the Control Group

After the independent bed rest care once every two hours, lasting 5 days, by the patient families, and the education for the patients and their families, the researchers observed the process with an observation sheet. Of 20 respondents, 8 respondents suffered from first-level decubitus (40%); 5 respondents suffered from second-level decubitus. These happened due to the influence of age, sex types, education, and occupations.

In the analysis of the observation sheet, the respondents suffering from decubitus were mostly aged between 56 and 75 years old. Most respondents were males without having educational background and working as farm workers. The results from the patients' families also indicated the influence on the decubitus prevalence. The companions of the respondents were mostly old so they could not maximally promote the bad transfer. The same matter goes for humidity control, diaper change, powder application, and lotion application. The companions of the respondents did not do these actions.

Therefore, elderly age, lack of education, and workload influenced the decubitus prevalence. Notoatmojo (2018) also explains the influence of age on decubitus prevalence for prolonged bed rest patients. The author explains that old patients have a lower immunity system.

In this research, the evidence is - a lack of knowledge of the patients about prolonged bed resting and the decubitus problem. The prevalence of decubitus goes linearly with the frequency of bed rest care. Therefore, the correlation between patients' knowledge about prolonged bed resting and decubitus prevalence must receive some improvement to prevent prolonged bed resting for the patients (Faswita, Wirda 2017).

This research found 7 respondents without suffering from decubitus, 35%. In this case, age, occupation, education, and family influenced the prevalence.

The analysis results of the observation sheet found no decubitus incident in the control group. Most respondents were aged between 35 and 55 years old, categorized as young with excellent immune systems. Most respondents were graduated from SHS or University levels. From the findings, education could guide human to act in their lives and to behave based on their education. Individuals with high education can process information excellently and have excellent cognition (Hidayat, 2017).

Most respondents in this category worked as private employees. The families of the respondents, the companions, enthusiastically provided the bed transfer after being taught by the nurses. The families also frequently asked questions and helped the nurses to promote bed transfer. The families also frequently applied powder on the backs of the respondents and changed the diapers regularly to prevent decubitus.

Hikmah (2018) also found the influence of bed transfer on decubitus prevalence of bed rest patients. In the research, 5 of 13 respondents, in the control group, suffered from decubitus (38.5%); 8 respondents did not suffer from decubitus (61.5%). From the case group, after providing the bed transfer, all patients did not suffer from decubitus, 12 respondents (100%).

Aini and Heni (2018) also found 8 respondents, from the control group, suffered from the first level of decubitus (53.3%). On the other hand, the intervention group did not suffer from decubitus.

Padmiasih (2020) also found the influence of progressive mobilization toward decubitus prevalence in patients with mechanical ventilation. The research showed that the implementation of progressive mobilization led to only 4 respondents suffering from the first-level decubitus, 66.7%. After the implementation of the progressive mobilization, most respondents did not suffer from decubitus, 6 respondents (100%).

The prevention of decubitus becomes the first priority in providing excellent patient care and is not limited to those with limited mobilization. The prevention of decubitus, based on the literature review, indicates the applicable prevention for pressured injuries. Although the caution of the care could not fully prevent decubitus prevalence, however, the prevention could manage the worsening situation and risk.

In this case, intensive care is important to relieve the risky factors by promoting preventive actions and pressure injury management. During the process, the patients must receive excellent nutrition, especially the calories and protein. The dietary recommendations for patients suffering decubitus are energy/calorie intake of 30-35 cal/Kg of Weight/day, 1-1.5 grams of protein/Kg of weight/day; and 30 ml liquid/kg of Weight/day. The efforts to keep the humidity of the skin include the administration of lotion and cream. Daily inspection of the patient's skin is important for controlling the urine feces, saliva, liquid, and scars. A review of the skin integrity damage signs is also important (Carville, 2016).

The implementation of bed transfer must adhere to the Standard of Operational Procedure (SOP) and is promoted once every 2 - 4 hours a day for 4 - 5 days. The education about health for the patients' families is

important and must be comprehensive so that the families can actively act in providing care and prevention for the patients' decubitus (Handayani, 2016).

Patients with prolonged bed rest could suffer from pressures and friction against the skin and the pad. In this situation, the forces and humidity could cause decubitus that requires days or months to cure with bed transfer. This process may involve tilting the patients to relieve the force and pressure; and to prevent nervous damages. This implementation could also keep the muscular tones and reflect (Setiyawan, 2016).

2. The Decubitus Prevalence of Bed Rest Patients at Arafah Islamic Hospital Rembang - the Intervention Group

The observation results on 20-bed rest respondents of the intervention group, after the bed transfer once every two hours lasting 5 days, the results showed after 24 hours the respondents did not suffer from decubitus, 20 respondents (100%).

Aini and Heni (2018) also found that patients with bed transfers did not suffer from decubitus. On the other hand, in the control group, 8 patients suffered from first-level decubitus, 53.3%.

Handayani (2016) also found 75.3% of respondents did not suffer from decubitus after the bed transfer for 2-4 hours a day, lasting 4-5 days. The results showed the influence of bed transfer on the decubitus prevalence of inpatient patients at the hospital.

Sari (2018) also explains that patients with bed transfers from a supine situation to left and right every two hours could prevent damaged nervous and blood vessels. This effort could also keep the muscular tones and reflections. Hutahaean and Hasibuan (2020) also explain that decreased muscular power could occur due to a lack of physical motion and activity.

3. The Influence of Bed Rest toward the Decubitus Prevalence of the Patients at Arafah Islamic Hospital, Rembang

The results of 40 respondents, grouped into 2 groups - the control and intervention groups, conclude the influence of bed transfer on the decubitus prevalence of patients at Arafah Islamic Hospital, Rembang. The obtained Z-count is (-4.333) and a p-value of 0.000, lower than $\alpha = 0.05$ ($p < \alpha$). Thus, the result denies Ho and accepts Ha. Therefore, the implementation of bed transfer influences the decubitus level of the patients at Arafah Islamic Hospital, Rembang. The results show that 27 respondents do not suffer from decubitus while the other 13 respondents suffer from decubitus.

Aini et al. (2018) also found the influence of bed transfer on the decubitus prevalence with a p-value of 0.001, lower than α (0.05). Adie et al. (2021) also found that bed transfer influenced decubitus prevalence with a p-value of 0.001. The value is lower than $\alpha = 0.05$.

Hikmah (2018) also found the influence of bed transfer on the decubitus prevalence of bed rest patients at Sentra Media Hospital in

Cirebon with a p-value of 0.018, lower than α = 0.05. The results conclude the significant influence of bed transfer on the decubitus of patients at the hospital.

Perry & Potter (2014) cited by Aini (2018) explain that bed transfer is a position management to lower the pressure and friction against skin. Sari (2018) cited by Adie et al. (2021) explains that the supine position of patients with a bit of movement to left and right for once every two hours could prevent nervous and blood vessel damage. These position changes are useful to keep the muscular tones and reflect.

Darliana (2014) explains the implementation of a tilting position for stroke patients could keep the body alignment and balance, lower complications due to immobilization, and improve convenience. This position is useful to lower the pressure on the body due to the same positions that cause pressure and injury.

Based on the results, the conclusion is - bed transfer influences decubitus prevalence so that nurses must provide this bed transfer based on the Standard of Operational Procedure, SOP.

CONCLUSION AND SUGGESTIONS

Conclusion

Based on the results and discussion about the influence of bed transfer on the decubitus prevalence of the patients at Arafah Islamic Hospital, Rembang, the researchers conclude that:

1. The decubitus prevalence of the control group with bed rest is mostly dominated by respondents with first-level decubitus. This matter was observable in 8 respondents, 40%. 5 respondents suffered from second-level decubitus, 25%. 7 respondents did not suffer from decubitus, 35%.
2. The decubitus prevalence of the intervention group after receiving the bed transfer showed no patients suffering from decubitus, 20 respondents (100%).
3. The statistic test found the Z-count of (-4.333) with a p-value of 0.000 lower than α = 0.05.

Suggestion

1. For nurses,
   The implementation of bed transfer for bed rest patients could relieve decubitus. This implementation requires the patient family involvement.
2. For future researchers,
   The researchers could promote any other associated topics with the current topic of bed transfer toward the decubitus prevalence of patients in certain cases.
3. For the campus, ITEKES,
   the results could be excellent references for the students.

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