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The effect of educational animation illustrations on the self-efficacy of post-ORIF (Open Reduction and Internal Fixation) lower extremity patients

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ABSTRACT

Background: *Low self-efficacy is currently one of the health problems in post-operative patients. Patients who have undergone surgery can experience decreased self-efficacy due to post-operative complications. Efforts to overcome low self-efficacy can be done through a cognitive behavioral approach by providing education, one of which is through animated illustration educational videos.*
Objectives: *This study aims to determine the effect of animated illustration education on low patient self-efficacy in performing early mobilization after lower extremity ORIF.*
Methods: *This study used a "pre-experimental" method with a One Group pre-test post-test design approach. Respondents were selected using a purposive sampling technique, based on the inclusion criteria that had been set, totaling 34 respondents. Respondents were given animated illustration education intervention, then an assessment was conducted whether there was an effect of animated illustration education on respondents' self-efficacy. The research instrument was a self-efficacy measurement questionnaire based on 3 aspects, namely level assessment, generality, and strength. Data analysis test using paired sample t-test (α = 0.001).*
Results *: The results of the study showed that the patient's self-efficacy score before being given preoperative animated illustration education was relatively low, namely 35.29. After being given education, the average score increased to moderate, namely 43.85. There was an increase in the self-efficacy score of 8.56. The results of the paired sample t-test obtained a p value of 0.001 <α (0.05). This means that there is an effect of providing animated illustration education to lower extremity post-ORIF patients on patient self-efficacy in carrying out early mobilization.*
Conclusions: *Education based on animated illustration videos can improve patient understanding of post-operative procedures and in turn increase patient self-efficacy or confidence in performing movements, including early mobilization, which will ultimately accelerate the healing process of the disease*.

KEYWORD : *education; self-efficacy; early mobilization; post ORIF*

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INTRODUCTION

Low self-efficacy is currently one of the health problems in post-operative patients. Patients who have undergone surgery can experience decreased self-efficacy due to the emergence of post-operative complications such as pain, swelling, and limited range of motion, so that there is concern in patients to do physical activities. Feelings of fear or uncertainty in an individual are common symptoms of low self-efficacy.

In a study conducted by Mahartha et al., (1) on 36 respondents who experienced lower extremity fractures and underwent ORIF (Open Reduction and Internal Fixation), it was found that 65% of participants had a low level of self-efficacy in carrying out early post-operative mobilization. In addition, a study by Lestari et., (2) found that 70% of fracture patients at the Royal Prima Medan Hospital experienced a low level of self-efficacy in carrying out post-operative mobilization. From the results of observations and interviews conducted by researchers with 50 patients who had undergone ORIF surgery in the melati and orchid rooms of the Bangil Pasuruan Regional Hospital, 37 patients showed signs of hesitation such as anxious facial expressions, careful body movements and rapid cessation of activities which reflected a low level of comfort and lack of self-confidence. In addition, patients also expressed feelings of fear of the possibility of damaging the results of the operation, some also felt unable to cope with pain or discomfort during early mobilization caused by the patient's lack of self-confidence.

Psychological factors play an important role in the process of mobilization and pain control because they are related to cognitive function. One important aspect of cognition is the level of self-efficacy or an individual's belief in their ability to complete a particular task. This level of self-confidence can affect a person's ability to overcome challenges related to mobilization and pain management (3). Efforts to overcome low self-efficacy can be done through various types of psychotherapy, such as humanistic therapy, psychoanalytic therapy, and cognitive behavioral therapy (4). One of the effective cognitive behavioral approaches to overcome low self-efficacy is through education. Education here is interpreted as an effort to provide information with the hope of increasing patient self-efficacy. The goal is to change the patient's positive behavior in order to accelerate the healing process of their disease. By increasing self-efficacy, it is hoped that patients can be more active in doing positive exercises for early post-operative mobilization, as found in the study by Putri et al. (5).

Previous research results showed that providing preoperative education to patients undergoing ORIF can increase their self-efficacy in performing early mobilization, as reported by Handayani et al. (6). According providing education is also considered as one of the effective strategies in increasing self-efficacy and patient exercise behavior in performing early postoperative mobilization.

A creative approach in providing education is to use animated illustration videos. This type of education involves visual and auditory presentation of a particular object or concept (2). Education based on animated illustration videos can increase patient understanding of postoperative procedures and in turn increase patient self-efficacy or confidence in performing movements including early mobilization. The purpose of this study was to analyze the effect of preoperative animated illustration education on patient self-efficacy in performing early mobilization after lower extremity ORIF (7).

MATERIALS AND METHODS

The method in this study used a pre-experiment with a research design in the form of One Group Pre-test Post-test Design to assess patient self-efficacy in carrying out early mobilization after undergoing ORIF surgery. A comparison of the level of self-efficacy before and after receiving pre-operative education through animated video illustrations was carried out. The study was conducted at Bangil Hospital. Pasuruan Regional Hospital, East Java for one month starting from March 13 to April 14, 2024. Respondents in the study numbered 34 respondents who were selected using purposive sampling techniques, based on predetermined inclusion criteria. The inclusion criteria were patients with lower extremity fractures who would undergo ORIF surgery with compos mentis and patients who were willing to become respondents by filling out the consent form. Data collection, data obtained from the results of respondents' self-efficacy assessments using self-efficacy measurement questionnaire sheets based on 3 aspects, namely level, generality, and strength. Furthermore, the data was compared with data before the intervention and after the intervention of providing education using animated illustration videos. Education was given when the patient will undergo surgery as scheduled and when the patient has moved from the recovery room to the treatment room, a data analysis test is carried out using a paired sample t-test (α = 0.001).

In the research this , researcher using measurement models self efficacy developed based on theory self efficacy from Bandura. This scale consists of of 18 items based on 3 aspects , namely level, generality, and strength. In evaluation , scale This use item assessment as favorable (supportive) or unfavourable (not support) (8). Every aspect has 6 grains questions , where 3 items are assessed as favourable and 3 items rated as unfavourable . With Thus , the instrument This designed For measure level self efficacy Respondent based on aspects certain that have been determined by theory Bandura's self-efficacy (9). Measurement level self efficacy each Respondent will archived on sheet observation . The collected data covers level belief self each Respondent before and after through the pre- operative education process using illustration videos animation (10).

In study this , there is two the type of data used , namely pre-test data which includes results measurement level belief self (self efficacy) before intervention , and post-test data covering results measurement level belief self after done intervention pre-operative education through video illustration media animation.

RESULTS AND DISCUSSION

RESULTS

The respondents in this study numbered 34 respondents who had met the inclusion requirements and had the following characteristics: age, gender, and education as distributed in the following table.

Based on **Table 1** characteristics Respondents based on age, the highest frequency is 26-35 years old with 11 respondents (32.4%). The most gender is male with 19 respondents (55.9%). Based on the last education taken, the most educated are high school with 14 respondents (41.2%).

Based on **Table 2** it is known that from 34 respondents, the average self-efficacy score before being given animated illustration

Table 1. Frequency distribution of respondents based on age, gender and education.

Characteristics	n	Percent (%)
Age		
17-25	8	23.5
26-35	11	32.4
36-45	10	29.4
46-55	3	8.8
56-65	2	5.9
Gender		
Man	19	55.9
Woman	15	44.1
Education		
Elementary school	9	26.5
State Junior High School 1	7	20.6
High School High School	14	41.2
Collage	4	11.8
Total	34	100

Table 2. The effect of animated illustration education on respondents' self-efficacy in carrying out early mobilization of lower extremities post-ORIF

	N	min	max	mean	St. Deviation	*P* value	t
Pre-test	34	26	46	35.29	4.496	0.001	-8.596
Post - test	34	31	60	43.85	7.063		

education was 35.29 and after being given animated illustration education, the average score was 43.85. The average results show an increase in self-efficacy scores of 8.56. The results of the normality test using the Shapiro Wilk test is normally distributed with (p = 0.429). Furthermore, a paired sample t-test was conducted with the result (p = 0.001) which means that there is an effect of providing preoperative animated illustration education on patient self-efficacy in carrying out early mobilization after lower extremity ORIF.

DISCUSSION

In this study, the majority of respondents' ages were in the age range of 26-35 years, namely 11 respondents (26.5%). Based on Bandura's theory about self-efficacy or self-confidence in the ability to complete certain tasks is influenced by the experience and developmental stage of the individual (12). Age 26-35 years, according to the age category set by Ministry of Health of the Republic of Indonesia, is included in the young adult group. At this stage, individuals usually have enough experience in personal and professional life and tend to be more adaptive to change and innovation, including technology-based education methods (14).

Based on **Table 1,** the gender of respondents shows that the majority of respondents in this study were male, namely 19 people (55.9%) and female as many as 15 people (44.1%). Although the majority of respondents in this study were male, it should be noted that each individual has their own context and experience that can affect the level of self-efficacy. In this study, the characteristics of respondents based on education level show that the majority of respondents had a final education at high school level, namely 14 people or around 41.2% of the total respondents. Based on Johnson's research, Education level plays an important role in determining a person's ability to access and understand information. However, basically not all individuals with high school education are able to have the same abilities, in general they have the ability to follow instructions and understand the material presented clearly and structured (4).

Based on **Table 2**, there is a difference in patient self-efficacy before and after being given animated illustration education. This difference can be seen through the results of the self-efficacy scores before and after being given animated illustration education. Based on the results of the difference test using the paired sample t-test, a p value of 0.001 was obtained. This p value shows a p value <α (0.05) which means that this study has an effect, so it can be concluded that H0 is rejected and Ha is accepted, namely that there is an effect of preoperative animated illustration education on patient self-efficacy in carrying out early mobilization after lower extremity ORIF.

In a study conducted by Nasution et al (2) showed that education using preoperative videos can improve self-efficacy and behavior

in patients with postoperative lower extremity fractures. Research by (15) found that visual education methods such as animation can help patients improve their self-efficacy in carrying out postoperative medical instructions. This is in accordance with findings in the literature that visual education methods can effectively improve self-efficacy compared to conventional methods(16).

The researcher concluded that this animated illustration education method can make it easier for patients to improve their self-efficacy. Increasing self-efficacy is important because it can help patients to be more motivated and consistent in carrying out early mobilization for optimal post-operative recovery (17). Animated illustration video education provides clear and easy-to-understand visualization of the procedure and benefits of early mobilization (12). This visualization helps patients to better understand what to do and why it is important, thereby reducing the anxiety experienced by patients (18). In Bandura there are theories about *self-efficacy* which state that a better understanding of the tasks or activities to be carried out can increase a person's self-confidence in their ability to carry out the task. In the context of this study, animated illustration education not only provides information but also builds patient confidence by showing that early mobilization is a process that can be overcome (7). Patients who obtain information through animation tend to feel more confident that they can carry out early mobilization successfully and increase their self-efficacy (19). Thus, animated illustration education has an influence on increasing patient self-efficacy through the delivery of clear information through visualization of realistic and easy-to-understand procedures (20). The animated illustration education method can be considered as part of the standard of preoperative care for patients who will undergo surgery, one of which is ORIF surgery on the lower extremities. This will not only increase patient self-efficacy but also has the potential to improve the overall recovery process(3).

CONCLUSION AND RECOMMENDATION

There is an effect of providing animated illustration education to patients after lower extremity ORIF on patient self-efficacy in performing early mobilization. The results of the paired sample t-test obtained a p value of 0.001 <α (0.05). Based on this conclusion, the researcher provides suggestions to consider and make this animated illustration education as a medium used to provide information education, especially in overcoming the low self-efficacy of patients in performing early mobilization after lower extremity ORIF surgery.

REFERENCES

1. Mahartha Gra, Maliawan S, Kawiyana Ks. Manajemen Fraktur Pada Trauma Muskuloskeletal. E-Jurnal Medika Udayana [Internet]. 2017;2(3):548–60. Available From: Https://Ojs.Unud.Ac.Id/

Index.Php/Eum/Article/Download/4939/3729

2. Lestari S, Nasution R, Sekar P, Putri A, Sitorus Jh, Kedokteran F, Et Al. Pengaruh Edukasi Preoperative Terhadap Self Efficacy Dan Perilaku Pasien Post Operative Fraktur Ekstremitas Bawah The Effect Of Preoperative Education On Self Efficacy And Behavior Of Post Operative Patients Of Lower Yang Berasal Dari Diri Seorang Manusia. Jurnal Ilmu Kesehatan dan Penelitian Jambura.2022;4(1):355–63. doi : https://doi.org/10.35971/jjhsr.v4i1.11719
3. Fibriansari RD, Astuti A, Mulyantoro A, Mustikawati A. Hubungan Efikasi Diri Dengan Activity Of Daily Living (Adl) Pada Pasien Post Operasi. Journal Binawan Student. 2020; doi : https://doi.org/10.54771/xd6ryh42
4. Widdah M El. Self-Efficacy Of Principal To Improving Education Quality In Era 4 . Jurnal Atlantis Press 0. 2021;566(Aes 2020):64–7. doi : https://doi.org/10.2991/assehr.k.210715.013
5. Putri R, Deli N, Keperawatan S, Kepe rawatan F, Riau U. Hubungan Stres Dengan Self Efficacy Mobilisasi Pada Pasien Pascabedah. Jurnal Kepe rawatan.2023;10(2):1–10. doi : https://doi.org/10.32583/keperawatan.v16i4.2089
6. Handayani N, Purnamasari V, Anestesi P, Android Bs. Edukasi Penatalaksanaan Non Farmakologi Komplikasi. Jurnal kesehatan Kusuma Husada. 2023;14(1): 82–90. doi : https://doi.org/10.34035/jk.v14i1.973
7. Aisah N A, Ropyanto CB. Hubungan antara Efikasi Diri dengan Mobilisasi Dini pada Pasien Paska Bedah Mayor. Journal of Holistic Nursing and Health Science. 2022;5(2):188–96.. doi : https://doi.org/10.14710/hnhs.5.2.2022.188-196
8. Marco Bc, Selamat F. Pengaruh Efikasi Diri Kewirausahaan, Dukungan Sosial, Dan Dukungan Edukasi Terhadap Intensi Kewirausahaan Sosial Pada Mahasiswa Perguruan Tinggi Di Jakarta. Jurnal Manajerial Dan Kewirausahaan. 2022; 4(2):289.
9. Saraswati, A & Ratnaningsih, I Z. Hubungan Antara Efikasi Diri Akademik Dengan Kematangan Karir Pada Siswa Kelas Xi Smk N 11 Semarang. Jurnal Empati. 2016;5(3):430–4.
10. Al Owaifeer Am, Alrefaie Sm, Alsawah Zm, Al Taisan Aa, Mousa A, Ahmad Si. The Effect Of A Short Animated Educa tional Video On Knowledge Among Glaucoma Patients. Clin Ophthalmol. 2018;12:805–10.
11. Erlina L. Studi Kualitatif : Sumber Self-Efficacy Mobilisasi Pasien Selama Perawatan Di Rumah Sakit. Jurnal Kesehatan 2019;10(April):134–40. doi : http://dx.doi.org/10.26630/jk.v10i1.1225
12. Erlina L, Hamzah A, Tarjuman. Pem berdayaan Perawat Melalui Penerapan Edukasi Preoperatif Menggunakan Modul Self-Efficacy Mobilisasi Dalam

Upaya Meningkatkan Keyakinan Mobilisasi Pasien Pre Operasi Di Rumah Sakit Al Ihsan Bandung. Jurnal Kesehatan. V10.N1. 2019. doi : https://doi.org/10.26630/ jk.v10i1.1225

13. Yasin Mz, Amijaya Rnf. Peningkatan Kemapuan Pengolahan Data Kuantitatif Menggunakan Aplikasi Stata. Jurnal Pengabdian Masyarakat Applied. 2023;2(1):57. doi : https://doi.org/10. 19184/jpma.v2i1.39468
14. Susiyanti Susiyanti, Ninsah Mandala Putri Sembiring. Hubungan Mobilisasi Dini Terhadap Penurunan Tinggi Fundus Uteri Ibu Nifas Di Bidan Praktek Mandiri (Bpm) Susiyanti Tahun 2022. Jurnal Sains Dan Kesehatan. 2023;6(2):51–9. doi : https://doi.org/10.57214/jusika. v6i2.233
15. Syokumawena. Implementasi Kepe rawatan Pasien Postoperasi Fraktur Ekstremitas Bawah Dengan Masalah Gangguan Mobilitas Fisik. Jurnal Keperawatan Merdeka 2:132–8. doi : https://doi.org/10.36086/jkm.v2i2. 1441
16. Nasution. Exploring Learners' Autonomy In Online Language-Learning In Stai Sufyan Tsauri Majenang. Jouurnal GEEJ. 2020;7(2). Doi : https://doi.org/ 10.46244/geej.v7i2.
17. Zagoto Sfl. fikasi diri dalam proses pembelajaran. Jurnal Review Pendi dikan dan Pengajaran.. 2019;2(2): 386–91. doi : https://doi.org/10.31004/ jrpp.v2i2.667
18. Moe-Byrne T, Evans E, Benhebil N, Knapp P. The Effectiveness Of Video Animations As Information Tools For Patients And The General Public: A Systematic Review. Front Digit Heal. 2022;4(October):1–14.
19. Sudrajat A. Self Efficacy Meningkatkan Perilaku Pasien Dalam Latihan Mobilisasi Post Operasi Orif Pada Ekstremitas Bawah. Jurnal Ilmu dan Teknologi Kesehatan. 2019;6(2). doi : https://doi.org/10.32668/jitek.v6i2.187
20. Marlina. Mobilisasi Pada Pasien Fraktur Melalui Pendekatan Konseptual Model Dorothea E . Orem Mobilisation Patient Fraktur With Concepts Models Dorothea E . Orem. :26–34.