Journal Of Nursing Practice
https://thejnp.org/
ISSN: 2614-3488 (print); 2614-3496 (online) Vol.8 No.2. January 2025. Page.372-382

Combination of Pillow Use 30° and Sleeping Position on the Left Side Prevention Gastroesophageal Reflux based on Theory of Comfort: Study in Post-Egd Gerd Patients

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ABSTRACT

Background: Patients with suspected gastroesophageal reflux disease (GERD) often experience recurrent gastroesophageal reflux, where stomach contents repeatedly rise into the esophagus, causing disturbing symptoms.

Purpose: Based on the results of the 2018 Riskesdas, the triggers for GERD were smoking prevalence in the population aged 10-18 years from 8.8% to 9.1% and the proportion of consumption of alcoholic drinks and types of alcoholic drinks in the population aged 10+ years from 3% to 3.3%. Comforting intervention is needed in nursing intervention by providing a combination of using a 30° pillow and left side sleeping position for GERD patients. According to Kolkaba, the level of comfort that can meet basic human needs is at the level of transcendence comfort.

Methods: The method used is true experimental with a pretest-posttest control group design approach. This design involved two groups, namely the intervention group using a combination of using a 30°pillow and sleeping on the left side and the control group.

Results: Data collection was carried out using questionnaires, direct observation and medical records.

Conclusion: Based on the test results using Mann Whitney, a p value of 0.000 was obtained, where the value was <0.05, which means there was a difference in the gastroesophageal reflux score between the treatment and control groups in the delta/change data, where based on the mean value, the gastroesophageal reflux score for the treatment group had a decrease in score. Greater than the control group when delta/change data.

Keywords: EGD, GERD, kolcaba theory, left tilt position, pillow 30°

Received November 10, 2024; Revised December 12, 2024; Accepted January 3, 2025
DOI: https://doi.org/10.30994/jnp.v8i2.550

ISSN: 2614-3488 (print); 2614-3496 (online) Vol.8 No.2. January 2025. Page.372-382

BACKGROUND

Patients with suspected gastroesophageal reflux disease (GERD) often experience recurrent gastroesophageal reflux, where stomach contents repeatedly rise into the esophagus, causing disturbing symptoms. Symptoms caused by gastroesophageal reflux disease include a burning sensation in the chest, a sour feeling in the mouth, epigastric pain, dysphagia and odynophagia. To diagnose GERD, it is necessary to carry out an EGD examination, while the EGD procedure also has side effects such as severe pain when swallowing, severe pain in the stomach, nausea accompanied by vomiting, stomach cramps and inability to pass gas, bleeding through the rectum and fever or chills which causes gastroesophageal reflux. become worse(Tarigan, 2019). This can be prevented byuse of pillows30°and sleeping position on the left side, but in reality it is a combination of using a pillow30°and the left side sleeping position has not been implemented.

A study states that the prevalence of GERD is 18.1–27.8% in North America, 8.8–25.9% in Europe, 2.5–7.8% in East Asia, 8.7–33.1% in the Middle East, 11.6% in Australia, and 23% in South America(Gong et al., 2019).In contrast according to a study in Indonesia, about 3% in Asia, increasing from 5.7% to 25.18% from 1997 to 2002, and another study showed a 27.4% prevalence of GERD among Indonesian doctors(Gosal et al., 2021).(Gosal et al., 2021) Another study from Syam AF et al also found the results of a survey at RSCM/FKUI-Jakarta, that of 1718 patients who underwent upper gastrointestinal endoscopy examination with indications of dyspepsia over 5 years (1997-2002) showed an increase in the prevalence of esophagitis, from 5.7 % in 1997 to 25.18% in 2002 (average 13.13% per year)(Gosal et al., 2021).

Based on the results of the 2018 Riskesdas, the triggers for GERD were smoking prevalence in the population aged 10-18 years from 8.8% to 9.1% and the proportion of consumption of alcoholic drinks and types of alcoholic drinks in the population aged 10+ years from 3% to 3.3%(Indonesian Ministry of Health, 2018).(Kemenkes RI, 2018) At Dr. Hospital. R. Sosodoro Djatikoesoemo Bojonegoro in 2022 carried out endoscopic examinations for 321 patients, and the incidence of GERD was 82 patients in one year or around 25.5%, and in January 2023 the incidence of GERD reached 52 patients. From these data it is said that the incidence of GERD in Dr. R. Sosodoro Djatikoesoemo Bojonegoro and in Indonesia it is increasing over time coupled with changes in lifestyle which increase the risk factors for Gastroesophageal Reflux Disease but efforts to control GERD are still lacking, there needs to be various kinds of efforts that can be made to control the high incidence of GERD so that can reduce GERD rates.

GERD that occurs over a short period of time repeatedly can trigger acute pain due to inflammation, swallowing disorders which result in nutritional imbalances and can even cause aspiration of stomach contents into the tracheobronchial cavity.(Rafsanjani et al., 2020). GERD sufferers who are left untreated for a long time in cases with grade D esophagitis can enter the cell dysplasia stage, resulting in Barrett's Esophagus and ultimately Ca. Esophagus. The strategy for managing gastroesophageal reflux in GERD sufferers can be done by providing pharmacological therapy/drugs or non-pharmacological interventions.

Based on evidence based nursing (EBN), there are many ways we can prevent itgastroesophageal reflux, including: someone in doingHow to sleep when GERD.One technique that can be applied to overcomeUsing a 30° pillow prevents stomach contents from reaching the larynx and throat. Therefore, the risk of coughing and choking is minimal.Several studies have proven the effectelevation of the head for 3 to 9 days during sleep against GERD. According to(Villamil Morales et al., 2020)sleep using a pillow30^{o} also

helps reduce pressure on the stomach. This can reduce the risk of heartburn, aka a burning sensation in the chest due to rising stomach contents.

Apart from sleeping using a pillow30°Non-pharmacological therapy that can be used for GERD sufferers is sleep on your left side, this sleeping position can also reduce the risk of stomach acid rising.This is because the stomach is positioned below the esophagus, which makes reflux more difficult. Results of research carried out(Huang et al., 2019)if acidic fluid comes out, gravity can return it to the stomach more quickly than when lying on the right side. Study(Schuitenmaker et al., 2023)prove influence Sleepwith a left tilt position the number of reflux episodes decreased significantly after 2 weeksagainst GERD.

Comforting intervention is needed in nursing intervention by providing a combinationuse of pillows 30°and left side sleeping position in GERD patients, According to Kolkaba, the comfort level that can fulfill basic human needs is at the transcendence comfort level. Transcendence is defined as the state of an individual who can overcome the problem of discomfort that occurs (Utami, 2016(Risnah; Irwan, 2020). Physical comfort is related to the body's sensation and homeostatic mechanisms, which include a decrease in the body's ability to respond to a disease or invasive procedure. Several options to meet this comfort problem are changing positions(Risnah; Irwan, 2020). According to research(Xiong et al., 2019)convenient treatment reduces the symptoms of FD patients, increases the gastric emptying rate, improves gastric motility, reduces patient depression and anxiety, and promotes disease rehabilitation.

OBJECTIVE

Objective states the major aim of the studyExplainThis study aims to determine the effect of the combination of using a 30° pillow and left side sleeping position to prevent gastroesophageal reflux in GERD patients post EGD.

METHODS

Quantitative research using a quasi-experimental with a pre- and post-test control group design. Independent VariablecombinationUse a 30^{o} pillow and sleep on your left sideand the dependent variable GERD-Q score. The sampling technique used in this research is purposive sampling. The number of respondents is 40 people. The research was conducted at DR. R. Sosodoro Djatikoesoemo Bojonegoro General Hospital, Indonesia, Indonesia. The study was conducted in December 2023- January 2024. Before conducting this research, an ethical review of the protocol had been carried out and it was declared ethically worthy with number 445/221/412.202.38/SK.2023. The statistical test of the research results used theMann Whitney andWilcoxon test.

RESULTS

The research results obtained by the researchers are as follows:

Table 1. Frequency distribution of characteristics of respondents who experience GERD

Characteristics	Group				Total		Equality
	Control		Treatment				
	F	%	F	%	F	%	pValue
Gender							
Man	8	40	8	40	16	40	1,000a
Woman	12	60	12	60	24	60	
Total	20	100	20	100	40	100	

ISSN: 2614-3488 (print); 2614-3496 (online) Vol.8 No.2. January 2025. Page.372-382

Characteristics	Group				Total		Equality
	Control		Treatment				
	F	%	F	%	F	%	pValue
Age							
20-29 Years (late teens)	5	25	1	5	6	15	0.755b
30-39 Years(early adulthood)	1	5	3	15	4	10	
40-49Y(late adulthood)	2	10	6	30	8	20	
50-60 Years (early elderly)	12	60	10	50	22	55	
Total	20	100	20	100	40	100	
Level of Education							
Middle School (Primary)	5	25	2	10	7	17.5	0.331b
High School (Intermediate)	11	55	13	65	24	60	
Bachelor (High)	4	20	5	25	9	22.5	
Total	20	100	20	100	40	100	
Work							
Farmer	5	25	5	25	10	25	0.562a
Private	14	70	12	60	26	65	
Civil servants	1	5	3	15	4	10	
Total	20	100	20	100	40	100	
Suffering from GERD for a long time							
1-2 Yrs	17	85	18	90	35	87.5	1,000a
> 2 Years	3	15	2	10	5	12.5	
Total	20	100	20	100	40	100	

Based on table 1. it is known thatIn the treatment and control groups, there were 8 male subjects with a percentage of 40%, while for females there were 12 subjects with a percentage of 60%. Most of the respondents who experienced GERD were aged 50-60 yearsin the treatment group (50.0%) and control group (60.0%). The education level of respondents who experienced GERD was mostly atthe treatment group had a high school (intermediate) education (65%) and the control group also had a high school (intermediate) education (55%). Half of the private sector job respondents were in the treatment group (60%) and the control group (70%). The duration of suffering from GERD was almost entirely (90%) 1-2 years in the treatment group while in the control group almost entirely (85%) was 1-2 years.

Table 2. Results of identification of gastroesophageal reflux in GERD patients post EGD before and after the procedurecombinationuse a 30° pillowand sleeping position on the left side in post-EGD GERD patients.

	N	Range (Median)		Mean ± SD		Delta	*p-value*
		Pre	Post	Pre	Post		
Control	20	9-12 (10.0)	6-9 (8.0)	10.45 ± 0.89	7.70 ± 0.98	-2.75±0.85	0,000b

	N	Range (Median)		Mean ± SD		Delta	*p-value*
		Pre	Post	Pre	Post		
Treatment	20	9-12 (10.0)	3 - 7 (6.0)	10.40 ± 0.75	5.30±1.34	- 5.10±1.62	0,000b
Statistic analysis		Wilcoxon Sign Rank Test					

Based on the gastroesophageal reflux score test, table 2. in the control group between pre and postvalue is obtainedMean±SD gastroesophageal reflux score for pre is equal to10.45 ± 0.89while for posts of7.70 ± 0.98. The results of the test using Wilcoxon between pre and post in the control group showed a p value of 0.000, where the value was <0.05, which means that for the gastroesophageal reflux score there was a significant difference between pre and post in the control group, where seen from the mean value there was an increase in the gastroesophageal reflux score. in the control group. Based on the gastroesophageal reflux score test in the treatment group between pre and postvalue is obtainedMean±SD gastroesophageal reflux score for pre is equal to10.40 ± 0.75while for posts of5.30 ± 1.34. The results of the test using Wilcoxon between pre and post in the treatment group showed a p value of 0.000 where the value was <0.05, which means that for the gastroesophageal reflux score there was a significant difference between pre and post in the treatment group seen from the mean value, there was a decrease in the gastroesophageal reflux score in treatment group.

Table 3. Data analysis of gastroesophageal reflux in post-EGD GERD patients before and after the procedurecombinationuse a 30° pillowand sleeping position on the left side in post-EGD GERD patients

	N	Pre		Post		Delta	
		Mean Rank	Sum of Ranks	Mean Rank	Sum of Ranks	Mean Rank	Sum of Ranks
Control	20	20.53	410.50	29.08	581.50	28.50	570.00
Treatment	20	20.48	409.50	11.93	238.50	12.50	250.00
p-value		0.988a		0.000a		0.000a	
Statistic analysisMann Whitney							

Based on the gastroesophageal reflux score test in table 3. in the pre for the control group, the results of the test using Mann Whitney obtained a p value of 0.988 where the value was >0.05, which means there is no difference in the gastroesophageal reflux score between the treatment and control groups in the pre position which means basic data on gastroesophageal reflux scores between the treatment and control groups were stated to be equivalent or the same. Based on the test of gastroesophageal reflux score values on delta data between the treatment and control groups using Mann Whitney, a p value of 0.000 was obtained, where this value was <0.05, which means there was a difference in gastroesophageal reflux score values between the treatment and control groups on delta data/change in p results. The values in the treatment and control groups were both significant, but based on the mean value, it was found that the gastroesophageal reflux score value for the treatment group decreased more than the control group when the delta/change data occurred.

DISCUSSION

MengIdentification of gastroesophageal reflux in GERD patients post EGD before and after the combination procedure of using a 30° pillowand sleeping position on the left sidein post-EGD GERD patients

Based on the research results in table 2, it explains thatin the control group between pre and postvalue is obtainedMean±SD gastroesophageal reflux score for pre is equal to10.45 ± 0.89while for posts of7.70 ± 0.98. The results of the test using Wilcoxon between pre and post in the control group showed a p value of 0.000 where the value was <0.05, which means that for the gastroesophageal reflux score there was a significant difference between pre and post in the control group where seen from the mean value there was an increase in the gastroesophageal reflux score in the control group. Based on the gastroesophageal reflux score test in the treatment group between pre and postvalue is obtainedMean±SD gastroesophageal reflux score for pre is equal to10.40 ± 0.75while for posts of5.30 ± 1.34. The results of the test using Wilcoxon between pre and post in the treatment group showed a p value of 0.000 where the value was <0.05, which means that for the gastroesophageal reflux score there was a significant difference between pre and post in the treatment group seen from the mean value, there was a decrease in the gastroesophageal reflux score in treatment group.

Gastroesophageal Reflux Disease (GERD) often experiences recurrent gastroesophageal reflux, where stomach contents repeatedly rise into the esophagus, causing disturbing symptoms. Symptoms caused by Gastroesophageal Reflux Disease include a burning sensation in the chest, a sour feeling in the mouth, epigastric pain, dysphagia and odynophagia. The strategy for managing gastroesophageal reflux in GERD sufferers can be done by providing pharmacological therapy/drugs or non-pharmacological interventions. Based on evidence based nursing (EBN), there are many ways we can prevent itgastroesophageal reflux, including: someone in doingHow to sleep when GERD.Positioning is the most valuable component of GERD prevention and should be done as effectively and efficiently as possible.

The risk of GERD increases with severity and the number of risk factors. Risk factors that cannot be modified are gender, age, occupation, education and duration of suffering from GERD. GERD can attack anyone, but is more common in women(Karina et al., 2020). Based on the research results in table 5.1demographic characteristics Gender for the treatment and control groups showed that the majority of GERD sufferers were female rather than male with a percentage of 40% compared to 60%. By agethe most demographic characteristics seen fromrange and Mean±Sd value of age demographics for the treatment group, the age range is 21 to 59 years with the Mean±Sd being47.20 ± 9.95for the control group the age range is 20 to 59 years with a Mean ± SD of45.90 ± 13.6.In line with what was stated by Schulze et al, that women who use oral contraceptives and pregnant women are also at risk of GERD, the hormones estrogen and progesterone in women significantly reduce LES pressure so that it can cause GERD (Karina et al., 2020).The adult and elderly age group is a risk factor for someone experiencing GERD, one of which is influenced by lifestyle factors such as smoking, caffeine or alcohol consumption which is usually done by adults and the elderly so that it can cause transient LES relaxation and cause GERD. In addition, physiological changes in the esophagus with increasing age are also factors that contribute to the increasing incidence of GERD with increasing age. What is related to physiological changes with increasing age is a decrease in salivary bicarbonate production, thereby increasing exposure to acid reflux in the esophagus due to slow acid clearance.

While a higher sleeping position can provide an effective way to prevent gastroesophageal reflux, a left side sleeping position can also provide an effective way too, byuse of pillows 30°and the left side sleeping position when combined can have a double effect and be more effective in preventingGastroesophageal reflux in GERD patients post EGD. Advantages of combinationuse of pillows 30°and the left side sleeping position can have a double effect in preventing gastroesophageal reflux, especially in post-EGD GERD patients who experience repeated gastroesophageal reflux, while GERD sufferers need an EGD examination for diagnostic purposes, where the EGD examination also has side effects. Combinationuse of pillows 30°and the left side sleeping position has never been done beforeDr. Hospital R Sosodoro Djatikoesoemo, so GERD sufferers need a lot of education regarding this therapy. Distribution of respondent characteristics based onmost education is high schoolfor the treatment group 65% and control 55%. The level of education has quite a big influence on managing mindsets in stress management/stress coping, the higher the education, the higher the resilience in dealing with stress.with(Mile et al., 2020).

Based on the description of demographic characteristicsThe majority of jobs were private jobs for the treatment group of 12 subjects with a percentage of 60% and for the control group a percentage of 70%. Psychological conditions such as stress, anxiety and depression are often associated with increased stomach acid(Rama Dwi Suputra & Eka Saputra, 2023). Working as a private worker who is always working and interacting with other people every day will be more exposed to busyness so that you will often forget to rest, eat and forget to take care of your own health. Stress will greatly influence the incidence of GERD because stress will cause the body's productivity to decrease and there will be changes in the balance of metabolism in the body, especially the digestive organs, which will cause stomach acid production to increase, thus triggering a recurrence of GERD. When stressed, the body will produce the hormone cortisol which will result in a reduction in mineral fluids and B vitamins in the body. So it will reduce the body's immunity which will then have an impact on the digestive organs, causing an increase in stomach acid (Mile et al., 2020).

Combinationuse a 30° pillowand sleeping position on the left side in post-EGD GERD patientsbefore and after treatmentearly pillows indicate that patients with a supine/nocturnal reflux pattern are unable to clear acid reflux and are at risk for esophagitis and respiratory complications. Based on these observations, it is recommended to elevate the head of the bed up to 30° using blocks or more recently, motorized bed frames. Longitudinal studies have shown accelerated acid clearance compared with flat sleeping, but evidence that this can relieve GERD symptoms and complications is lacking. Sleeping position, rather than the head of the bed, has recently emerged as a key factor in controlling nocturnal reflux. Therefore, pillows or wedges are proposed to elevate the shoulders and adjust the angle of the body. Esophageal acid exposure has been shown to decrease in the left tilt position compared to the right tilt, prone and supine positions. In addition, acid reflux was also shown to increase during the postprandial period in the right tilt position compared to the left tilt position.

Analyze the combination of using a 30° pillowand sleeping position on the left side in post-EGD GERD patientsbefore and after treatment

Based on the gastroesophageal reflux test on delta data between the treatment and control groupsobtainedMean value±SD of gastroesophageal reflux score delta data for treatment groups-5.10 ± 1.62and for control-2.75 ± 0.85Based on the test results using Mann Whitney, a p value of 0.000 was obtained, where the value was <0.05, which means there was a difference in the gastroesophageal reflux score between the treatment and control groups in the delta/change data, where based on the mean value, the gastroesophageal reflux

score for the treatment group decreased. scores were greater than the control group when delta/change data.

The results of this study are in accordance with the research of Tom Defloor, 2018, who studied ten different positions when the patient was in bed using several assistive devices from the ten positions. It was found that the minimum gastric acid reflux was achieved when positioned at 30o with an adequate position. use body support. In the "rule of 30°" where the head of the bed is elevated to 30o, this position has been proven to prevent pressure from inside the stomach.(Samimian et al., 2021).Apart from sleeping using a pillow30^{o} Non-pharmacological therapy that can be used for GERD sufferers is sleepOn your left side, this sleeping position can also reduce the risk of stomach acid rising. This is because the stomach is positioned below the esophagus, which makes reflux more difficult. Results of research carried out(Huang et al., 2019)if (Huang et al., 2019) acidic fluid comes out, gravity can return it to the stomach more quickly than when lying on the right side. Study(Schuitenmaker et al., 2023)prove influence Sleepwith a left tilt position the number of reflux episodes decreased significantly after 2 weeksagainst GERD.

Based on Albarqouni's research, there were five trials (four cross-over and one factorial) consisting of 228 patients. The five included trials were assessed as being at high risk of performance bias and four selection biases. Of the five trials included, two used 'bed blocks' under the foot of the bed. One used a 'sleep on a wedge' pillow, and two used both. High heterogeneity in outcome measures and reported outcome data precludes meta-analysis. Four studies reporting GORD symptoms found improvement among participants in 30° head of bed elevation, a high-quality crossover trial showed a clinically important reduction in symptom scores at 3 days (risk ratio 2.1; 95% CI 1.2 to 3, 6). These results are supported by the observed increase in physiological intra-esophageal pH measurements. Methodological and reporting limitations in the available literature preclude definitive recommendations. However, head of bed elevation can still be considered an inexpensive and safe alternative to drug interventions with an unfavorable safety profile.(Albarqouni et al., 2021).

Researchers agree with the results of previous studies which are also proven in the results of this study, dThe clinical impact of head of bed elevation in patients with gastro-esophageal reflux disease remains unclear, due to inconsistencies and methodological limitations of previous studies. Randomized, single-blind, controlled clinical trial at a single center, with a single disease. The active intervention was to use 30° head of bed elevation for 3 days and then a 2 × 2 cross-over design, in 39 pharmacologically treated patients with gastro-esophageal reflux to sleep without inclination for an additional 3 days, with a wash-out 2 weeks between periods. The primary outcome was a ≥10% change in RDQ score and the secondary outcome was change. 27 (69.2%) patients using the intervention achieved the primary outcome vs 13 ≥10% on SF-36 score, patient preference and frequency of intervention. bad incident. (33.3%) patients in the control group (RR: 2.08; 95% CI: 1.19---3.61). No effect was found on SF-36 scores (RR: 1.11; 95% CI: 0.47---2.60). The preference in favor of the intervention was 77.1% and the proportion of side effects was 54.0%(Villamil Morales et al., 2020).

The recommended position for measuring Intra-Abdominal Pressure (IAP) is the supine position. This study was conducted to evaluate the relationship between bed head angle and IAP measurements of GERD patients in the intensive care unit. In this clinical trial, seventy-six patients were included. IAP measurements were carried out every 8 hours for 24 hours using the KORN method at three different degrees of head of bed (HOB) elevation (0◦, 15◦, and 30◦). Bland-Altman analysis was performed to identify bias and limits of agreement among the three HOBs. According to the World Society of the Abdominal Compartment

ISSN: 2614-3488 (print); 2614-3496 (online) Vol.8 No.2. January 2025. Page.372-382

Syndrome (WSACS), we can consider two IAP techniques equivalent if there is a bias of <1 mmHg and a concordance limit of -4 to +4 between them. Data were analyzed using SPSS statistical software (v. 19), and the significance level was considered to be 0.05. The prevalence of intra-abdominal hypertension was 18.42%. The mean ± standard deviation (SD) of IAP was 8.44 ± 4.02 mmHg for a HOB angle of 0°, 9.58 ± 4.52 for a HOB angle of 15°, and 11.10 ± 4.73 for a HOB angle of 30° (p = 0.0001. The elevation of the HOB angle from 0 to 15° increases the IAP significantly. It seems that the IAP measurement at a HOB angle of 30° is more reliable than 15°(Samimian et al., 2021).

Based on the frequency of GERD events, with a left tilt position, the position of the stomach is below the esophagus. Gastric acid that rises into the esophagus will be returned to the stomach when a person sleeps in this position. It is recommended for GERD (Gastroosophageal Reflux Disease) sufferers to sleep with their body tilted to the left because this position can reduce stomach acid. This position can also improve blood flow to the placenta (baby), which is suitable for pregnant women and reduces the intensity of a person's snoring while sleeping. However, this position is not good for heart sufferers because when they sleep on their left side, the larger right lung will fall on the heart, causing excessive heart activity because the blood supply to the atrium of the heart is greater (Samimian et al., 2021).

This is supported byarticle by(Schuitenmaker et al., 2022) over the past 50 years, the association between supine reflux, gastroesophageal reflux disease (GERD), and quality of life (QOL) has been definitively proven.Researchers agree with the results of previous studies which are also proven in the results of this study where the frequency of GERD is based on s.Experimental studies show that sleeping position plays a role in the occurrence of nocturnal gastroesophageal reflux and the left lateral decubitus position is the most preferred. The aim of this study was to evaluate the effect of a new wearable device for electronic sleep position therapy on sleep position and nocturnal reflux symptoms. A double-blind, randomized, sham-controlled trial in patients with nocturnal gastroesophageal reflux symptoms. Patients were advised to sleep in the left lateral decubitus position and were randomly assigned (1:1) to a wearable electronic sleep position therapy device, which was programmed to produce vibrations while in the right lateral position (intervention) or only during the right lateral position. First 20 minutes (fake). The primary outcome was treatment success, defined as a reduction in nocturnal reflux scores of 50% or more. Secondary outcomes included changes in sleep position and reflux symptoms. One hundred patients were randomized. In the intention-to-treat analysis, the treatment success rate was 44% in the intervention group (22 of 50) vs. 24% in the sham group (12 of 50) (risk difference, 20%; 95% CI, 1.8%–38.2 %;P[0.03). Treatment led to significant avoidance of sleeping in the right lateral decubitus position (intervention 2.2% vs sham 23.5%; P < 0.000) and increased sleep time in the left lateral decubitus position (intervention 60.9% vs sham)(Cordier et al., 2021).

The explanation above shows empirical evidence that the combination of using a 30° pillowand sleeping position on the left sidein GERD patients post EGD is able to reduce gastroesophageal reflux and provide visual feedback which can reduce symptoms of gastroesophageal reflux. Therapy carried outwith corners30° helps prevent stomach acid from rising into the esophagus due to gravity helps keep stomach acid in the stomach, helps reduce pressure on the esophagus and prevents acid reflux, providing comfort for patients with GERD. The left tilt position increases the effectiveness of gravity in preventing stomach acid from rising into the esophagus, helping prevent gastric juices from flowing into the esophagus because the stomach is located lower on the left side of the body. Additional recommendations that GERD sufferers need to pay attention to include: avoiding eating before bed, it is best not to eat or drink about 2-3 hours before bed to reduce stomach acid

production, a healthy diet by consuming low-fat, low-acid foods, and avoiding foods that trigger GERD such as tomatoes, chocolate, coffee, carbonated drinks and spicy foods, maintain an ideal body weight because being overweight can increase pressure on the stomach, so having an ideal body weight can help reduce GERD symptoms.manage stress well because stres can stimulate the sympathetic nervous system, which can increase stomach acid production, increased stomach acid can worsen GERD symptoms.

CONCLUSION

1. There was a difference in gastroesophageal reflux scores between the treatment and control groups in the delta/change data, where based on the mean value, it was found that the score decrease was greater in the treatment group than in the control group.
2. There is influencecombination of using a 30° pillow and left side sleeping position to prevent gastroesophageal reflux based on the theory of comfort (study on GERD Post EGD patients).

ACKNOWLEDGMENTS

The research team would like to thank all Post EGD GERD patientsrespondents and theDR. R. Sosodoro Djatikoesoemo Bojonegoro General Hospital, Indonesia for granting permission for the research site.

CONFLICTS OF INTEREST

In this research, from start to finish there was no conflict.

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