International Journal of Health & Medical Sciences

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Contents

Gastroesophageal reflux disease (GERD) in childhood phobic anxiety disorder: Case report

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A B S T R A C T

About 50% of gastroesophageal reflux disease (GERD) patients are symptomatic and affected by psychosocial factors. Anxiety can cause GERD through the brain-gut-axis mechanism. A female patient, aged 6 years, was consulted by the Psychiatry Department with complaints of fear. The patient said she was afraid to go to the doctor for fear of tooth extraction. The patient said she had been hospitalized several times because of nausea and vomiting. The patient did not dare to eat for fear that her teeth would hurt again. About 4 months ago the patient was hit by a swing in kindergarten which caused her gums to swell, bleed, and her front teeth were loose and broken. Then the patient was invited to the dentist at the public health centre. The patient's mother said that at that time the patient was scared when her teeth were extracted and it was still bleeding. The patient ran out of the dentist's office and cried. After being forced by her mother, the patient eventually resumed treatment. Then when she got home the patient did not want to eat or drink. Then a few days after that the patient had nausea and vomiting. The patient was treated 3 times at the hospital because of complaints of nausea and vomiting. The patient was diagnosed with Childhood Phobic Anxiety Disorder (F93.1). Patients were given non-medical therapy in the form of psychoeducation and pharmacotherapy in the form of 0.1-milligram risperidone and vitamins B6 and B12.

Keywords---anxiety disorder, anxiety, childhood phobic, children, GERD.

Introduction

GERD is a symptom or damage to the esophageal mucosa due to gastric contents entering the esophagus. According to the Montreal classification, GERD is a state of reflux of stomach contents into the esophagus which will cause very disturbing symptoms, with or without complications (Vakil, 2008). The Asia Pacific consensus states that GERD can cause disturbing symptoms or complications which indicate a disturbance in the patient's quality of life. Anxiety is a response to a threatening situation. Anxiety is thought to cause GERD. Many studies state that anxiety can cause dyspepsia, but no research explains the relationship between anxiety and GERD (LaMontagne et al., 2001; Birmaher et al., 1999). Factors that play a role in the emergence of GERD are gastric abnormalities, one of which is slow gastric emptying. The prevalence of GERD in Asia including Indonesia was lower with a percentage of 5% in 1997, but the latest data shows an increase of up to 13.13% per year due to lifestyle changes, such as

smoking and obesity (Talley & Holtmann, 2008).

About 50% of GERD patients are symptomatic and affected by psychosocial factors. Anxiety disorders are experienced 2-4 per life (Dadang, 2011). In the United States, 40 million people experience anxiety from the age of 18 to old age (National Institute of Mental Health), while in Indonesia, of the 22 million Indonesian population, 2-6 million people experience anxiety. Early adulthood (17-25 years) experiences more anxiety than late adulthood (26-35 years) (Syam et al., 2013).

Anxiety can cause GERD through the brain-gut-axis mechanism. The existence of psychological stimulation or stressors will affect the balance of the autonomic nervous system. Increased cortisol from the adrenal cortex originating from stimulation of the cerebral cortex will stimulate the production of stomach acid. In a state of increased stomach acid, it causes stomach contents are pushed into the esophagus. If the esophageal sphincter is relaxed, stomach contents will enter the pharynx, nasopharynx and mouth. This interaction is suspected as the cause of GERD (Chu, 2020). This case report will discuss more deeply GERD in children diagnosed with childhood phobic anxiety disorder (Powers & Emmelkamp, 2008; Warren et al., 1997).

Case Reports

A female patient, AAM, 6 years old, was consulted by the Psychiatry Department with complaints of fear. Patients were interviewed in a position facing the examiner at the Prof Ngoerah Central General Hospital (RSUP) psychiatry polyclinic. The patient was interviewed in a sitting position and appeared to be wearing a black striped shirt and short jeans. The patient has a thin stature and an anxious and scared expression on her face, her fingernails and toenails look well groomed, and there is no unpleasant odour coming from the patient's body. During the patient interview, the patient looked down more and answered the questions asked by the examiner slowly and softly. The patient can correctly state their name, current age, where they are, the time of examination and who is accompanying them at this time. The patients say she was afraid to go to the doctor. The patient is afraid of tooth extraction.

The patient can tell that he is afraid of going to the hospital, afraid of having her teeth pulled. The patient said she had been hospitalized several times because of nausea and vomiting. The patient did not dare to eat for fear that her teeth would hurt again. The patient doesn't talk much, when she is about to tell something, the patient always turns to her mother. The patient seems to show a face of fear and discomfort. The patient also said that she did not want to go to school, because her friends are mocking her. Patients often come home crying and tell their parents. During the interview, the patient slowly finished the bread she brought. Finally, the interview was transferred to the patient's parents.

The patient's father and mother explain how the patient's journey is chronological. About 4 months ago the patient was hit by a swing in kindergarten which caused her gums to swell, bleed, and her front teeth were loose and broken. Then the patient was invited to the dentist at the public health centre. The

patient's mother said that at that time the patient was scared when her teeth were extracted and it was still bleeding. The patient ran out of the dentist's office and cried.After being forced by her mother, the patient finally continued her treatment. Then when she got home the patient did not want to eat or drink. Then a few days after that the patient had nausea and vomiting. The patient's parents then took him to the Army Hospital. The patient was hospitalized for 3 days, after returning home 2 weeks later the patient had nausea and vomiting again and was brought back to the Army Hospital. The patient was treated 3 times at the Army Hospital. During the third hospitalization, the doctor said there seemed to be another problem with the patient because she was not focused when spoken to.

Then the patient's father showed a photo of the patient to the psychiatrist at the Army Hospital and he said thatthe patient looked depressed and needed further treatment. The patient's parents also decided to bring the patient to Prof dr. IGNG Ngoerah. The patient was treated for 5 days and then consulted by a paediatrician to a psychiatrist.

The patient's mother said that before she got sick, the patient was a creative child. Regarding parenting, the patient's father said that the patient was often scolded by her mother, her mother was strict and firm while her father liked to pamper patients. When her parents fight, the patient often gets angry and tells her parents to stop fighting.

The patient's family just moved house about 2 months ago and the current home environment is more comfortable and cleaner.

The history of other diseases was denied by the patient's mother. None of the patient's family had ever experienced similar complaints. History of systemic diseases such as hypertension and Diabetes Mellitus was also denied. Patients usually play with their peers, coincidentally several friends of the same age live in the same boarding house with the patient.

On physical examination, present status and general status were found to be within normal limits. Nutritional status obtained by severe Protein Energy Malnutrition (PEM). On examination of the psychiatric status, the general impression was that the appearance was reasonable, looked gloomy, and lacked verbal and visual contact. Relations with the examiner can be established, at the beginning of the interview seemed afraid of the examiner. Clear consciousness, anxious/anxious/harmonious mood and affect. The process of logical thinking is realistic/coherent/preoccupied with falling teeth. Visual and auditory hallucinations are absent, depersonalization is absent, and illusions are absent. Instinctive urges, insomnia and hypobulia are absent, raptus is absent. Psychomotor calm, age-appropriate impression intelligence. Repression defence mechanism, acting out. Examination based on Spense showed anxious results (Gallagher et al., 2004; Yeganeh et al., 2003).

The patient's diagnosis according to the Guidelines for Classification and Diagnosis of Indonesian Mental Disorders III (PPDGJ-III), namely Axis I is Childhood Phobic Anxiety Disorder (F93.1). Axis II is quiet nature, shy but afraid of mother, Ego Defence mechanism: repression, acting out. Axis III is

GERD + PEM Severe Marasmus Type Condition III Stabilization Phase. Axis IV is a problem with the primary support group, and on Axis V with GAF at check 60-51 and GAF One Year last 90-81.

Patients are given non-medical therapy in the form of psychoeducation to parents about the disorder they are experiencing, the cause of the disorder, therapy, and the prognosis. Medical therapy given by Psychiatry is risperidone 0.1 milligram and Vitamins B6 and B12.

Discussion

The female patient, AMM, aged 6 years, is an outpatient at the Psychiatric Polyclinic at Prof Dr. IGNG Ngoerah a consultant from TS Pediatrics with a diagnosis of GERD and severe PEM with an endoscopy plan. Initially, the patient was hit by a swing 4 months ago, which caused her gums to swell, and bleed and her front teeth were broken and loose. The patient was invited to the dentist at the public health centre. The patient was scared and ran away with bleeding gums after tooth extraction and was forced back by her mother.

The patient did not want to eat and drink, and experienced nausea and vomiting so he was hospitalized 3 times at the Army Hospital before being taken to Prof Ngoerah Hospital. Previously, the patient was often scolded by her mother and was afraid of her mother. None of the patient's family had ever experienced a similar condition. On physical examination, present status and general status were found to be within normal limits. Nutritional status obtained by severe PEM. The psychiatric status obtained a general impression of looking anxious, lacking visual and verbal contact, clear consciousness. Mood/affect: anxious/appropriate. Form of thought: logical realist, the flow of thought: coherent, content of thought: preoccupation with falling teeth due to being hit by a swing. Perception: no hallucinations, no illusions, no derealization, no depersonalization. Instinctual drive: no hypobulia, no insomnia, no raptus. Psychomotor calm during the examination and insight 6. The nutritional status of severe PEM and generalist status are within normal limits. Self-defence mechanisms of repression and acting out. Examination based on Spense showed anxious results.

The patient was diagnosed with Childhood Phobic Anxiety Disorder (F93.1) and requires attention or therapy according to PPDGJ-III and DSM-5. Phobic anxiety disorder in childhood is a typical fear arising at a specificdevelopmental phase in children (Black et al., 2003; Mishna et al., 2009). This category meets the criteria(Indonesian Ministry of Health, 1993):

a) Onset at an appropriate developmental age

b) The level of anxiety is clinically abnormal

c) Anxiety is not part of a comprehensive disorder.

Patients complain of nausea, vomiting and fear and anxiety about their condition. Tooth loss due to being hit by swings traumatizes the patient and does not dare to eat for fear that her teeth will hurt. Nausea and vomiting cause patients to worry and suffer from GERD (Vaezi et al., 2003; Carter et al., 2011).

Anxiety is a subjective experience of disturbing mental tension as a form of general reaction and the inability to deal with problems or the emergence of insecurity in individuals. Anxiety arises because there is fear of something that threatens someone, and there is no ability to know the cause of this anxiety (Ivada et al., 2022).

Anxiety can cause GERD through the brain-gut-axis mechanism. The existence of psychological stimulation or stressors will affect the balance of the autonomic nervous system. Increased cortisol from the adrenal cortex originating from stimulation of the cerebral cortex will stimulate the production of stomach acid. In a state of increased stomach acid, it causes stomach contents are pushed into the esophagus. If the esophageal sphincter is relaxed, stomach contents will enter the pharynx, nasopharynx and mouth. This interaction is suspected as the cause of GERD (Chu, 2020).

Patients are given non-medical therapy in the form of psychoeducation to parents about the disorder they are experiencing, the cause of the disorder, therapy, and the prognosis. The medical therapy given is risperidone 0.1 milligram and Vitamins B6 and B12.

Conclusion

Anxiety can cause GERD through the brain-gut-axis mechanism. The existence of psychological stimulation or stressors will affect the balance of the autonomic nervous system. The pediatric patient in this case complained of nausea and vomiting and was afraid and worried about her condition. The patient's teeth fell out due to being hit by a swing, traumatizing the patient and he did not dare to eat for fear that her teeth would hurt. Patients are given nonmedical therapy in the form of psychoeducation and pharmacotherapy in the form of risperidone 0.1 milligrams and Vitamins B6 and B12.

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Dementia in patients with diabetes mellitus

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A B S T R A C T

The role of diabetes mellitus in neurodegeneration has been confirmed by neuroimaging and neuropathological studies. Apart from causing schizophrenia, chronic exposure to hyperglycemia may worsen cognitive function and cause significant cognitive disorders, such as Alzheimer's and dementia. An 81-year-old woman was consulted by the Psychiatry department with fatigue and forgetfulness. She was found unconscious in her room. In the emergency room, her blood glucose level was 30 mg/dl with type 2 diabetes since 2012. She was able to pronounce her name correctly but forgot her age, said that she was at her home, the examinations were in the morning, and the name of her ex-employee who accompanied her and said that she already had breakfast, could repeat the names of 3 objects given. She was asked to repeat in 1 minute can only say 1 name of the object correctly, and cannot count the subtraction several times. The patient correctly pronounced the name of the object shown to her, but cannot fold paper, write sentences, or draw. The psychiatrist give her Avram 1x5 mg and Aricept 1x5 mg and also provided assistance, family education, and reminiscence therapy, and she had 8 units of Novorapid injection subcutaneously after a meal from the geriatrist.

Keywords---blood glucose, dementia, geriatric, type II diabetes mellitus.

Background

Diabetes Mellitus is a public health problem. According to the data, this disease is one of the primary causes of kidney diseases and blindness in people under 65 years old and amputations that are not caused by cardiovascular system-related disease. Based on the result of diagnoses made for people $\geq$ 15 years old, the diagnosis of diabetes increased by 2% from 2013 to 2018 (Kemenkes RI, 2018). Diabetes Mellitus (DM) is a chronic metabolic disorder characterized by persistent hyperglycemia (Goyal & Jialal, 2022). A person is diagnosed with diabetes if he/she experiences hyperglycemia with fasting blood glucose greater than 125 mg/dL (Mouri & Badireddy, 2022).

Diabetes Mellitus can be classified into type I diabetes mellitus (DMT1) and type 2 diabetes mellitus (DMT2). DMT1 accounts for 5% to 10% of DM and is distinguished by an autoimmune system that destroys the insulinproducing beta cells in the pancreas. DMT1 is most commonly found in children and

adolescents although it can develop at any age. DMT2 accounts for 90% of all diabetes cases. In DMT2, there is a reduced response to insulin or commonly called insulin resistance. DMT2 most often affects people over 45 years old (Goyal & Jialal, 2022). Diabetes mellitus can be classified as a systemic disease. Systemic disease is a disease that affects the whole body, not just a single organ or certain body part (focal infection) (Vorvick in Okaniawan & Agustini, 2021).

The role of diabetes in nerve degeneration has been confirmed by the neuroimaging study and neuropathology. MRI studies have shown that type 2 diabetes mellitus (DMT2) is strongly associated with brain atrophy (Danaei et al., 2006; Hirsch & Brownlee, 2005). The global brain atrophy rate in DMT2 is 3 times faster than that of normal aging. Diabetes is also associated with an increased chance of cognitive decline as determined by the Mini-Mental State Examination (MMSE) score (Saedi et al., 2016). Chronic exposure to hyperglycemia can worsen cognitive function because apart from causing schizophrenia, it can also cause cognitive decline diseases such as Alzheimer's and dementia, (Lee et al., 2018). Current data revealed that both types of diabetes mellitus are strongly associated with cognitive function decline (Moheet et al., 2015).

Cognitive function is the ability the include the capacity for attention, registration, memory, calculation, recall, language, consideration, writing, reading, and visuospatial (Tsalissavrina et al., 2018). DMT2 increases the longterm risk of dementia almost 2-fold (Biessels et al., 2014). Dementia is very common in the elderly and is an important part of an age-related disability. Since the proportion of people aged 65 years is expected to increase above 20% by 2050, the incidence of dementia is predicted to increase dramatically. The aging brain causes pathological changes that are caused by several risk factors. These factors may change the clinical threshold of dementia in an individual (Verdile et al., 2015). Because the decline in cognitive function, especially in the elderly due to diabetes mellitus, is a common case among all ages in Indonesia and the world, it is important to review the etiology, risk factors, pathophysiology, specific effects of diabetes mellitus on dementia patients, and the management (Matthews & Dening, 2002; Prince et al., 2013).

Case Report

An 81-year-old female was consulted by the psychiatric department with complaints of fatigue and forgetfulness. The patient was interviewed in a supine position on the bed, wearing a floral dress and a hospital blanket. The patient had an intravenous line in her right hand and her white hair was neatly combed. Her skin was white and there were small red rashes on both hands. The patient was calm and cooperative during the interview, but sometimes do not answer according to the questions asked by the examiner. The patient speaks spontaneously using occasional Balinese and Indonesian at a moderate speed and a low volume.

The patient could pronounce her name correctly, forgot her age, said that she was currently at home,

correctly said the time for the examination was in the morning, and knew the former employee who accompanied her. The patient said that she already had breakfast, but had forgotten the menu. She did not know the reason she was brought to the hospital and said that she was forced by her children. According to the patient, it was due to her blood sugar problem. When asked if there was anything else that had brought her to the hospital, the patient said she did not know.

The patient complained of fatigue and it made her feel uncomfortable. She could sleep well last night and that she felt refreshed this morning after being able to sleep. She wanted to go home as soon as possible because there was no one to clean her house. The patient could immediately recall the name of 3 objects mentioned, however, after 1 minute she was only able to mention 1 object. She was not able to calculate subtraction up to several times. The patient could mention the name of the objects shown to her, but could not fold a piece of paper, write a sentence, or draw. She denied hearing voices in the ears or seeing shadows. The patient then said she was tired of answering questions and wanted to sleep.

The patient said that she cleaned her house every day. However, when she was healthy she worked all sorts of jobs, doing anything as long as it was halal, such as being a house painter. The patient also said that all of her children were busy and the patient was often left at home alone lately so sometimes the patient forgot to eat. The patient knew that she needs to inject insulin regularly, but did not like to be prevented from eating the foods she likes, especially sweet foods.

Based on the hetero-anamnesis from the patient's grandchildren, the patient was brought to the hospital by her family because of weakness and they suspected a stroke. The patient was found unconscious in her bedroom. The examination in the emergency room revealed a blood sugar level of 30 mg/dl. The patient is said to have been left alone at home because her family were busy working. The patient cleans the house every day, and when she was young, the patient used to do all sorts of jobs, such as painting other people's houses. The patient has 3 children and 5 grandchildren, but currently only lives with her eldest son and the currently attending grandchild.

A patient is a person who can always find something to do, even when she is at home. The patient always cleans her house every day and does not want help, sometimes the patient delays his meal time while cleaning the house. Before she was ill, the patient was a person who rarely spoke, only spoke as needed, and was not very close to her grandchild.

The currently attending grandchild does not know much about the patient and currently is just waiting at the hospital from night to morning. The patient was said to only occasionally leave the house to socialize, especially since the patient began to forget frequently. The patient was advised by her family to stay at home. The patient is very quiet person and obedient. The patient is only busy in the house and the environment around the house. Her husband had passed away a long time, thus she only relied on her children for her daily needs. The patient was still allowed to participate in religious activities at the local Banjar. The patient neither smokes nor drinks coffee.

The patient has had diabetes mellitus since 2012 and regularly went to the internal medicine polyclinic. The patient had no history of seizures or head trauma. The patient was said to have been to a psychiatrist for the past 6 months because of her forgetfulness and is still taking her medication to this day with a medication history of Avram 1 x 5 mg and Aricept 1 x 5 mg.

The patient married at the age of 18 years old and currently lives alone in the house with her eldest child. Her husband passed away 10 years ago. The patient has never been involved in any legal issue. She now lives with her eldest child and is said to frequently forget, thus she is not allowed to go outside her house out of concern that she would get lost. The patient is a quiet person and rarely speaks, now she always tells stories about her youth and always repeats the same stories.

The physical examination reveals normal vital signs and the general examination reveals opacities on the right ocular lens. The psychiatric status reveals the face is according to the illness, adequate verbal and visual contact. The patient has fluctuating consciousness with disturbed orientation. Dysphoric and congruent mood and affect. In the aspect of thought process, the form of thought is logic-realistic, the stream of thought is coherent, and the content of thought is a preoccupation with going home. There was no hallucination or illusion. There was also no hypobulia or raptus, but the patient had late-type insomnia (Yoon et al., 2006).

Laboratory examinations such as complete blood count, renal function test (BUN/SC), electrolyte (Na and K), and coagulation status (PT, APTT) were conducted. The complete blood count and renal function test (BUN/SC) were within normal limits. There was slight hypokalemia (K 3.24 mmol/L; the normal range of 3.5 – 5.1 mmol/L) in the electrolyte examination with a normal natrium level.

The patient went through several psychometry examinations such as Abbreviated Mental Test (AMT) with a score of 5 (moderate cognitive disorder), Barthel Activity Daily Living (ADL) with a score of 18 (mild dependency), Geriatric Depression Scale (Yesavage) with a score of 2 (not depressed), Global Deterioration Scale (GDS) with a score of stage 4 (mild dementia), and Mini-Mental State Examination (MMSE) with a score of 8.

The diagnosis according to PPDGJ III was Axis 1: Alzheimer's Dementia (F00), Axis II: Anankastic personality trait, the defense mechanism of repression and sublimation, Axis III: hypoglycemia due to suspected low intake, controlled hypertension, hypoalbuminemia, Axis IV: problem with the disease, Axis V: current GAF of 30-21 and one last year GAF of 60-51. Therapy from the psychiatric department was Avram 1 x 5 mg and Aricept 1 x 5 mg, providing assistance and education for the family, and reminiscence therapy. The patient was also given a subcutaneous injection of Novorapid 8 units after each main meal from the Geriatric department (Marc et al., 2008; Alexopoulos et al., 2003).

Discussion

An 81-year-old widow was consulted by the psychiatric department due to fatigue and forgetfulness.

The patient was able to pronounce her name correctly but forgot her age. The patient also correctly said that she was in her home, the examinations were performed in the morning, and the name of her ex-employee who accompanied her. The patient said that she already had breakfast, but forgot what kind of breakfast menu she had. When asked why she was in the hospital, she said that she did not know why she was brought to the hospital and she thought that she was forced to go to the hospital by her son due to her diabetes. The patient felt fatigued and uncomfortable. The patient could repeat the names of 3 objects given. However, after the patient is asked to repeat in 1 minute, the patient can only say 1 name of the object correctly. The patient cannot count the subtraction several times. The patient correctly pronounces the name of the object shown to her, but cannot fold paper, write sentences, or draw. The patient denied hearing any auditory illusions or seeing any shadowy illusions (Saraswati et al., 2021). After that, the patient said she was tired of answering questions and wanted to sleep. Therefore, the psychiatric mental state reveals that the patient felt uncomfortable, and had fluctuating consciousness, dysphoric congruent mood and affect, a logic-realistic form of thought, a coherent stream of thought, and preoccupation with going home. The patient also had late-type insomnia(Bellamy et al., 2009; Holman et al., 2020).

Based on these findings, this patient had clinically significant behavioral and psychological symptoms that caused distress and disability in daily life indicating that the patient had a mental disorder. The axis I diagnosis in this patient according to the PPDGJ III was Alzheimer's Dementia (F00).

It was said that the patient was neat, tidy, and disciplined before she was sick. She is always busy with activities. When doing household chores, she did it by herself, did not want any help, and even ate a late lunch to finish her job sometimes. It was said that the patient rarely speaks and only speaks when need to. She was also not very close to their grandchildren. If she had problems, she tried to divert them to positive activities (such as cooking), thus we conclude that this patient had an anankastic personality disorder with a defence mechanism of repression and sublimation in axis II.

The axis III diagnosis found in this patient was hypoglycemia due to low intake, controlled hypertension, and hypoalbuminemia. The axis IV in this patient was a problem with her illness. In axis V, the current Global Assessment of Functioning (GAF) Scale was 30-21 indicating a severe disability in communication and judgment thus the patient is unable to function in all areas. The GAF last year was 60-51 indicating moderate symptoms and moderate disabilities (Lyketsos et al., 2011).

Conclusion

Diabetes mellitus is a systemic disease that attacks several organs. This disease plays a role in the cognitive function decline of the geriatric population. Several degenerative diseases become the aetiology of cognitive function decline and memory impairment, such as Alzheimer's disease. The risk factors of cognitive function decline in diabetes are recurrent hypoglycemic episodes, microvascular (such as diabetic retinopathy) and macrovascular (such as myocardium infarction or stroke)

complications, insulin resistance, inflammation, and depression. Diabetes may affect cognitive function through vascular disorders in brain blood vessels. Uncontrolled blood glucose will cause a toxic effect on the brain. The presence of oxidative stress and the accumulation of advanced glycation and products (AGEs) have the potential to damage brain tissue in the hippocampus. Mitochondrial dysfunction is one of factors that can cause Alzheimer's due to obesity and diabetes.

Acknowledgement

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The Effect of Deep Breathing Relax Technique on Labor Pain Intensity in the Active Phase

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A B S T R A C T

Labor pain is a combination of physical pain due to myometrial contractions accompanied by stretching of the lower segment of the uterus fused with the psychological condition of the mother during labor. The purpose of this study was to determine the effect of deep breathing relax technique on labor pain intensity in the active phase. Quasi-experimental Research Design with pre and post test without control. The sample in this study were 16 people. Sampling with purposive sampling method. The results of the research distribution of respondents before Deep Breathing Relax was mostly felt severe pain and after being given Deep breathing relax treatment most respondents experienced moderate to mild pain with a paried t test value of P = 0.000 < α 0.05 thus there is an effect of deep breathing relax technique on labor pain intensity in the active phase.

Keywords---active phase, deep breathing relax, labor pain, laboring mothers, quasi-experimental research.

Introduction

Labor care aims to strive for survival and achieve a high degree of health for mothers and their babies. The main focus of normal labor care is to prevent complications during labor to reduce maternal morbidity and mortality. One of the indicators in determining the health status of a nation is characterized by high maternal and infant mortality rates. Maternal mortality is still a very important reproductive health problem in Indonesia (Anissa et al., 2017). According to the World Organization (WHO) in 2018, the number of deliveries reached approximately 108 per 100,000 live births and complications reached 50.3 per 100,000 live births (Ministry of Health, 2018). Some countries have high maternal mortality rates such as Sub-Saharan Africa 179,000, South Asia 69,000, and Southeast Asia 16,000. Maternal mortality rates in Southeast Asian countries where Indonesia is 190 per 100,000 live births, Vietnam 49 per 100,000 live births, Thailand 26 per 100,000 live births, Brunei 27 per 100,000 live births, and Malaysia 29 per 100,000 live births (WHO, 2020).

In South Sulawesi the number of maternal deaths reported by the District/ City Health Office has increased and decreased, in 2021 the number of maternal deaths was 160 people or 110.26 per 100,000 live births, while in 2020 it decreased to 115 people or 78.38 per 100,000 live births, in 2019 it increased

again to 138 people or 93.20 per 100,000 live births. The main causes of maternal death are bleeding, infection, hypertension, preeclampsiaeclampsia, abortion, and prolonged partus (South Sulawesi Health Profile, 2021). Labor pain is a combination of physical pain due to myometrial contractions accompanied by stretching of the lower segment of the uterus together with the psychological condition of the mother during labor. The anxiety of the mother's worries all merge so that they can aggravate the physical pain that already exists. The perception of increasingly intense pain increases maternal anxiety so that a cycle of fear, pain stress and so on occurs. Pain is an unpleasant and complex condition that is an individualized phenomenon that is emotional in nature. Mothers feel worried about the pain that will be faced during labor and birth and how the mother will react to pain and to overcome the pain (Indrayani & Djami, 2016).

Biswan et al. (2017) said that efforts to reduce pain during labor are carried out pharmacologically and nonpharmacologically. Pharmacological pain management is more effective than non-pharmacological methods, but pharmacological methods are more expensive and have the potential to have unfavorable effects, both for the mother and the fetus. Meanwhile, non-pharmacological methods are cheaper, simpler, effective and without adverse effects and can increase satisfaction during labor because the mother can control her feelings and strength (Fitri et al., 2019).

Deep breathing relaxation is one of the relaxation techniques that is often used to reduce pain and reduce pain intensity by stimulating the central nervous system, namely the brain and spine to produce endrophins that function as pain inhibitors. According to Andriana, the deep breath relaxation technique is a form of nursing care, in which case the midwife teaches the client how to perform deep breathing techniques during contractions by using chest breathing through the nose will flow oxygen to the blood, then flow throughout the body. So that the laboring mother will feel relaxed and comfortable because the body will flow the endorphin hormone which is a natural pain reliever in the body (Budiana, 2021).

Research by Fitri et al. (2019) entitled the relationship of deep breathing techniques to reducing active phase pain intensity shows that the intensity of labor pain before treatment is 5.40 and after treatment is 4.07. The visible difference value is 1.33 with a standard deviation of 1.163. The statistical test results obtained a p value of 0.000 <0.05, so Ho is rejected, which means that there is an effect of relaxation techniques on labor pain during phase I with a p value of 0.000 (p value <0.05) (Astuti & Bangsawan, 2019). Based on this, the authors are interested in conducting research on the effect of deep breathing relax techniques on the intensity of labor pain during the active phase at Batara siang Pangkep Hospital (Alwan & Mohsen, 2022; Wahyuni & Maghfiroh, 2022).

Research Method

This study is a Quasi experiment using the one group pretest-postest type which aims to determine the effect of Deep Breathing Relax on Labor Pain Intensity in the Active Phase. This study uses a Quasi-experimental research design with pre and post test without control, which means that researchers only

intervene in one group without comparison. The effect of treatment is assessed by comparing the post test value with the pre test. The population in this study were all laboring mothers with normal labor at Batara Siang Pangkep Hospital. The number of samples in this study were 16 people. Sampling with purposive sampling method. The instruments used were SOAP observation sheet of patented deep breathing technique, comparative plain scale to measure the level of pain before and after the action and questionnaire sheet containing maternal demographic data, namely: name, age, occupation, education, and parity. Data analysis with univariate to determine the frequency distribution of the characteristics of respondents and bifariate analysis with the help of SPSS with paried t test (Annweiler et al., 2020; Been et al., 2020).

Table 1 Frequency Distribution of Respondent Characteristics

Respondent Characteristics	N	Frequency	Percentage (%)
Age	18-27 years old	6	37.5
	28-40 years old	10	62.5
total		16	100
Occupation	Working	5	31.2
	Not Work	11	68.8
total		16	100
Education	Elementary	2	12.5
	Middle	4	25
	High School	9	56.2
	Undergraduate	1	6.3
total		16	100
Parity	Primipara	10	62.5
	Multipara	5	31.2
	Grandmultipara	1	6.3
total		16	100

Source: Primary Data

Table 2 Frequency distribution of pain levels before and after Deep Breathing Relax

Level Pain	Pretest		Postest	
	N	%	N	%
Mild	-	-	6	25.0
Medium	5	31.2	10	75.0
Heavy	11	68.8	-	-
Total	16	100	16	100

Source: Primary Data

Based on table 2 shows that before the back massage was analyzed, the most dominant pain was felt on a heavy pain scale as many as 11 respondents with a percentage of (68.8) and 5 respondents with a percentage of (31.2) on a medium pain scale. After the back massage treatment, the results showed a change in the intensity of the pain felt, there was an increase in the mild pain scale as many as 6 respondents with a percentage of (25.0) and medium pain as many as 10 respondents with a percentage of (75.0) (Muhler et al., 1992; Rouse et al., 1999).

Bivariate Analysis

Bivariate analysis is used to obtain an overview of whether there is a correlation between the independent variable and the dependent variable. The results of this Bivariate analysis are presented in tabular form as follows:

Table 3 Dependent T Test Analysis of the Effect of Deep Breathing Relax on Labor Pain Intensity in the Active Phase

Treatment	N	Mean	SD	P-Value
Pretest	8	7.00	1.069	0.000
Postest	8	4.38	1.302	

Source: paried t test

Based on table 3, the average pain intensity before the deep breathing relax technique is 7.00 heavy pain with a standard deviation of 1.069, while after treatment it is 4.38 medium pain with a standard deviation of 1.302. $P < 0.000$ means that there is an influence between pain scores before and after deep breathing relax, thus it is concluded that the deep breathing relax technique is effective in reducing the intensity of labor pain in the Active phase. Based on table 3 shows that the distribution of respondents before the deep breathing relax technique was carried out, most of the respondents experienced severe pain as many as 11 people (68.8%), while in the results after being given Deep Breathing Relax most of the respondents experienced a decrease in pain to medium, namely 10 people (75%) and mild as many as 6 people (25%) (Bauernschuster & Schlotter, 2015; Simkin & Bolding, 2004).

Pain is a condition in the form of unpleasant feelings that are very subjective because feelings of pain are different in each person in terms of scale or level, and only that person can explain or evaluate the pain he is experiencing (Yuliasari & Santriani, 2018). One of the factors that cause pain in labor is anxiety/ fear in laboring women will stimulate sympathetic nerves which result in spasm of uterine muscles resulting in ischemia of the uterine muscles, as a result there is a lack of oxygen in the uterine muscles which stimulates the release of prostaglandins to cause pain, and pain due to cervical dilatation stimulates the pain response to the cervical and vertebral ganglion and then to the hypothalamus (Herawati, 2016).

In reducing pain can use respiratory relaxation techniques because it can increase concentration so that it makes it easier to regulate breathing. If breathing can be regulated, oxygen in the blood will increase so as to provide a sense of calm, reduce heart rate, and blood pressure so that pain will decrease (Hindriati, 2017). Relaxation is an effective method to reduce pain which is an unpleasant sensory and emotional experience. One way to reduce pain is by means of respiratory relaxation techniques. Relaxation techniques are techniques that can reduce the tension experienced by laboring mothers and their babies, (Biswan et al., 2017). Maintaining components of the sympathetic nervous system in a homeostatic state so that there is no increase in blood supply, reducing anxiety and fear so that the mother can adapt to pain during labor and is more effective since pregnancy (Marmi, 2016).

Breathing is controlled automatically by the respiratory center in the brain, this respiratory center will

Breathing is controlled automatically by the respiratory center in the brain, this respiratory center will respond to carbon dioxide levels in the blood flowing through the center so that differences in carbon dioxide levels will disrupt breathing patterns (fast and deep breaths) to normalize levels. Conditions of fear, anxiety, anger, frustration, pain or the onset of strong contractions during labor will result in the use of oxygen and produce excessive carbon dioxide. Encourage the mother to exhale slowly and forcefully. This breathing is done with the aim of preventing respiratory distress and prolonged hyperventilation (Sonya & Monica, 2018).

From the calculation of data analysis using the Paired T test, the P value is 0.000 while the α value is 0.05. Due to the value of P Value < α, Ho is rejected Ha is accepted, meaning that there is an effect of deep breathing relax technique on the intensity of labor pain during the active phase at Batara siang Pangkep Hospital. Based on the results of the study, it can be concluded that deep breathing techniques can reduce pain intensity in the active phase, where before the pain intervention was carried out on a scale of 5.04 with a standard deviation of 1.595 and a standard error of 0.4. After the intervention of deep breathing techniques, the pain intensity is on a scale of 4.07 and a standard deviation of 1.163 where the standard error is 0.3. The results showed that there was a relationship between the deep breathing technique method and the decrease in active phase labor pain intensity (Jarrah et al., 2022; Chung et al., 2010).

From the results of this study, there is a significant difference in pain before and after being given deep breath relaxation techniques, because the benefits of deep breath relaxation techniques can provide a sense of comfort to the mother. Respiratory relaxation is one of the most useful skills to overcome labor pain. Respiratory relaxation skills to overcome this pain can be used during labor in order to cope well with labor means not being overwhelmed or panicked when facing a series of contractions. Women who use these skills usually feel less pain than women who do not use them. Relaxation is the most commonly used non-pharmacological pain control method in the UK, in a study reported by Steer in 1993 that 34% of women used relaxation techniques (Mander, 2012).

According to the researcher's assumption that during the labor process, deep breath relaxation techniques will reduce pain. Mothers who do the deep breath relaxation technique will decrease their pain according to the his/ contractions experienced. The stronger the contractions, the more pain is felt. With the provision of deep breath relaxation techniques, it can be concluded that there is a positive influence for laboring mothers who perform deep breath relaxation techniques compared to mothers who do not perform deep breath relaxation techniques during the labor process. Overall, based on what the researchers have observed, all respondents on average said that the labor pain felt reduced and felt more comfortable even though the responses given were different (Notoatmodjo, 2012; Lowe, 2002; Huntley et al., 2004).

Conclusion

After the author conducts the research, it can be concluded that from the results of the calculation of data

analysis using the Paired T test, the P value is 0.000 while the α value is 0.05. Due to the value of P Value < α, Ho is rejected Ha is accepted, meaning that there is an effect of deep breathing relax technique on labor pain intensity in the Active phase at Batara siang Pangkep Hospital. It is expected for mothers to add knowledge about the importance of doing deep breathing relaxation techniques to reduce the intensity of pain, especially when facing the onset of labor, and for health workers to apply the deep breath relaxation technique that can be used as a consideration for midwives in providing maternal care in order to reduce the level of pain and pain in facing childbirth.

Acknowledgments

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Morphofunctional Characteristics of the Parotid Salivary Glands of Rabbits in Postnatal Ontogenesis

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A B S T R A C T

The rodent family unites a large number of animal species and is of interest to various areas scientific knowledge. Animal species from the rodent family are interesting because they occupy different ecological niches and are adapted to different conditions of existence. Many species of rodents feed exclusively on plant foods, but there are also omnivorous species whose dietary range includes insects, worms and other invertebrates, as well as bird eggs and small vertebrates. Examples include rats, guinea pigs, mice. As a result, the rodent family demonstrates biologically diverse group of species that are very different in appearance, with specific morpho functional adaptations. Generally morphological and functional features of the large salivary glands in representatives of the rodent family in not currently studied.

Keywords---acinus, connective tissue, morphogenesis, morphometry, ontogenesis, parotid gland, rodents, serocyte, sublingual gland, submandibular gland.

Introduction

The salivary glands perform an important function in maintaining the normal chemical composition of tooth enamel, maintain the physiological level of regeneration of the epithelium of the oral cavity and the entire digestive tract, participate in the regulation of water-salt homeostasis of the body and perform an endocrine function (Babaeva & Shubnikova, 1979; Kim et al., 2022). In the classical experiments of I.P. Pavlov on the study of the secretory function of the salivary glands, it was shown that the amount of saliva secreted is determined by the chemical composition and physical properties of food and is regulated by special reflexes in response to various types of mechanical and chemical excitability. Salivary glands (glandulae salivares) - are subdivided into obstetric and intra-mural into large and small, so the parotid salivary glands, which open with their ducts into the oral cavity, also belong to the obstetric major salivary glands(Beahm et al., 2009; Choi et al., 2002).

Main part

The parotid duct passes into the oral cavity at the level of the fourth premolar in the region of the interbuccal space. The salivary glands include the major and minor salivary glands (Artemova, 1979; Maslova et al., 2018). The glands of the lips, cheeks, palatine and lingual glands are small, and the large salivary glands include three pairs of large glands: parotid, mandibular, sublingual (single-duct and multi-duct), 12 located deep from the oral mucosa. The parotid salivary gland, with its main mass, is located along the posterior edge of the lower jaw, within the upper 2/3 of the distance from the zygomatic arch to the angle of the lower jaw. The gland is covered by the parotid fascia and the subcutaneous muscle of the head. In adult animals, the gland is located at the level of the middle of the dorsal part of the zygomatic arch and the ventral edge of the lower jaw. In 39.1 - 60.5% of cases, above the masticatory muscle, in 4.5% of cases, the gland is short and its lower edge is located above the level of the ventral edge of the lower jaw. In 19.5% of cases, the lower edge of the gland lies at the level of the ventral edge of the mandible, and in 76% of cases, the gland descends to the middle of the distance between the vascular notch and the caudal edge of the angle of the mandible (Tastanova et al., 2020). These are the largest glands of all the salivary glands, covered with a connective tissue capsule, from which trabeculae extend, dividing it into lobules. The lobules include protein terminal sections, intercalary and striated ducts. These glands are complex branched alveolar glands, they produce a protein (serous) secret. The protein terminal sections are round or oval in shape and consist of 2 types of cells: I) glandular cells, called serocytes, and 2) myoepithelial. Between the terminal sections are thin layers of connective tissue that form the stroma of the gland. Intercalated intralobular excretory ducts - the smallest, start from the end sections, consist of an inner layer of cuboidal or flattened epithelial cells and myoepitheliocytes. In the parotid gland, these ducts are well developed and branch. These ducts drain into intralobular striated ducts. The striated intralobular excretory ducts are well developed and consist of one layer of prismatic epitheliocytes and a layer of myoepitheliocytes. The striated ducts flow into the interlobular excretory ducts. The interlobular excretory ducts are located in the interlobular connective tissue. At the origins, these ducts are lined with a two-layer, at the mouth - with a multilayer cubic epithelium. The interlobular excretory ducts empty into the common duct of the gland. The common duct of the gland at the origins is lined with stratified cuboidal epithelium, at the mouth - with stratified squamous non-keratinizing epithelium. The duct pierces the masticatory muscle and opens in the vestibule of the oral cavity at the level of the upper 2nd large molar(Zbären et al., 2003; Van Sickels, 2009).

Materials and Methods

The experiment was carried out on rabbits at the age of 1, 2 and 3 weeks. Animals were kept under standard conditions: 12-hour light period, temperature 20°C. The morphological and functional state of the major salivary glands of rats was assessed by morphological (hematoxylin and eosin) and

morphometric methods. Pieces of the parotid glands for morphological and morphometric studies were fixed in a 10% formalin solution and embedded in a paraffin mixture. Sections 5 μm thick were stained with hematoxylin and eosin. The results of the morphometric study are presented as a sample mean and standard deviation (Volkov, 2016; Avtandilov, 1990; Battaglia et al., 2022). The research materials were subjected to statistical processing using the methods of parametric and non-parametric analysis. Accumulation, correction, systematization of initial information and visualization of the obtained results were carried out in Microsoft Office Excel 2016 spreadsheets. Statistical analysis was carried out using the IBM SPSS Statistics v.26 program (developer - IBM Corporation). Quantitative indicators were evaluated for compliance with the normal distribution, for this, the Shapiro Wilk test (with the number of subjects less than 50) or the Kolmogorov-Smirnov criterion (with the number of subjects more than 50), as well as indicators of asymmetry and kurtosis, were used (Sznitman, 2013; Steinberg, 2007).

Results and Discussion

Morphometric studies included the definition of:

1. Total area of the parotid glands;

2. Number of slices;

3. Number of acini;

4. Area of acinus MKM (micrometer);

The results of the experiment are presented in the following table

Table 1 Morphometry of the parotid glands of rabbits

Morphometry of the parotid glands of rabbits	1 week		2 week		3 week	
	M	m	M	m	M	m
Total area of the parotid glands	146,80	9,78	192,40	14,23	255,30	6,27
Number of slices	53,20	2,46	78,80	5,46	120,70	4,37
Connective tissue septum	27,90	2,27	39,70	3,92	59,40	3,45
Acinus numbers	212,50	9,85	284,10	10,35	327,40	4,95
Area of acinus MKM (micrometer) ;	65,70	7,84	76,60	8,42	78,90	5,94

The early stages of postnatal morphogenesis of the parotid salivary gland in rabbits are characterized by a statistically significant increase in the diameter of the acini from 212.50±9.85 μm to 284.10±10.35 μm, causing a trend towards an increase in their area (picture 1).
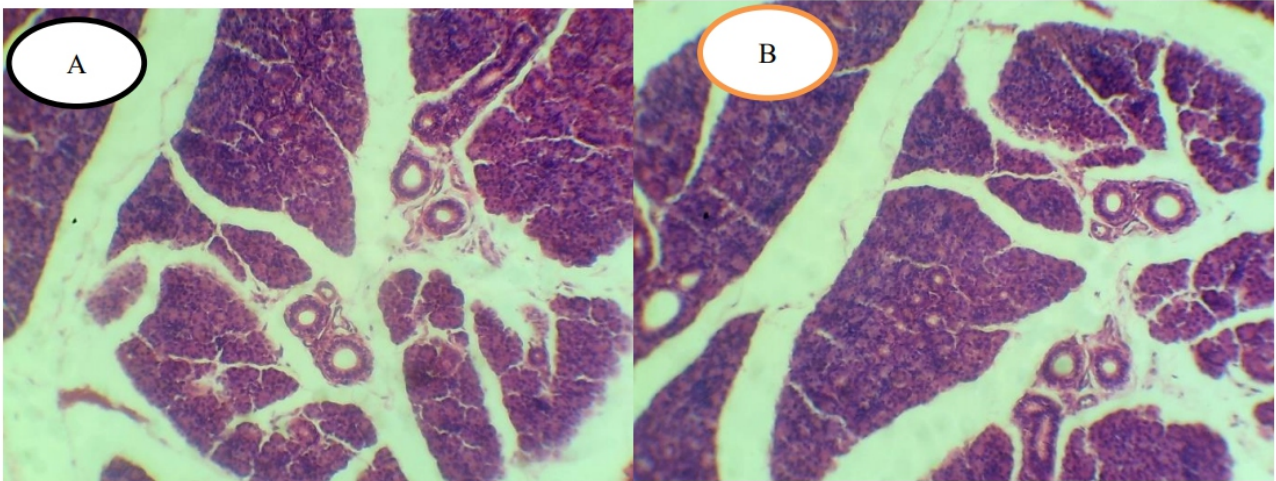
Figure 1. The structure of the parotid glands of rabbits for 1 (A)and 2(B) weeks

At the same time, the number of acini increases sequentially, and then by the 2nd week it stabilizes up to 3 weeks. In the later period of ontogenesis, from 2 to 3 weeks, there is an incre ase in the cross-sectional area and diameter of acini, probably due to an increase in the cross-sectional area of the cytoplasm of serocytes, and in the period of maturation (2-3 weeks) by an increase in their number on the cross sectional area of the acinus (picture 2).
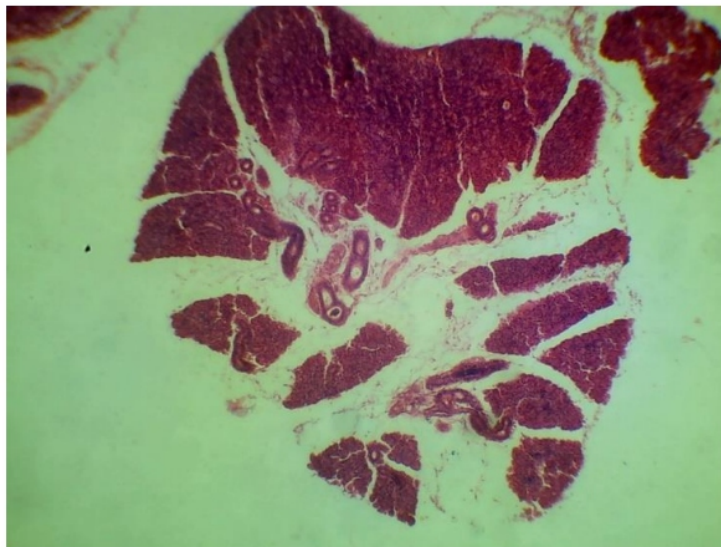
Figure 2. The structure of the parotid glands of rabbits for 3 weeks

The period from 1 to 3 weeks is characterized by a statistically significant increase in the cross-sectional area and diameter of the parotid glands, as well as an increase in their walls and diameter. The subsequent period (2-3 weeks) is characterized by both an increase in the cross-sectional area of the walls and lumens of the intercalary ducts, which is accompanied by a simultaneous increase in the area of nuclei and cytoplasm of epitheliocytes and their number in the cross-sectional area of the duct, similar to

acini.Thus, normally, the morphogenesis of the parotid salivary gland in the period from 1 to 3 weeks is characterized by a 1.5-fold increase in the cross-sectional area of the terminal sections, which is based on an increase in both the number of serocytes per cross-sectional area of the acinus and the size of the cells themselves (Carey & Barner, 2019; Ashburner & Friston, 2001).

Figure 3. Morphometry of the parotid glands of rabbits

Changes in the morphometric parameters of the intralobular excretory ducts of the parotid salivary gland are characterized 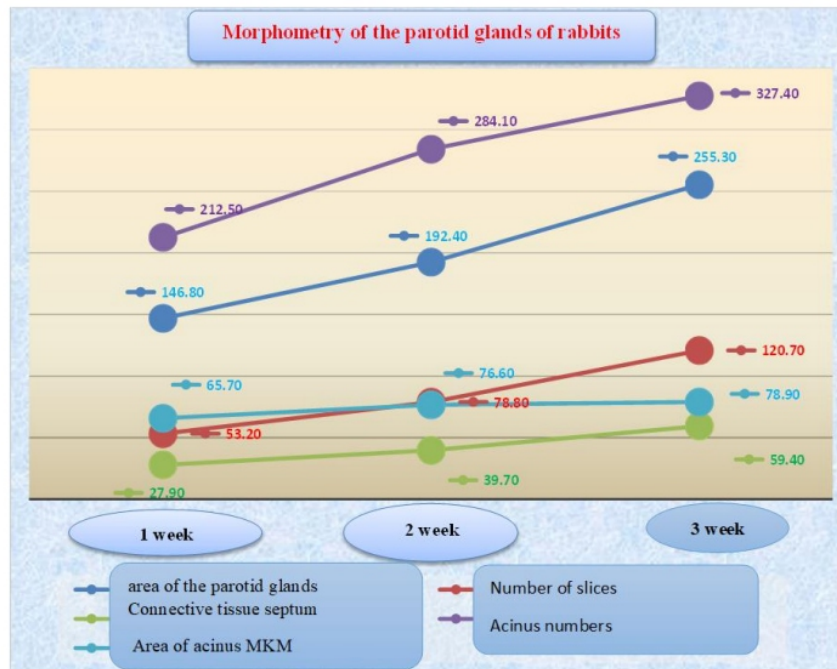by two stages. A decrease in the cross-sectional area of the walls of the intercalary and striated ducts in early postnatal ontogenesis is replaced by their increase at later stages. These phenomena are accompanied by similar changes in the size of the nuclei and cytoplasm of epitheliocytes. The functional activity of epithelial cells of the intralobular excretory ducts increases most intensively in the late stages of postnatal ontogenesis (Iglič et al., 2004; Crosby, 1952).

Conclusion

The morphogenesis of the acini of the parotid salivary gland in rabbits is generally characterized by an increase in their size during 3 weeks of postnatal ontogenesis, and the intralobul ar ducts are characterized by two-stage dynamics. Early postnatal ontogeny is characterized by a decrease in the cross-sectional area of the duct walls and an increase in the gaps; at later stages, both indicators increase statistically significantly. Changes in the morphometric parameters of the intralobular excretory ducts of the parotid salivary gland are characterized by two stages. An increase in the cross-sectional area of the walls of the intercalary and striated ducts in early postnatal ontoge nesis is replaced by their increase at

later stages. These phenomena are accompanied by similar changes in the size of the nuclei and cytoplasm of epitheliocytes. The functional activity of epithelial cells of the intralobular excretory ducts increases most intensively at the late stages of postnatal ontogenesis.

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The effectiveness of pranic complementary therapy to reduce post COVID-19 anxiety in elderly

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A B S T R A C T

Background. COVID-19 affects all aspects of life globally including the elderly who are a vulnerable population experiencing psychosocial disorders. They are vulnerable to mental disorders during the pandemic such as stress, anxiety, depression, post-traumatic stress disorder, suicide, and aggravation of pre-existing mental disorders. The choice of anxiety therapy in the elderly is prioritized to be non-pharmacological therapy to avoid polypharmacy and the side effects of pharmacological therapy. Pranic healing therapy is a complementary therapy that can be a therapeutic option used to reduce anxiety in the elderly after suffering from COVID-19. Methods. This research is an experimental study with a randomized controlled trial design. Furthermore, 20 elderly patients with post-COVID-19 anxiety who received pharmacological therapy and Cognitive Behavioral Therapy with pranic therapy intervention were compared with the control 20 elderly patients post-COVID-19 with pharmacological therapy and Cognitive Behavioral Therapy without Prana therapy. Results. The characteristics of patients were > 66 years old, mostly male, married, accompanied by comorbid diseases, treated in non-intensive rooms, and experiencing moderate-severe anxiety before getting Prana complementary therapy. Based on the t-test, there was a significant decrease in GAI scores (4.450) before and after therapy in the elderly group with prana therapy with a p value <0.000, and a decrease in HARS scores (19.750) with a p-value <0.000. Also, there is a significant difference in GAI scores between the elderly group with pranic therapy (case) and the control group after pranic complementary therapy with a p-value <0.05 (p=0.006), and there is a significant difference in HARS scores with p value <0.05 (p=0.001). Conclusion. Prana therapy effectively reduces anxiety symptoms in the elderly post-COVID 19. Pranic complementary therapy can be used as an effective additional therapy in reducing psychological symptoms while still providing conventional therapy.

Keywords---anxiety, COVID-19, elderly, pranic therapy, psychological.

Introduction

Some of the psychological disorders experienced by COVID-19 patients and recovering survivors such as sleep disturbances, mood disorders, panic, anxiety, depression and Post-Traumatic Stress Disorder (PTSD) which are severe chronic mental disorders and the most common that will pose a burden and threat to society (Astuti & Widyawati, 2019; Kourkouta et al., 2015). Age, gender, incidence rate and acute phase risk factors are highly correlated with psychological morbidity, making early identification

and comprehensive psychological support necessary (Mo et al., 2020; Valle et al., 2006).

The prevalence of anxiety symptoms in the elderly was 4.95% before COVID-19, and 10.10% during the pandemic, which is two times higher (Al-Zahrani, 2021). Anxiety that occurs in elderly patients during the COVID 19 pandemic is mostly because they suffer from COVID-19 or because of other situations such as family suffering or dying from COVID-19, due to social restriction/isolation policies, difficulties or obstacles in accessing health services due to services are more focused on handling COVID or fear of leaving the house and being exposed to COVID-19 (Dubey et al., 2020). Stress from the self and the psychosocial environment triggers activation of the HPA axis and the inflammatory system, thereby triggering chronic inflammation which predisposes the elderly to anxiety (Chakrawarty, 2021; Mistry, 2021).

Pharmacological treatment of anxiety in the elderly who experience COVID-19 can be given Selective Serotonin Reuptake Inhibitor (SSRI) antidepressants as the main choice, given low doses, can be combined with the benzodiazepine group with a short-acting, or low doses of atypical antipsychotics (Mehra et al., 2020; Nogueira et al., 2013). Non-pharmacological therapeutic modalities are preferred such as supportive psychotherapy, psychoeducation, cognitive behavioural therapy, and other therapies such as self-hypnosis, logotherapy, and complementary therapies (Sadock, 2015).

It is believed that a person's knowledge and mental abilities are linked to the brain (mind) through various fibers and neurons, making it a major source of inspiration and motivation. The processes that take place in the mind have a direct effect and impact on the gland-producing organs, digestion, and other parts of the human body (Srivastava et al., 2017; Wang et al., 2020). Good and positive thoughts have a positive improvisational effect on health, while negative thoughts have a negative impact on health. Pranic healing therapy interventions help reduce tension and anxiety, and other mental disorders (Srivastava et al., 2019).

Pranic therapy is a complementary therapy used to complement conventional therapy. It is one part of psychotherapy. Pranic healing is an ancient knowledge and healing art that uses prana or ki or vital energy to heal the physical body. Pranic healing also involves manipulating the ki and bioplasmic material of the patient's body. It is also called medical qigong (chi kung or ki healing), psychic healing, magnetic healing, faith healing, vital healing, hand laying, therapeutic touch, and charismatic healing. Prana or ki is the vital energy or life force that maintains the life and health of the body (Sui, 2006).

The anxiety of elderly patients experiencing COVID-19 both from direct effects on the brain through the inflammatory process, as well as from the impact of stress, fear of death, isolation, loneliness, and difficulty accessing treatment during the COVID-19 pandemic will affect overall feelings, thoughts and behaviour (Grolli et al., 2021). Post-COVID-19 anxiety is seen from the aura or bioplasmic body emanating from the patient, which will then emit pranic energy to heal anxiety (de Souza Cavalcante et al., 2016). Pranic healing is an approach to accelerate the body's innate ability to heal all dimensions of

of physical, emotional, mental, social and spiritual health (Lama, 2020). This study aims to determine the effectiveness of prana complementary therapy in reducing anxiety in the elderly after suffering from COVID-19 (Belzung & Griebel, 2001; Kumar & Somani, 2020).

Method

This study is a pre-test/post-test experimental randomized controlled design with the sampling technique is total sampling. Subjects who met the inclusion and exclusion criteria were divided into intervention (with pranic therapy) and control (without pranic therapy) groups, each consisting of 20 subjects. All research subjects in each group were interviewed with a questionnaire to assess the presence of anxiety disorders in the elderly using the Geriatric Anxiety Inventory (GAI) and continued with the Hamilton Anxiety Rating Scale (HARS) (pre-intervention). The intervention and control groups received almost the same pharmacological therapy in the form of benzodiazepine class anti anxiety combined with SSRI class anti-depressants, and non-pharmacological therapy in the form of psychoeducation and cognitive behavioural therapy to overcome anxiety during the therapy process that came to the Prana and Geriatric polyclinic every 2 weeks for at least 6 months. The intervention group was given prana therapy for 30 minutes performed by Prana practitioners at least 3 times or depending on the improvement felt by the patient (for example, with 2-3 times feeling the anxiety symptoms subsided), then confirmed by the GAI and HDRS assessment after prana therapy (Rahmadeni et al., 2020).

Result

The characteristics of elderly patients in the pranic therapy and control groups each consisted of 20 people, the basic characteristics of the study are presented in table 1.

Table 1 Socio-demographic and clinical characteristics of study subjects

Variable	with Pranic Therapy (n= 20)	Control (n =20)
Age		
Mean	66,30	67,45
Standard deviation	5,182	4,298
Sex		
Man	11 (55%)	13 (65%)
Woman	9 (45%)	7 (35%)
Education		
Elementary School	1 (5%)	4 (20%)
Junior High School	1 (5%)	0 (0%)
Senior High School	8 (40%)	8 (40%)
Undergraduate	10 (50%)	8 (40%)
Job		
Work	0 (0%)	2 (10%)
No Work	20 (100%)	18 (90%)

Marital status		
Unmarried	1 (5%)	0 (0%)
Married	15 (75%)	13 (65%)
Widow/widower	4 (20%)	7 (35%)
Covid conditions		
Intensive room	7 (35%)	8 (40%)
Non-intensive room	13 (65%)	12 (60%)
Comorbid		
With comorbid	16 (80%)	17 (85%)
Without comorbid	4 (20%)	3 (15%)
Anxiety score (Pre therapy)		
GAI, mean + SD	12,5 + 2,685	13,35 + 3,083
HARS, mean + SD	37,95 + 12,763	34,15 + 11,495
Anxiety score (Post therapy)		
GAI, mean + SD	7,20 + 2,876	9,75 + 2,633
HARS, mean + SD	12,60 + 5,276	20,00 + 7,874

A paired t-test was conducted to obtain a comparison of differences in scores on the GAI and HARS before and after pranic therapy in the pranic therapy group. Based on the paired t-test, there was a significant decrease in GAI scores (4.450) before and after therapy in the elderly group with pranic therapy, with a p-value of less than 0.005 (p <0.000), and there was a significant decrease in HARS scores (19.750) before and after therapy with a p-value of less than 0.005 (p <0.000) (table 2).

Table 2 Anxiety scores before and after pranic therapy in the elderly pranic therapy group

	Before therapy	After therapy	Difference	P value
GAI	12,93 (2,886)	8,48 (3,013)	4,450 (3,551)	<0,0001
HARS	36,05 (12,142)	16,30 (7,603)	19,750 (12,80)	<0,0001

Paired t-test

To compare the GAI and HARS scores of the pranic therapy group and the control group before therapy using an unpaired t-test. Based on this test, there was no difference in GAI scores in the control group and pranic therapy group before therapy was performed (p=0.358), and there was no significant difference in HARS scores in the control group and pranic therapy group before therapy was performed. (p=0.329) (table 3)

Table 3 Pre-therapy anxiety scores in elderly pranic therapy and control groups

	Pranic Therapy	Control	P value
GAI	12,5 (2,685)	13,35 (3,083)	0,358
HARS	37,95 (12,763)	34,15 (11,495)	0,329

Unpaired t-test

To compare the GAI and HARS scores of the pranic therapy group and the control group after therapy using an unpaired t-test. Based on this test, there was a significant difference in GAI scores between the pranic therapy group and the control group after pranic therapy with a p-value <0.05 (p=0.006), and there was a significant difference in HARS scores between the control group and the case group after pranic

therapy with a p-value <0.05 (p=0.001) (table 4).

Table 4 Anxiety scores after therapy in elderly pranic therapy and control groups

	Pranic Therapy	Control	P value
GAI	7,20 (2,876)	9,75 (2,633)	0,006
HARS	12,60 (5,276)	20,00 (7,874)	0,001

Unpaired t-test

Discussion

Based on data at the Prana Polyclinic Prof. IGNG Ngoerah Denpasar, there were 421 visits in 2021, and in 2022 there were 536 visits to the Prana clinic with various complaints. Psychosomatic complaints are among the top 10 diagnoses that visit the Prana clinic. One of them is patients who experience anxiety with various stressors such as suffering from cancer, pain, diabetes mellitus, difficulty sleeping, and post-COVID. Some who undergo prana therapy are elderly people who experience anxiety after suffering from COVID-19 (Hajjar et al., 2007; Carman et al., 2000).

The results of this study with paired t-test significantly ($p < 0.0001$) found a decrease in anxiety scores in the elderly after COVID-19 between before and after getting prana complementary therapy. The results of the unpaired t-test found a significant decrease in anxiety in the elderly group suffering from COVID-19 who received prana complementary therapy with a GAI score with a value of $p < 0.05$ (p = 0.006), and a HARS score with a value of $p < 0.05$ (p = 0.001) compared to the elderly control group who only received pharmacological therapy and cognitive behaviour therapy (CBT).

The study conducted among 20 undergraduate students in the age group of 18-20 years, aimed to examine the effect of yoga and pranic healing on psychological disorders, there was a significant relationship between yoga and pranic healing (Nikhra, 2016; Killgore et al., 2020). An experimental study was conducted on 65 female employees with an average age of 30 years to determine the effect of pranic therapy on the quality of life of female employees, it was found that pranic therapy was effective in improving the quality of life of these female employee workers. There is evidence that pranic healing therapy has the effect of improving the respiratory system, autonomic nervous system, stress, anxiety levels, and overall emotional status of the individual (Srikanth et al., 2018).

Conclusion

Pranic therapy is a complementary therapy used as an additional therapy that effectively reduces anxiety in elderly patients after suffering from COVID-19. Pranic therapy is considered a non-pharmacological therapy option in dealing with psychological disorders to accelerate recovery and improve the quality of life of patients, especially elderly patients.

Research Limitation

This study used a small sample size, and a small amount of pranic therapy research was obtained for comparison. More research is needed with a larger sample so that the validity of the therapy is closer.

Ethical Statement

This study has been approved by the ethical committee of the faculty of medicine Udayana University with the letter number: 1797/UN I4.2 .2. VII. l4/LT/2022

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