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Case Study of Implementation of Slow Deep Breathing Therapy to Reduce Pain in Gastritis Sufferers

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ABSTRACT

Objective: To present nursing care with slow deep braething intervention in an effort to reduce the intensity of heartburn in gastritis clients

Methods: The subject of this case study was a client who experienced pain associated with an injury to a biological agent. Data collection techniques are interviews, observation, physical examination, and paper research.

Results: The results of the case study at the assessment stage showed that the client experienced heartburn, felt nauseous, and dizzy. The client looks in pain with a smirk on his face in pain. The established diagnosis is acute pain associated with an injury biological agent which refers to the SDKI book. The intervention and implementation used on clients is the application of non-pharmacological slow deep breathing therapy.

Conclusion: After implementing slow deep breathing therapy the client says the pain has decreased slightly, while the subjective data from the history of the client looks fresh and can move as usual.

Keywords: deep breath, gastritis, pain

Introduction

Gastritis comes from the Greek, namely gast means stomach and itis means inflammation of the gastric mucosa, inflammation of the stomach can be acute or chronic (Torres, 2017). Gastritis is a health disorder related to the digestive process, especially the stomach, the stomach can be damaged if it is empty frequently, because the stomach is compressed so that the stomach lining is blistered and injured, the wound experiences an inflammatory process called gastritis (Eka Novitayanti, 2020).

Acute gastritis is caused by internal factors (which trigger the condition of the stomach to secrete too much acid) and external factors (which cause irritation and infection (Firdausy et al., 2022). Meanwhile, the cause of chronic gastritis is acute, malignant ulcer disease or Helicobacter pylori bacteria (Bustani, 2018) Helicobacter pylori (H. pylori) is the only bacterium that lives in the stomach, which can infect the stomach very early and cause chronic gastric disease (Ninandita Khanza et al., 2019).

Acid in the stomach if it is high can also cause a wound known as an ulcer. It can even be accompanied by vomiting blood. Gastritis if not treated properly will cause serious complications, including stomach cancer (Museum, 2019). Gastritis is caused by excess acid in the stomach. Pain in gastritis is caused by erosion of the mucous membranes which can increase blood pressure and hormones such as prostaglandins and histamine in the stomach play a role in stimulating pain receptors.

Pain due to gastritis if not treated immediately or even gets worse and eventually stomach acid comes out ulcers (ulcers) is called heartburn, and possible complications such as narrowing of the esophagus to difficulty swallowing, Barrett's esophagus, or exposure of stomach acid to the esophagus, until stomach acid "leaks " to the small intestine (Denata, 2021). Hiccups, chills, which may also be accompanied by fever, stomach discomfort, headache, flatulence, epigastric discomfort, vomiting, nausea, sharp or burning pain in the upper abdomen, which may get worse or worse with eating, loss of appetite is common symptoms in sufferers of gastritis according to (Ninandita Khanza et al., 2019).

Gastritis is a degenerative disease that can affect the elderly and children and as a non-communicable disease is still a global health problem. Based on the World Health Organization (WHO) in 2020 for countries around the world and taking the result as a percentage of gastritis rates worldwide, it was found that the number of people with gastritis in the UK is 22%. France 29.5%, Japan 14.5%, China 31% and Canada 35% (Museum, 2019).

According to data from the Indonesian Ministry of Health regarding the 10 most common diseases in hospitals in Indonesia, hospitalized patients for gastritis rank sixth with 33,580 cases, of which 60.86% occur in women. Outpatients ranked 7th with a total of 201,083 cases, of which 77.7% were women. Specifically in West Java Province, there were 12,557 new cases of hospitalized patients due to gastritis, from an increase in cases in 2012 (Padilah et al., 2021).

Upper gastrointestinal bleeding, a medical emergency, sometimes fatal, is a complication that occurs in acute gastritis (Oktoriana & Krishna, 2019). Impaired absorption of vitamin B12, due to malabsorption, B12 also causes pernicious anemia, impaired absorption of iron and pyloric stenosis, which is a common complication of chronic gastritis (Ninandita Khanza, et al, 2019). Based on these basics and problems, the author would like to include a nursing case in a case study entitled "A case study of the application of slow deep breathing therapy to reduce pain intensity in gastritis patients".

Objective

This case study aims to gain practical experience in medical surgical nursing and be able to provide direct nursing care and to apply slow deep breathing therapy to reduce pain intensity in gastritis patients.

Methods

The study design used is a case study, which is looking at a problem through a case unit. Or it can be understood as a person, a group of people who are exposed to certain problems. The entity that is the subject of the problem is analyzed in depth both in terms of its relationship with the event itself, risk factors, effects, events related to the incident, as well as actions and responses to the problem. Interpretation, even though what is considered in the problem is in the form of a single unit, it is analyzed in depth (Pradita, 2022).

This case study was conducted on a 63 year old client who was treated in the dahlia room class 3A4 at the Banjar Hospital for 3 days on 28-30 May 2022 before taking any nursing action the author explained in advance about the intervention and implementation that would be carried out. As well as cooperative clients when given an explanation and also clients are able to apply the non-pharmacological therapy provided.

Result and Discussion
Assessment

The results of the study obtained were client data Ny. M is 63 years old, a woman, Muslim, married, works as a housewife, graduated from elementary school and lives in Kertahayu village RT/RW 32/09 Pamarican District, Ciamis Regency, with a medical diagnosis of gastritis, all information was obtained from the families and clients go through the interview stage during the assessment.

When the first assessment was carried out on May 28 2022 the client complained of heartburn, vomiting, nausea, and dizziness with the following physical examination results: blood pressure: 100/80 mmHg, temperature: 36.7° C, respiration: 20 x/minute, pulse: 69 x/min compos mentis general awareness total: GCS: 15.

Table 1. *Glasgow Coma Scale* (GCS)

GCS	Respons	Score
E : Eye	Spontan	4
M : Motorik	Follow the order	6
V : Verbal	Well Oriented	5
	Total	15

Current health history, when he came to the Banjar Hospital on May 27, 2022 the client said pain in the pit of the stomach, dizziness, and nausea the client complained of pain that felt hot as if squeezed, pain felt in the left quadrant of the abdomen pain scale 4 (1-10) client saying the pain goes away the client says he has felt these symptoms since 3 days ago. Then an assessment was carried out on May 28, 2022 by the author with the same complaint, when a physical examination of the abdomen was carried out, the client looked grimacing in pain, the client said the pain decreased when pressure was applied and increased when left alone, the client said the pain came and went. The results of the physical laboratory examination carried out on the client include the following.

Table 2. Blood Test

Indicators	Result	Standard
Hemogobin	14.2	12-15 gr/dl
Leukosit	**15.1**	4.4-11.3 ribu/mm³
Trombosit	434	150-450 ribu/ mm³
Hematokrit	40	35-47%
Eritrosit	4.9	4.1-5.1 juta/uL
Basofil	0	0-1%
Eusinofil	3	0-5%
Netrofil	76	50-70%
Limposit	16	22-40%
Monosit	5	2-8%
MCV	81	80-96 fl
MCH	29	26-33pg
MCHC	36	32-36%

Diagnosis

The nursing diagnoses used are based on the results of data analysis adjusted for the Indonesian Nursing Diagnostic Standards 2nd Edition 2015 Revision II of the Indonesian National Nurses Association (INNA).

Table 3. Data Analysis

Symptom	Ethiology	Problem
Subjective data: The client complains of epigastric pain, dizziness and nausea	Medication (NSAID) ↓	Acute pain associated with biologic trauma agents
Objective Data: The client is seen holding back the pain with a grimace on his face in pain Vital sign: BP: 110/80 mm Hg R: 20 x/minute N: 69 x/minute S: 36.7° C	Gastric mucosal barrier ↓ Pepsin barrier ↓ HCl difussion ↓ Inflamation ↓ pain ↓ **Accute pain**	

Intervention, Implementation, and Evaluation

After examining the data from the diagnosis, it is followed by nursing interventions which are referenced from the Indonesian Nursing Intervention Standards book, Edition 1, Issue II, 2015.

Table 4. Nursing Intervention

Outcome	Intervention
Acute pain associated with biological trauma agents. After the 2x24 procedure, it is expected that the pain will be resolved with the following criteria: 1. Pain is reduced 2. The client states a sense of comfort after the pain is reduced 3. Able to control pain 4. TTV is normal 5. Able to recognize pain	1. set the client's position as comfortable as possible (semi fowler) 2. Perform a comprehensive pain assessment in terms of pain location, characteristics, duration, intensity or severity, and triggers 3. Keep an eye on vital signs 4. Teaching non-pharmacological techniques of deep breathing relaxation or slow deep breathing and distraction 5. Collaboration, give analgesic drugs according to the five right principles (correct patient, drug, dose, method/route, time, and documentation)

Table 5. Nursing Implementation

Time	Implementation	Results
28 May 2022 08.35-10.25	**08.35** Set the client's position as comfortable as possible **08.50** Perform a comprehensive pain assessment **09.15** Monitor vital signs **10.25** Teaching non-pharmacological relaxation techniques, slow deep breathing and distraction	1. The client is comfortable in a lying position. The client says pain in the pit of the stomach feels hot like being squeezed, pain is felt in the left quadrant of the abdomen, a pain scale of 4 (1-10) intermittent pain 2. TTV: 3. BP: 110/80 mm Hg 4. R: 20 x/minute 5. N: 69 x/minute 6. S: 36.7˚C 7. The client follows the nurse doing a slow deep breathing relaxation technique and the client's concentration is diverted because he is talking about his grandson

Table 6. Nursing Evaluation

Diagnosis	Evaluation
Acute pain associated with biologic trauma agents	S: The client says he feels heartburn O: 1. The client looks difficult to move 2. The client looks restless and weak 3. With vital signs: 4. BP: 110/80 mmHg N: 69 x/min R: 20x/min S: 36.7° C A: Nursing diagnosis Acute pain related to biological injury agent. P: 1. Continue intervention 1, 3, 4, 5 2. Position as comfortable as possible 3. Monitor vital signs 4. Teaching non-pharmacological techniques of deep breathing relaxation and distraction 5. Collaboration, give analgesic drugs according to the five right principles (correct patient, drug, dose, method or route, time, and documentation).

After the nursing care process was carried out on Mrs. M, who is 63 years old, was treated in the Dahlia room, Banjar city from 28-30 May 2022. When nursing care was carried out, clients and families were very enthusiastic in carrying out the nursing care process so that it was easy for the writer to carry out assessments, determine diagnoses and plan and carry out nursing actions and evaluate.

The process of assessing this phase is the initial stage of the nursing process. In this phase the client and family help in terms of providing data about the client's disease state and what the client has experienced so far. A systematic approach is also taken to collect data through client complaints in the form of subjective data and objective data, which are then analyzed until a diagnosis is made (Subu, 2021). The data obtained on the patient Mrs. M is pain in the pit of the stomach that feels hot like being squeezed, pain is felt in the left quadrant of the abdomen on a pain scale of 4 (1-10) intermittent pain.

The next stage is determining the diagnosis based on the assessment and analysis of data found on the client and arranged according to problem priorities, but not all nursing diagnoses contained in the theoretical review appear in the nursing diagnoses found during the assessment of the client. According to (Syarifudin, 2020), clinical assessment of individual responses that theoretically appear in patients with gastritis cases, namely acute pain associated with biological trauma agents, lack of fluid volume below body requirements related to inadequate intake (nausea and vomiting), eating patterns unbalanced, less than body requirements due to lack of food, activity intolerance related to body weakness, lack of knowledge about the disease related to lack of information.

Meanwhile, on client problems, the authors found nursing diagnoses based on focused diagnoses, namely acute pain associated with biological trauma agents. In accordance with the guidelines for the Indonesian standard nursing diagnosis book (SDKI) acute pain problems are related to biological trauma agents, the diagnosis is applied according to the symptoms experienced by the client, namely epigastric pain, which feels hot as if squeezed, pain is felt in the left quadrant of the abdomen on a pain scale of 4 (1-10) the client complains of intermittent pain, and the client reports feeling vomiting and nauseous.

Then proceed to the third step, which is a planned nursing intervention to assist the client in recovery from the current level of health to the desired level with the desired results (Syarifudin, 2020). In this process, the authors formulate a nursing action plan that is consistent with theory and references from available source books and reviews by previous researchers. Interventions were carried out in accordance with the standard nursing intervention manual as follows:

Table 7. Standard intervention (SDKI)

Intervention	Rationale
Observation 1. Set the client's position as comfortable as possible (semi fowler) 2. Monitor Vital Signs **Therapeutic** Perform a comprehensive pain assessment including location, characteristics, duration, intensity or severity of pain, and triggers. **Education** 1. Teaching non-pharmacological techniques of deep breathing relaxation or slow deep breathing and distraction 2. 2. Collaboration, give analgesic drugs according to the five right principles (correct patient, drug, dose, method or route, time, and documentation)	1. Positioning the client comfortably will help give the muscles the opportunity to relax as optimally as possible 2. To assess the level of pain in order to help determine appropriate nursing interventions 3. TTV changes are a sign of increasing pain in the client 4. Relaxation techniques can make the client feel comfortable and distraction can distract the client from pain to help reduce the pain that is felt 5. Analgesic drugs will block pain receptors so that pain cannot be expressed

The author also adds non-pharmacological focus actions found in previous studies, namely teaching slow deep breathing relaxation techniques to reduce pain intensity in gastritis patients.

From the symptoms that exist on the client there is heartburn, nausea, vomiting, and dizziness. The intervention that will be carried out by the author is a slow deep breathing relaxation technique. This relaxation technique is a breathing exercise with slow and deep breathing techniques, using the diaphragm, slowly lifting the stomach and fully developing the ribs. Relaxation can be applied as a non-pharmacological therapy. to deal with stress, muscle tension, reduce pain, lengthening of muscle fibers occurs, decreased brain activity and other body functions when relaxation occurs (Setianingsih et al., 2020).

According to research results from (Suardika, 2021) slow deep breathing or breathing relaxation is a form of nursing where the nurse teaches clients how to relax, breathe as slowly as possible. Slow deep breathing is a relaxation breathing technique that can reduce anxiety about pain intensity in gastritis patients.

In the fourth phase there is an implementation section where the author provides nursing care to the client, the provision of nursing care to gastritis clients is carried out according to the planned care plan, but according to the client's status, facilities and infrastructure, and implementation time, including limitations in providing adequate nursing care (Thanthirige et al., 2016). The actions taken by the author after the planning process include: arranging the client's position as comfortable as possible, conducting pain assessment, monitoring vital signs, providing health education and adding non-pharmacological therapy to slow deep breathing relaxation to reduce pain in the client

And finally, the assessment phase, the evaluation phase is a systematic comparison of the client's health status with set goals, carried out continuously with the participation of clients and other stakeholders, health specialists. Nursing evaluation is an assessment of identified nursing actions, to determine the optimal level of satisfaction of client needs and to measure the results of the nursing process.

To assess whether goals can be achieved, especially in the form of SOAP (Subjective, Objective, Analysis and Planning) (Syah RanI, 2021). Evaluation of the diagnosis Pain related to biological trauma agents, namely: S: Client complains of pain in the abdominal area (solar plexus), O: Client looks grimacing with a pain scale of 4 (1-10), A: Client can control pain with deep breathing techniques train the client in deep breathing techniques or slow deep breathing, P: The disturbance continues.

Conclussion

After the author performs nursing care on Ny. M with digestive system disorders: gastritis in the Dahlia room, Banjar City Hospital on 28-30 May 2022. So the authors conclude that there is a reduction in pain and anxiety in gastritis patients with nursing diagnoses of acute pain based on biological trauma agents with slow deep relaxation technique interventions breathing.

References

1. Bustani, B. (2018). *Asuhan keperawatan pada nY R dengan gastritis di ruangan poli Bp puskesmas Air haji kab. pesisir selatan tahun 2018*. STIKes Perintis Padang.
2. Denata, R. (2021). *Asuhan Keperawatan Gangguan Pemenuhan Kebutuhan Rasa Nyaman Nyeri Pada Keluarga Bapak P. Khususnya Nn. R. Dengan Gastritis Di Desa Marga Agung Lampung Selatan Tahun 2021*. Poltekkes Tanjungkarang.
3. Eka Novitayanti. (2020). Identifikasi Kejadian Gastritis Pada Siswa Smu Muhammadyah 3 Masaran. *Infokes: Jurnal Ilmiah Rekam Medis Dan Informatika Kesehatan*, *10*(1), 18–22. https://doi.org/10.47701/infokes.v10i1.843
4. Firdausy, A. I., Amanda, K. A., Alfaeni, S. W., Amalia, N., Rahmani, N. A., & Nasution, A. S. (2022). Hubungan Pola Makan Dan Stres Dengan Kejadian Gastritis Pada Mahasiswa Fakultas Ilmu Kesehatan Universitas Ibn Khaldun. *Contagion: Scientific Periodical Journal of Public Health and Coastal Health*, *3*(2), 75–86.
5. Museum, M. F. (2019). *Asuhan Keperawatan Pada Ny.M.M.R Dengan Diagnosa Medis Gastritis Di Ruangan Instalasi Gawat Darurat Rsud Prof. Dr.W.Z Johannes Kupang*. *45*(45), 95–98.

6. Ninandita Khanza, Nita Isnandari, Oky Putri Lestari, R. A. (2019). Asuhan Keperawatan Pasien Dengan Gastritis. *Journal of Chemical Information and Modeling*, *53*(9), 1–25.

7. Oktoriana, P., & Krishna, L. F. P. (2019). Asuhan Keperawatan Keluarga Dengan Gastritis. *Buletin Kesehatan: Publikasi Ilmiah Bidang Kesehatan*, *3*(2), 197–209.

8. Padilah, N. S., Suhanda, Nugraha, Y., & Fitriani, A. (2021). Intervensi Kompres Hangat Untuk Menurunkan Intensitas Nyeri Pada Pasien Gastritis: Sebuah Studi Kasus. *Jurnal Ilmiah Penelitian Keperawatan*, *01*(01), 23–33.

9. Pradita, A. A. (2022). Budaya Membaca Di Kalangan Mahasiswa Pgsd (Sebuah Studi Kasus Di Kabupaten Sumedang). *Jurnal Cakrawala Pendas*, *8*(2), 341–351.

10. Setianingsih, E., Agina, P., & Nuurdoni, R. (2020). Penerapan Slow Deep Breathing Terhadap Nyeri CKR Di IGD Rumah Sakit PKU Muhammadiyah Gombong. *Jurnal Vokasi Keperawatan (JVK)*, *3*(1), 36–49.

11. Setiawan, H., Ariyanto, H., Firdaus, F. A., & Khaerunnisa, R. N. (2021). pendidikan kesehatan pencegahan skabies di pondok pesantren al-arifin. *Martabe*, *4*(1), 110–117.

12. Suardika, I. N. (2021). *Asuhan Keperawatan Pola Nafas Tidak Efektif Pada Pasien Dengan Chronic Kidney Diseases (CKD) Di Ruang IGD RSUD Karangasem*. Poltekkes Kemenkes Denpasar Jurusan Keperawatan 2021.

13. Subu, R. (2021). Kasus asuhan keperawatan dengan masalah utama hipertensi pada Tn. A di wilayah kerja Puskesmas Puuwatu didapat data awal dari rekam medis di Puskesmas Puuwatu yaitu berupa nama, diagnosa dan alamat pasien. Pengkajian adalah pendekatan sistematis untuk men. *Karya Tulis Ilmiah*, *4*(5), 84.

14. Syah Rani, P. (2021). *Asuhan Keperawatan Gastritis Pada Ny. F Di Wilayah Kerja Puskesmas Rejosari Pekanbaru Provinsi Riau*. Poltekkes Kemenkes Riau.

15. Syarifudin, A. (2020). *Asuhan Keperawatan Pada Ny. R Dengan Masalah Gastritis Di Puskesmas Rawat Inap Kampar Kiri*. *2507*(February), 1–9.

16. Thanthirige, P., Shanaka, R., Of, A., Contributing, F., Time, T. O., Of, O., Shehzad, A., & Keluarga, D. D. (2016). *Asuhan Keperawatan Pada Bapak B Yang Mengalami Gatritis Erosif Di Ruang Flamboyan Rumah Sakit Umum Daerah Abdul Wahab Syahranie Samarinda*. August.

17. Torres, T. (2017). *Identifikasi Perilaku Penderita Gastritis Tentang Penyebab Gastritis Di Rsud Bahteramas*. 111.