



Quality of life among patients with gastroesophageal reflux disease at Tuyen Quang general Hospital in 2023

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ABSTRACT

Objectives: To assess the quality of life among patients with gastroesophageal reflux disease at Tuyen Quang General Hospital in 2023. **Research participants and methods:** Cross-sectional descriptive study was conducted with 200 patients from March 2023 to June 2023. The Quality of Life in Reflux and Dyspepsia patients (QOLRAD) was used to interview patients for gastrointestinal examination and endoscopy at Tuyen Quang General Hospital. **Results:** The average quality of life score among patients was 4.33 - 4.46. In which all fields were at a good level, not too different from the bad level, the average score in the item eating/drinking (4.33), the items of sleep disorders (4.36), the item of emotion (4.39), the item of physical/social (4.39), vitality domain (4.46). **Conclusion:** The quality of life of patients with gastroesophageal reflux disease at Tuyen Quang General Hospital in 2023 is at a good level in all items.

Keywords: Quality of life, patients with gastroesophageal reflux disease

INTRODUCTION

Gastroesophageal reflux disease (GERD) is a common clinical disease which affects millions of people worldwide. The overall proportion of GERD in hospitalized people worldwide is about 13%, but varies greatly between regions, in which the regions with the highest proportion are South Asia and Southeast Europe (over 25%), the lowest one is Southeast Asia (7.4%), Canada and France (less than 10%) ¹. Patients are identified by both esophageal symptoms (burning behind the sternum, heartburn...) and extra-esophageal symptoms (difficulty

swallowing, difficulty swallowing, chest pain, prolonged cough). If GERD is left untreated, it can lead to a number of serious complications, including esophagitis and Barrett's esophagus and also increase the risk of esophageal cancer at the same time. Quality of life is an important criterion in health care and treatment of many chronic diseases, including gastroesophageal reflux disease. People with GERD suffer from many disease symptoms, restricted diets, and complex treatment regimens. As a result, patients' lives are affected in several areas ². In addition, among patients with GERD, factors such as age, gender, place

of residence, education level, duration of illness, medication use or diet can affect their quality of life (QoL). Improving QoL is one of the treatment goals among patients with GERD. Identifying factors related to QoL in this group of patients can help health workers provide timely intervention measures to improve patients' QoL.

There are many studies assessing the quality of life of patients with GERD, but mainly to verify the reliability of the QOLRAD questionnaire ³. In Vietnam, there have been many previous studies on GERD but mainly focused on epidemiology, diagnosis, treatment or patient knowledge about the disease. Research on the quality of life of patients with GERD in the world and in Vietnam has not received much attention.

At Tuyen Quang Provincial General Hospital, every year the Gastroenterology Department receives thousands of patients for health examination and esophagogastroduodenoscopy. In addition, the quality of life in studies on patients with GERD is still low. Factors from the environment, society or the patient themselves affect the treatment process, therefore patient's symptoms becomes more serious which affects their lives. Measuring the quality of life for these patients will reveal the negative effects of the disease on the patient and is also a method to evaluate the effectiveness of treatment and care for patients by medical staff and at the same time propose to the hospital leadership solutions to improve quality of care for patients. Therefore, we conducted research with the objective: to assess the quality of life among patients with gastroesophageal reflux disease at Tuyen Quang Provincial General Hospital in 2023.

RESEARCH PARTICIPANTS AND METHODS

Research participants: The patients who came for health examination and were diagnosed with GERD at Tuyen Quang Provincial General Hospital.

Inclusion criteria: Patients over 18 years old, on examination and upper gastrointestinal endoscopy. The patient agrees to participate in the study. Able to communicate in Vietnamese.

Exclusion criteria: Suffering from diseases such as: esophageal cancer, stomach and duodenal cancer. History of upper gastrointestinal surgery. Having a combination of severe diseases: heart failure, burns of the upper digestive tract due to alkalis, acids. Have neuropsychiatric disease: Anxiety disorder, depression and are using medication

Research time and location

- Research period: from March 2023 to June 2023

- Location: Department of Gastroenterology - Tuyen Quang General Hospital.

Research design: Descriptive cross-sectional study

Sample size formula:

$$n = Z_{1-\alpha/2}^2 \frac{p(1-p)}{d^2}$$

In which:

n: sample size

Z: Is the reliability of probability with $\alpha = 0.05$ then $Z_{1-\alpha/2} = 1.96$

p: According to research by Karl-Hermann Fuchs in 2022, the average overall quality of life score for GERD patients is

91.7 (range 86-102.4), corresponding to 63.68% of maximum QoL, therefore choose $p = 0.6368$ ⁴.

There are many studies that indicated different proportion of quality of life, therefore choose the estimated rate of satisfied people $p = 0.5$ to have the optimal sample size.

d: Acceptable absolute error = 0.07

Insert into the formula, the sample size needed for the study is 181 patients.

In this study, we took an additional 10% sample size to ensure reliability in the study. The sample size used in the study was 200 patients.

Measurement: QOLRAD is a concise and user-friendly measurement with excellent psychometric properties. QOLRAD has been translated and validated in different languages. In 2022, Pham Thi Phuong Thanh translated it into Vietnamese, tested and concluded that the QOLRAD measurement is reliable and meaningful in assessing the quality of life among patients with gastroesophageal reflux disease ⁵. The measurement which have original versions in English translated into Vietnamese by Pham Thi Phuong Thanh, who has experience in conducting research for > 5 years and has published works in reputable international journals. After being developed, the measurement

was sent to 03 hospital officials for editing and verifying CVI = 0.88. The QOLRAD measurement has been proven to be a highly reliable which was measured by Cronbach's α coefficient and results > 0.7 ⁶.

- Part 1: General information of research participants

- Part 2: QOLRAD has 25 questions, including 5 items: Emotions, Sleep disorders, Eating/drinking status, Motor function and Social communication function, Vitality

Each QOLRAD item is measured on a 7-point scale: Always/often/many times/sometimes/very rarely/rarely/never.

- The average score of each item is divided into 2 levels: Quality of life is not good when the average score is ≤ 4 ; Quality of life is good when average score > 4

Data analysis: Descriptive statistics for quantitative variables were analyzed and presented by mean value and standard deviation.

Ethical issues: The study was approved by the Scientific Committee and Ethics Committee of Nam Dinh University of Nursing under the Certificate No.: 883/GCN-HĐĐ dated April 18, 2023; got the permission of Tuyen Quang Provincial General Hospita and consent of the participants. The information obtained was kept confidential and for research purposes only.

RESULTS

Table 1. General characteristics of participants (n = 200)

Demographic characteristics		Frequency (n)	Percentage (%)
Age	< 60	134	67
	> 60	66	33
Gender	Male	96	48
	Female	104	52

Demographic characteristics		Frequency (n)	Percentage (%)
Occupation	Officials/civil servants	51	25.5
	Worker	46	23.0
	Farmer	36	18.0
	Other	67	33.5
Qualification	Secondary school	8	4.0
	High school	106	53.0
	Intermediate, college, university	86	43.0
Place of residence	City	75	37.5
	Rural area	125	62.5

The average age of patients with GERD who are under 60 years old, accounted for 67%. The proportion of male patients is 48%, female patients were 52%. Patients with GERD were distributed evenly among occupational groups, including: Farmers accounted for 18%, workers accounted for 23%, officials/civil servants accounted for 25.5% and patients working in other occupation accounted for 33.5%. GERD patients with high school level which was 53% accounted for the highest proportion; Patients with intermediate, college, or university degrees accounted for 43% and patients with secondary school accounted for the lowest proportion 4%. The majority of patients with GERD lived in rural areas, accounted for 62.5%.

Table 2. Characteristics of participants' GERD (n = 200)

Demographic characteristics		Frequency (n)	Percentage (%)
Classification of GERD according to Los Angeles	Level A	135	67.5
	Level B	47	23.5
	Level C	11	5.5
	Level D	7	3.5
Duration of illness (years)	< 1	106	53.0
	1 - 5	70	35.0
	> 5	24	12.0
Alcohol/beer drinking status	Yes	90	45
	No	110	55
Smoking status	Yes	57	28.5
	No	143	71.5

Demographic characteristics		Frequency (n)	Percentage (%)
Number of meals per day	< 1 meal	15	7.5
	1 - 3	146	73.0
	> 3 meals	39	19.5
History of using PPIs and NSAIDs	Yes	93	46.5
	No	107	53.5
BMI	≥ 23	72	36
	< 23	128	64

The proportion of patients with GERD level A, B, C, D are: 67.5%; 23.5%; 5.5%; 3.5%, respectively. The proportion of patients with duration of illness less than 1 year accounts for 53%, from 1-5 years accounts for 35% and over 5 years accounts for 12%.

46.5% of patients with GERD have a history of drug use. The proportion of GERD patients with BMI ≥ 23 accounts for 36%, and patients with BMI < 23 accounts for 64%.

Table 3. Average QoL scores by each item according to QOLRAD (n = 200)

Item	X(average)	SD	Min	Max
Emotion	4.39	0.64	2.5	5.83
Sleep disorders	4.36	0.68	2,4	5,6
Eating and drinking	4.33	0.61	2.83	5.67
Physical/Social	4.39	0.72	2,4	5,6
Vitality	4.46	0.66	2	6.3

The average QoL score among patients is: 4.33 - 4.46. In which: average score in the eating/drinking item (4.33), sleep disorder item (4.36), emotional item (4.39), physical/social item (4.39), vitality item (4.46).

DISCUSSION

The incidence of GERD tends to appear more in young people which was confirmed by Pooja Bai working at Liaquat University of Medical and Health Sciences in 2021 ⁷. This comes from young people's irregular living habits, eating habits, and frequent use of stimulants. The increasingly polluted environment creates conditions for viruses and bacteria to develop rapidly. In addition, mental stress is very common

in young people because they are under a lot of pressure from society. Prolonged stress causes hypersecretion of gastric acid, accompanied by a strong promotion of stomach contractions which causes the cardia muscle to expand and lead to reflux. Moreover, stress often causes digestive dysfunction which causes difficulty in digestion. Food remaining in the stomach produces gas, which increases pressure, causing the cardiac muscle to open, leading to gastric reflux. The proportion of patients

who were < 60 years old in the study accounted for 67%. and only 33% for those were > 60 years old, similar to the studies of Shou-Wu Lee in 2011 which concluded that 70.3% of young patients and 29.7% of elderly patients ⁸.

The majority of participants in our study was with level A which accounted for 67.5%, 23.5% with level B, 5.5% with level C, and 3.5% with level D; The percentage of patients with duration of the disease which was less than 1 year accounted for the highest rate of 53%, from 1-5 years accounted for 35% and over 5 years accounted for 12%; In addition, the proportion of patients with GERD who drink alcohol accounts for 45%, those smoke accounts for 28.5%. the number of meals per day of most patients is 1-3 meals which accounted for 73%, the rate of using PPI/NSAID drugs was 73%. were 46.5%, BMI of patients which were < 23 accounted for 64% and > 23 accounted for 36%. Research by Pham Thi Phuong Thanh in 2022 indicated that disease duration < 5 years had a percentage of 73.1% and > 5 years had a percentage of 26.9%, and the percentage of alcohol consumption was 28.5%. , smoking percentage was 17.7%, number of meals < 3 meals accounted for 21.7% and > 4 meals accounted for 78.3%, history of PPI use was 59.8% and NSAIDs was 9.9% ⁵.

The average QoL score of our research was from 4.33 - 4.46. In which all items were at a good level, the average score in the item of eating/drinking (4.33), the item of sleep disorders (4.36), the item of emotions (4.39), the item of physical/social (4.39), the item of vitality (4.46). Research by Pham Thi Phuong Thanh in 2022 showed that the average QoL score was from 3.75 to 5.43. In which, the vitality item was

most affected by symptoms of GERD with an average score of 3.75, followed by the item of eating/drinking (4.59) and sleep disorders (4.83), emotional item (5.43) and finally physical/social item (6.09). Research indicated that vitality was at a poor level, while other items were at a good level ⁵. Research by Leopold GJB Engels at Department of Gastroenterology, Maasland Hospital, Sittard, Netherlands (2010) reported that the average QOLRAD score of was 3.9, followed by Food/drink problems (4.1), Sleep disorders (4.5), emotional item (4.7) and physical/social activities (5.2) ⁹.

Our results are similar to research by Karoly R Kulich: Food/drink item (Average score = 4.4); Vitality (Average score = 4.6); Emotional distress (Average score = 5); Physical/social activity (Average score = 5.3); and Sleep disorders (Average score = 5.1) [6]. Study by Ronald Andari Sawaya (2011) indicated the average values for each QOLRAD item as follows: physical/social functioning = 4.9, emotional distress = 4.4, sleep disturbance = 4.7, food problems = 4.1 and vitality = 4.3 . The average overall QOLRAD score for the entire items was 4.4 which reported a moderate impact on GERD due to symptoms ¹⁰.

The average QoL score among most of the studies in the 5 items mostly reached a good level which may be seen that the overall QoL among patients with GERD is good, but that does not mean that the patients are not affected. Some patients reported that they were uncomfortable with the symptoms of the disease and they had to take a lot of medicine for treatment. In our study, although the average QoL score was all at a good level, 5 items had scores ranging from 4.33 to 4.46, which means that the patient were at approximately the bad

level. Therefore, patients must always have follow-up examinations to adjust medication and monitor the disease regularly when symptoms of the disease appear. In addition, the results of our study were different from other studies because we conducted them at Tuyen Quang Provincial General Hospital, therefore participants were different between regions.

CONCLUSION

The quality of life of patients with gastroesophageal reflux disease at Tuyen Quang General Hospital in 2023 was at a good level in all items.

5 items of quality of life were all at a good level: average score in the item of eating/drinking (4.33), the item of sleep disorders (4.36), the emotional item (4.39), the physical/social item (4.39), vitality item (4.46). The average score of quality of life in all items was above 4 points

REFERENCES

1. Nimish Vakil, Sander V van Zanten, Peter Kahrilas et al. The Montreal definition and classification of gastroesophageal reflux disease: a global evidence-based consensus. *Am J Gastroenterol*. 2006, 101(8):1900-20; quiz 1943. doi: 10.1111/j.1572-0241.2006.00630.x.
2. Danisa M Clarrett, Christine Hachem. Gastroesophageal Reflux Disease (GERD), *Mo Med*. 2018, 115(3):214-218.
3. Tofangchiha, Razjouyan, Nasser-Moghaddam. Quality Of Life in Reflux and Dyspepsia (QOLRAD) Questionnaire in Iranian Patients with GERD: A Validation Study. *Middle East J Dig Dis*. 2010, 2(2):84-90.
4. Karl-Hermann Fuchs, Frauke Musial, Ernst Eypasch, Alexander Meining. Gastrointestinal Quality of Life in Gastroesophageal Reflux Disease: A Systematic Review, *Digestion*. 2022 , 103(4):253-260. doi: 10.1159/000524766.
5. Pham Thi Phuong Thanh, Vu Van Khien. Assessing quality of life in patients with gastroesophageal reflux disease using the QOLRAD questionnaire. *Vietnam Medical Journal*, 2022, 518(1). DOI: <https://doi.org/10.51298/vmj.v518i1.3308>
6. Károly R Kulich, Ahmed Madisch, Franco Pacini, et al. Reliability and validity of the Gastrointestinal Symptom Rating Scale (GSRS) and Quality of Life in Reflux and Dyspepsia (QOLRAD) questionnaire in dyspepsia: a six-country study. *Health Qual Life Outcomes*. 2008, 6.12. doi: 10.1186/1477-7525-6-12.
7. Bai Pooja. Gastroesophageal Reflux Disease in the Young Population and Its Correlation With Anxiety and Depression. *Cureus*. 2021, 13(5):e15289. doi: 10.7759/cureus.15289
8. Lee Shou wu. Comparison of presentation and impact on quality of life of gastroesophageal reflux disease between young and old adults in a Chinese population. *World J Gastroenterol*. 2011, 17(41):4614-4618. doi: 10.3748/wjg.v17.i41.4614.
9. Engels. Psychometric validation of the Dutch translation of the quality of life in reflux and dyspepsia (QOLRAD) questionnaire in patients with gastroesophageal reflux disease. *Health Qual Life Outcomes*. 2010, 8, 85. doi: 10.1186/1477-7525-8-85.
10. Sawaya. Use of the Montreal global definition as an assessment of quality of life in reflux disease. *Dis Esophagus*. 2012, 25(6):477-83. doi: 10.1111/j.1442-2050.2011.01271.x