Knowledge, Practices, and Quality of Life of Elderly Patients with Peptic Ulcer Disease at Zagazig University Hospitals

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Abstract:

Background: Peptic ulcer disease (PUD) is one of the common gastrointestinal disorders and health challenges that resulted in a significant burden on elderly people. **Aim:** To assess knowledge, practices, and quality of life of elderly patients with PUD. **Design:** A Cross-sectional descriptive study design. **Setting:** Gastroenterology outpatient clinic at Zagazig University Hospitals. **Subjects**: A purposive sample included 150 elderly patients with PUD. **Four tools of data collection: I)** An interview questionnaire consisted of two parts about demographic characteristics and medical history of the studied elderly. **II)** Knowledge about PUD scale. **III)** Practices regarding PUD scale. **IV)** The WHO Quality of Life (QOL) Instrument-Short Form. **Results:** The study revealed that 51% of the studied elderly had satisfactory knowledge about PUD and 85% of them had satisfactory practices regarding PUD. Regarding the total QOL score, 83.3% of the studied elderly had poor QOL. Also, the study revealed that there was a significant negative correlation between the total score of elderly QOL and their total knowledge score about PUD (r = -0.168). **Conclusion:** The study concluded that half of the studied elderly had satisfactory knowledge about PUD and the majority of them had satisfactory practices regarding PUD. Also, the majority of the elderly patients had poor QOL and there was a significant negative correlation between QOL of the elderly and their knowledge about PUD. **Recommendation:** Developing and implementing appropriate and effective health education programs for elderly patients with PUD to increase their knowledge about PUD and to improve their quality of life.

Keywords: Knowledge, practices, Quality of Life, Elderly Patients, Peptic Ulcer Disease.

Introduction

All countries are experiencing growth in the size and proportion of elderly populations. In 2020, there were about 727 million elderly persons around the globe. This number is estimated to double to 1.5 billion in 2050 **(United Nations, 2020).** According to Central

Agency for Public Mobilization and Statistics in Egypt, the number of elderly people reached 6.3 million, representing 6.7% of all population in the year 2017 **(CAPMAS, 2018).** Therefore, this

increasing number of elderly people will increase the prevalence of age-related health problems.

Aging is a complex physiological process affected by both internal and extrinsic factors such as genetics, psychological and social behaviors, and the environment. As people age, cells and tissues gradually deteriorate **(Hassan et al., 2016).** Age-related changes in the stomach include atrophy, a decline in gastric motility, mucus and bicarbonate secretion, and a rise in stomach PH. These changes increase the risk of peptic ulcer disease (PUD), especially when nonsteroidal anti-inflammatory drugs (NSAIDs) such as aspirin and ibuprofen are used (**Jett, 2014).**

PUD is a common gastrointestinal disease affecting the stomach and duodenum and is characterized by deep lesions into the mucosa. Various dietary and behavioral factors may increase the epigastric pain related to PUD and lead to complications by interfering with the healing process (**Abumunaser, 2021).** Helicobacter pylori infection and NSAIDs are the primary etiology of PUD. Other risk factors include extreme stress, other chronic conditions, old age, African-American race, smoking, and alcohol consumption **(Jameson et al., 2018).**

PUD is considered a leading cause of morbidity and mortality worldwide. PUD potential complications include bleeding, perforation, penetration, and obstruction. Every year, 1–2 persons out of 1,000 in the United Kingdom, the United States, and Europe develop PUD **(Sverdén et al., 2019).** In Egypt, the incidence rate of PUD is approximately 1 million cases and 1077 deaths annually **(Shamseya et al., 2015).** The prevalence of PUD rises with age; as well, elderly patients account for 80 percent of PUD-related deaths (**Yeo et al., 2017).**

Management of peptic ulcer includes medications, endoscopy, and surgery; along with behavioral and nutritional habits changes. The nutritional interventions include dietary adjustments consistent with the overall profile of the patient and improvement of the overall nutrition to enhance ulcer healing. In addition, educating the elderly patient about dietary habits modifications to promote the elderly patient's quality of life (**Abumunaser, 2021).**

One of the most essential factors in people's health and well-being is knowledge and health practices, which aid in the prevention and management of illness, as well as the maintenance of health. Good health practices are actions and behaviors that people engage in to maintain a high degree of wellness, improve their health, and avoid disease complications. Poor practices and habits are a major contributor to the development of PUD. As a result, more emphasis is being placed on preventive strategies to reduce morbidity and improve the quality of life (QOL) of older people with PUD **(Shamseya et al., 2015).** So, assessing the knowledge and practices of PUD elderly patients is essential for establishing effective educational programs that motivate PUD elderly patients and drive them to start and adhere to healthy practices to improve their QOL and prevent PUD complications.

PUD has a substantial impact on a patient's health status because it can significantly reduce the QOL. Several studies have found that people with PUD have lower QOL than the general

population and that improving QOL is crucial in the management of PUD (**Wan et al., 2020)**. QOL is termed as a concept concerning physical health, psychological health, social health, and emotional well-being. Understanding the factors affecting older people's QOL is crucial for policymakers, planners, and implementers of healthcare and other support programs for older people (**Zin et al., 2020)**. Given that the elderly populations now have a higher life expectancy, it is critical to assist them to live with satisfactory QOL

Nurses play an important role in the nursing management of peptic ulcers by taking the history of abdominal pain, assessing the patient's eating habits, encouraging using nonpharmacological interventions, instructing the patient to avoid smoking and NSAIDs, and administering medications as prescribed. In addition to, educating the elderly patients with PUD about risk factors of ulcers, practices to avoid as NSAIDs use, and the risk of interventions offered **(GA et al., 2021).**

Significance of the study:

Peptic ulcer disease is one of the common health problems which considered a leading cause of morbidity and mortality all over the worldwide. The prevalence of PUD and its related deaths rises significantly with age. PUD affects the elderly patients' general health and quality of life (**Wan et al., 2020; Abumunaser, 2021)**. Assessing knowledge and practices regarding PUD is essential to improve the patients' QOL. However, Egyptian studies assessing peptic ulcer and its effect on QOL among elderly people are lacking. Thus, this study was carried out to assess knowledge, practices, and QOL of elderly patients with PUD at Zagazig University Hospitals.

Aim of the study:

The aim of the current study was to assess knowledge, practices, and quality of life of elderly patients with peptic ulcer disease at Zagazig University Hospitals.

Research Questions:

1. What is the knowledge of elderly patients about peptic ulcer disease?
2. What are the practices of elderly patients regarding peptic ulcer disease?
3. What is the effect of peptic ulcer disease on the QOL of elderly patients?

Subjects and methods

Research design:

A cross-sectional descriptive design was utilized to conduct the present study.

Setting:

The current study was carried out in Gastroenterology outpatient clinic which located in the second floor of outpatient clinics building at Zagazig University Hospitals. This clinic consists of a waiting area, one examination room, room for doctors, room for nursing staff, and two bathrooms.

Subjects:

A purposive sample consisted of 150 elderly patients with peptic ulcer from the study setting. ***The inclusion criteria*** were (1) patients aged 60 years

and older; (2) free from communication problems; (3) and diagnosed as having peptic ulcer for at least one year ago. ***The exclusion criteria*** were (1) elderly patients who had serious health problem as cancer and renal failure; (2) and elderly patients who had psychiatric disorders or dementia.

Sample size calculation:

The sample size was calculated using EPI Info software program from CDC. It was based on the effect of peptic ulcers on the quality of life of the elderly people in another Egyptian study, which indicated that 42.7% of elderly patients were affected by peptic ulcers **(Elsayad et al., 2017).** The sample size was 150 according to that the elderly patients with peptic ulcer attending the selected outpatient clinic are 5 elderly patients per day (Based on the clinic records); with desired precision 80%, and at confidence level 95%.

Tools for data collection: Four tools were used to collect the study data.

Tool I: An interview questionnaire: It consisted of two parts:

First Part: Demographic characteristics of the elderly patients: It was concerned with the demographic characteristics of elderly patients as (Age, gender, education, income, and marital status).

Second Part: Medical history of elderly patients related to peptic ulcer, chronic diseases, and medications:

This part included questions about the type of peptic ulcer and its duration, current symptoms and predisposing factors of PUD, and any previous hospitalizations related to PUD. In addition, presence of chronic diseases such as hypertension, diabetes, liver disease, and cardiovascular disease; along with, the number of medications used to take daily.

Tool II: Knowledge of elderly patients about peptic ulcer disease (PUD knowledge scale).

It was used to assess elderly patients' knowledge about PUD. In this study, the PUD knowledge scale developed and validated by **Elsayad et al. (2017)** was used. It consisted of 8 items asking about the definition of PUD, etiology and risk factors of PUD, signs and symptoms of PUD, complications and treatment of PUD, and finally the prevention of PUD. Correct answers were given 2 points, 1 point was given for correct incomplete answers, and 0 points were given for incorrect or do not know answers. ***Scoring:*** The 8 items were totaled. The maximum knowledge score is 16, with higher scores indicating higher knowledge about PUD. The total knowledge score was considered satisfactory if was > 60%, while considered unsatisfactory if was ≤ 60%.

Tool III: Practices of elderly patients regarding peptic ulcer disease (PUD practices scale).

It was used to assess elderly patients' practices regarding PUD to prevent complications and improve general health status. In this study, the PUD practices scale developed and validated by **Elsayad et al. (2017)** was used. It consisted of 19 items (practices related to nutrition: 11 items, exercise and

daily life living activities: 4 items, and PUD treatment regimen and follow-up: 4 items). ***Scoring:*** Good practices were given 2 points, 1 point was given for average practices, and 0 points were given for poor practices. The 19 items were totaled. The maximum practice score is 38, with higher scores indicating higher practices regarding PUD. The total practice score was considered satisfactory if was > 60%, while considered unsatisfactory if was ≤ 60%.

Tool IV: The WHO Quality of Life Instrument-Short Form (THE WHOQOL-BREF): (WHO, 1998).

QoL was assessed by the WHO Quality of Life Instrument Short Form (WHOQOL-BREF). It consisted of 26 items. The first two items measured the "overall rating of QoL" and satisfaction with health. The other 24 items assessed four domains as follows; (seven items for assessing physical health, six items for assessing psychological health, three items for assessing social relations, and finally eight items for assessing environment **(Skevington et al., 2004).** In the current study, social relations and environment domains are summed into one domain score named social domain. A response using a 5-point Likert scale ranging from 1 indicating very poor to 5 indicating very good **(WHO, 1998).** ***Scoring:*** The scores of domains were measured by adding the mean values for single items to be consistent with WHO's QOL assessment (WHOQOL-100) **(Zin et al., 2020).** The total quality of life score was considered good if the score >75%, while considered average if it was 50% to 75%, and considered poor if it was <50%.

Preparatory phase:

The researchers prepared the data collection tools based on the review of the literature about peptic ulcer disease and quality of life using books, websites, and journals.

Content validity and reliability:

For testing the content validity of the study tools, three experts from the Faculty of Nursing (Medical-surgical, Community, and Gerontological Nursing Departments) revised them. The tools were assessed for clarity, relevance, comprehensiveness, and applicability. Some modifications were done according to their recommendations.

The reliability of tools was tested by Cronbach alpha coefficient. The values of Cronbach alpha coefficients were (0.78 for knowledge about PUD scale, 0.81 for practices regarding PUD scale, and 0.84 for QOL scale).

Pilot study

Before performing the main study, a pilot study was carried out on 15 elderly patients with PUD, constituting about 10% of the total study sample. The purpose of the pilot was to test the questions for any ambiguity and to assess the practicability and feasibility of using the data collection tools for the elderly. It also helped the researcher to determine the time needed for filling out the forms. Participants shared in the pilot study were involved in the study sample.

Fieldwork

Once the approval was granted to progress in the study, the researchers

organized a schedule for data collecting. The researchers visited the study setting and met the elderly patients who fulfill the study criteria. The aim of the study was explained to each elderly patient individually who was invited to participate in the study. After agreement to participate, the researchers started the interview with elderly using the study data collection tools. The average time to complete the tools was 30-40 minutes. Data were collected three days per week from 9.00 AM to 1.00 PM. The process of data collection was done in the period from the beginning of August 2020 to the end of December 2020.

Ethical considerations

The current study was approved by the Ethical Committee of the Faculty of Nursing, Zagazig University. Informed consent was taken verbally from the elderly patients after explanation of the aim and nature of the study. The elderly patients were given the opportunity to refuse participation in the study. They elderly were notified that they could withdraw at any stage of the study and they were assured that their data would be confidential and used only for research purpose.

Administrative design

Approval to conduct the present study was obtained by submission of a formal letter included the study aim from the Dean of the Faculty of Nursing Zagazig University to the Director of Zagazig University Hospitals and Director of Gastroenterology outpatient clinic.

Statistical analysis:

The collected data were organized and statistically analyzed using the Statistical Package for Social Sciences (SPSS) version 22. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, means and standard deviations for quantitative variables. Chi-square test was used for comparisons between qualitative variables. Spearman rank correlation was used for assessing the association between two ranked variables. Cronbach alpha coefficient was calculated to assess the reliability of the tools. Statistical significance was considered at $p < 0.05$.

Results

Table (1): indicates that 70.7% of elderly patients aged 60 to less than70 years and the mean age of them was 66.4±5.1 years. Besides, 62.7% of the elderly were males, 49.3% of them had basic education, and 69.3% of them belonged to rural areas. The same table also reveals that 70% of the elderly were married, 84.7% of them were not working currently, and 72.7% of them their monthly income was enough. Moreover, 68% of the elderly were living with their spouses and 90% of them their crowding index was less than 2/room.

Table (2): represents that the highly reported type of peptic ulcer was gastric ulcer (84.7%). Meanwhile, 75.3% of the elderly were diagnosed with peptic ulcer from one to three years and 23.3% of them had a family history of peptic ulcer. The highest reported current symptoms of peptic ulcer were nausea (87.3%), stomachache (84.7%), and loss of appetite

(62.4%). Also, 53.3% of the studied elderly reported that the predisposing factors for their peptic ulcer was caffeinated beverage (53.3%), stress (46%), and analgesics (44.7%). Moreover, 72% of the studied elderly suffered from Hypertension and 60.7% suffered from Diabetes. Additionally, 74.7% of the elderly were taking four or more medications per day.

Figure (1): shows that 51% of the studied elderly had satisfactory knowledge about PUD, while 49% of them had unsatisfactory knowledge.

Figure (2): displays that 85% of the studied elderly had satisfactory practices regarding PUD, while only 15% of them had unsatisfactory practices.

Table (3): illustrates that 98% of the studied elderly had poor physical domain of QOL, 96.7% of them had poor psychological domain of QOL, and 84.7% of them had poor social domain of QOL. Regarding total QOL score, 83.3% of the elderly had poor QOL, while only 16.7% of them had average or good QOL.

Table (4): demonstrates that there were statistically significant relations between elderly total knowledge about peptic ulcer and their demographic characteristics as educational level (P=0.006) and living condition (P=0.024). The higher percentage of elderly with unsatisfactory knowledge were illiterate or read and write and the higher percentage of elderly with satisfactory knowledge were living with their spouses.

Table (5): indicates that there were statistically significant relations between elderly total practices regarding peptic ulcer and their demographic characteristics as marital status (P=0.008), current working status (P=0.031), and living condition (P<0.001). The higher percentage of elderly with satisfactory practices were married, not working currently, and were living with their spouses.

Table (6): represents that there was a statistically significant relation between the quality of life of the studied elderly and their residence (P=0.04). The higher percentage of elderly with affected QOL scores were elderly belonged to rural areas.

Table (7): indicates that there was a significant negative correlation between the total score of elderly QOL and their total score of knowledge about peptic ulcer. Also, there was a significant positive correlation between the total score of elderly QOL and their age. **Table 7** also reveals that there was a significant positive correlation between the total score of elderly knowledge about peptic ulcer and their education.

Table (1): Demographic Characteristics of the studied elderly patients (n=150)

Demographic Characteristics	Frequency	Percent (%)
Age(years):		
▪ <70	106	70.7
▪ ≥ 70	44	29.3
Range	60-81	
Mean±SD	66.4±5.1	
Median	65	
Sex		
▪ Male	94	62.7
▪ Females	56	37.3
Marital status:		
▪ Single	2	1.3
▪ Married	105	70.0
▪ Widow	39	26.0
▪ Divorced	4	2.7
Education:		
▪ Illiterate/ Read &write	31	20.7
▪ Primary/preparatory school (Basic)	74	49.3
▪ Secondary school	33	22.0
▪ University &over	12	8.0
Residence		
▪ Urban	46	30.7
▪ Rural	104	69.3
Current Working status:		
▪ Working	23	15.3
▪ Not working	127	84.7
Income:		
▪ Not enough	10	6.7
▪ Enough	109	72.7
▪ Enough & save	31	20.7
Live with:		
▪ Husband/wife	102	68.0
▪ son	26	17.3
▪ alone	22	14.0
Crowding index:		
▪ <2	135	90.0
▪ ≥2	15	10.0

Table (2): Distribution of studied elderly patients according to their medical history (n=150).

Items	Frequency	Percent (%)
Peptic ulcer type:		
▪ Gastric ulcer	127	84.7
▪ Duodenal ulcer	14	9.3
▪ Esophageal ulcer	9	6.0
Current symptoms:		
▪ Acidity	41	27.3
▪ Nausea	131	87.3
▪ Loss of appetite	93	62.4
▪ Indigestion	28	18.7
▪ Heart burn	45	30.0
▪ Stomachache	127	84.7
▪ Vomiting loss of weight	76	50.7
▪ Weight loss	73	48.7
▪ Hematemesis	12	8.0
Time since diagnosis (years):		
▪ 1-3	113	75.3
▪ 4-6	37	24.7
Family history of peptic ulcer:		
▪ **yes**	35	23.3
▪ **No**	115	76.7
Patient frequency of hospital admission		
▪ **<2**	21	14.0
▪ **≥2**	2	1.3
Predisposing factors of peptic ulcer		
▪ Smoking	52	34.7
▪ Caffeinated beverage	80	53.3
▪ Spicy food	63	42.0
▪ Analgesics	67	44.7
▪ Stress	69	46.0
Chronic diseases: -		
▪ Hypertension	108	72.0
▪ Angina	6	4.0
▪ Diabetes mellitus	91	60.7
▪ Rheumatic diseases	47	31.3
▪ Cardiac diseases	24	16.0
▪ Irritable colon	41	27.3
▪ Renal diseases	14	9.3
▪ Liver diseases	17	11.3
Medication numbers	38	25.3
▪ **<4**	112	74.7
▪ **≥4**	**(Mean± SD)**	**Range**
	4.4±1.4	1-7

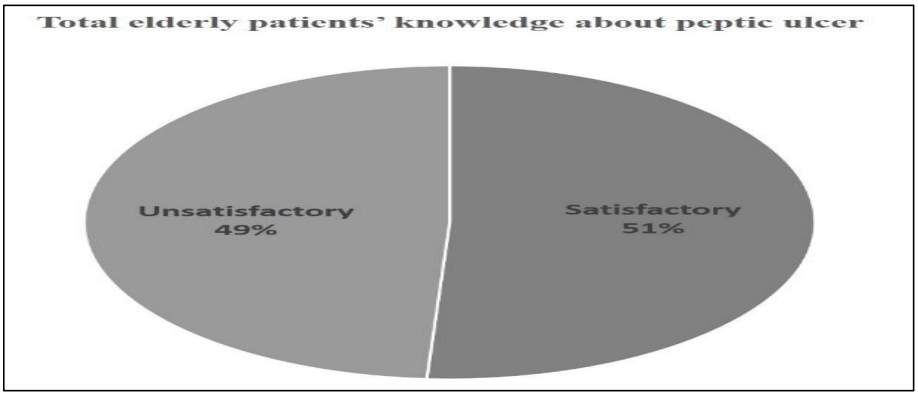

Figure (1): Total elderly patients' knowledge about PUD (n=150

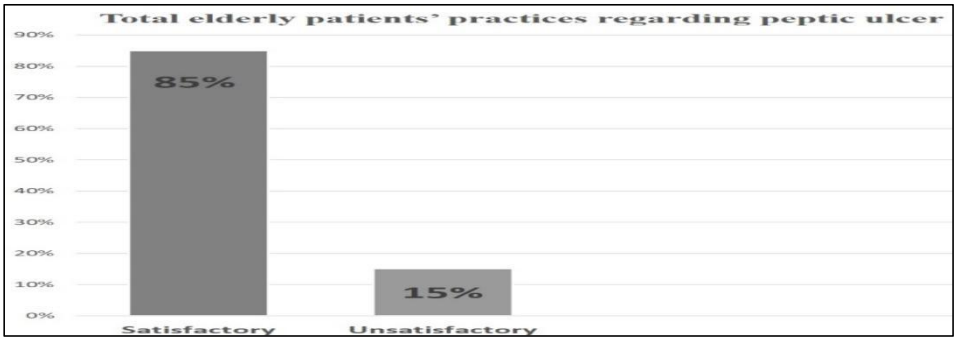

Figure (2): Total elderly patients' practices regarding PUD (n=150).

Table (3): Total and domain scores of the quality of life of elderly patients with peptic ulcer (n=150).

Items	Quality of life (QOL)					
	Poor		Average		Good	
	No.	%	No.	%	No.	%
1-physical domain of QOL	147	98.0	3	2.0	0	0.0
2-Psychological domain of QOL	145	96.7	4	2.7	1	0.7
3-Social domain of QOL	127	84.7	22	14.7	1	0.7
Total quality of life (QOL)	125	83.3	24	16.0	1	0.7

Table (4): Relation between total knowledge regarding peptic ulcer and the demographic characteristics of studied elderly patients (n=150).

Items	Knowledge about peptic ulcer				X^2 test	p-value
	Unsatisfactory No.= 74		Satisfactory No.= 76			
	No.	%	No.	%		
Age(years):						
▪ <70	47	63.5	59	77.6	3.605	0.058
▪ ≥ 70	27	36.5	17	22.4		
Sex						
▪ Male	48	64.9	46	50.6	0.302	0.583
▪ Females	26	35.1	30	39.5		
Marital status:						
▪ Single	0	0.0	2	2.6		
▪ Married	48	64.9	57	75.0	4.823	0.185
▪ Widow	24	32.4	15	19.7		
▪ Divorced	2	2.7	2	2.6		
Education:						
▪ Illiterate/Read &write	24	32.4	7	9.2		
▪ Primary/preparatory school	31	41.9	43	56.6	12.335	0.006*
▪ Secondary school	14	18.9	19	25.0		
▪ University &over	5	6.8	7	9.2		
Residence						
▪ Urban	20	27.0	26	34.2	0.91	0.34
▪ Rural	54	73.0	50	65.8		
Current Working status						
▪ Working	11	14.9	12	15.8	0.025	0.875
▪ Not working	63	85.1	64	84.2		
Income:						
▪ Not enough	5	6.8	5	6.6		
▪ Enough	55	74.3	54	71.1	0.273	0.872
▪ Enough & save	14	18.9	17	22.4		
Live with:						
▪ Husband/wife	44	59.5	58	76.3	7.435	0.024*
▪ son	19	25.7	7	9.2		
▪ alone	11	14.9	11	14.5		

*Significant at p ‹ 0.05. ** Highly significant at p ‹ 0.01.

Table (5): Relations between total practice regarding peptic ulcer and the demographic characteristics of studied elderly patients (n=150).

Items	Practices regarding peptic ulcer				X^2 test	p-value
	Unsatisfactory No.= 22		Satisfactory No.=128			
	No.	%	No.	%		
Age(years):						
▪ <70	15	68.2	91	71.1	0.077	0.782
▪ ≥ 70	7	31.8	37	28.9		
Sex						
▪ Male	14	63.6	80	62.5	0.01	0.919
▪ Females	8	36.4	48	37.5		
Marital status:						
▪ Single	0	0.0	2	1.6		
▪ Married	9	40.9	96	75.0	11.88	0.008*
▪ Widow	12	54.5	27	21.1		
▪ Divorced	1	4.5	3	2.3		
Education:						
▪ Illiterate/ Read &write	5	22.7	26	20.3	2.264	0.52
▪ Primary/preparatory school	12	54.5	62	48.4		
▪ Secondary school	5	22.7	28	21.9		
▪ University &over	0	0.0	12	9.4		
Residence						
▪ Urban	8	36.4	38	29.7	0.394	0.53
▪ Rural	14	63.6	90	70.3		
Current Working status						
▪ Working	0	0.0	23	18.0	4.669	0.031*
▪ Not working	22	100.0	105	82.0		
Income:						
▪ Not enough	0	0.0	10	7.8	3.001	0.223
▪ Enough	19	86.4	90	70.3		
▪ Enough & save	3	13.6	28	21.9		
Live with						
▪ Husband/wife	8	36.4	94	73.4	16.33	<0.001**
▪ son	5	22.7	21	16.4		
▪ alone	9	40.9	13	10.2		

*Significant at p ‹ 0.05. ** Highly significant at p ‹ 0.01.

Table (6): Relation between quality of life of the studied elderly and their demographic characteristics (n=150).

Items	Total quality of life scores				X^2 test	p-value
	Affected No.= 125		Not affected No.= 25			
	No.	%	No.	%		
Age(years):						
▪ <70	86	68.8	20	80.0	1.261	0.262
▪ ≥ 70	39	31.2	5	20.0		
Sex						
▪ Male	80	64.0	14	56.0	0.57	0.45
▪ Females	45	36.0	11	44.0		
Marital status:						
▪ Single	2	1.6	0	0.0		
▪ Married	84	67.2	21	84.0	3.702	0.296
▪ Widow	36	28.8	3	12.0		
▪ Divorced	3	2.4	1	4.0		
Education:						
▪ Illiterate/Read &write	28	22.4	3	12.0	7.511	0.057
▪ Primary/preparatory	64	51.2	10	40.0		
▪ Secondary school	26	20.8	7	28.0		
▪ University &over	7	5.6	5	20.0		
Residence						
▪ Urban	34	27.2	12	48.0	4.239	0.04*
▪ Rural	91	72.8	13	52.0		
Current Working status:						
▪ Working	16	12.8	7	28.0	3.708	0.054
▪ Not working	109	87.2	18	72.0		
Income:						
▪ Not enough	10	8.0	0	0.0	2.782	0.249
▪ Enough	91	72.8	18	72.0		
▪ Enough & save	24	19.2	7	28.0		
Live with:						
▪ Husband/wife	81	64.8	21	84.0	3.949	0.139
▪ son	23	18.4	3	12.0		
▪ alone	21	16.8	1	4.0		

*Significant at p ‹ 0.05. ** Highly significant at p ‹ 0.01.

Table (7): Correlation matrix for the studied elderly knowledge, practices, and QOL scores.

Items	Spearman's rank correlation coefficient			
	Age	Education	Knowledge about peptic ulcer	Practices regarding peptic ulcer
Knowledge about peptic ulcer	-0.055	0.218*		
Practices regarding peptic ulcer	-0.039	0.163	-0.055	
Total QOL score	0.163*	-0.153	-0.168*	-0.15

(r) Correlation coefficient *Significant at p ‹ 0.05. ** Highly significant at p ‹ 0.01.

Discussion

Peptic ulcer disease (PUD) is a common disease of the gastrointestinal system which considered an important cause of morbidity and mortality throughout the world affecting the lives of millions of people in their everyday life, also the rate of PUD hospitalizations was found to be highest in adults > 65 years of age **(Masood et al., 2021).**

According to the demographic characteristics of the studied elderly, the results of the present study indicated that most of the elderly patients aged 60 to less than 70 years and the mean age was 66.4±5.1 years. This finding agreed with **Onoh (2020)** in Nigeria and **Alshammari et al. (2018)** in Northern Saudi Arabia, in their study about peptic ulcer disease as they reported that most of their participants were aged between 60 and 70 years.

Regarding the gender of the participants, the present study showed that more than half of the elderly were males. This finding agreed with **Sayehmiri et al. (2018)** in Iran, in their study to detect the prevalence of PUD in Iran. On the other way, it was not agreed with **Lipatova et al. (2020)** at Saratov, and **Albaqawi et al. (2017)** in their research in Saudi Arabia, as they found in their study about PUD, that the disease was among women more than among men.

Regarding the income and the educational level of the subjects, most of the studied sample said that their monthly income was enough. This might be due to the nature of the Egyptian people, as they have the concept of thanks, Allah, for any income and considered it enough due to their religious principles. This finding disagreed with the results of the Egyptian research done by **Menshawy et al. (2019),** as they reported that the income of most of their study subjects was not enough. Additionally, nearly half of the participants had basic education. That might be due to their old age and related to their rural environment in which most people especially in the past years considered the basic educational level is enough and did their effort on agricultural works. This finding agreed with **Menshawy et al. (2019)** in Egypt, but on other hand, in Nigeria **Onoh (2020),** disagreed and indicated that more than half of the participants had a university education.

Concerning the residence of the studied participants, the present study cleared that most of them belonged to rural areas. This result might be attributed to the study setting in Zagazig University Hospitals at Sharkia governorate which is known by its agricultural nature and most of its cities and areas are rural areas. This finding agreed with **Mohammed et al. (2020)** at Abha, Saudi Arabia, in their research.

For the past medical history, the current study showed that most of the studied elderly suffered in their past medical history from Hypertension. This finding agreed with the Saudi results of

Saquib et al. (2017), in their study about chronic diseases among the elderly.

According to the present history of the studied elderly, the present results represented that the highly reported type of peptic ulcer was gastric ulcer among the elderly participants. This higher incidence of gastric ulcer in elderly people, compared to that of duodenal ulcers might be due to lower defensive factors such as decreased mucus, bicarbonate secretion, and prostaglandins related to their aging. This finding was in the same line with **Chen et al. (2020)** in China, and **Liu et al. (2019)** in China, in their nursing interventions among elderly patients with peptic ulcers. On other hand, **Fang et al. (2019)** in China, disagreed with this finding, as they mentioned the duodenal type among most of their participants.

Regarding the current symptoms of PUD, the majority of the studied elderly revealed that nausea and stomachache as their current suffered symptoms. That might be due to the nature of the disease symptoms as known that gastric pain, nausea, bleeding are the most common classic symptoms of PUD as mentioned by **Abumunaser (2021)** and **Lanas and Chan (2017)** in their medical books. This finding was in the same way with **Zhu et al. (2021)** in their Chinese research among patients with peptic ulcer, they reported stomach pain was the most frequent symptom.

Regarding the predisposing factors of peptic ulcer, the current results indicated that nearly half of the studied elderly reported that the most predisposing factor for their peptic ulcer was caffeinated beverage, followed by stress and then drugs. This might be due to the nature of the Egyptian wrong lifestyles like drinking much coffee and tea around the day and also taking many drugs without the doctor ordered especially analgesics, additionally, the stress might be due to the bad economic and political status in Egypt since the revolution of 25th of January. This explanation was supported by **Asali et al. (2018)** and **Yeo et al. (2017)** as they reviewed in their reviews and books that the drugs and stress as risk factors of peptic ulcer in their systematic review in the literature about risk factors leading to peptic ulcer disease.

In the same line, the American results by **Al-Taee et al. (2020)** and **Ushanthika & Mohanraj (2019)** in their online surveys, and **Lee et al. (2017)** in China, agreed with these results as they mentioned the drugs especially the use of NSAIDs as risk factors for peptic ulcer. Additionally, **Althubaiti et al. (2018)** at Taif City, revealed that stress and taking drugs as risk factors for peptic ulcer.

According to the total elderly knowledge about peptic ulcer, the study finding showed that slightly more than half of the studied elderly had satisfactory knowledge about peptic ulcer. This finding might be due to their old age so they had more experience from media like television medical shows, and it might be due to the information about their disease taken from the medical staff around their chronic duration of the illness as

mentioned before in these results that most of them had peptic ulcer since one to three years and all of them had hospitalized because of it before. On other hand, **Mohammed et al. (2020)** at Abha, Saudi Arabia, and **Paudel (2019)** at Amherst city, disagreed with these results as they mentioned that the majority of their participants had bad knowledge about peptic ulcer.

According to total elderly patients' practices regarding peptic ulcer, the recent result showed that the majority of the studied elderly had satisfactory practices regarding peptic ulcer. This might be explained by the other present results of the study as there were more than half of the subjects had good knowledge about peptic ulcer, and the continuous talk shows on TV about medical problems. Additionally, this result might be due to the severity of the disease and the elderly people know the importance of doing healthy practices to prevent epigastric pain and prevent the complication. These results were in the same line with the Egyptian research done by **Elsayad et al. (2017),** as they revealed that about two-thirds of their subjects had satisfactory practices.

Concerning the total scores of the quality of life of elderly patients with peptic ulcer, the results of the current study indicated that the majority of the studied elderly had poor QOL. This might be due the nature of most of them their rural residence where the quality of life is usually less than its in urban places, also might be related to their low level of education as mentioned before in the results. This finding agreed with **Enang et al. (2021)** in the sub-Saharan African region, **Chandran et al. (2019)** and **Onishi et al. (2018)** in Japan; in their results as they reported a worse level of quality of life among their participants.

Regarding the relation between the total quality of life of the studied elderly and their demographic characteristics, the current results represented that there was a statistically significant relation between the quality of life of the studied elderly and their residence; the higher percentage of elderly with affected QOL scores were elderly belonged to rural areas. This finding was supported by the results of **Zin et al. (2020)** in Myanmar; during their assessment of the quality of life among elderly in urban and peri-urban areas.

Regarding the relation between total knowledge regarding peptic ulcer and the demographic characteristics of studied elderly patients, the current study demonstrated that there were statistically significant relations between elderly total knowledge about peptic ulcer and their demographic characteristics as education level. This finding was like the results of the Egyptian study done in Egypt by **Elsayad et al. (2017),** as they mentioned that there were statistically significant relations between the total knowledge score of the elderly people and their age and level of education.

As regarding the Correlation matrix of different variables in the study, the current study reported that there was a

significant positive correlation between the total score of elderly QOL and their age; that means when age increased, the total score of elderly QOL also increased. This finding was supported by **Shaabani et al. (2017)** in Tehran, as they revealed in their results that there was a positive significant correlation between QoL and age.

Conclusion

Based upon the results of the current study, it was concluded that half of the elderly patients had satisfactory knowledge about PUD and the majority of them had satisfactory practices regarding PUD. Also, the study revealed that the majority of the elderly patients had poor QOL and that there was a significant negative correlation between elderly QOL and their knowledge about PUD.

Recommendations

In view of the current study results, it is recommended to develop and implement appropriate and effective health education programs for elderly patients with PUD to promote their general health and their quality of life. Additionally, more efforts are needed to increase the awareness of the elderly patients regarding PUD, avoidance of peptic ulcer predisposing factors, and prevention of complications through posters and booklets. Further research studies are required to assess to what extent educational programs to improve elderly patients' knowledge and practices regarding PUD can produce beneficial effects on their QOL.

Conflict of interest:

There is no conflict of interest and no fund from any institution.

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