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GASTROESOPHAGEAL REFLUX DISEASE PREVALENCE AND IMPACT ON THE QUALITY OF LIFE AMONG PRIMARY HEALTHCARE CENTERS SAUDI VISITORS IN TAIF CITY, KSA IN 2022

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Abstract:

Aim: *The study aimed to determine the magnitude of the problem of Gastroesophageal reflux disease (GERD) and its impact on quality of life among patients attending primary health care centers, Ministry of Health, Taif, KSA.* ***Methods:*** *The study population constituted adult patients (18-62 years) attending the 19 primary health care centers, belonging to Ministry of Health in Taif, KSA. We used the GERD Questionnaire (GerdQ) to assess the burden and prevalence of GERD, and the WHOQOL-BREF tool to assess the life quality of participants. We analysed the data using the Statistical Package for Social Sciences (SPSS) version 26.* ***Results:*** *The study included 325 participants, whose age ranged from 18 to 62 years, with a mean of 37±12.6. Females constituted 54.2% of the sample, and nearly half of the participants (50.2%) had university education or more. The GerdQ average score among respondents was 8±5. The participants that scored 8 and higher were 29.8%. On the other hand, the overall quality of life score was 12.7±6.3, where the physical health and social relationships domains score were the highest (59.5±32.9, and 58.8±32.3, respectively). GerdQ score was significantly associated with educational level (p=0.009), presence or absence of chronic diseases (p=0.009), and BMI (p=0.000). There was a significant association between all the QoL domains with age (p=0.000), educational level (p=0.000), marital status (p=0.000), smoking status (p=0.000), presence or absence of chronic diseases (p=0.000), BMI (p<0.05), and average monthly family income (p<0.05).* ***Conclusion:*** *The GerdQ and quality of life scores had a significant negative correlation. University graduates, those with chronic conditions, and those with overweight and normal BMI all had higher GerdQ scores (more GERD symptoms). We recommend more emphases to screen, assess, and manage GERD among the general public as the prevalence of the condition is relatively high, and it has a significant negative effect on the life quality.*

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BACKGROUND:

Gastroesophageal reflux disease (GERD) is characterized by heartburn, acid regurgitation, or both, at least in the frequency of once per week.[1] It is the commonest upper gastrointestinal disorder, with a prevalence ranged between 10 and 20% in the developed countries,[2-5] and 5% in Asia.[1] GERD is more common in Arab countries than in non-Arabian Asian countries.[6]

GERD can lead to serious complication among 20% of patients as Barrett's esophagus[7] and oesophageal stricture.[8] Its burden is large in many cases and could impacts the quality of life[9] and reduce the productivity of the affected patients.[9, 10]

Several studies have estimated the prevalence of GERD in the Middle East countries,[11-17] while the prevalence of GERD in the Saudi population is estimated among specific groups such as medical students (25.9%)[18] and school teachers (55%).[19] Studies among general population to estimate the prevalence of GERD in Saudi Arabia were done in Taif (23.5%)[20] and Riyadh (45.4% and 28.7%).[21, 22] These studies were done using the GerdQ questionnaire with a score of ≥ 8 as the diagnostic criteria of GERD.

Risk factors for GERD include obesity; however, weight loss does not improve the disease. Regarding gender, many studies have found a high prevalence in men, while others have observed no gender differences. Other risk factors include asthma, a positive history of GERD in first-degree relatives and spouse, lower socioeconomic, smoking, coffee, tea and alcohol consumption, and intake of non-steroidal anti-inflammatory drugs.[23-25]

Sufficient impairment in quality of life have been experienced with GERD symptoms at least 2 times weekly.[26] Compared to general population, health-related quality of life (HRQL) is lower in individuals with GERD and it is comparable to that in those with other chronic diseases, such as diabetes mellitus and chronic arthritis.[27] GERD usually impose a significant impact on the quality of life of the affected patients due to adverse symptoms as well as economic burden of consultation and medical care.[2], [28]

Study rationale

- Worldwide, GERD is a common gastrointestinal disease that is sometimes associated with serious complications and impaired quality of life. Therefore, identifying its magnitude and risk factors in Saudi Arabia is necessary for preventive measures.
- Few studies have been cited to estimate the prevalence of GERD among Saudi population. None of them assessed its impact on quality of life of affected patients.

Aim of the study

To determine the magnitude of the problem of GERD and its impact on quality of life among patients attending primary health care centers, Ministry of Health, Taif, KSA.

Objectives

1. To estimate the prevalence of GERD among patients attending primary health care centers, Ministry of Health, Taif
2. To study the possible associated factors with GERD among the study population
3. To explore the impact of GERD on the quality of life of the affected group and compare them with those without GERD.

Literature review

Literature review of related studies investigated the prevalence GERD and is some studies its impact on QOL of affected patients was done. The following is a brief of these studies carried out locally or internationally.

Local studies

Atta et al (2019) carried out cross-sectional study to estimate the prevalence of GERD symptoms and identify its associated risk factors among medical students of Jeddah and Rabigh branches, King Abdul-Aziz University. The prevalence of GERD symptoms was 25.9%. The commonest reported symptoms were regurgitation and burning sensation. The significant associated risk factors were family history, high BMI, intake of energy drinks and fried foods. Multivariate logistic regression analysis showed that only family history had a significant association.[18]

Alsuwat et al (2018) conducted a cross-sectional study to assess the prevalence and socio-demographic determinants of GERD among the general population of Saudi Arabia. The prevalence of GERD was 28.7%. It was found statistically significant among divorced/widow (34.9%). There was no association between GERD's prevalence and gender, age, residence status, education level, occupation, and blood group.[22]

Altwigry et al (2017) carried out a cross-sectional study to estimate the prevalence and identify risk factors of GERD among school teachers in Qassim

region as well as to assess the impact of GERD symptoms on teacher's daily life activity and compare prevalence and risk factors of GERD between age-groups and gender. GERD-HRQL questionnaire was used to assess the effect of GERD on the patient's quality of life. It was significantly more reported among males than females. The commonest age group was 31-40 years (45.5%). About 7.8% of GERD participants reported symptoms which affected their daily life activities.[19]

Almadi et al (2014) investigated in a cross-sectional study the prevalence and associated factors of GERD in the general population of Riyadh. They used GerdQ for diagnosing GERD.(>8). They recruited a total of 1265 individuals in the study. The prevalence of GERD, based on a cutoff GERDQ score of 8 was 45.4%. Older subjects, those with higher BMI were more likely to have the disease. There was no gender difference. The prevalence was higher, however not significant, among smokers.[21]

International studies

Lee et al (2011) carried out a comparative study between young (<65 years) and old persons (>65 years) regarding the presentation and impact on quality of life of GERD. GERD was diagnosed by endoscopic and symptomic characteristics. The prevalence of GERD was 70.3% and 29.7% in the younger and elderly groups, respectively. There were more female patients (60.3%) in the younger group and more males (72.7%) in the elderly group. The younger patients had more severe and frequent typical symptoms than the elderly patients. Quality of life was more significantly impaired in the younger patients compared with the elderly group, except for physical functioning.[29]

Chen et al (2005) estimated the prevalence of GERD symptoms in South China and evaluated its impact on health-related quality of life. They uses face to face interview to collect data on GERD symptoms and the Chinese version of SF-36 to assess quality of life. They investigated 3338 individuals, heartburn and/or acid eructation occurring at least weekly was 6.2%. The age- and gender-adjusted point prevalence of GERD symptoms in South China was 2.3% with no difference between male (2.6%) and female (2.4%) subjects. There was no significant association between age and prevalence of GERD symptoms. Divorced/widowed/separated subjects (OR= 4.61) and subjects with a heavy burden of work (OR= 3.43) were significantly more likely to have GERD symptoms. As compared with the general population, subjects with GERD symptoms experienced considerable impairment in quality of life.[30]

Cardoso et al (2018) carried out a cross-sectional study to determine the prevalence of the GERD, its sociodemographic profile, clinical manifestation and impact on quality of life among university students in Brazil. The prevalence of GERD was 11.8%; female represented 83% of them. Students with ingested alcoholic beverages were at higher risk. Regarding signs and symptoms, hoarseness 45%, heartburn 40%, regurgitation 41%, throat clearing 36%, chronic cough 53%, chest pain 33% were commonest. GERD was associated with impared QOl, mainly due to pain and functional aspects. [31]

Vossoughinia et al (2014) assessed in cross-sectional study the population-based epidemiology of GERD in Iran (2500 participants) were selected based on cluster sampling. Modified and validated Mayo Clinic questionnaire for GERD was used for data collection. The prevalence of GERD was 25.7%. Significant risk factors were smoking, consumption of non-steroidal anti-inflammatory drugs (NASIDs), overeating, history of chronic diseases, consumption of tea and coffee and history of GERD in spouse.[6]

Wang et al (2010) evaluated the impact of GERD on HRQOL in individuals from five regions in China. The Chinese versions of the 36-item self-administered (SF-36) questionnaire and Epworth Sleepiness Scale (ESS) questionnaire were used to assess quality of life. Twenty percent of them had impairment in all 8 domains of SF-36 dimensions in participants with GERD. Meaningful daytime sleepiness was also observed in. Troublesome symptoms were reported by 68.2% of individuals with GERD.[32]

Spantideas et al (2016) estimated the prevalence of GERD symptoms and their risk factors in the Greek adult population. The monthly prevalence of GERD symptoms was 52.0%, with no statistically significant difference between males and females. The age group of 65–79 years showed a higher prevalence rate of GERD. Symptom severity was found to be mild (59.3%) or moderate (27.1%). Risk factors included the number of cigarettes smoked daily, the number of alcoholic drinks consumed daily.[33]

METHODOLOGY:

Study area

This study was conducted in Taif city, which located in the western region of Saudi Arabia in Makkah Province with an estimated population of 683,000 (2019 estimated census).[34] In Taif, there are 19 primary health

care centers belonging to Ministry of health where the study will be carried out.

Target population
The study population constituted adult patients (18-62 years) attending the 19 primary health care centers, belonging to Ministry of health in Taif.

Population selection criteria:
Inclusion criteria:

- Adult patients aged between 18 and 60 years attending PHC centers belonging to MOH in Taif, Saudi Arabia, throughout the period of the study.
- Saudis.
- Both males and females.

Exclusion criteria:

- Patients younger than 18 years or older than 60 years
- Severely ill patients
- Non-Saudi patients

Sample size
The sample size was calculated using the Cochran's formula for estimating sample size equation as follows:[35]

$$N=\frac{Z_{\alpha/2}^2 x\ p\ (1-p)}{D^2}$$

Where:
n=Minimum sample size
$Z_{\alpha/2}$: the critical value of the Normal distribution at α/2 (e.g. for a confidence level of 95%, α is 0.05 and the critical value is 1.96).
P: Prevalence of the outcome of interest (GERD 25.9% in this study): It is estimated as 19.9% based on a relatively recent Saudi study.[19]
D: Degree of precision
So, the calculated minimum sample size was:

1. $$n = \frac{(1.96)^2 \text{ X } 0.26 \text{ X } 0.74}{(0.05)^2} = 296$$

The sample size was increased by approximately 10% to compensate for possible none or incomplete response, thus it was 325 adult patients.

Sampling technique
Following a random sampling technique, four PHCCs were randomly selected. Total of 82 adult patients attending these PHCCs during data collection period were selected by systematic random technique according to number of patients visiting each center daily and were invited to participate in the study by filling in the study questionnaire.

Study design
A cross sectional design was adapted for this study.

Data collection tool
A self-administered questionnaire was utilized for data collection. It is composed of three main sections:
-Socio-demographic characteristics: Age, gender, educational level, marital status, job status, family income, smoking, and chronic diseases. Weight and high measurements will be taken by a trained nurse.

-Diagnosis of GERD (done the physician or trained nurse). GERD questionnaire (GERDQ) was utilized in this regard.[36] It was developed as a self-assessment questionnaire to help health-care professionals in the diagnosis of GERD. It consists of questions that depend on the type and frequency of symptoms experienced by the participants. It has a sensitivity of 65% and a specificity of 71%.[36] Patients with a score of ≥8 were diagnosed with GERD.[36]

-WHOQOL-BREF to assess the quality of life of the participants. It is a 26-item reliable and validated tool assessing quality of life (QOL) in the domains of physical health, psychological health, social relationships and environment. [37, 38] This tool has been tested across cultures including in general Arabic population and showed very good psychometric properties, such as construct validity and internal consistency with Cronbach's alpha superior to other QoL assessment tools.[39, 40]. For categorization of the quality of life, the following values of the WHOQOL-BREF score were extracted from the reviewed studies and were applied in the current study: score ≤ 45, poor HRQOL; score 46–65, moderate HRQOL; and score > 65, relatively high HRQOL.[41]

Scoring Method:
Domain 1 (physical) score = Q3 + Q4 + Q10 + Q15 + Q16 + Q17 + Q18
Domain 2 (psychological) score = Q5 + Q6 + Q7 + Q11 + Q19 + Q26
Domain 3 (social) score = Q20 + Q21 + Q22
Domain 4 (environmental) score = Q8 + Q9 + Q12 + Q13 + Q14 + Q23 + Q24
And the remaining two questions (Q1 and Q2 have assess the self-perceived QOL and satisfaction with health.[42]

Transformed scores were estimated using a specific tables for standardizing scores from 0-100 with the lowest score of zero and the highest score of 100 (Appendix 2).[42]

Data collection technique
The researcher visited the PHC centers after getting approvals. He explained the purpose of the study to all physicians and patients chosen for the study and did not ask them about their names to ensure confidentiality. Self-administrated questionnaires were distributed on selected patients while waiting for physicians` appointment and collected after half an hour. The data collection was implemented at regular day working hours. One week was spent in each PHC center involved in the study. A trained female colleague helped in data collection from female patients.

Study variables
Dependent variables:
-GERD
- GERD quality of life.
Independent variables:
-Age
-Gender
-Educational level
-Marital status
-Employment status
-Family income
-Smoking history
-History of chronic diseases
-Body mass index

Data entry and statistical analysis
Appropriate descriptive and analytic statistical methods and tests was adopted using SPSS version 26 software statistical program.

Pilot study
A pilot study was conducted in one PHC center included 20 patients to test if questionnaire is understandable and acceptable. After achieving its aims, the collected questionnaire from this center was omitted from the main study.

Ethical consideration
Written permission from Joint Program of Family Medicine, Taif Region was obtained before conducting the research. Written permission from the director of the primary care. MOH in Taif was obtained. Permission of all PHCCs directors was obtained. The investigators tried their best not to disturb the work in the PHC; they visited all the centers after arranging with their directors. The individual consent from each patient to participate in the study is a prerequisite for data collection. Accepting to participate by filling the questionnaire were considered consent. All information was kept confidential and was not be accessed except for the purpose of the scientific research.

RESULTS:
Table 1 shows the sociodemographic factors of participants. Age ranged from 18 to 62 years, with a mean of 37 ± 12.6. Females constituted 54.2% of the sample, and nearly half of the participants (50.2%) had university education or more. Of all, 28.6% were single, and 52% were married. Unoccupied respondents comprised 41.5% of the sample, and 31.4% of the sample were current smokers. Normal and overweight BMI comprised 43.1% and 42.8%, respectively.

As shown in table 2, the GerdQ average score among respondents was 8±5. The participants that scored 8 and higher were 29.8%. On the other hand, the overall quality of life score was 12.7±6.3, where the physical health and social relationships domains score were the highest (59.5±32.9, and 58.8±32.3, respectively).

Table 3 shows the association between the sociodemographic factors and the GerdQ and quality of life scores. There was a significant association between all the QoL domains with age (p=0.000), educational level (p=0.000), marital status (p=0.000), smoking status (p=0.000), presence or absence of chronic diseases (p=0.000), BMI (p<0.05), and average monthly family income (p<0.05). Younger age group (18-29 years), university graduates, those with the highest monthly family income, ex-smokers, participants with no chronic diseases, and those who are underweight had the highest scores in all QoL domains.

GerdQ score was significantly associated with educational level (p=0.009), presence or absence of chronic diseases (p=0.009), and BMI (p=0.000). Higher GerdQ scores were observed among university graduates (p=0.009), those with chronic diseases (p=0.009), and those with overweight and normal BMI (p=0.000) (table 3).
Table 4 and figures 1-4 show the correlation between the GerdQ scores and the WHOQOL-BREF domains. There was a significant negative correlation between the GerdQ score and all the WHOQOL-BREF domains (p=0.000).

Table 1: Sociodemographic factors of participants (n=325).

Parameter		Frequency (%)
Age, y	**18-**	121 (37.2%)
	30-	137 (42.2%)
	50-62	67 (20.6%)
Sex	**Female**	176 (54.2%)
	Male	149 (45.8%)
Educational level	**Primary education**	65 (20%)
	Secondary education	97 (29.8%)
	University or more	163 (50.2%)
Marital status	**Single**	93 (28.6%)
	Married	169 (52%)
	Divorced	41 (12.6%)
	Widowed	22 (6.8%)
Occupational status	**Business**	8 (2.5%)
	Student	8 (2.5%)
	Graduate	6 (1.8%)
	Military	46 (14.2%)
	Unoccupied	135 (41.5%)
	Retired	19 (5.8%)
	Governmental work	75 (23.1%)
	Private work	28 (8.6%)
Average monthly family income, SR	**< 5000**	45 (13.8%)
	5000-1000	96 (29.5%)
	11000-15000	126 (38.8%)
	> 15000	58 (17.8%)
Smoking	**Never before**	206 (63.4%)
	Ex-smoker	17 (5.2%)
	Current smoker	102 (31.4%)
Chronic diseases	**No**	221 (68%)
	Yes	104 (32%)
BMI	**Underweight**	11 (3.4%)
	Normal	140 (43.1%)
	Overweight	139 (42.8%)
	Obese	35 (10.8%)

Table 2: Average scores of Gerd Q, and WHOQOL-BREF scales (n=325).

		Item	Mean±SD
GerdQ	**Average score**	**GerdQ**	8±5
	GERD Diagnosis	**Yes (Score ≥ 8)**	228 (70.2%)
		No (Score < 8)	97 (29.8%)
	GerdQ Sscore distribution	**0-2**	59 (18.2%)
		3-7	169 (52%)
		8-10	10 (3.1%)
		11-18	87 (26.8%)
WHOQOL-BREF		**Overall score**	12.7±6.3
		Physical health	59.5±32.9
		Psychological health	54.2±33.6
		Social relationships	58.8±32.3
		Environment	57.1±33.7

Table 3: Average scores of GerdQ and WHOQOL-BREF in association with sociodemographic factors (n=325).

Parameter		GERDQ	Physical health	Psychological health	Social relationships	Environment
Age, y	**18-**	8±5	71.1±28	65±30.4	69.5±29.7	67.3±29.3
	30-	8±5	60.6±32.8	55.7±33.4	56.3±31.9	57.3±34.1
	50-62	7±4	36.7±30.3	31.8±29.1	45.1±31.9	38.2±32.7
	P-value*	0.280	**0.000**	**0.000**	**0.000**	**0.000**
Sex	**Female**	7±5	60.1±34.7	54.8±34.4	61±32	57.9±35.2
	Male	8±5	59±31	53.6±32.8	56.4±32.6	56.1±32
	P-value	0.076	0.810	0.933	0.194	0.542
Educational level	**Primary education**	6±2	40.5±33.4	35.2±32.3	42.4±29.7	39.9±35.2
	Secondary education	7±4	63.2±32.6	55.3±34.2	59.6±35.2	57.1±32.7
	University or more	8±6	65.1±30.3	61.1±31.1	65.1±29.3	64±31.4
	P-value*	**0.009**	**0.000**	**0.000**	**0.000**	**0.000**
Marital status	**Single**	8±5	70.6±28.4	61.6±32.3	64±32.1	63.5±30.9
	Married	8±5	63.4±31.6	59.6±31.6	64.2±30.5	63.1±31.5
	Divorced	8±4	34±30.7	28.8±31.4	34.2±27.5	32.1±32.4
	Widowed	5±2	31.7±26.6	29.2±25.3	42.5±29.5	30.9±32.2
	P-value*	0.236	**0.000**	**0.000**	**0.000**	**0.000**
Occupational status	**Business**	6±5	46.9±36	46.9±35.6	43.8±25.9	46.9±35.8
	Student	3±3	81.3±4.2	75±5.5	64.6±16	71.9±8.2
	Graduate	5±4	69.7±33.3	7w0.9±27.4	91.7±9.2	81.3±20.6
	Military	8±5	60.2±33.5	55.2±34	51±30.2	55.1±31.4
	Unoccupied	7±4	59.7±34	51.8±34.1	58.3±33.3	53.5±35.2
	Retired	7±4	43.1±28.3	35.6±33.4	56.6±36.4	49.1±31.2
	Governmental work	8±5	61.7±31.5	59.3±32.4	64.7±31.5	65±32.5
	Private work	8±5	58.7±34.9	56±34.9	56.3±33.5	55.4±37
	P-value*	0.096	0.333	0.157	**0.031**	**0.048**
Average monthly family income, SR	**< 5000**	7±4	42.1±31.1	33.8±31.9	42.6±30.4	32.6±34.4
	5000-1000	9±5	57.2±33.6	50.8±31.7	57.3±29.8	53.1±31.7
	11000-15000	7±4	64.2±33	59.2±33.1	59.3±34.1	61.6±32.3
	> 15000	7±5	67.2±28.5	64.8±32.5	73.2±27.8	72.9±28.1
	P-value*	0.100	**0.002**	**0.000**	**0.000**	**0.000**
Smoking	**Never before**	6±5	67±32.3	63.6±32.9	66.7±30.3	65±33
	Ex-smoker	7±4	78.8±24.2	53.5±29.7	74.1±24.5	68.6±22.8
	Current smoker	10±4	41.4±27.7	35.5±27.4	40.6±29.9	39.2±29.7
	P-value*	0.280	**0.000**	**0.000**	**0.000**	**0.000**
Chronic diseases	**No**	7±5	71.4±29.1	66.7±31	67.9±29.7	67.8±30.8
	Yes	8±4	34.6±26.1	27.6±21.2	39.8±29.2	34.3±27.9
	P-value**	**0.009**	**0.000**	**0.000**	**0.000**	**0.000**
BMI	**Underweight**	3±2	85.8±21.9	79.2±35.1	68.2±38.9	80.2±32.7
	Normal	8±5	69.2±28.2	65.8±28.3	66.9±25.5	66±28.7
	Overweight	9±5	53.8±33.9	45.8±33.4	53.5±35.7	51.1±34.5
	Obese	5±2	35.9±31.2	33.5±33.6	45.5±32.8	38.1±35.9
	P-value*	**0.000**	**0.000**	**0.000**	**0.001**	**0.000**

Table 4: Correlation between GerdQ and WHOQOL-BREF scores (n=325).

Correlation		Physical health	Psychological health	Social relationships	Environment	Age
GerdQ Score	Pearson Correlation	-0.412**	-0.394**	-0.372**	-0.405**	-0.060
	P-value	0.000	0.000	0.000	0.000	0.284
	N	325	325	325	325	325

Figure 1: GerdQ Score in correlation with physical health domain score (p=0.000).

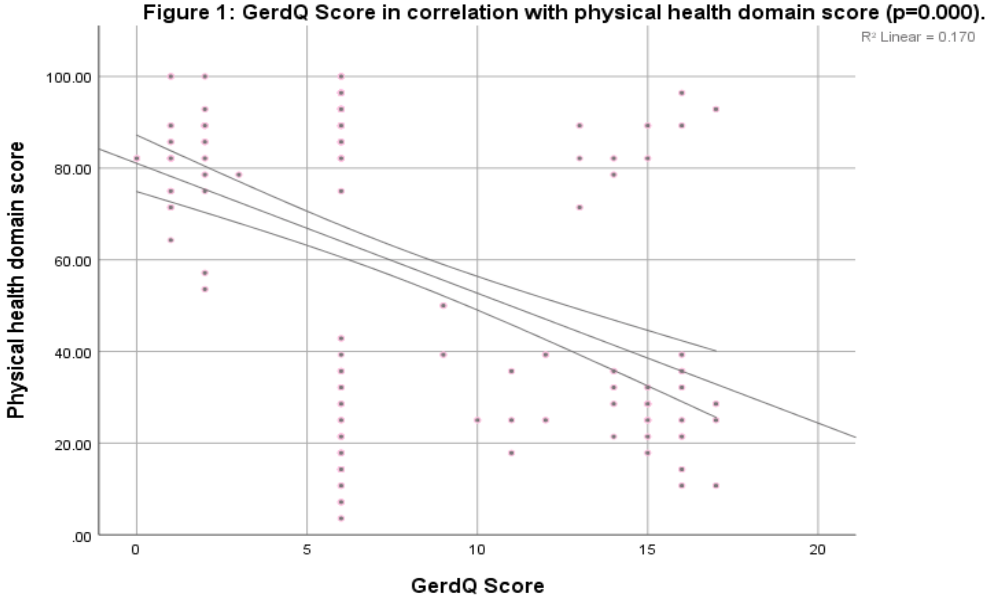


Figure 2: GerdQ Score in correlation with psychological health domain score (p=0.000).

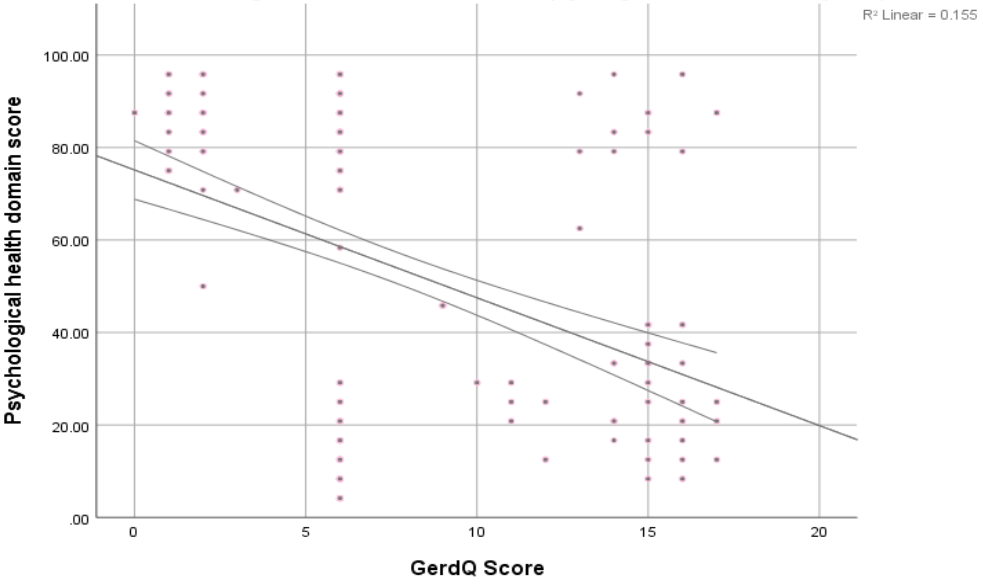


Figure 3: GerdQ Score in correlation with social relationships domain score (p=0.000).

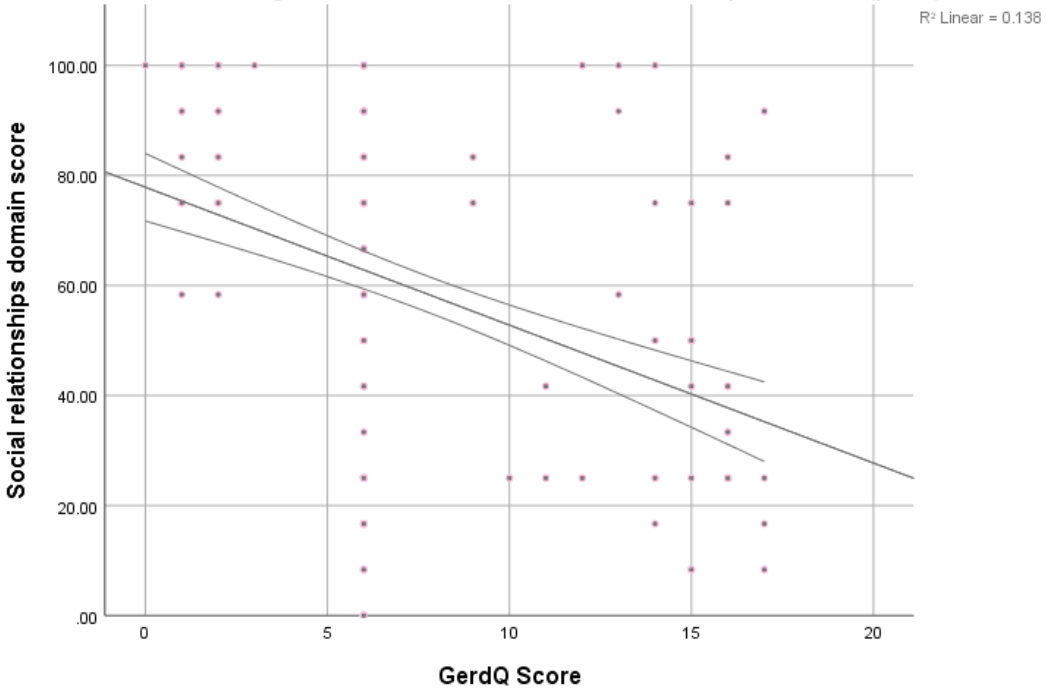
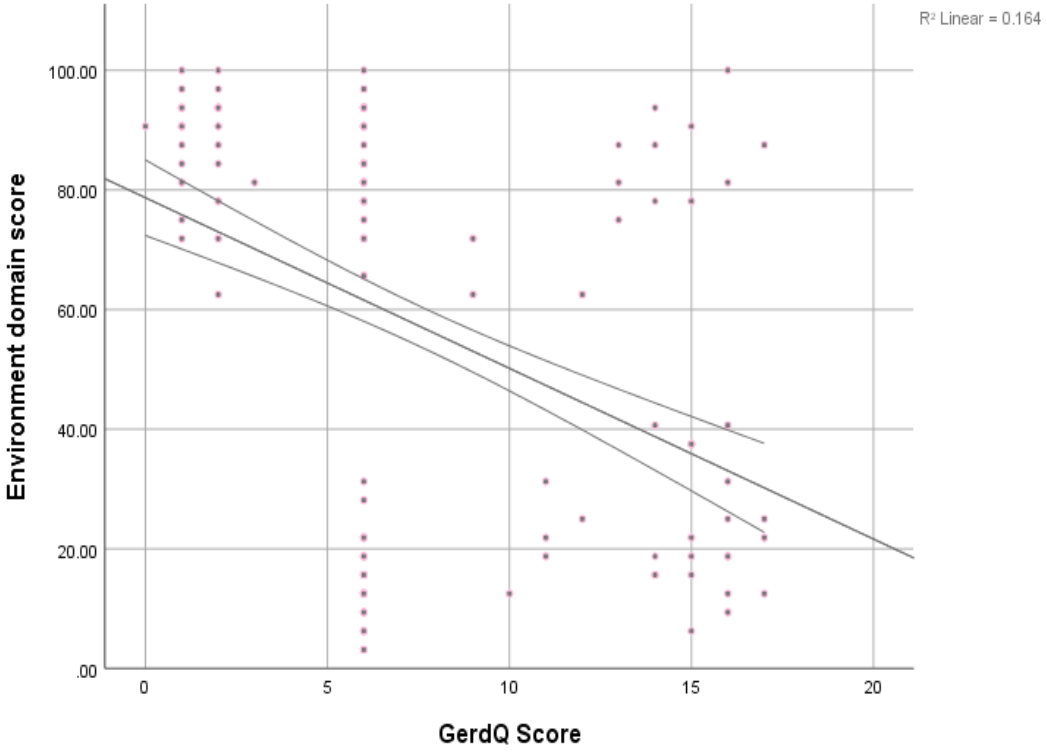


Figure 4: GerdQ Score in correlation with environment domain score (p=0.000).



DISCUSSION:

Because of the frequency and specificity of symptoms, GERD is a significant health and social concern, resulting to a rise in absenteeism, a financial burden on health care, and, most importantly, a significant reduction in patient quality of life.

The study aimed to determine the magnitude of the problem of GERD and its impact on quality of life among patients attending primary health care centers, Ministry of Health, Taif, KSA. The study included 325 individual.

The average GerdQ score among those that responded was 8±5. Participants with a score of 8 or higher made up 29.8% of the total.

According to a 1999 study, reflux disease symptoms occurred every day in 7% -10% of the population in highly developed nations, and once a week in almost 20% of the population.[43] Reflux disease was detected in more than 34% of patients aged over 15 who reported to a family physician in Poland in 2003, according to Carlsson's questionnaire.[44] The noxiousness of symptoms during the period of disease aggravation, as well as frequent recurrences after effective medication, is a particular difficulty for patients. GERD is characterised by a deterioration in perceived quality of life.[45,46] GERD, according to the Montreal definition, is a disorder that occurs when stomach contents reflux and create bothersome symptoms and/or consequences. When symptoms occur more than once a week, they are deemed bothersome since they only produce a drop in perceived quality of life.[46,47]

Comparable to 29.8% reported in our study, several studies have evaluated the incidence of GERD in Middle Eastern countries, and the prevalence of GERD in the Saudi population has been estimated among certain subgroups such as medical students (25.9%)[18] and school teachers (55%).[19] These variations can be attributed to the age differences among each group. The estimated prevalence of GERD in was reported among the general public of Taif (23.5%)[20] and Riyadh (45.4% and 28.7%) in Saudi Arabia.[21, 22] Similar to our study, these studies used a score of ≥ 8 on the GerdQ questionnaire as the diagnostic criterion for GERD.

In our study, the overall quality of life score was 12.7±6.3, with the highest scores in the physical health and social relationships areas (59.5±32.9 and 58.8±32.3, respectively).

The etiopathogenesis of GERD is multifactorial, and it might be difficult to pinpoint in the case of individual individuals. Stress,[48] being overweight, and obesity[49] are among the risk factors that have been linked to reflux symptoms. Our study found that the presence or absence of chronic illnesses (p=0.009), and BMI (p=0.000) were linked with a higher GerdQ score (p=0.009). University degrees (p=0.009), those with chronic conditions, and those with overweight and normal BMI all had higher GerdQ values. Our results (figures 1-4) demonstrate a strong negative correlation between the QoL domains and the GerdQ scores. The association between stress, reflux symptoms, and overall quality of life has been well established in current literature. The link between mental problems (anxiety, depression) and reflux symptoms was investigated in a cross-sectional controlled population research done among the Norwegian population, which comprised roughly 59000 respondents.[48] Anxiety and depression were shown to be linked to a 3- to 4-fold increase in the likelihood of experiencing GERD symptoms. Patients with reflux symptoms and concurrent signs of psychological distress had a considerably worse quality of life and more severe reflux symptoms at the start of treatment, according to a research by Nojkova et al.[49] Patients with distress remained to have a worse quality of life and a greater severity of reflux symptoms after completing treatment with a proton pump inhibitor (rabeprazole at a dosage of 20 mg/d) in a follow-up trial, despite both groups improving.

CONCLUSION:

The GerdQ and quality of life scores had a significant negative correlation. University graduates, those with chronic conditions, and those with overweight and normal BMI all had higher GerdQ scores (more GERD symptoms). We recommend more emphases to screen, assess, and manage GERD among the general public as the prevalence of the condition is relatively high, and it has a significant negative effect on the life quality.

List of abbreviations

GERD:Gastro-oesophageal reflux disease

GerdQ: GERD questionnaire

HRDL: Health-related quality of life

PHCCs: Primary healthcare centers

OR: Odds ratio

SF: Short-Form

QOL: Quality of life

WHOQOL-BREF: World Health Organization-Brief

SPSS: Statistical Package for Social Sciences

KSA: Kingdom of Saudi Arabia

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