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Awareness of Gastroesophageal Reflux Disease Among Pre-Clinical Medical Students at King Faisal University in Saudi Arabia

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Abstract

Background Gastroesophageal reflux disease (GERD) is a prominent gastro-intestinal condition that is detected during non-emergency clinic visits. Thus, the aim of the study is to assess the awareness of GERD among pre-clinical medical students at King Faisal University (KFU), Al Ahsa, Saudi Arabia.

Methods This study was a Cross-sectional study based on a questionnaire, included the Pre-clinical medical students of King Faisal University, in Kingdom of Saudi Arabia, AlAhsa. excluded all students from clinical years and other colleges and institutions. Estimated sample size was 255 that was required to achieve a precision of 5% with a 95 percent confidence interval (CI).

Results A total of 273 participants were surveyed. The study revealed that the prevalence of GERD was 63.7% which is far much higher than the stated average prevalence stated at 13.98%. Averagely, from the 12 questions, 76.18% of pre-clinical medical students answered the 12 questions correctly. This average score is significantly higher than the 37% that Riyadh reported. The study revealed that 99.6% (272/273) have heard of GERD.

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Conclusion GERD is a gastrointestinal motility condition caused by stomach contents refluxing into the esophagus or oral cavity, resulting in symptoms or consequences. Among the families of the third-year College of Medicine at King Faisal University, the prevalence rate was 63.7%. The overall awareness of GERD and its risk factors among students is 76.18%. More education campaign is still needed to raise awareness of this condition.

Keywords: gastroesophageal reflux disease; King Faisal University; prevalence; risk factors; university students.

1. Introduction

Gastroesophageal reflux disease (GERD) is a prominent gastro-intestinal condition that is detected during non-emergency clinic visits [1]. GERD is a gastrointestinal motility condition caused by stomach contents refluxing into the esophagus or oral cavity, resulting in symptoms or consequences [2]. When the lower esophageal sphincter is weak or relaxes too much, it causes GERD (2).

Heartburn spreading to the neck, worsened by meals and lying down position, reflux of stomach contents into the oropharynx, and epigastric pain are all symptoms of acid irritating the lungs and throat [2]. Sore throat and excessive salivation are two less prevalent symptoms [2]. GERD can affect one's health-related quality of life by causing psychological co-morbidities, poor sleep quality, and time away from work, all of which can have a significant financial impact [3]. If GERD is not treated, it can lead to serious complications such as esophagitis, Barrett's esophagus, gastrointestinal hemorrhage, and peptic strictures [1].

The severity of the reflux symptoms had a bigger influence on the GERD patients' usual daily activities [4]. The cases with the most severe heartburn had the poorest quality of life [4]. Over the last few decades, the prevalence of GERD and the frequency of accompanying consequences has skyrocketed [1]. The overall prevalence of GERD is stated to be 13.98%, with regional differences [5]. However, the prevalence of GERD in the Saudi population is 28.7%, which is greater than in Western and East Asian countries [6]. GERD is assumed to be complex in origin, with dysfunction of the esophagogastric junction, increased intra-gastric pressure, and esophageal hypersensitivity being the most common causes [1].

Furthermore, family history of GERD, obesity, sedentary lifestyle, and smoking are the key proven risk factors related with GERD in the Saudi population [7]. Analgesic usage, inadequate fiber intake, tea consumption, and greasy and fast-food consumption are all frequent GERD risk factors [7,8].

In the Saudi population, there is no link between GERD and the number of meals eaten each day, salt consumption, or pickle consumption [7]. Despite the fact that GERD is a widespread illness in Saudi Arabia, knowledge of predisposing factors and symptoms is often lacking. It is critical to be aware of predisposing variables in order to reduce the number of instances, symptoms, and complications [2].

A study conducted in Riyadh showed that only a quarter of residents and 37% of consultants scored well in terms of knowledge [9]. Another study conducted at Umm al-Qura University in Saudi Arabia showed that students in higher academic years have more understanding of GERD than students who had a strong

knowledge of GERD in the medical sector in Saudi Arabia [1].

Thus, the aim of the study is to assess the awareness of GERD among pre-clinical medical students at King Faisal University (KFU), Al Ahsa, Saudi Arabia.

2. Subjects and Methods

This study was a Cross-sectional study based on a questionnaire used at Al Ahsaa, Saudi Arabia's King Faisal University. Where the Study Populations was included the Pre-clinical medical students, and excluded all students from clinical years and other colleges and institutions. Sample size of the study, at the time of conducting the study the university has 750 pre-clinical medical students, and the sample size will be calculated using the Roasoft tool. Following that, the estimated sample size was 255 that was required to achieve a precision of 5% with a 95 percent confidence interval (CI).

Data collection tool was a questionnaire distributed to pre-clinical students of medical college with permission taken before filling the questionnaire. The questionnaire contains demographic information such as gender, age, college, academic year, and marital status. It also includes questions related to awareness of GERD.

The validity is 80% and reliability is A Cronbach's alpha value of 0.7. Microsoft Excel spreadsheets used to enter data. The information entered into spreadsheets using the Statistical Package for Social Studies (SPSS 25). (IBM, NY, USA). For the mean and standard deviation, the frequency of categorical variables was determined. A p-value of less than 0.05 considered significant.

Privacy and confidentiality were maintained for all the participants. Participants' knowledge assessed using a typical soring approach, with 2 points awarded for correct answers, 1 point for "I don't know" answers, and 0 for incorrect ones. Following data collection, a subject who correctly answers 75% or more of the questions (18 points out of 24) is regarded to have high understanding GERD knowledge. The researcher will respond to any questions regarding the questionnaire. Respondents asked for their permission before participation.

3. Results

Table 1: Have you ever heard about the term 'Gastroesophageal reflux disease' or 'GERD'?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	1	.4	.4	.4
	Yes	272	99.6	99.6	100.0
	Total	273	100.0	100.0	

The table above shows that 99.6% of the 273 study participants had heard of GERD, with only o.4% unaware of such a condition.

Table 2: Do you have a close family member affected with GERD?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I don't know	30	11.0	11.0	11.0
	No	69	25.3	25.3	36.3
	Yes	174	63.7	63.7	100.0
	Total	273	100.0	100.0	

The table above shows that 63% of the study of the pre-clinical medical students had family members who were affected by GERD, 25.3% of family members were not suffering from the condition, and 11% did not know.

Table 3: Do you think increased intake of carbonated drinks and caffeine can cause GERD?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I don't know	1	.4	.4	.4
	No	70	25.6	25.6	26.0
	Yes	202	74.0	74.0	100.0
	Total	273	100.0	100.0	

From the table above, 74% of the pre-clinical medical students knew that increased intake of carbonated drinks and caffeine is a risk factor for GERD, and 26% did not know if such drinks increase one's chances of suffering from such a condition.

Table 4: GERD can be caused due to frequent snacking?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I don't know	71	26.0	26.0	26.0
	No	103	37.7	37.7	63.7
	Yes	99	36.3	36.3	100.0
	Total	273	100.0	100.0	

From the table above, only 36.3% of the pre-clinical medical students were aware that GERD can be caused by frequent snaking. The rest either did not know (26%) or did not believe frequent snacking could cause such problems (37.7%).

Table 5: Repeated episodes of sore throat may indicate GERD?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I don't know	70	25.6	25.6	25.6
	No	1	.4	.4	26.0
	Yes	202	74.0	74.0	100.0
	Total	273	100.0	100.0	

From the table above, 74% of the pre-clinical medical students with GERD were aware that repeated episodes of

sore throat indicate GERD, 25.6% did not know, and 0.4% did not agree with the statement.

Table 6: Can old age increase the risk of GERD?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I don't know	69	25.3	25.3	25.3
	No	29	10.6	10.6	35.9
	Yes	175	64.1	64.1	100.0
	Total	273	100.0	100.0	

The table above shows that 64.1% of pre-clinical medical students were aware that old age increases one's risk of GERD, 25.3% did not know, and 10.6% agreed that age is a risk factor.

Table 7: Do you think the intake of a healthy diet increases the risk of GERD development?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	273	100.0	100.0	100.0

The table above shows that 100% of the pre-clinical medical students were aware that intake of a healthy diet did not increase.

Table 8: Do you think regular exercise can help in the prevention of GERD?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	69	25.3	25.3	25.3
	Yes	204	74.7	74.7	100.0
	Total	273	100.0	100.0	

The table above shows that 74.7% of pre-clinical medical students know regular exercise can significantly help prevent GERD. However, 25.3% did not agree that regular exercise plays a significant role in preventing GERD.

Table 9: Lying down immediately after having a meal does not increase the risk of GERD?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	99	36.3	36.3	36.3
	Yes	174	63.7	63.7	100.0
	Total	273	100.0	100.0	

From the table above, 63.7% of the pre-clinical medical students know that lying down immediately after having a meal dose, and 36.3% thought such an act was a risk factor.

Table 10: Pregnant ladies are at more risk of developing GERD?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	273	100.0	100.0	100.0

From the table above, it is evident that 100% of the pre-clinical medical students agreed that pregnancy increases the risk of GERD.

Table 11: Do you think GERD can be avoided by maintaining a healthy BMI?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I don't know	69	25.3	25.3	25.3
	Yes	204	74.7	74.7	100.0
	Total	273	100.0	100.0	

The table above shows that 74.7% of the pre-clinical medical students knew that maintaining a healthy BMI is one way to reduce the risk of GERD, while the remaining 25.3% did not know.

Table 12: What kind of diet can reduce the risk of GERD?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Fat diet	69	25.3	25.3	25.3
	Fiber diet	175	64.1	64.1	89.4
	I don't know	29	10.6	10.6	100.0
	Total	273	100.0	100.0	

From the table above, it is evident that 64.1% of the pre-clinical medical students were aware of the importance of eating a lot of fiber diet to prevent GERD, while the remaining participants, 25.3%, thought a fat diet could help, and 10.6% did not know. Averagely, from the 12 questions, 76.18% of pre-clinical medical students answered the 12 questions correctly.

4. Discussion

The study aimed to assess the awareness of GERD among pre-clinical medical students at King Faisal University (KFU), Al Ahsa, Saudi Arabia. A total of 273 participants were surveyed. The study revealed that the prevalence of GERD was 63.7% which is far much higher than the stated average prevalence stated at 13.98%

Averagely, from the 12 questions, 76.18% of pre-clinical medical students answered the 12 questions correctly. This average score is significantly higher than the 37% that Riyadh reported. The study revealed that 99.6% (272/273) have heard of GERD.

This study illustrated that 74% of the pre-clinical medical students knew that increased intake of carbonated drinks and caffeine is a risk factor for GERD. Our finding is similar to what was indicated in the previous literature, which showed that students who consume many carbonated drinks are at higher risk [10].

The study showed that only 36.3% of the pre-clinical medical students knew frequent snacking could lead to GERD. Even though the percentage was low, it was in line with the previous studies findings that fast food is a risk factor for GERD [7, 8].

The study's findings showed that repeated episodes of sore throat indicate GERD. In most cases, heartburn is the common symptom of GERD, but repeated episodes of sore throat are enough evidence of GERD [11].

The study shows that 64.1% of pre-clinical medical students know they become susceptible to developing GERD as they age. Previous studies stated that age is associated with GERD [10, 12]. The study also showed that 100% of the pre-clinical medical students knew that a healthy diet did not increase the risk of getting GERD. This finding is supported by previous studies that found a balanced diet is protective against GERD [13].

Our study's most intriguing result is that 63.7% of pre-clinical medical students are aware that laying down soon after eating might help reduce the risk factor for GERD. Previous research has shown that laying down after a meal aids digestion and reduces symptoms like heartburn [7, 8, 14]. Also, all of the future doctors in the research were aware that pregnancy increases the likelihood of developing GERD.

The higher occurrence of GER during pregnancy is consistent with prior research [15], which pointed to various factors, including a weaker lower esophageal sphincter and altered gastrointestinal transit, as causes.74.7% of pre-clinical medical students in the survey were aware that keeping a healthy body mass index may help lower the chance of developing GERD. Previous studies have demonstrated a correlation between obesity and GERD [16, 17, 18], therefore our results do not come as a surprise.

According to the study, 64.1% of the pre-clinical medical students were aware of the importance of eating a lot of fiber diet to prevent GERD. This finding was in line with the previous studies that indicated that fiber food such as fruits and vegetables helps reduce acid reflux [7, 8, 19]. Fiber helps in absorbing fluids preventing the displacement of stomach acid.

The present study had some limitations. First, it only focused on the third-year College of Medicine at King Faisal University, making generalizing the study findings to the entire population difficult. Another limitation is that the data was obtained through a self-reported questionnaire. Recall bias might have affected the results.

5. Conclusion

GERD is a gastrointestinal motility condition caused by stomach contents refluxing into the esophagus or oral cavity, resulting in symptoms or consequences. Among the families of the third-year College of Medicine at King Faisal University, the prevalence rate was 63.7%. The overall awareness of GERD and its risk factors

among students is 76.18%. More education campaign is still needed to raise awareness of this condition.

Acknowledgements

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