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## Acid reflux in juveniles

*Fenil Vijay Chamariya*

[fenilchamariya2007@gmail.com](mailto:fenilchamariya2007@gmail.com)

*Prabhavati Padamashi Soni International Junior College, Mumbai, Maharashtra*

### Abstract

***GER(Gastroesophageal Reflux) is a condition rarely found in juveniles. The present study investigates the effect of diet on teenagers(N=69) getting GER and whether GER is present among juveniles. The primary reason for occasional acid reflux in teenagers is spicy food and irregular timings between meals. Most juveniles have GER and not GERD (Gastroesophageal Reflux). The major contributor to the reason for acid reflux in juveniles is diet.***

Keywords: GER, spicy food, irregular timings, acid reflux, juveniles.

### Introduction

Gastroesophageal reflux (GER), also known as acid reflux, is a common digestive disorder characterized by the regurgitation of stomach acid into the esophagus. While traditionally associated with adults, recent research has highlighted a concerning rise in the prevalence of acid reflux among juveniles. This phenomenon has attracted significant attention within the medical and scientific communities, as understanding the causes, risk factors, and management strategies for acid reflux in this population is crucial for their overall health and well-being. The purpose of this research paper is to provide a comprehensive overview of acid reflux in juveniles, shedding light on its prevalence, potential risk factors, and effective management approaches. By examining the current body of knowledge surrounding pediatric acid reflux, this study aims to contribute to a deeper understanding of this condition and assist healthcare professionals in diagnosing and treating affected juveniles more effectively.

GERD is a disease in which acid reflux occurs more than twice a week and therefore people who face GERD should visit a doctor for medication as it can burn and damage the lining of the esophagus. On the other hand, GER is a less severe condition as acid reflux occurs on fewer

occasions as compared to GERD, and therefore the chance of damaging the lining of the esophagus is lower. It is often noticed that a lot of teenagers get GER. Some everyday problems that may cause GER include being obese, overeating, eating chocolate, and consuming caffeine and spicy foods.

**Methods**

68 teenagers who claimed to have acid reflux, answered questions in a carefully designed Google form.

Here is the division of the age groups:

Age group	Number of respondents
10-15	7
15-20	61

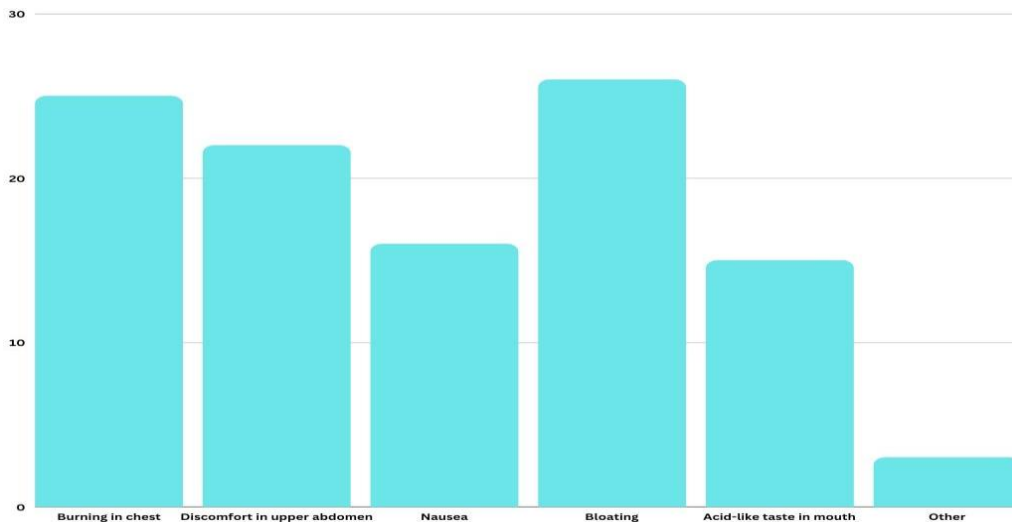
**Results**

When questioned “Do you feel any of the following symptoms?”

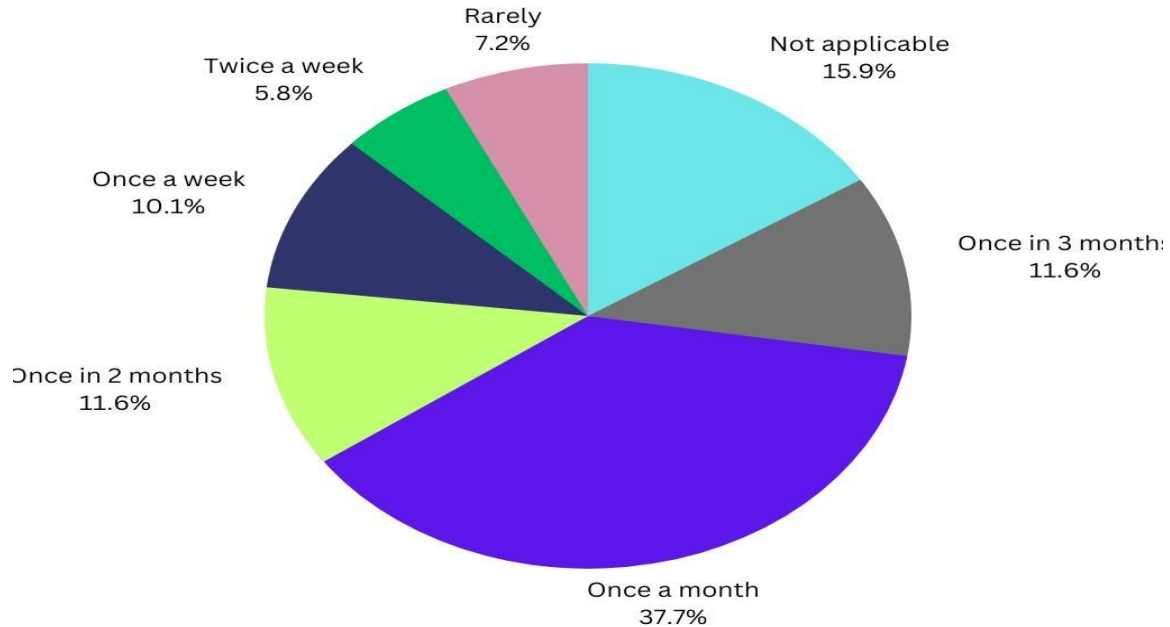
The respondents were given multi-select multiple-choice questions.

The following options were given to the subjects:

- Burning in the chest
- Discomfort in the upper abdomen
- Nausea
- Bloating
- Acid-like taste in the mouth

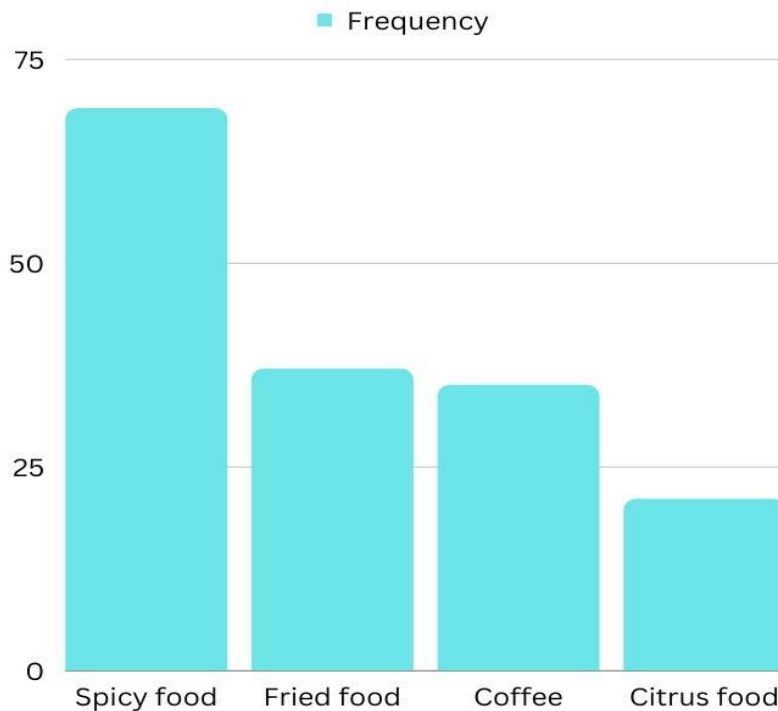


When asked “How often do you get acidity?” the following were the responses.



The maximum number of subjects stated that they got acid reflux once a month at 37.7%. The lowest number of teenagers getting acid reflux was twice a week at 5.8% suggesting that the majority of the teenagers face acid reflux rarely and they experience GER and not GERD. When asked, “What kind of food do you like?”

The respondents were given multi-select multiple-choice questions. Here is a demographic of the result



Here is the exact number of responses:

Type of food preferred	Frequency
Spicy food	69
Fried food	37
Coffee	35
Citrus food	21

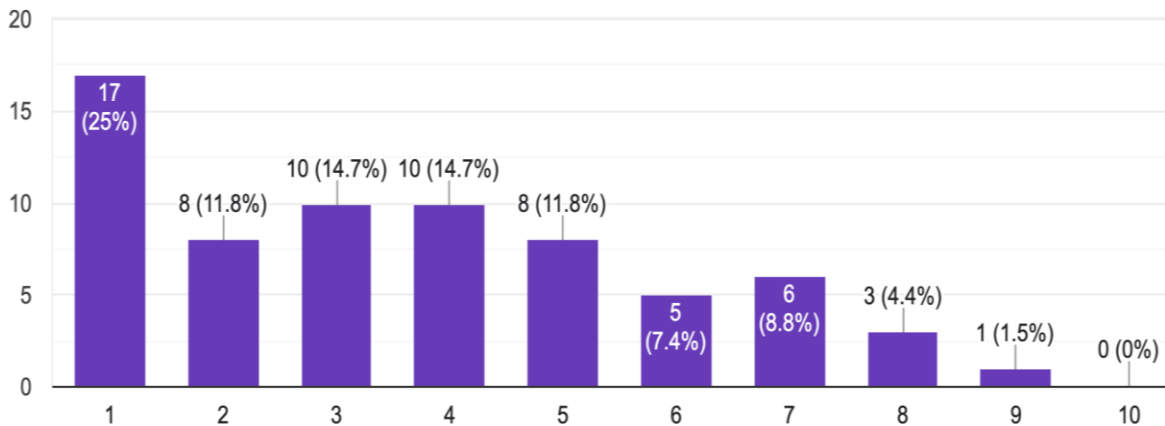
When the subjects were questioned “On a scale of 1-10 how bad can acidity get for you?

1: No major problems and bearable

10: Very unbearable with excruciating pain.”

Following were the responses.

68 responses



The data clearly states that maximum juveniles do not have extreme levels of acid reflux which may cause them extreme pain.

Here's a general breakdown of how acidity levels on this scale might be understood:

1-2: Mild acidity - Symptoms are minimal and tolerable. Individuals may experience occasional discomfort or slight heartburn, but it does not significantly impact their daily life or well-being.

3-5: Moderate acidity - Symptoms are noticeable and may cause some discomfort. Individuals may experience more frequent heartburn, regurgitation, or a searing feeling in the chest. While it can be bothersome, it is typically manageable with over-the-counter antacids or lifestyle modifications.

6-8: Severe acidity - Symptoms are pronounced and can significantly affect daily activities. Individuals may experience intense heartburn, chest pain, difficulty swallowing, or throat irritation. This level of acidity often requires medical intervention, such as prescription medications, dietary changes, and lifestyle modifications.

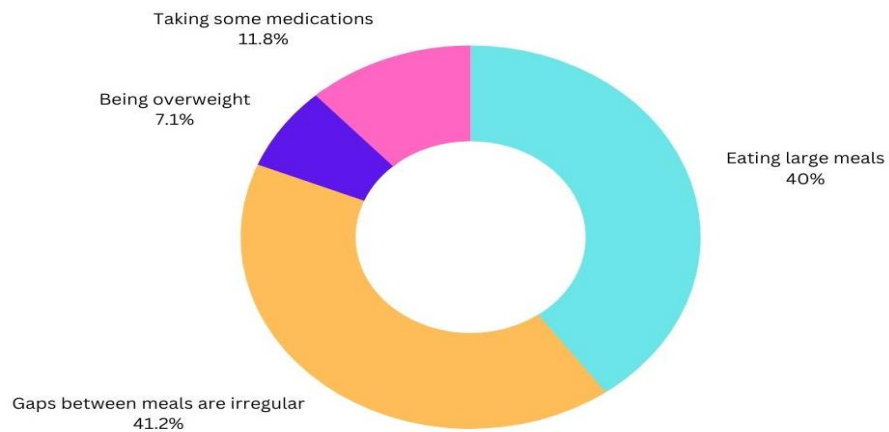
9-10: Extreme acidity - Symptoms are excruciating and may lead to severe distress. Individuals may experience unbearable chest pain, difficulty breathing, persistent regurgitation, or throat ulcers. This level of acidity requires urgent medical attention and treatment.

Subjects were questioned, “Which external factor do you think contributes to acidity for you?”

The respondents were given multi-select multiple-choice questions.

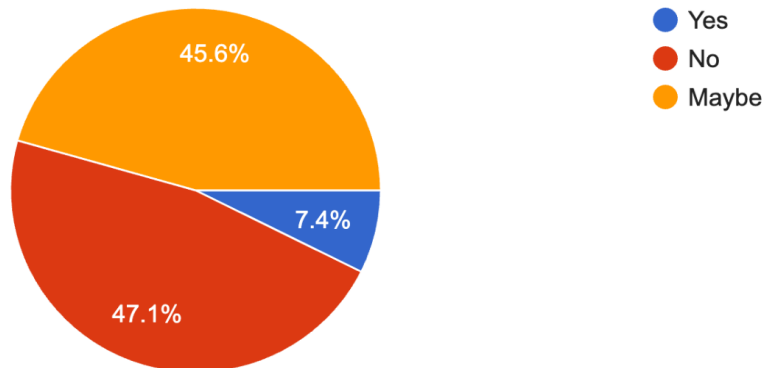
- Eating large meals
- Gaps between meals are irregular
- Being overweight
- Taking some medications

Following were the results:



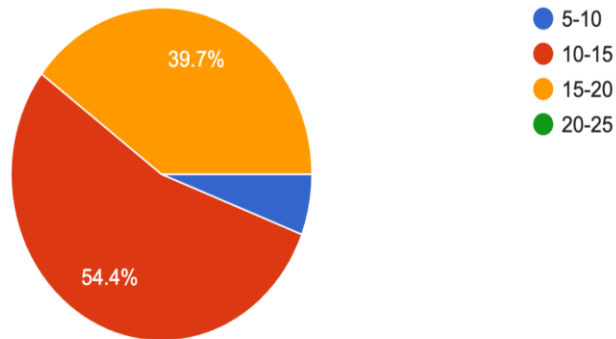
**Do you experience acidity during travels?**

68 responses

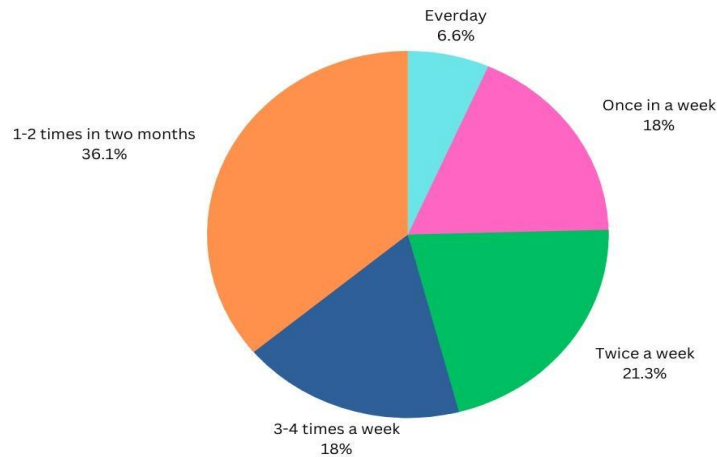


Since what age did you start seeing symptoms?

68 responses



How often do you consume aerated drinks?(Redbull, Pepsi, Coca-Cola, Sprite etc)



What treatments have you tried to manage your symptoms?

More than 33 juveniles consume antacids like ENO to treat acid reflux while a few do not do anything to treat it. Some stated they do “home remedies” and a very large number said they maintain controlled eating habits.

### **Conclusions**

Maximum teenagers experience bloating when they get acid reflux. While some also feel burning in the chest, both of which are typical symptoms of acid reflux. The third most common symptom seen was discomfort in the upper abdomen all the symptoms point toward acid reflux.

It can be concluded that teenagers do not have GERD(Gastroesophageal Reflux Disease) but they have GER(Gastroesophageal Reflux) as a lump sum of the teenagers get acid reflux only once a month suggesting it is GER whereas in GERD acid reflux is supposed to occur more than twice a week and hence teenagers who have GER might not need to visit a doctor and treat their acid reflux with medication.

Gaps between meals can also be a major contributor to the issue as the data suggests 41.2% of the teenagers who claim to get acid reflux have posed this as a major reason they feel they might get acid reflux. The data has provided compelling evidence linking irregular gaps between meals to the development and exacerbation of acid reflux. The findings underscore the significance of maintaining regular meal patterns as a preventive measure for acid reflux. The research has elucidated that extended periods of fasting or irregular meal schedules can disrupt the normal functioning of the digestive system. This disruption can lead to an increase in gastric acid production, which, combined with the relaxation of the lower esophageal sphincter, allows acid to reflux into the esophagus. Consequently, individuals who frequently experience irregular gaps between meals are more susceptible to acid reflux symptoms and its associated complications. In conclusion, adopting regular meal schedules and promoting healthy eating habits are essential steps in managing and preventing acid reflux caused by irregular gaps between meals. By doing so, individuals can alleviate symptoms, improve their overall well-being, and reduce the risk of developing complications associated with acid reflux.(Ref5)

It can also be concluded that spicy food is a prime reason for acid reflux. As the highest numbers of the juveniles interviewed suggested that spicy food increased their levels of acidity. Capsaicin is a chemical compound that makes the food spicy, high amounts of capsaicin in foods can irritate the esophagus lining which can lead to acid reflux. The data suggests that spicy food is the most commonly liked food. This means that there is a correlation between spicy food and acid reflux. A large number of them stated that they got acid reflux mainly after having spicy food therefore this could mean spicy food causes acid reflux. The consumption of spicy foods has been identified as a potential trigger for acid reflux in susceptible individuals. Recognizing personal tolerances, making dietary adjustments, and seeking professional advice can help individuals manage their acid reflux symptoms and maintain healthier gastrointestinal functions. (Ref2, Ref5)

Fried food is another primary reason for acid reflux as 23.5% of the juveniles interviewed stated that fried food triggers acid reflux. Fried food slows down digestion due to the high amounts of insoluble fat and hence it prevents the sphincter muscles in the esophagus to tighten fully and close so acid and food contents from the stomach enter the esophagus causing acid reflux. It is important to note that while fried foods have been identified as a potential trigger for acid reflux, individual tolerance, and susceptibility may vary. Some individuals may be more sensitive to the effects of fried foods on acid reflux, while others may tolerate them in moderation without experiencing significant symptoms. Minimizing the consumption of fried foods can be beneficial in managing acid reflux symptoms. By adopting healthier cooking methods and making informed dietary choices, individuals can reduce their risk of experiencing acid reflux and improve their overall gastrointestinal health.(Ref2, Ref5, Ref3)

The data clearly states that traveling does not affect acid reflux as 47.1% of the subjects stated that it does not while 45.6% said “Maybe” and 7.4% stated “Yes” This could mean that there is no relation between acid reflux and traveling.

54.4% of the sum of subjects state that they started seeing symptoms from the age of 10-15 while 39.7% of them clearly stated they saw their first symptoms from the age of 15-20 and the rest from the age of 5-10. A large number of the subjects started seeing the first symptoms from the age of 10-15 suggesting that GER in most juveniles starts from the age of 10-15.

All subjects that answered the form consumed aerated drinks. The highest number of aerated drinks that teenagers consumed was 1-2 times every two months at 36.1% of the teenagers.

6.6% of them claimed to consume it every day which can be dangerous for the following reasons:  
Carbonation: The carbonation process involves the addition of carbon dioxide gas to the beverage, which creates bubbles and a fizzy sensation. Carbonated drinks can increase the pressure in the stomach, this allows stomach acid to move back up into the esophagus, triggering acid reflux.

Caffeine and acidic content: Many aerated drinks, particularly colas and caffeinated beverages, contain caffeine and high levels of acidity. Caffeine is a known trigger for acid reflux as it relaxes the LES and can increase stomach acid production. The acidic nature of these drinks can also irritate the esophageal lining, exacerbating acid reflux symptoms.  
This could mean that consumption of aerated drinks can also lead to acid reflux.(Ref5)

## **References**

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<https://chat.openai.com/chat> (Ref5)