



Preference Analysis of Antacid Tablets and Suspensions Among Generation Z University Students in Bandung City

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Abstract

GERD (Gastroesophageal Reflux Disease) is a chronic condition in which stomach contents flow back (reflux) into the esophagus due to a weakened lower esophageal sphincter, causing symptoms such as heartburn and acid regurgitation. The prevalence of GERD is currently rising among Generation Z university students due to irregular eating habits, academic stress, and excessive caffeine consumption. Therefore, this study aimed to analyze the preferences of Generation Z university students in Bandung regarding antacid formulations—specifically chewable tablets and suspensions. A quantitative descriptive research method was employed, involving the distribution of an online questionnaire to 52 respondents in April 2026. The results indicated that 78.8% of respondents had experienced gastric issues, and 50% had self-medicated with antacids within the last six months. Regarding usage history, 65.38% had used chewable tablets, while 21.15% had used suspensions. When given a choice between the two, 75% of respondents preferred chewable tablets, and 25% preferred suspensions. The primary factors influencing these preferences were convenience, taste, and price.

Keywords: Antacids, Gastroesophageal, GERD, Chewable Tablets, Suspensions

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1. Introduction

Gastric acid-related digestive disorders, such as gastritis and Gastroesophageal Reflux Disease (GERD), have become a significant global health concern. In Indonesia, the prevalence of gastric disorders continues to increase, particularly among the productive age group, including Generation Z university students (Katzung, 2021). This group faces a high risk due to academic stress, poor sleep patterns, and unhealthy lifestyles, such as irregular eating schedules and excessive coffee consumption (Nurikhsan et al., 2025; Ardhan et al., 2022). Specifically in the city of Bandung, known as an educational hub with a strong coffee-drinking and spicy-food culture, the prevalence of GERD among university students is estimated to reach 22% to 25% (Ramadhan et al., 2022). This condition is concerning because clinical symptoms such as heartburn, nausea, and epigastric pain can significantly reduce their productivity and quality of life (Lillian, 2025).

The high incidence of gastric disorders among university students has prompted many sufferers to undertake initial self-treatment before consulting a healthcare provider. To address these complaints, the majority of students engage in self-medication, using antacids as their first-line remedy of choice (Gofur et al., 2023). Antacids are weak bases that work through the direct neutralization of gastric acid (HCl), raising the gastric luminal pH to a range of 3–5. This local increase in pH effectively reduces the activity of the pepsin enzyme, which can otherwise damage the gastric wall (Katzung, 2021; Brunton, 2018). In the market, non-systemic antacids such as the combination of Aluminum Hydroxide and Magnesium Hydroxide are the most commonly used, as they act locally in the stomach without being absorbed into the bloodstream, thereby minimizing gastrointestinal side effects such as diarrhea or constipation (Sari et al., 2019). These formulations are also frequently combined with simethicone as an additional anti-foaming active ingredient to relieve bloating (Juliawati & Wijayanti, 2021).

In addition to their mechanism of action, antacids are also available in several dosage forms with different usage characteristics that can affect patient comfort. In general, antacids are available as chewable tablets and liquid suspensions. Suspension formulations are known to have better efficacy because their active ingredients are already dispersed, resulting in a faster onset of action without requiring a disintegration process in the stomach (Purba et al., 2025; Scarpignato et al., 2022). On the other hand, chewable tablet formulations offer practicality for highly mobile students, although their effectiveness strongly depends on proper chewing technique (Pristianty, 2023). Students' preferences in choosing between these dosage forms are not based solely on clinical aspects but are also influenced by subjective factors such as taste, price, storage convenience, and prior usage experience (Tristi, 2023).





Although the characteristics of each dosage form have been widely described in various studies, information regarding Generation Z university students' preferences in choosing antacid formulations, particularly in the city of Bandung, remains limited. This is significant because this group has distinct lifestyle characteristics and medication consumption patterns compared to other age groups. Given that Generation Z values efficiency while still paying attention to functionality, an analysis of the reasons underlying antacid formulation choice becomes highly relevant. Therefore, this study aims to conduct an in-depth analysis of the preferences of Generation Z university students in Bandung in choosing between tablet and suspension antacid formulations as a solution to their gastric problems. The results of this study are expected to contribute to the field of social pharmacy and serve as a reference for healthcare providers in delivering appropriate and comfortable self-medication counseling to the public.

2. Research Method

This study is classified as descriptive research; the descriptive research method is a method carried out with the aim of producing an objective picture or description of a given condition (Notoatmodjo, 2018). The research was conducted in the city of Bandung during April 2026. The population in this study consisted of Generation Z university students studying in the city of Bandung. The sample represents a portion of the population whose characteristics are to be examined.

Data collection in this study employed a questionnaire instrument developed based on the research variables. The questionnaire was distributed online to Generation Z university students in Bandung to obtain data on antacid usage preferences. Prior to use, the instrument underwent validity and reliability testing. The test results showed a p-value > 0.05 , indicating that the items were valid, while the Cronbach's Alpha value was > 0.6 , indicating that the questionnaire was reliable.

3. Results And Discussions

a. Result

The following presents data on the distribution of demographic characteristics of the 52 Generation Z university student respondents in Bandung who participated in the study through an online questionnaire distributed in April 2026.



**Table 1.** Demographic Characteristics

Demographic Characteristic	Variable Category	Frequency (n)	Percentage (%)
Gender	Female	41	78.8
	Male	11	21.2
Respondent Age	17–19 Years	3	5.8
	20–22 Years	35	67.3
	23–25 Years	14	26.9
Primary Dosage Form Preference	Chewable Tablet	39	75
	Suspension (Liquid)	13	25

Based on the results of this study, the majority of respondents were female, totaling 41 individuals (78.8%). In addition, from a physiological and psychological standpoint, women are more susceptible to digestive disorders such as dyspepsia or gastritis triggered by hormonal changes or stress levels. This is supported by a study conducted by Susanto et al. (2021), which stated that women show a higher prevalence of seeking self-medication for gastric complaints due to their higher level of health awareness.

The 20–22 year age range represents a young adult phase generally corresponding to higher education enrollment. Unhealthy lifestyles and high academic workloads are considered to trigger the onset of dyspepsia symptoms. According to a study conducted by Putri and Lestari (2023), students/young adults of productive age (18–24 years) tend to have a high level of mobility and seek practical solutions when experiencing mild dyspepsia symptoms.

b. Discussion

Based on the results of the research conducted over approximately one month, regarding the preferences of Generation Z university students in Bandung City for antacid tablets and suspensions, each aspect is discussed as follows:

Table 2. History of Gastric Disorders and Self-Medication Behavior

No	Question	Yes n (%)	No n (%)
1	Have you ever experienced a gastric disorder (peptic ulcer or GERD)?	41 (78.8)	11 (21.2)
2	In the last 6 months, have you self-medicated (without a doctor's prescription)?	26 (50)	26 (50)

Based on the data above, the majority of respondents (78.8%) reported having experienced a gastric disorder such as peptic ulcer (maag) or GERD. Interestingly, within the last six months, 50% of respondents admitted to self-medicating with antacids without a doctor's prescription. This condition is consistent with the productive age population, which tends to seek practical solutions when experiencing mild dyspepsia symptoms. This high rate of gastric complaints is often directly correlated with antacid self-medication,





given that antacids are classified as an over-the-counter medication that is easily accessible for first-line relief (Wulandari et al., 2022).

Table 3. Usage Experience and Antacid Formulation Preference

No	Question	Chewable Tablet n (%)	Suspension n (%)	Both n (%)
1	Which dosage form have you used before (multiple choice allowed)?	34 (65.38)	11 (21.15)	7 (13.46)
2	If both are available, which formulation do you choose/buy more often?	39 (75)	13 (25)	0 (0)

Although 65.38% of respondents had previously used chewable tablets and 21.15% had used suspensions, the majority of respondents consistently preferred chewable tablets (75%) over suspensions (25%) when both were available. Generation Z's tendency to choose chewable tablets was strongly influenced by three main factors: practicality, organoleptic aspects, and price efficiency.

Based on these results, there is an evident tendency for Generation Z university students to prefer tablet antacid formulations over suspension formulations. This preference is thought to be influenced by several factors, such as practicality (portability), organoleptic aspects, and price. Nevertheless, some respondents still believe that suspension formulations have a faster onset of action in relieving symptoms.

This finding is consistent with the study by Al-Ghani et al. (2022), which noted that consumers within the productive age group place greater priority on convenience factors. Chewable tablets were considered superior in terms of mobility, as they are easy to carry while traveling and carry no risk of spilling.

Table 4. Distribution of Drug Purchase Locations

No	Question	Pharmacy n (%)	Minimarket n (%)	Small Shop (Warung) n (%)	Online Store n (%)
1	Where do you usually obtain antacid medication?	42 (82.4)	3 (5.9)	7 (11.8)	0 (0)

The majority of respondents (82.4%) chose pharmacies as their primary purchase location to ensure the quality, authenticity, and safety of the product from the risk of counterfeit medication (Rahmawati et al., 2022).



**Table 5.** Distribution of Drug Information Sources

No	Question	Healthcare Provider n (%)	Social Media n (%)	TV Advertisement n (%)	Family/Friends n (%)
1	Where do you obtain information about antacids?	27 (51.9)	10 (19.2)	12 (23.1)	3 (5.8)

Regarding information sources, 51.9% of respondents relied on healthcare providers as their primary guide for rational self-medication. This reflects Generation Z's critical attitude in filtering digital health information to avoid dosing errors and adverse effects (Sari & Hidayat, 2023).

Table 6. Antacid Drug Brands

No	Which antacid brand do you usually buy?	Frequency (%)
1	Promag	43 (82.7)
2	Mylanta	3 (5.8)
3	Polysilane	2 (3.8)
4	Dexanta	1 (1.9)
5	Sucralfate	1 (1.9)
6	Lansoprazole	1 (1.9)
7	Polycrol	1 (1.9)

In terms of brand selection, Promag dominated overwhelmingly (82.7%). Consistent marketing strategies and brand equity have successfully established this brand as top-of-mind (the first choice that comes to consumers' minds) when experiencing gastric complaints (Lestari & Nugroho, 2023).

Table 7. Perceived Onset of Action of Suspension Antacids

No	Question	Strongly Disagree n (%)	Disagree n (%)	Neutral n (%)	Agree n (%)	Strongly Agree n (%)
1	I choose suspension antacids because I feel the pain subsides faster	1 (1.9)	2 (3.8)	28 (53.8)	13 (25.0)	8 (15.4)

Suspension antacid formulations are priced slightly higher than tablet antacids; nevertheless, some consumers still choose them as their therapy, as respondents perceive the onset of action to be proportionate to the price paid (Pratama et al., 2020). Based on the results of the first questionnaire parameter, 25.0% of respondents agreed that a faster onset of action is one of the reasons for choosing a suspension antacid formulation.

Interestingly, the majority of respondents (53.8%) selected the neutral option, indicating that most of Generation Z is relatively insensitive to variations in the clinical release duration of oral medication, so long as the pain experienced remains within a





tolerable threshold. For students who chose suspension antacids, this decision was based on perceived value.

Although tablet formulations are more practical in terms of mobility, a considerable number of patients still tend to choose suspension formulations because they are perceived to be more effective at coating the esophageal wall and providing more even protection of the gastric mucosa (coating effect). The cooling, soothing sensation produced by the suspension formulation can rapidly relieve acute gastritis symptoms and is considered proportionate to the treatment cost incurred (Handayani & Nurhasanah, 2019).

Table 8. Sensory Perception of Antacid Tablets

No	Question	Strongly Disagree n (%)	Disagree n (%)	Neutral n (%)	Agree n (%)	Strongly Agree n (%)
1	I like Antacid Tablets because they taste like candy and do not leave a thick “chalky” sensation on the tongue.	2 (3.8)	6 (11.5)	15 (28.9)	14 (26.9)	15 (28.9)

Sensory aspects play a crucial role in self-medication adherence. As many as 55.8% of respondents liked antacid tablets because of their candy-like flavor variations and the minimal “chalky” sensation, owing to taste-masking technology. On the other hand, the thick texture of suspension formulations was perceived to leave a concentrated aftertaste that triggered nausea in 25% of respondents. Psychologically, young consumers prefer formulations with a familiar, refreshing flavor such as mint or orange (Hidayat et al., 2022; Nurmala & Gunawan, 2024). From a formulation standpoint, solid dosage forms also have better active-ingredient stability against environmental contamination during storage compared with liquid formulations (Gupta et al., 2021).

Table 9. Perceived Discomfort with Suspension Texture

No	Question	Strongly Disagree n (%)	Disagree n (%)	Neutral n (%)	Agree n (%)	Strongly Agree n (%)
1	I feel nauseous and uncomfortable with the texture of Suspension Antacids.	5 (9.6)	7 (13.5)	27 (51.9)	6 (11.5)	7 (13.5)

For Generation Z, the experience of taking medication is not solely about therapeutic healing but also involves sensory comfort. A total of 11.5% of respondents agreed and 13.5% strongly agreed that the texture of suspension antacids can cause nausea and throat discomfort. A study conducted by Hidayat et al. (2022) noted that the productive age group is psychologically inclined to choose formulations with a familiar, refreshing taste such as orange or mint.





Suspension antacids are favored for their faster onset of action compared with tablet formulations; however, their use still carries a perceptible risk of side effects, as they leave a thick aftertaste that typically causes nausea and vomiting (Nurmala & Gunawan, 2024).

Table 10. Portability and Practicality of Antacid Tablets

No	Question	Strongly Disagree n (%)	Disagree n (%)	Neutral n (%)	Agree n (%)	Strongly Agree n (%)
1	I prefer Tablets because they are practical to carry to class or when traveling (no risk of spilling).	3 (5.8)	1 (1.9)	12 (23.1)	12 (23.1)	24 (46.2)

A total of 69.3% of respondents (combining ‘agree’ and ‘strongly agree’) chose tablets because they are practical to carry to class without the risk of spilling. Conversely, 40.4% of respondents considered suspension formulations inconvenient because they require a dosing device such as a measuring spoon, or because the sachet packaging is difficult to open. The highly mobile, productive-age group has been shown to be more adherent and comfortable using solid dosage forms that do not require additional tools (Smith & Taylor, 2019; Indijah et al., 2020).

Table 11. Barriers to Using Suspension Antacids

No	Question	Strongly Disagree n (%)	Disagree n (%)	Neutral n (%)	Agree n (%)	Strongly Agree n (%)
1	I find Suspension Antacids inconvenient because they require a measuring spoon or the sachet packaging is difficult to open.	2 (3.8)	9 (17.3)	20 (38.5)	14 (26.9)	7 (13.5)

Generation Z, including university students in Bandung City, shows a strong tendency to prioritize practicality and speed in self-medication management. This phenomenon is clarified by respondents' answers to the fifth questionnaire item, where 26.9% agreed and 13.5% strongly agreed that using suspension antacids was considered less efficient or more “inconvenient” because a dosing device is required.

In relation to medication-taking behavior among younger generations, particularly Generation Z university students, Putri et al. (2022) stated in their study that students tend to choose drug formulations that support a fast-paced, practical, yet still efficient lifestyle. Chewable tablet formulations are considered to better meet this need because they can be consumed instantly amid busy academic activities without requiring additional tools.





Table 12. Economic Considerations for Antacid Tablets

No	Question	Strongly Disagree n (%)	Disagree n (%)	Neutral n (%)	Agree n (%)	Strongly Agree n (%)
1	The relatively lower price of Antacid Tablets.	1 (1.9)	4 (7.7)	14 (26.9)	15 (28.8)	18 (34.6)

Price is a dominant determinant variable for students who are not yet financially independent. A total of 63.4% of respondents agreed that the more economical per-strip price of antacid tablets was their primary consideration. This per-unit price affordability makes tablet formulations more preferred than suspensions, which are relatively more expensive for students' budgets (Tan & Wijaya, 2021; Rahmayenti & Rahmi, 2020).

4. Conclusion

Based on the results of the research and data analysis on the preferences for antacid tablets and suspensions among Generation Z university students in Bandung City, it can be concluded that the majority of respondents (75%) tend to prefer tablet formulations over suspension formulations as their antacid of choice. The main factor driving this preference is practicality or portability, as tablet formulations are considered easier to carry to class without the risk of leakage and do not require a dosing device such as a measuring spoon. In addition, economic factors play an important role, as the relatively more economical (cheaper) price of tablets is better suited to students' budgets than suspension formulations. From an organoleptic standpoint, students prefer tablet formulations because of their refreshing, candy-like flavor variations and minimal “chalky” sensation on the tongue, even though they are aware that suspension antacids actually have a better onset of action in relieving pain.

5. Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that they have no conflict of interest related to this research.

Statement of informed consent

Informed consent was obtained from all individual participants included in this study prior to their participation in the online questionnaire.





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