

A cross-sectional study regarding the knowledge, attitude and awareness about self-medication among Bangladeshi people

Md. Abu Bakar Siddique Jami

jamiu.cooper@yahoo.com

Research

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Abstract

Background: Self-medication is the use of medicinal products by the consumer which is not prescribed by the physician or doctor. Self-medication practice (SMP) is widely adopted by the common people of developing countries like Bangladesh.

Study Design: Cross-sectional study.

Aim & Objective: This study was conducted to learn about the knowledge and awareness level and to evaluate the practice and attitude towards self-medication among the common people of Bangladesh.

Method: Primary data was collected by conducting an online survey with a well-constructed questionnaire. Data collection was carried out from May 2021 to June 2021. The subjects were minimum 15 years of age. From 35 districts of Bangladesh, total 322 people of different age groups, education levels, economic classes participated in the survey.

Result: 71% (229) of the respondents were 21-25 years of age. 66% were undergraduate students. Most of them were from middle class society and well-educated. 80% of the population said that they had purchased or taken medicines without any prescription. 57% of them told they do not consider self-medication as a very safe practice although, 87% of the population had practiced self-medication at least once in the preceding year. Antipyretics (212), Analgesics (165), Drugs for Cold/Cough (197) and Anti-ulcer/Antacids (140) were the majority categories of medicines that were used mostly for self-medication. Nearly all (311) of them collect SMP medicine from Pharmacy shops. Previous prescription (146), Advice from family or friends (165) and Internet or other media (113) were their common sources of information for their self-medication practice.

Conclusion: Self-medication practice is highly prevalent in Bangladesh. People are not aware enough about possible negative outcomes of it. Therefore, the regulatory laws should be implemented more strictly regarding buying and selling medicines

1. Introduction

1.1 Definition & Overview

From some of the earliest histories of humans, there were evidences found of self-medication practice. Such as, proves were found that Neanderthal humans suffering from dental abscess practiced self-medication [1]. Self-medication is being practiced every day in the form of self-care of our health throughout the globe [2]. According to the WHO guidelines, Self-medication can be identified as the use of drugs or medicinal substances by a Patient on his own or on the advice of a Pharmacist or any other lay person instead of consulting with a certified physician or doctor [3]. Previously done researches on self-medication tell that it is a rather common practice, especially in economically deprived societies. Moreover, it is a growing trend of 'self-care' which has its own pros and cons.

However, since it involves using drugs, self-medication can differ from self-care sometimes. And that may do good or can cause harm also. From the perspective of the people who practice it, self-medication provides them a low-cost alternative for consulting a general physician or doctor. Sometimes it genuinely helps to overcome or treat minor health conditions. For any minor illnesses or symptoms, sometimes it can be a cheap, rapid, and convenient solution [4], [5]. Therefore, Self-medication is the use of medicinal products or drug substances by the consumer which is not prescribed by the certified physician or doctor. It indicates selection, purchase and use of medicines by individuals to treat self-recognized health conditions, diseases or symptoms.

1.2 Reasons & Factors Influencing Self-Medication

The major and most possible reason of self-medication practice is that; it saves a lot of time. Going to a specialized doctor or physician must takes a lot of times. It was revealed by a study that, 67% which is more than 35.5 million people of Britain do not book a face-to-face doctor's consultation even when it was required. Moreover, they consider visiting a doctor is a waste of time [6]. People often just self-medicate themselves when they are suffering from a simple illness such as, fever, common cold, acidity, abdominal pain, cough, headache, back pain etc. A throat symptom like, sore throat or voice break, simple teeth or gum symptoms, symptoms related to minor respiratory problems etc. [7] were found as some of the main reasons for self- medication in Europe.

Previous studies show that, dissatisfaction with the healthcare services or doctor's behavior, being fed up about the lengthy waiting times as the doctors are mostly busy with many patients or having low amount of trust in the services of a doctor can also instigate the tendency of self-medication [8]. In least developed or developing countries, self-diagnosis of a disease and use of previously taken medicine for treatment without any prescription of a doctor is a highly common practice. However, a student of medicine or someone having proper academic knowledge about drugs and diseases might feel confident while taking a medicine based on their own understandings [8], [9]. According to several recent studies, the rate of self-medication practice appears to be increasing in Bangladesh. Due to a number of socioeconomic and lifestyle factors that include ready access to drugs, increased potential to manage certain illnesses through self- care, and greater availability of medicinal products, people are choosing this over going to the doctors.

It is also a quite common scene that, pharmacist or the person who sells the medicine in a drugstore influences the patient to purchase and take a particular drug just by hearing the symptoms [8]. Along with these reasons or factors, having old medicines left at home, other people's suggestions and many other possible reasons can be there that can invoke someone to practice self-medication without visiting a doctor.

2. Materials & Methods

2.1 Type of Study

This study is a cross-sectional study. It is designed to find out the knowledge, awareness of people about self-medication and to evaluate behavior and practice of the common people from different regions of Bangladesh.

2.2 Study Area

The survey for this study was conducted on the general and common people from different districts or distinct regions of Bangladesh. People from different parts of the country participated in this study.

2.3 Sample Characteristics

For this study, primary data was collected by conducting an online survey with a well-constructed questionnaire form. These data were both quantitative and qualitative. Since, this survey is being conducted in the Covid-19 pandemic period, people are more engaged with online activities and so it seemed most convenient method to collect data online. Data collection was carried out from May 2021 to June 2021. A total of 322 people participated in the survey from people of different age groups & education levels.

2.2.1 Inclusion Criteria

Subjects must be from any district or any region of Bangladesh. must have a minimum knowledge of digital technology and should be able to fill-up the online questionnaire. The participant has their consent regarding using their opinions in the questionnaire.

2.2.2 Exclusion Criteria

Those who were not willing to participate in this particular study are excluded from the study. Those who were under minimum 15 years of age were also excluded. To maintain the uniformity of the data, people who are not from any part of Bangladesh were avoided.

2.3 Sampling Technique

In this study, stratified random sampling technique was followed. The sample was collected from both male and female. People of different age groups, education levels, economic classes and ethnic background were selected for the survey.

2.4 Questionnaire Development

The questionnaire is constructed in both English and Bengali. They were written in simple language in order to avoid unnecessary semantic misunderstandings. All the questions were analyzed well for relevance with the study, before making the final forms by taking help from experts. Some specific questions had the option of choosing multiple answers and some had extra spaces for comments and additional information.

2.6 Data Collection Method

Data were collected online through google form predominantly. Some responses were also taken by face-to-face interviews or through phone calls, for those participants who do not have email address, no access to the internet, and poor understanding of technology.

2.7 Data Analysis

After data collection, they were checked and analyzed with Microsoft Excel 2016. Here, help from an expert statistician was also taken. Results were shown in tables, pie and column diagrams. After scrutinizing the results, conclusive numbers and percentages were found regarding the knowledge and attitude of people regarding self-medication.

3. Results & Discussion

Table 1
Demographic Characteristics.

Characteristics	Frequency (n)	Percentage (%)
Age group (years)		
15–20	34	10.56
21–25	229	71.12
26–30	29	9.01
31–40	12	3.73
> 40	18	5.59
Gender		
Male	197	4.05
Female	125	27.02
Socio-economic status		
Upper class	8	2.48
Upper middle class	59	18.32
Middle class	216	67.08
Lower middle class	38	11.80
Lower class	1	0.31
Educational status		
Secondary	21	6.52
Higher Secondary	28	8.70
Undergraduate (ongoing)	211	65.53
Graduation	36	11.18
Post-Graduation	26	8.07
Field of Study		
Science	215	66.77
Business	55	17.08
Arts	42	13.04
Madrassa	2	0.62
Other	8	2.48

Characteristics	Frequency (n)	Percentage (%)
Current Residence		
City or urban area	251	77.95
Suburban area	46	14.29
Village or rural area	25	7.76

Table 2: Knowledge and Behavior on Self-medication.

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Characteristics	Frequency (n)	Percentage (%)
What do the participants do most of the times when they feel any physical discomfort		
Do nothing	51	15.84
See the doctors	87	27.02
Seek help from family or friends	79	24.53
Take medicines by yourself	105	32.61
Being aware of the term 'self-medication' before this survey		
Yes	203	63.04
No	107	33.23
Prefer not to answer	12	3.73
Ever purchased or took medicines without any prescription		
Yes	259	80.43
No	54	16.77
Prefer not to answer	9	2.80
Reason for self-medication (*can be multiple reasons)		
Characteristics	Frequency (n)	
Saves time	138	
I have old prescription	116	
I have medicines of family members	72	
Pharmacist or medicine store seller's advice	154	
Doctor / clinic far from home	26	
High fees of doctors	92	
Doctors are very busy with many patients	41	
Do not have enough trust in doctors	22	
Other	28	
History of self-medication practice (in preceding one year)		
Characteristics	Frequency (n)	Percentage (%)
1–2 times	104	32.30
3–4 times	84	26.09

Characteristics	Frequency (n)	Percentage (%)
4-5 times	21	6.52
5-6 times	19	5.90
7 or more times	52	16.15
Never	42	13.04
Considerations behind choosing a medicine for self-medication (*can be multiple reasons)		
Characteristics	Frequency (n)	
Price	30	
Pharmaceutical Company	164	
Type of medicine	157	
Brand	106	
Someone's suggestion	114	
Other	14	
Place or medium of acquiring medicine for self-medication (*can be multiple reasons)		
Characteristics	Frequency (n)	
Pharmacy shop	311	
Online shopping	8	
Medicines of family members or friends	57	
Primary health care center	10	
Medical representatives	12	
Others	4	
Checking the prescribing information before self-medicating		
Characteristics	Frequency (n)	Percentage (%)
Yes, always	151	46.89
Yes, sometimes	139	43.17
No, never	32	9.94
Level of understanding the instructions of prescribing information paper		
Fully understand	121	37.58
Partially understand	177	54.97

Characteristics	Frequency (n)	Percentage (%)
Not at all	24	7.45
Awareness of the term 'drug-drug interaction'		
Yes	154	47.83
No	168	52.17
Awareness of the term 'drug-food interaction'		
Yes	151	46.89
No	171	53.11
Knowledge about potential adverse drug reactions from self-medication		
Yes	81	25.16
No	55	17.08
About some medicines	186	57.76
Source of information about the self-medicated medicine		
Characteristics	Frequency (n)	
Old prescription	146	
Advice from family or friends	165	
Advice from doctor but without prescription	79	
Internet or other media	113	
Other	10	
Experience of adverse effect after self-medication		
Characteristics	Frequency (n)	Percentage (%)
Yes	43	13.35
No	279	86.65
Perspective about the safety of self-medication practice		
Yes	26	8.07
No	184	57.14
Not sure	112	34.78
Participation in social awareness activity regarding self-medication		
Yes, I took part	26	8.07

Characteristics	Frequency (n)	Percentage (%)
No, never seen such things	221	68.63
Have seen such things but never taken part	75	23.29
Health insurance		
Government sponsored insurance	5	1.55
Insurance provided by employers	6	1.86
Private medical insurance	7	2.17
Rural insurance	3	0.93
No insurance	301	93.48

(Large table, shown at the end.)**

In this study it was tried to find out what is the attitude and behavior of the common people of Bangladesh regarding self-medication. While analyzing the tables and Figs, all the percentages found from results were rounded up for convenience of discussion. Firstly, the demographic condition of the participants was evaluated. Most of these people (55%) are from Dhaka, the capital city of Bangladesh. People from 34 other districts of Bangladesh have also participated in it, but their numbers are not so high. Majority (229) of the respondents were young adults, from the age group of 21–25 years which was 71% of the total study population. Majority (61%) of them were male and rest 39% were female, indicating that males tend to go out and shop or buy medicines more than the females. Then another demographic aspect is the socioeconomic status of the participants. Most of them (216) belong to the middle class category in the socioeconomic hierarchy. The percentage of this population was 67% among the total study population. When it comes to their educational status, 211 (66%) out of the 322 participants were ongoing undergraduate, which was the majority. Moreover, the highest number of the participants were from Science study background and the second highest were the Business studies background. The percentages were 67% and 17% respectively. So, all of the study population were educated and majority of them were very well-educated actually. Also, majority of them are city dwellers. 251 (78%) of them told they belong from urban areas. These were the demographic characteristics that were found after analyzing and studying the results.

Coming to the main part of this discussion which is, their knowledge, behavior and practice of self-medication. Upon asking, what do the participants do most of the times, when they feel any physical discomfort, 105 (33%) of the participants answered that they take medicines by themselves. Others mostly said that they seek help from family or friends or initially do nothing. Only 27% of them told that they see the doctors first.

While searching for medicines that are self-medicated mostly without prescription, there were more than 15 categories found. However, among all these types, Antipyretics (212), Analgesics (165), drugs for

Cough/Cold (197) and Anti-ulcer/Antacids (140) were the majority categories of medicines that were used mostly for self-medication. Upon asking the participants, about their considerations behind choosing a medicine for self-medication (without prescription), the options Pharmaceutical Company (164), Type of medicine (157), Some- one's suggestion (114) and Brand (106) were almost equally chosen by the participants since, they had the option of choosing more than one answer for this question.

Nearly all of the participants (311 out of total 322) have told they collect their medicine directly from 'Pharmacy shop' or medicine store. Besides that, majority of the respondents claimed that they always (47%) or sometimes (43%) check the prescribing information or instructions. However, more than half of the population (55%) told they understand those written instructions of the prescribing information partially while, 38% claimed to understand fully. Around half of the participants claimed to be aware of the terms 'drug-drug interaction' (52%) and 'drug-food interaction' (53%). More than half of the respondents (55%) claimed that they knew about the possible adverse effects of some of the medicines they used for SMP but not all.

Other than these, as their source of information about the self-medicated medicine there were two to three options that were chosen by almost equal number of participants such as, Old prescription (146), Advice from family or friends (165) and Internet or other media (113). Majority (87%) of the participants claimed that they never experienced any adverse effect after self-medication. More than half of the study population (57%) had stated that, overall they do not consider self-medication as a very safe practice although, it was already seen that 87% of these people have practiced self-medication at least once in the last one year. So there is definitely some unwariness present among the majority of these people. Most of them (221 out of 322) said that they had never seen any social awareness program like seminar, discussion or even any online activity about the safety or practice of self-medication. Lastly, 93% of these participants had no health insurance at all, which is clearly indicating their lack of awareness and intent to invest for health issues.

4. Conclusion

Self-medication is quite highly prevalent in Bangladesh. Majority of the participants (80%) had purchased or taken medicines without any prescription thus, knowingly or unknowingly practiced self-medication at least once or more in their life. The results give the idea that, not only the majority of people are taking SMP but many people who are practicing it claimed to be already informed about it. Majority people are from middle class society and they are quite well-educated. But still there are a persistent unawareness among them about self-medication. Despite having enough academic education, they are still nonchalant and careless about the gravity of the arising problems by this practice. They lack the minimum necessary amount of knowledge about health and medicine. Furthermore, 93% of these participants had no health insurance, clearly indicating their lack of awareness and intent to invest for their health issues and own good.

Therefore, the regulatory laws should be implemented more strictly regarding buying and selling medicines. More social awareness programs like seminars, workshops etc. should be organized to make the healthcare providers, pharmacists and above all, the common people more aware about the proper way of taking the benefits from this practice and also the possible health risks from practicing self-medication arbitrarily.

Declarations

5.1 Ethical Approval & Consent to Participate.

The study was approved by the East West University Research Ethical Committee (EWUREC), and conducted in accordance with the Declaration of Helsinki. Survey participants were informed that the information collected would be kept anonymous and that their role in the study would be completely voluntary.

5.2 Competing Interest

The author declares that he has no competing interests.

5.3 Consent for Publication

Proper approval and was taken from the research supervisor and the Department of Pharmacy, East West University before submitting the manuscript for publication.

5.4 Availability of Data and Materials

The datasets generated during and/or analyzed during the study are available from the corresponding author on reasonable request.

5.5 Funding Information

This research received no specific grant from any funding agency, commercial or not-for-profit sectors.

5.6 Authors' Contributions

The corresponding author has designed the study, collected, analyzed, and interpreted the data and wrote the manuscript under the guidance and supervision of his university research supervisor.

5.7 Acknowledgement

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Appendix A

Survey Questionnaire: Self-medication: Knowledge, Awareness, Attitude and Practice

Name:		Address:			
Age?	a) 15-19	b) 20-24	c) 25-29	d) 30-34	e) Other:
Gender?	a) Male		b) Female		c) Other
1. Your socio-economic status?					
a) Upper class	b) Upper middle class	c) Middle class		d) Lower middle class	e) Other:
2. Current educational status?					
a) Secondary		b) Higher Secondary		c) Undergraduate (ongoing)	
d) Graduation		e) Post-Graduation		f) Other:	
3. What's your field of study?:					
a. Science		b. Arts		c. Business	
d. Others					
4. Your current residence?					
a) Rural area		b) Sub-urban area		c) City or urban area	
5. When you feel any physical discomfort, what do you do most of the times?					
a) See the doctors			b) Take medicines by yourself		
c) Seek help from family or friends			d) Do nothing		
e) Other:					
6. Are you aware of the term "self-medication"?					
a) Yes		b) No		c) Prefer not to answer	
7. Did you ever purchase or take medicines without any prescription?					
a) Yes		b) No		c) Prefer not to answer	
8. If Yes, what are your reason of self-medication?					
a) Doctor / clinic far from home		b) Saves time		c) High fees of doctor	
d) I have old prescription		e) Doctor is busy with many patients		f) I have medicines of family members	
g) No trust in doctor		l) Pharmacist advice		j) Other	
9. Your history of self-medication practice (in last one year)?					

a) 1 - 2 times	b) 3 - 4 times	c) 4 - 5 times	
d) 5 - 6 times	e) 7 or more times	f) Never	
10. Which of the following drugs have you taken mostly without prescription?			
(*can select multiple choices)			
Antibiotics	Drugs for fever (antipyretics)	Pain killers (analgesics)	Antihistamines (anti-allergy)
For cough, cold and sore throat	Nutritional/energy supplement/vitamins	Anti-ulcer/Antacids (acidity drugs)	Drugs for diarrhea
Drugs for constipation	Insomnia (sedatives)	Oral contraceptives	Anti-emetics (anti-vomiting)
Nasal/Ear/Eye drops	For skin diseases	Cuts, wounds and bruises	Others:
11. While choosing a self-medicated drug, what is your consideration?			
(*can select multiple choices)			
Price	Pharmaceutical Company	Type of medicine	
Brand	Someone's suggestion	Others	
12. Where do you purchase your self-medicated medication?			
(*can select multiple choices)			
Pharmacy shop	Online shopping	Primary health care center	
Medical representatives	Friends / family	Others	
13. Do you check the prescribing information before self-medicating?			
a) Yes, always	b) Yes, sometimes	c) No, never	
14. How much did you understand from the instructions of prescribing information?			
a) Fully understood	b) Partially understood	c) Not at all	
15. Are you aware of the term drug-drug interaction?			
a) Yes		c) No	
16. Are you aware of the term drug-food interaction?			
a) Yes		c) No	
17. Do you know the potential adverse drug reactions of the drug by which you self-medicated without prescription?			
a) Yes	b) About some drugs	c) No	

18. What's your source of information about your self-medicated medicine?				
(*can select multiple choices)				
a) Old prescription	b) Advice from family or friends	c) Advice from doctor but without prescription	d) Internet or other media	e) Other:
19. Did you ever faced any kind of adverse effect after taking drug without prescription?				
a) Yes		b) No		
20. Overall, do you think self-medication practice is safe?				
a) Yes		b) No		c) Not sure
21. Did you ever see or take part to any awareness program like seminar, discussion or even any online activity about self-medication?				
a) Yes, I took part		b) Have seen such things but never taken part		c) No, never seen such things
22. What kind of health insurance do you have?				
a) No insurance		b) Government sponsored insurance		c) Rural insurance
d) Private medical insurance		e) Insurance provided by Employers		f) Other

Figures

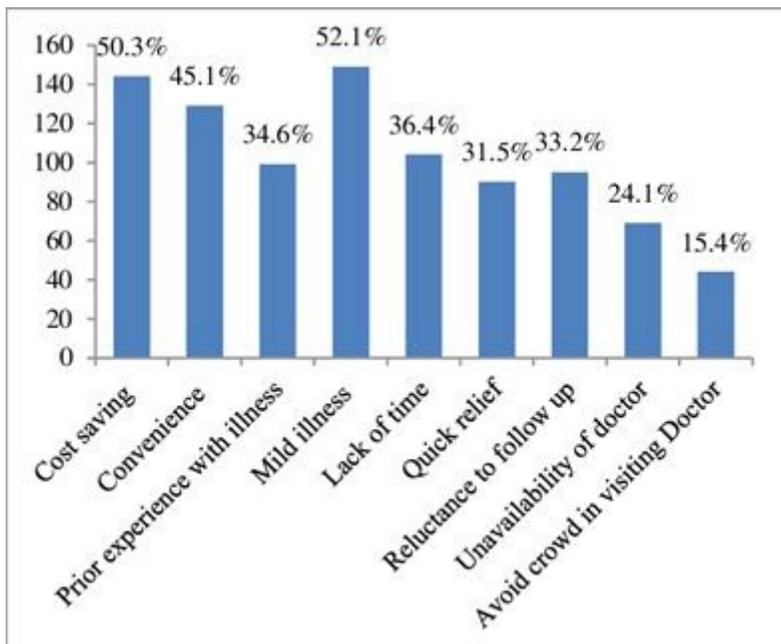


Figure 1

Reasons for self-medication (N=397) in a study at Aligarh, UP, India.

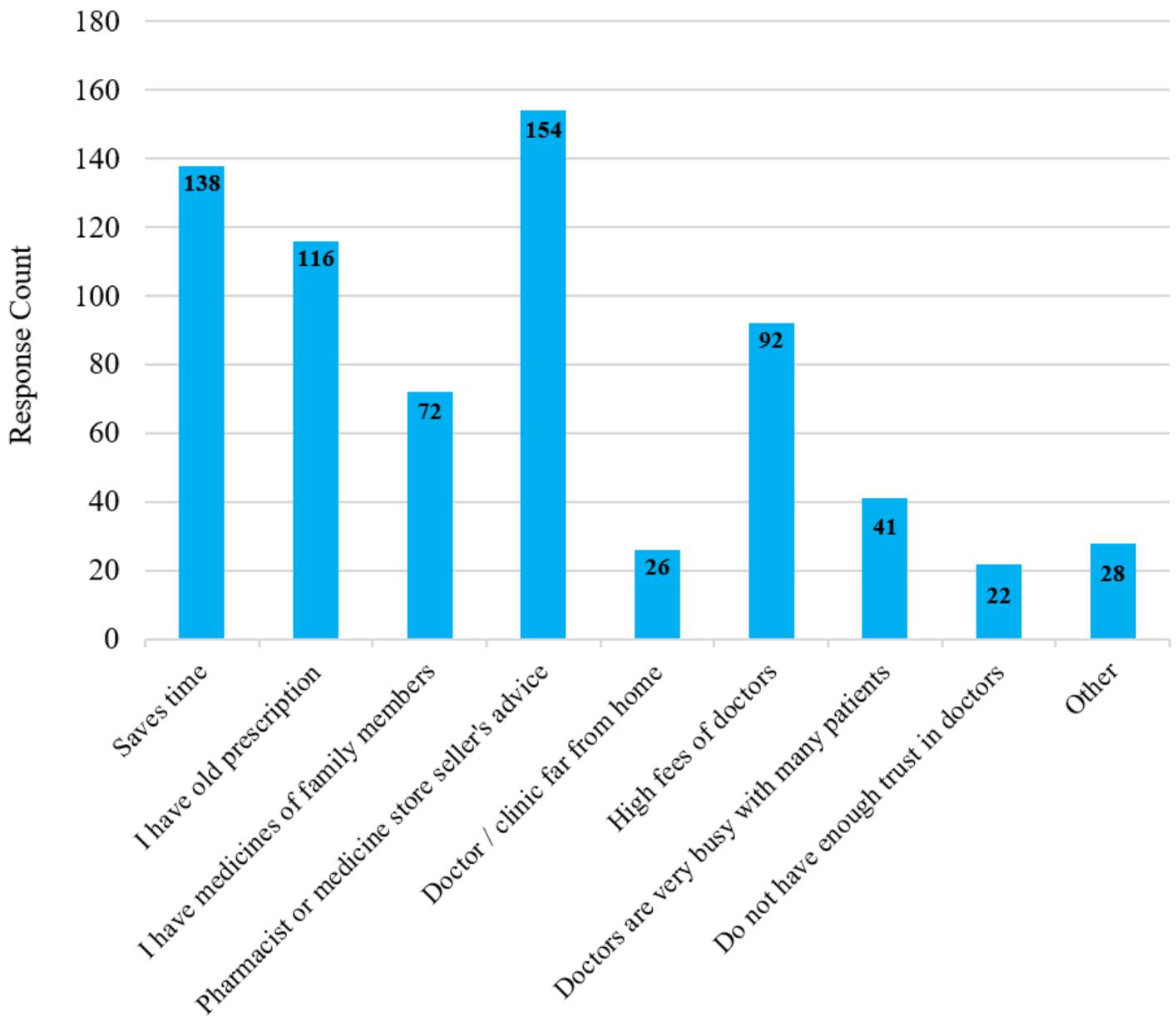


Figure 2

Distribution of total participants according to their reason for self-medication.

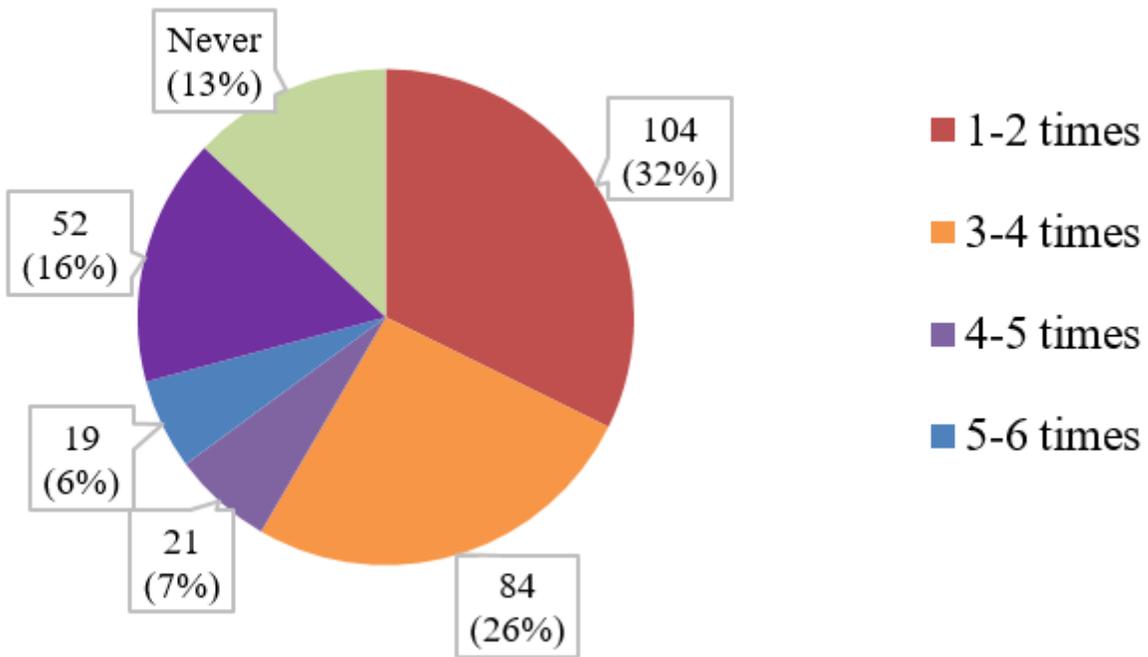


Figure 3

Distribution of total participants according to their history of self-medication practice.

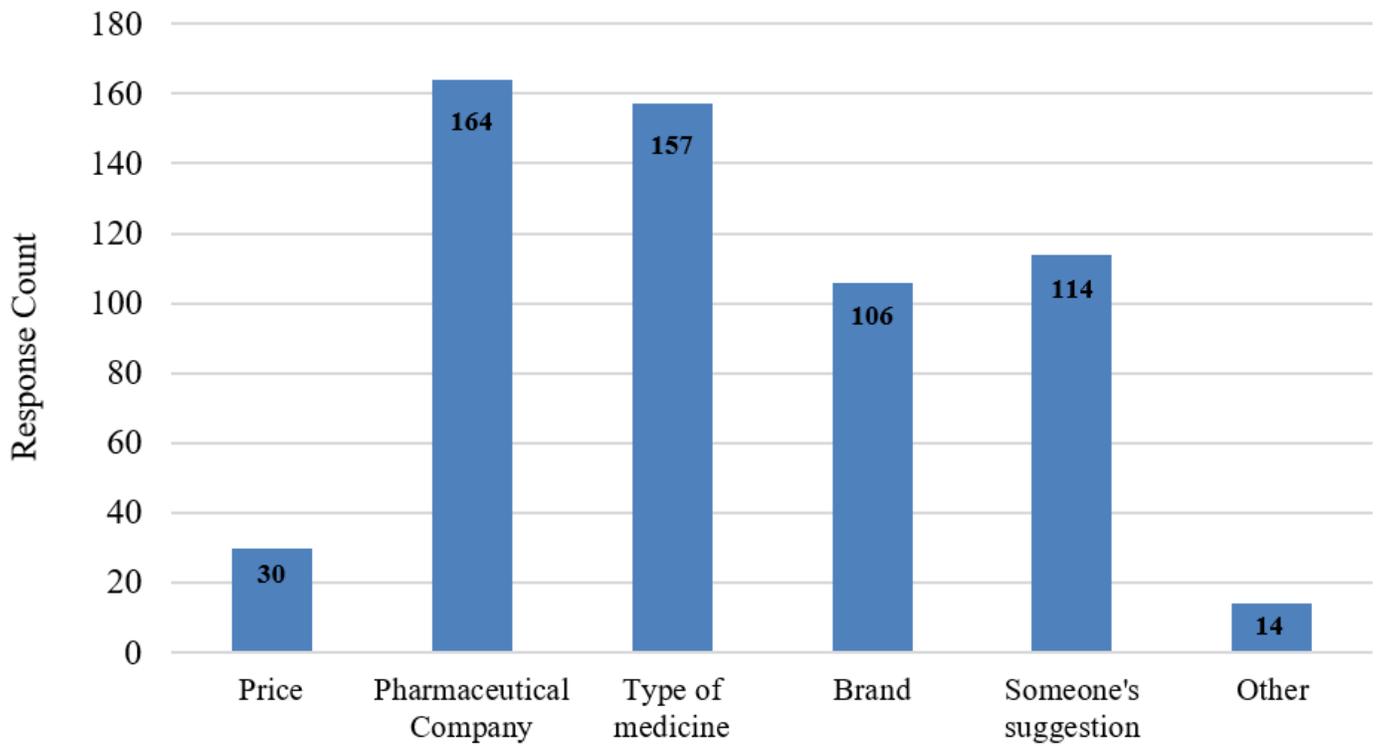


Figure 4

Distribution of total participants according to their considerations behind choosing a medicine for self-medication.

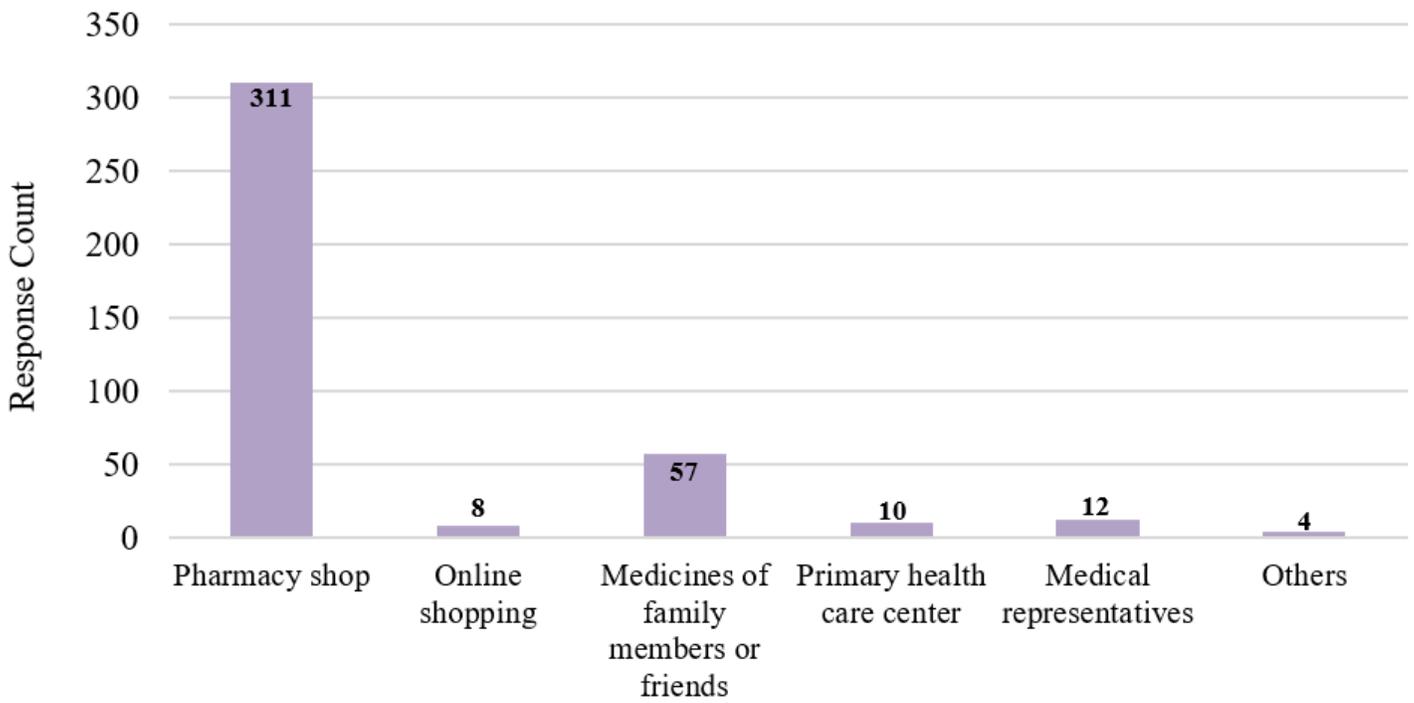


Figure 5

Distribution of total participants according to their choice of place or medium of acquiring medicine for self-medication.

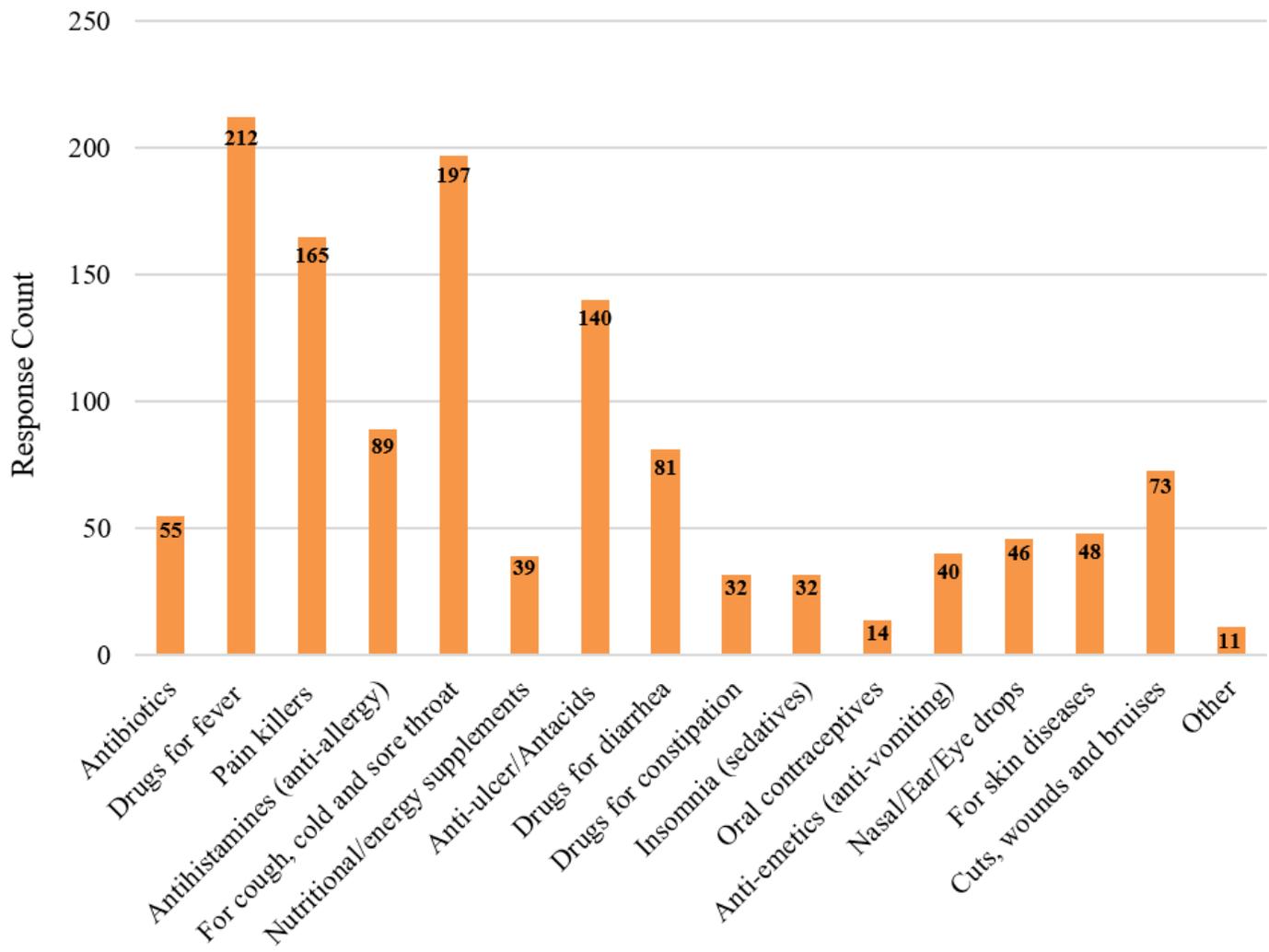


Figure 6

Distribution of total participants according to which medicines they self-medicated mostly without prescription.