

Figure 1: Illness for self-medication (N=473)

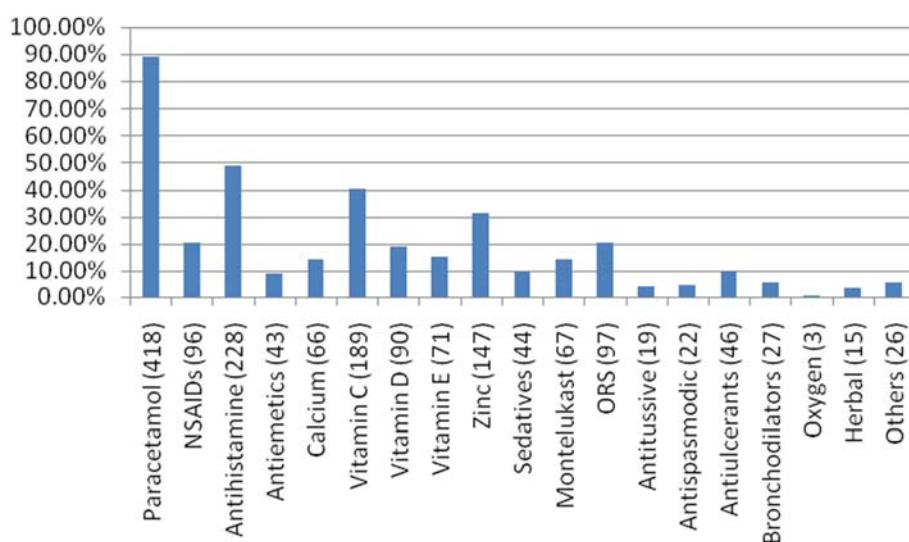


Figure 2: Medicines used as self-medication (N=473)

Figure 3 showed that azithromycin (22.6%) was the mostly used anti-infective agent as self-medication, followed by doxycycline (7.2%) and ivermectine (6.8%).

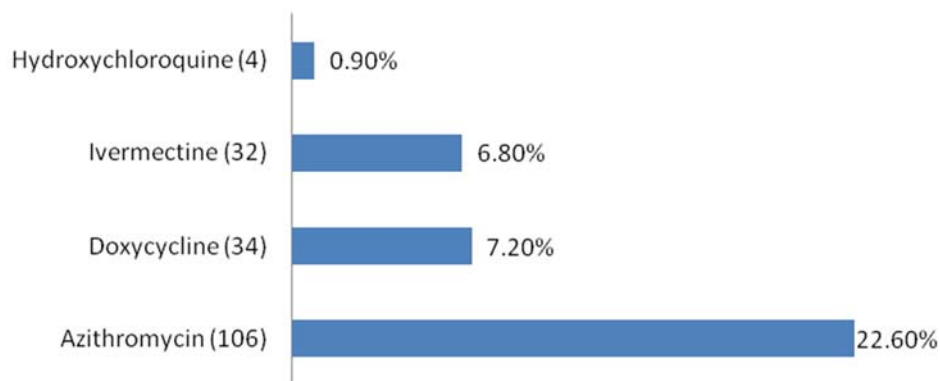


Figure 3: Anti-infective agents used as self-medication

Mixed attitudes towards COVID-19 vaccine were observed. And majority of the respondents (69.1%) preferred frontline fighter to get earlier access to vaccine (**Table 2**).

Table 2: Viewpoint about COVID-19 vaccine

Vaccine is the only solution to combat COVID-19	Frequency	Percentage
Yes	363	39.6%
No	293	32.0%
Not sure	260	28.4%
Priority for earlier access to the vaccine	Frequency	Percentage
Frontline fighters	633	69.1%
Person with co-morbidities	324	35.4%
Older age group	286	31.2%
Pregnant and lactating mother	193	21.1%
Children	152	16.67%
All citizens	308	33.6%

## DISCUSSION

Self-medication is a primitive virtue of human beings in which an individual uses drugs to treat self-diagnosed minor symptoms or disease. Despite of several pros and cons, practice of self-medication is familiar all over the world and increasing particularly during humanitarian situations. For last several months, a pandemic has been going on and lots of misonception are going on about therapeutic measures to control this highly contagious microorganisms. Current study was conducted in this context to assess the prevalence of self-medication, common illness and common medicines used for such practice among undergraduate medical students of Bangladesh during COVID-19 pandemic as well as their viewpoints regarding COVID-19 vaccine.

In this research, 51.6% of respondents had taken some form of self-medication during the pandemic, and that was similar to a study conducted in Kenya among healthcare workers where 60.4% of respondents used self-medication during the pandemic.<sup>[23]</sup> Increased prevalence of self-medication was also observed in a study conducted in Bangladesh during COVID-19 outbreak, among non-medical professionals.<sup>[24]</sup> The commonest illness that lead to self-medication practice in this study were fever, headache and dry cough and that is concordance with previous studies.<sup>[24, 25]</sup> 8.5% students took medicine as prophylaxis against COVID-19 and similar trend was observed in related literature.<sup>[24]</sup> Paracetamol was the most commonly used medicines among the studied population, which is similar to one study conducted in Peru during COVID-19 pandemic.<sup>[25]</sup> Increased use of Vitamin C and Zinc was observed among medical students, and that concordance with the findings of recent studies conducted during pandemic.<sup>[25, 26]</sup> The rate of self-medication with antiinfective agent like azithromycin (22.6%) was found much higher among future physicians during pandemic comparing to 9.93% students of a medical college in Bangladesh took antimicrobials without prescription before the pandemic,<sup>[27]</sup> probably because of infodemic, panic and mental stressas well as easy accessibility of antimicrobials in community without prescription, and all these could be worsen the current situation of antimicrobial resistance in Bangladesh along with potential risks of drug-drug interactions.<sup>[28]</sup> Although overall use of antimicrobials was increased among medical students during this pandemic, it was comparatively lesser than usage found among general people.<sup>[24]</sup> In this study, the most common reason for self-medication reported by a large number of participants was illness which was too minor to report, and similar observation was found in other studies conducted in Bangladesh and india.<sup>[27, 29, 30, 31]</sup> Most of the participants cited 'academic knowledge' as the commonest source of information about medicine for practicing self-medication, and this finding was concomittant to studies conducted before pandemic.<sup>[27, 32, 33]</sup> Use of social media, internet and mass media as source of information for medicine had been observed in our studies, and that was similar to recent trends observed in other studies.<sup>[24, 34]</sup>

Many efforts have been directed towards the development of COVID-19 vaccine and a large number of COVID-19 vaccine candidates based upon various platforms have already been identified. But efficacy and safety of vaccine candidates as well as duration of protection is still questionable. Whether the vaccines prevent

transmission of SARS-CoV-2 or mainly just protect against illness is largely unknown too. If the latter, achieving herd immunity through immunisation becomes a difficult prospect as many millions of people at high risk of disease will not be immunised any time soon due to speculation of limited supply of vaccines, hesitancy to vaccinate and lack of infrastructure.<sup>[35, 36, 37]</sup> And probably for these reasons our participants expressed skeptic view regarding COVID-19 vaccine. As sufficient vaccine supply will not be immediately available to immunize all, there should be a priority groups for vaccine. Several advisory bodies advised that the first priorities for any COVID-19 vaccination program should be the prevention of COVID-19 mortality and the protection of health and social care staff and system, and secondary priorities could include vaccination of those at increased risk of hospitalization and at increased risk of exposure, and to maintain resilience in essential public services.<sup>[38, 39]</sup> Similar viewpoint had been observed among the medical students as they prioritized frontline fighters (health and social care staff) for COVID-19 vaccine.

The practice of self-medication among undergraduate medical student during COVID-19 pandemic is a crucial issue to address. Self-medication was practiced with a wide range of drugs from the conventional antipyretics to antibiotics. Skeptic viewpoint regarding COVID-19 vaccine, necessitate continuation of public health intervention e.g. usage of face masks, hand hygiene and maintenance of social distancing to mitigate mortality and morbidity of COVID-19.

## CONCLUSION

Practice of self-medication is an integral part of self-care, specially in developing countries in humanitarian situations like COVID-19 pandemic. In current study, half of the respondents practiced self-medication in the period of pandemic with a wide range of drugs. And regarding COVID-19 vaccine, their attitude was skeptic as well as mature. Educational intervention on self-medication might be helpful in improving current practices of undergraduate medical students of Bangladesh.

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