

Original Research Article

Knowledge, attitude, and behaviour of patients towards use of cough and cold preparations: a comprehensive survey

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Received: 28 June 2022

Accepted: 19 July 2022

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ABSTRACT

Background: Cough, cold and related discomforts are the most common discomforts affecting general population, which can adversely affect subjects' quality of life due to its physical, social, and psychological effects. To know the patients' perception towards cough and cold preparation is need of hour for health care industry.

Methods: This study investigated the knowledge, attitude and behaviour of patients toward use of cough and cold preparations. Questionnaires were distributed to patients approaching to pharmacy for purchasing these drugs.

Results: The age group was from 17 to 55. In our study 66 % of patients reported that they prefer liquid oral formulation over other dosage form. Further in syrup formulations. Around 59% of patients are prescribed with some of the cough syrup while remaining 41% are purchasing OTC preparations. But 58% patients still not aware with concept of OTC medicine. Further 51% patients are not aware about the adverse effects of such preparations.

Conclusions: The study provides important insights into the use of cough and cold medications in general populations especially about OTC medications. There is need to create awareness in patients about safe use of these preparation, as the safety profile of drugs included in cough syrup is very important here.

Keywords: Cough and cold preparation, Prescription drug, OTC medicine, Drug safety

INTRODUCTION

Upper respiratory tract infections and associated symptoms have been described as a serious threat to public health in many developing countries.¹ Since such infections frequently start as a simple cold and sometimes lead to serious complications ranging from mild to severe, their treatment requires adequate attention. In principle, it would be best to have simple access to healthcare facilities and personnel in order to receive good diagnostic and effective treatment. In developing countries however, this option tends to show a very low probability of occurrence, mainly due to economical, geographical and cultural factors.² Under these circumstances using non-prescription medications frequently becomes the next logical choice.^{3,4} As with other substances, the two main possible risks of using self-prescribed over the counter (OTC) cold/flu medications are, on one hand, overdosing and on other,

defective administration leading to poor symptom control. Overdosing is potentially more dangerous of 2 risks since it may lead to severe intoxication and even death.⁵

The India cough syrup market is estimated to develop with a CAGR of 3.52% during the forecast period. The country's market growth is primarily attributed to the rising incidence of chronic respiratory diseases in addition to the increasing levels of air pollution. While the base year considered for the market studied is 2020, the projected years are from 2021 to 2026.⁶

Though the use of medicines has increased manifold data describing how people perceive modern medicines is scarce. Studies on the issue could be very helpful to improve compliance, concordance and therapeutic outcome as well as build appropriate medicine use policies in the country. The findings of the study can also help healthcare professionals to understand their

communities better as well as build effective public health interventions.

METHODS

This cross-sectional study was carried out over a period of two months (from November 2021 to December 2021). Study conducted at Pimpri-Chinchawad area of Pune region, Maharashtra, India. The patients approaching to Laxmi MGS pharmacy were included in the study. Most of them were visiting to nearby clinics and few others visiting pharmacy for OTC medicine. This study was carried out with the only purpose to assess the knowledge, attitude, and behaviour of patients towards use of cough and cold preparations of patients approaching to Laxmi MGS pharmacy. The development and evaluation of this questionnaire were carried out in three steps, including questionnaire generation, pilot study to assess content and face validity of questionnaire and final validation of the questionnaire in 20 patients.

Questions were drafted after an extensive literature review. Search for knowledge, attitude and behaviour of patients toward use of cough and cold preparations using the various resources revealed that there was no reliable and valid tool to assess the patients' knowledge and attitude regarding the use of these preparation especially post COVID era, where people ignore the symptoms of COVID-19 and simply try to use OTC medicine. On the basis of review of literature, the final questionnaire included 12 close ended questions to assess the knowledge and attitude. Internal consistency reliability (Cronbach's Alpha) was determined in the pilot study in 20 participants. For face validity of questionnaire, it was given to three experts in the field. They reviewed it separately and answer "how well the questionnaire measures the knowledge, attitude, and behaviour of patient about use of cough and cold preparation". To determine the content validity of the questionnaire for its clarity, relevancy, and consistency of each question it was given to 3 experts in field of pharmacy practice.^{7,8}

Written informed consent was taken from the participants prior to participation, after complete explanation of objective, methods, benefits and potential hazards of study. Patients either prescribed with cough and cold preparation or approaching pharmacy for OTC medicine related to cough and cold were asked to fill the questionnaire. The questionnaire was administered in interviewer mode in cases where the participants were unable to fill form by him. According to the sample size calculation, 218 patients were required according to an estimation error of 5% (0.05) and a 90% confidence level.

Data obtained from each questionnaire were tabulated on the basis of the response obtained for every choice per question divided by the total number of responses obtained. Percentage of response for each category was calculated based on the number of option answer divided by the total number of responses.

Average±SEM used for expressing quantitative variables. The analysis was performed by using the SPSS 20 (SPSS Inc. Chicago, Illinois, USA) and Microsoft excel software. A $p < 0.05$ considered statistically significant.

This study was conducted in full compliance with the principles of the declaration of Helsinki III and in accordance with the international ethical guidelines for biomedical research involving human subjects. The confidentiality of participants was respected and no information on the participant's name or identity was released or published in any form.

RESULTS

General characteristics of the participant

A total of 500 participants' responses were collected. The average age of participants was 27.46 ± 9.42 years. Over, 58% of the participants were male while 42% were female. The 70% participants approached the pharmacy for prescription medicine while 30% visited to purchase OTC drugs related to cough and cold.

Internal consistency and reliability

The value of Cronbach's alpha (a test of internal consistency) was 0.956 for the ten items in the questionnaire; this shows significant intra-class correlation coefficient ($p < 0.05$). Ten questions of the questionnaire showed excellent test-retest reliability (Spearman's rank correlation coefficient=0.000; $p < 0.05$).

General perception about cough and cold medicine

For cough and cold symptoms 57% of patients only rely on modern medicine. The 10% believe that ayurvedic drugs can be best options while 33% participants initially follow the home remedies (Figure 1). The home remedies include gargling with salt water, use of "Aush-Kadha" and steam inhalation.

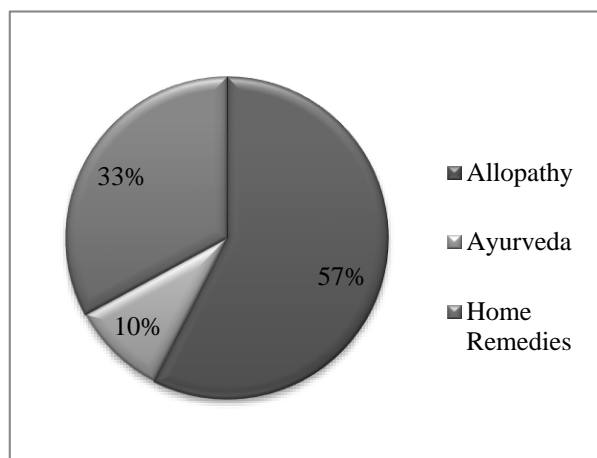


Figure 1: Preference of consumers according to allopathy, ayurvedic and home remedies.

Patient compliance is largely depending on the selection of dosage form. 66% of participants prefer liquid oral dosage form like cough syrup and 34% of participant prefer solid oral like lozenges (Figure 2). Further we found that around 51% participant are either prescribed with or willing to have OTC preparation Benadryl.

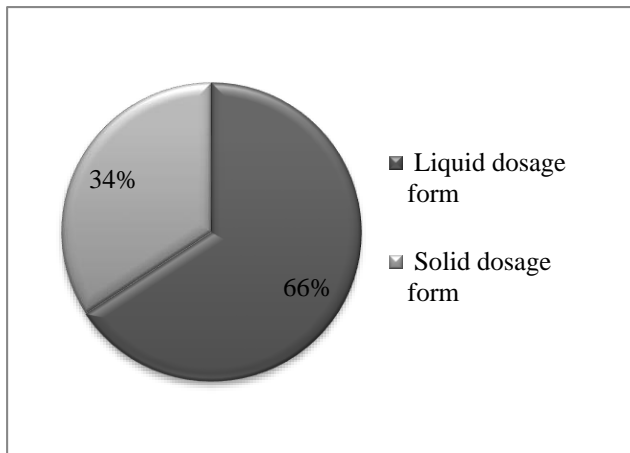


Figure 2: Preference of consumers for doses form.

Participant knowledge about medicines

The 69% participants reported that the source of information about cough and cold medicine to them is physician. Various form of advertisement of OTC preparations accounts for 16% to contribute to participant’s knowledge about cough and cold preparation. 15% participant came to know about these preparations through their family members (Figure 3).

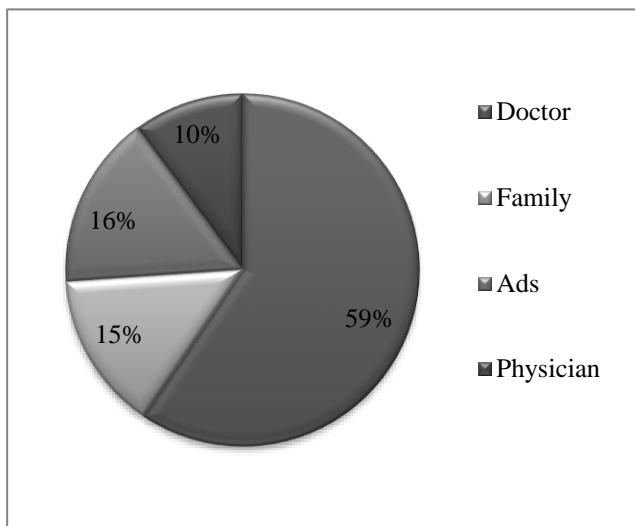


Figure 3: From where did the consumers learned about cough syrup.

Only 42% of participants are well aware with the concept of OTC medicine while 58% of them still don’t have enough knowledge of concept of OTC medicine (Figure 4).

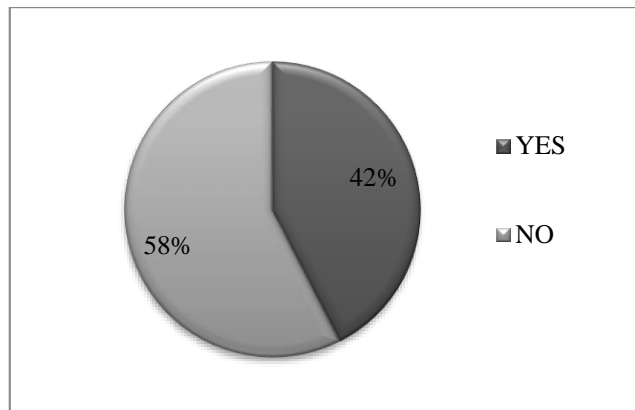


Figure 4: Consumers knowledge about the concept of OTC medicine.

Knowledge and perception about safe use of drugs

Almost all participant prescribed with cough and cold medicine reported that, they strictly follow the dose and dosing schedule of drugs. Those who are using preparation from alternative system of medicines as well as OTC medicines are referring to labelling instruction for dose of drug which range from 5 to 20 mL per day.

The 49% participants know the adverse effects, side effects and contraindications related to medicines while 51% are still not aware about it or either ignore or forget even if explained by physician and pharmacist (Figure 5). The major side effects observed by participants with prescription medicine of cough and cold is drowsiness and nausea.

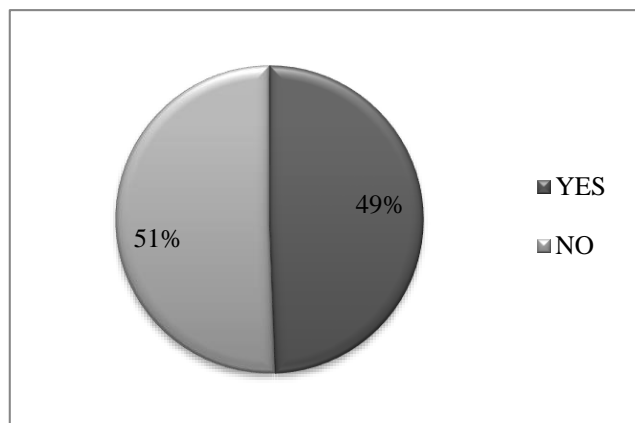


Figure 5: Consumers knowledge about the side effects of medication for cough.

General perception regarding availability of drugs

Almost all participants reported that the cough and cold preparations are easily available at nearby pharmacy and even on online platforms. According to 96% of participants these medicines are available at affordable price while only 6% said it’s expensive. The 94% of

participants if they don't get any relief from their medication do they visit the physician.

DISCUSSION

The average age of participants in our study was 27.46 ± 9.42 . The probable reason of having more young population to the pharmacy for drug purchase is may be due to COVID-19 situation. Where majority of elder population is avoiding going out of homes and we found young population was in high number for purchasing medicine. This value also supports the behaviour of people to follow government guidelines. Despite cough is one of the most frequent events reported in respiratory medicine, its assessment still is not fully defined also from the scientific point of view in several conditions. Actually, people's perception not always corresponds to the etiological origin or the severity of cough, and subjects tend usually to be equally worried about their cough, particularly when long lasting, even in the absence of disabling conditions. Unfortunately, there are some factors and variable conditions which can contribute to complicate the etiological definition, the discrimination of different clinical manifestations, and the management of cough in real life.⁹⁻¹¹ Also due to the poor subjects' knowledge of cough, its perception can consequently result variable either by cougher and non-cougher individuals. Even if some studies were carried out with the aim to investigate the prevalence of cough in our country, the perception of cough was not as well investigated among the general population in terms of people's specific perception and beliefs; of their behavioural approach, and of therapeutic expectations.

Another interesting information came out from the analysis of the people's beliefs on the therapeutic options to take against cough, and in particular against persistent cough. Actually, the great majority of respondents claimed to be not in favour of the immediate use of antibiotics and/or systemic steroids for managing cough. Once again, general population shared the right position of the scientific community, even if the prescription of these therapeutic options still is unfortunately extremely diffuse in clinical practice and attains also to a great proportion of GPs and lung physicians everywhere. In other words, people's and doctors' positions seem conflicting, even if it is well known that the consumption of antibiotics and/or systemic steroids, but also the self-medication with these drugs, are quite high in our country.

Furthermore, the great majority of respondents documented a strong attitude in favour of present antitussive drugs, and regarded the cough syrup or liquid orals in general as the right therapeutic option against cough. From a general point of view, it should be pointed out that an effective treatment against cough is still missing in many cases, and many of the most prescribed product's lack of strong evidence of efficacy. In particular, among OTC medications, symptomatic drugs

(antitussives and mucolytics) are the most used, both as self-medication and as prescribed treatment after a medical consult.¹²

In terms of the therapeutic approach against cough, to note that more than one third of respondents affirmed their interest in alternative system of medicine or home remedies. This is a substantial proportion, in our opinion, which tends to further confirm the general need of anti-tussive medications. This position is reinforced by the evidence that one out of four of respondents has already assumed homeopathic drugs (namely, an anti-tussive homeopathic syrup) for managing his cough, but also by the evidence that an ever-higher proportion of respondents (such as, one third) claim their propensity to use a homeopathic remedy against cough.

CONCLUSION

Use of cough and cold preparation in post COVID-19 pandemic situation is important issue to address since these medicines are used for some of its initial symptoms. Differently from the content of the current cough guidelines, anti-tussive drugs are highly valued among participant. Moreover, the attitude to alternative therapy of medicine and home remedies proves high and still increasing. Though the patients have some knowledge about these drugs but still there is need to create awareness regarding use of these drugs.

ACKNOWLEDGEMENTS

Authors would like to thanks to principal Dr. Anagha Joshi and management of SCES's Indira college of pharmacy for the help and support.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Ambikar DB, Mittal VS. Knowledge, attitude, and behaviour of patients towards use of cough and cold preparations: a comprehensive survey. *Int J Community Med Public Health* 2022;9:3679-83.