

ORIGINAL ARTICLE

KNOWLEDGE, ATTITUDE AND PRACTICE OF COMMON COLD AND ITS MANAGEMENT AMONG DOCTORS OF PAKISTAN

Muneeb-ur-Rehman, Naseer Alam Tariq, Mamoon Ahmed, Maryam Ahmad, Areej Zahid, Quratulain Chaudhry, Bisma Tahir, Zoraiz Ul Islam, Zahoor Mohi Ud Din

Army Medical College, National University of Sciences and Technology, Islamabad-Pakistan

Background: Antibiotic misuse for upper respiratory tract infections such as the common cold is widespread in clinical practice. Excessive prescription of antibiotics by doctors has resulted in increased antimicrobial resistance. This led to our objective of determining the percentage of doctors in Pakistan prescribing antibiotics for the treatment of common cold and to know about their knowledge in preventing the spread of this disease. **Methods:** It was a cross-sectional descriptive study, conducted in 9 cities of Pakistan including Rawalpindi, Islamabad, Peshawar, Lahore, Karachi, Faisalabad, Sargodha, Multan and D.G. Khan over a period of 03 months –from October to December, 2013. Questionnaire regarding the disease spread and its treatment was distributed among 300 randomly selected doctors in nine cities of Pakistan from both public and private sector. **Results:** Eighteen percent of the doctors prescribe antibiotics for common cold. Only 113 (37.7%) doctors correctly responded that mean incubation period for common cold was 1–2 days. Two hundred and nine (69.7%) answered correctly that cold weather increases susceptibility to common cold. Only 84 (28%) responded correctly by choosing that regular and frequent hand-washing with good quality soaps was the most effective way to prevent spread of this disease in day-to-day life. **Conclusion:** Antibiotics are being prescribed for treatment of common cold by a large proportion of doctors. There is insufficient knowledge among our doctors regarding the factors which aggravate or alleviate common cold symptoms as well as the methods by which these infections can be prevented.

Keywords: Antibiotics; Antimicrobial Resistance; Common Cold; Upper Respiratory Tract Infections (URTIs); Viruses

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INTRODUCTION

Common cold is defined as the upper respiratory tract infection (URTI), predominantly affecting the nasal part of the respiratory mucosa. “Common cold” and “flu” are both syndromes of familiar symptoms caused by viral infection, but difficult to define exactly because of great variation in the severity, duration, and types of symptoms.¹ The usual clinical picture of common cold is sneezing, rhinorrhea (runny nose), headache and general malaise. In addition, 50% of patients suffer from sore throat and 40% experience cough.^{2,3} The main symptoms include nasal discharge, sneezing, obstructed nasal passages and moderate pharyngitis without fever.^{4,5}

The severity of symptoms upsurges rapidly, peaking 2–3 days after infection, with 7–10 days as the mean duration of symptoms. However, some symptoms persist for more than 3 weeks, which commonly includes cough.^{2,6–8}

Studies have shown that it is impossible to identify the virus on the basis of the symptoms, since similar symptoms are caused by different viruses.⁹ Many a times, no infecting organism can be identified at all.

Rhinoviruses account for the majority (30–50%) of all colds, and coronaviruses, the second most common agent, accounts for 10–15%. Others such as

influenza viruses account for 5–15%, whereas cold viruses such as respiratory syncytial virus, are responsible for much flu-like illnesses, demonstrating an overlap in etiology and symptomatology of common cold and flu syndromes.^{6–11}

Common cold, although causing no mortality or serious morbidity, is still responsible for considerable amount of discomfort, lost work, and medical costs. It results in decreased productivity; time loss from work or school; visits to healthcare providers; and expenditure on the increased volume of drugs prescribed.^{12,13}

Colds account for 22 million physician visits and 250 million restricted activity days per year even though most people (87%) tend to treat their colds at home.^{14,15}

Despite extensive documentation of viral etiology and the lack of effectiveness of antibiotics in the treatment of common cold, general practitioners (GPs) frequently prescribe antibiotics for these patients in response to patients’ expectation or doctors’ perceptions of this expectations.^{16–19}

Overuse and misuse of antibiotics for conditions where there is no proven benefit of such therapy leads to the development of antimicrobial resistance as well as to a number of adverse events, such as the unnecessary expense to patients and to the healthcare system as a whole.

The objective of this study was to determine the percentage of doctors in Pakistan prescribing antibiotics for the treatment of common cold and to know about their knowledge in the preventing disease spread.

MATERIAL AND METHODS

Through a non-probability convenient sampling technique, we included 300 doctors from 9 cities of Pakistan including Rawalpindi, Islamabad, Peshawar, Lahore, Karachi, Faisalabad, Sargodha, Multan and Dera Ghazi Khan. Confidentiality of all information gathered was assured. Doctors from both public and private hospitals were asked to fill a questionnaire regarding the mode of transmission, incubation period, and whether moist weather and humidity increase or decrease the spread of this disease.

With regards to the treatment of the common cold, we inquired the respondents about the role of antibiotics, vaccines, antiviral therapy and steam inhalation. Lastly, we asked about the most effective method of preventing common cold in everyday life. The data was entered into, and analyzed by SPSS version 21.

Our study included house officers, general practitioners and doctors undergoing postgraduate medical training; however, all those doctors who had obtained FCPS or equivalent degree in any specialty were excluded. Moreover, those doctors were also excluded who had been to foreign countries for more than a period of 6 months for medical education.

RESULTS

Out of the 300 doctors included in our study, 102 were house officers, 112 were general practitioners while 86 were post graduate trainees in various clinical fields. The response rate was 100%.

We asked the doctors about the average incubation period of common cold viruses and the role of moist weather and humidity on spread of common cold. Their responses are shown in figures 1 and 2.

When inquired about the effect of socioeconomic status of common cold susceptibility, 167 (55.7%) doctors responded correctly that poor socioeconomic status increases susceptibility to common cold while 22 (7.3%) responded incorrectly by saying that poor socioeconomic status decreases susceptibility to common cold. (Figure-3)

With regards to the prevention of spread of common cold, only 84 (28%) responded correctly by choosing that regular and frequent hand-washing with good quality soaps was the most effective way to prevent spread of this disease in day-to-day life (Figure 5)

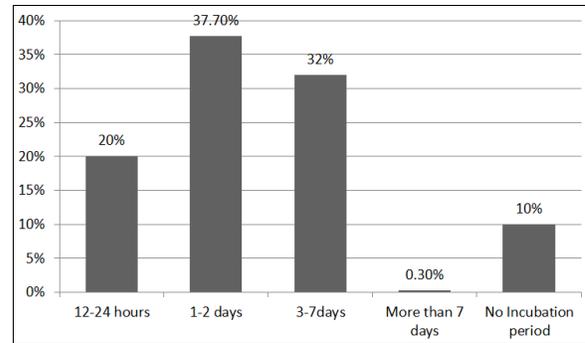


Figure-1: Incubation period of common cold infection

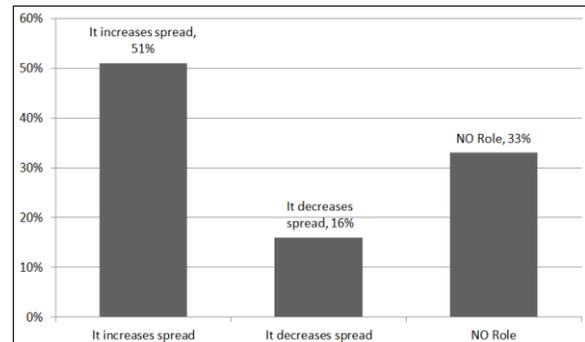


Figure-2: Role of moist weather and humidity on spread of common cold

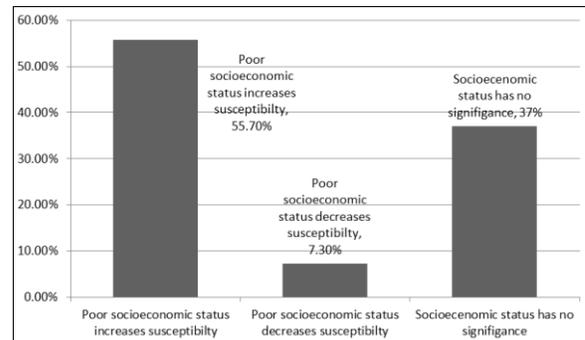


Figure-3: Effect of socioeconomic status on common cold susceptibility

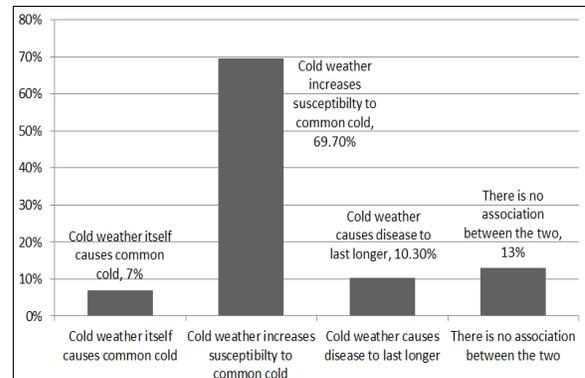


Figure-4: Effect of cold weather on common cold spread

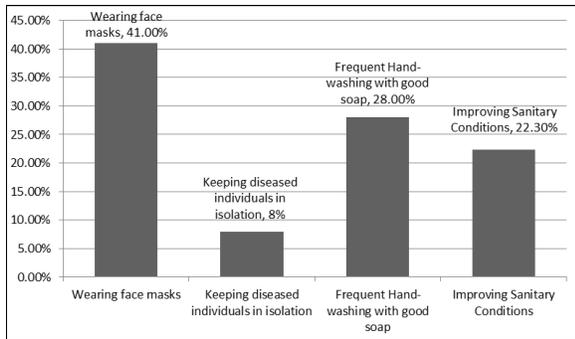


Figure-5: What is the most effective method of preventing common cold in healthy individuals in day-to-day life?

Table-1: Perception of doctors regarding the treatment options for common cold

	Yes	No
Antibiotics should be prescribed for common cold	56 (19%)	244 (81%)
Can vaccines be used for prophylactic prevention of common cold?	180 (60%)	120 (40%)
Is steam inhalation beneficial for common cold relief?	270 (90%)	30 (10%)
Does increased fluid intake help in relieving common cold symptoms?	263 (87.7%)	36 (12%)

DISCUSSION

Common cold infections spare very few humans each year and several people inevitably suffer from multiple infections every year. On average, common cold inflicts adults 2–5 times per year while school children are affected 7–10 times per year.²⁰ Therefore, the physicians are expected to have a sound knowledge regarding the common cold and its treatment.

We aimed to know about the trends of management of patients suffering from common cold in Pakistani doctors through this study. However, the limitations of our study included the time and financial constraints. Since the sampling technique used was non-probability convenient sampling, the questionnaires were distributed only amongst the doctors in major cities of three provinces. We did not approach the doctors in rural areas.

Relating to the average incubation period of the viruses which cause common cold, the respondents of our study had a fairly good idea that it was 1–2 days.^{2,6–8} 37.7% doctors responded correctly. Having knowledge about the incubation period is important as far as the counseling of patients and their family members about prevention of disease spread is concerned.

Socioeconomic status is also an important factor in determining the susceptibility of a person to common colds. Previous researches have shown that better socioeconomic status, be it in terms of

income, education or occupation, has been associated with lower rates of morbidity in people suffering from common colds.²¹ Our study on Pakistani doctors has shown that 55.7% of the doctors believed that poor socioeconomic status is associated with increases susceptibility to common colds. Moreover, physiological stress can also increase the susceptibility of an individual to common cold.²²

There is a fallacy that cold weather is the cause of common cold; however, research has shown that cold weather only increases the susceptibility to common cold.²³ The present study also showed that Pakistani doctors were well-conversant with this fact.

Our study revealed a strikingly interesting result as far as the role of moist weather and humidity is concerned in the spread of common cold. It is known that moisture and humidity in environment suppresses the spread of infective respiratory droplets.^{1,3,6,15} Our results show that only 16% of the doctors were aware of the fact that moisture and humidity led to decreased prevalence of common cold in moist weather be it summer or winter, as is observed during monsoon in the Indian subcontinent or in otherwise rainy days.

An important objective of our study was to know the percentage of doctors in Pakistan who prescribe antibiotic medication to people suffering from common cold. Due to widespread prescription of antibiotics and easy availability of over-the-counter antibiotic medications, antibiotic resistance is on the rise.^{24–26} In a country like Pakistan, clinicians prescribe more than one antibiotics, which increases the chances of development of antimicrobial resistance in pathogens.²⁷ People also widely self-medicate antibiotics, which produce some severe adverse effects like nausea, vomiting, diarrhea, skin-rashes and other severe hypersensitivity reactions.^{13,25} This unnecessary use of antibiotics must be discouraged since common colds are viral in etiology and antibiotics have absolutely no role in treating common colds.²⁷ A study conducted in Multan showed that doctors need further training in managing cases of upper respiratory tract infections.²⁸ Our study also shows that still there are 18.7% doctors in Pakistan who wrongly prescribe antibiotics to people suffering from common cold. It is rightly said that, “You treat common cold, it will take one week, you leave it untreated, it will take seven days!”²⁹

Then comes the issue of the use of vaccines for prophylactic prevention of common cold in everyday life. It is known that there are some 200 strains of viruses which can cause

common colds. The incidence of some of the major viruses causing common colds is given below:²³

Causative organism	Incidence
Rhinovirus	30–50%
Coronavirus	10–15%
Respiratory Syncytial Virus	10%
Adenovirus	<5%
Para influenza	5%
Influenza	5–15%
Enteroviruses	<5%
Metapneumovirus	Unknown
Unknown	20–30%

Each of these viruses further has different etiological strains. So a vaccine is going to provide immunity against only a few strains.^{12,13} That's the reason why neither a vaccine has yet been developed against all the etiological agents of common cold, nor is their use a viable option. Vaccines do, however, prove effective if immunity against only a few viral causes is needed.¹⁵

A recent study concluded that Adenovirus-36 (Ad-36), which is a common causative agent of common cold is known to cause obesity by enhancing the growth and differentiation of adipocytes.³⁰

Another method of providing symptomatic relief to people suffering from common cold has, since long, been steam inhalation. 90% doctors in our study believe that this is a viable method of common cold treatment. The theory behind steam inhalation is that the viruses causing common cold can only survive in the relatively cooler environment of upper respiratory tract. Steam provides heat the upper respiratory tract which kills the viruses and provides relief.³¹

Keeping good hydration also helps in providing symptomatic relief³², as was correctly identified by 87.7% of respondents.

Since cold viruses can be passed from person to person by hand contact or by touching contaminated surfaces such as door handles, you can help prevent infection by washing your hands. Home studies have shown that hand washing can reduce the spread of common colds within the family. Wearing face masks also prevents the transmission of disease from infected to healthy individuals, but it is not as effective and convenient as hand-washing with soap.³³

To the best of our knowledge, no such study has been conducted in the country in the past. A similar study conducted in China in 2012 showed that there is misapprehension in knowledge regarding common cold and its treatment among doctors from various levels of hospitals in China.³⁴

Conflict of interest: The authors declare no conflict of interest.

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CONCLUSION

Antibiotics are being prescribed for treatment of viral infections like common cold by a large proportion of doctors in our country. Doctors in our setup prescribe antibiotics to their patients may be because of patient's expectations of getting some medications from the doctor. Others also prescribe antibiotics because they believe that superadded bacterial infections may be avoided, however prior researches have shown that antibiotics have no beneficial effect. There is insufficient knowledge among our doctors regarding the factors which aggravate or alleviate common cold symptoms as well as the methods by which these infections can be prevented, such as hand-washing with soap.

AUTHOR'S CONTRIBUTION

MUR: Design and acquisition of data, final approval of the article, concept and design. NAT: overall supervisor, consultant in community medicine. MA: Final approval of the article, necessary help in making graphs and statistics. MA: Design and acquisition of data. Statistics. AZ: design and acquisition of data. Drafting of article. QC: Contribution to analysis and interpretation of data. BT: Revision of article for intellectual content. ZUI: Design and acquisition of data. ZMUD: Contribution to analysis and interpretation of data

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Address for Correspondence:

Muneeb-ur-Rehman, 212-D, Awan Town Lahore-Pakistan

Cell: +92 333 487 3977

Email: muneeb365@gmail.com