

# MEDICINE UPDATE<sup>TM</sup>

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## HEALTH SURVEY ON DRY COUGH MANAGEMENT IN INDIA: AN OPINION

### PART I

#### Background

Cough is a commonly-encountered symptom in clinical practice. The most acceptable definition of cough is a sudden, typically involuntary expulsion of air from the lungs with a distinctive and recognizable sound.<sup>1</sup> Cough is in fact one of the most common complaints for which patients seek medical treatment.<sup>2</sup> It is a crucial defensive reflex that increases the clearance of secretions and particles from the airways and protects the lower airways from the entry of any foreign objects.<sup>3</sup> Infections of the upper respiratory tract may be caused by a wide range of organisms; predominantly viruses and bacteria.<sup>4</sup> Irrespective of the cause, cough – mainly dry cough - remains one of the most common symptom of upper respiratory tract infections (URTIs). Diagnostic and management approach of cough vary widely in clinical practice, including ENT practice. A detailed history and a meticulous clinical examination, including a chest X-ray, are performed in some of these patients. Management approach depends on the types/nature of cough and its underlying cause.<sup>5</sup>

#### Study Objective

The various diagnostic and management approaches associated with cough vary predominantly from one physician to another. Therefore, in order to understand various aspects of cough in clinical practice and to know how it is routinely managed and diagnosed, a survey was conducted. The major focus of the survey was to assess the overall responses of various otorhinolaryngologists from across India (PAN INDIA), about the indications, the most common types of cough, co-morbid conditions which are commonly observed in various strata of patients with cough and the most preferred medications related to it.

#### Methodology

To understand the currently prevalent diagnostic and management pattern of different disorders presenting with cough, a close ended questionnaire was disseminated among 464 otorhinolaryngologists from various states of India. They were asked to complete a structured questionnaire, regarding their routine clinical practice ranging from patient demographics to associated comorbidities to treatment modalities for management of dry cough.

### a. Research Nature

The survey on dry cough was purely based upon qualitative research.

### b. Technique

The technique involved in this survey was entirely based upon the questionnaire method. A set of 12 multiple-choice questions was given to the otorhinolaryngologists along with their options, and the corresponding responses obtained were compiled and reported. It was observed during compilation that few practitioners gave multiple responses or no responses for some questions. The data has been interpreted according to the number of responders and the number of responses received.

### c. Sampling

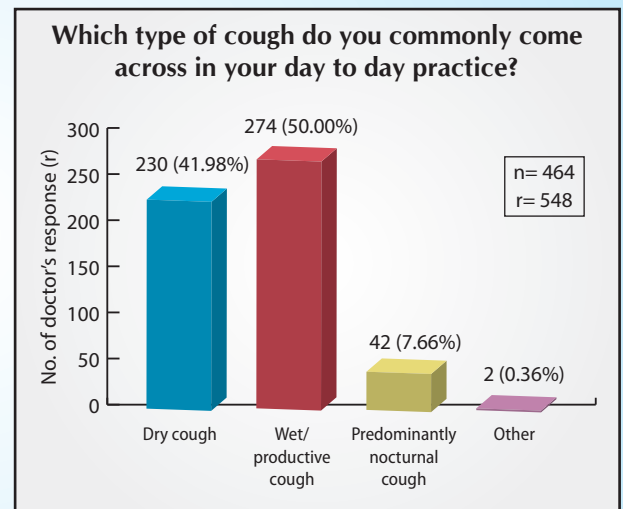
A sampling method was adopted for this survey in which the randomization of 464 otorhinolaryngologists belonging to different states was done.

The questionnaire based survey report can be summarized as follows:

#### 1. Which type of cough do you commonly come across in your day to day practice?

- ✓ In general, survey participants reported to come across various types of cough during their routine clinical practice. A total of 464 responders (n) gave 548 responses (r). Of the responses received, 41.98% (230) responses were in favor of dry cough, and 50.00% (274) responses were in favor of wet or productive cough.

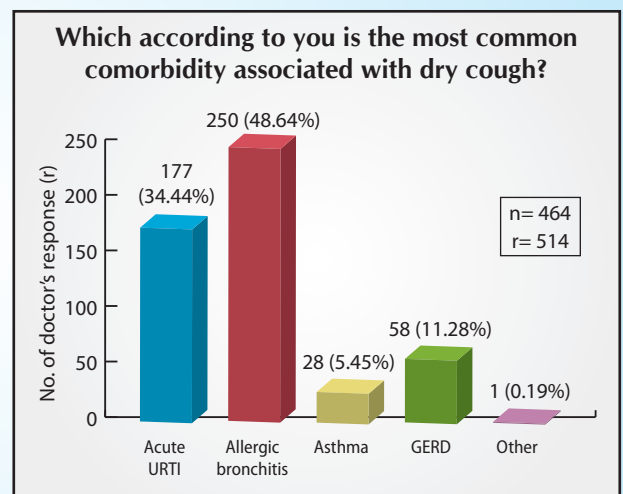
Interestingly, apart from predominant types of cough (dry and wet cough), nocturnal cough, and cough due to causes such as allergens, air pollutant, asthma and allergic bronchitis were also recognized during the survey.



#### 2. Which according to you is the most common comorbidity associated with dry cough?

- ✓ Several common comorbidities associated with dry cough were reported during the survey. In total 464 responders (n) gave 514 responses (r). Allergic bronchitis received maximum responses 48.64% (250); followed by acute URTI, gastro-esophageal reflux disease (GERD) and asthma. Other comorbidities, although very less, were also reported.

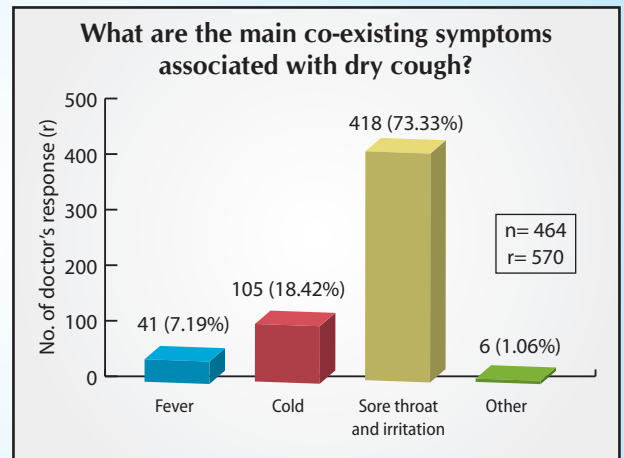
Of note, we received (7.58%) 39 overlapping responses for both acute URTI and allergic bronchitis, denoting that these comorbidities are frequently encountered, and cannot be neglected while diagnosing dry cough.



### 3. What are the main co-existing symptoms associated with dry cough?

- ✓ Several symptoms co-exist with the development of dry cough. In the survey, we received 570 responses (r) from 464 responders (n).

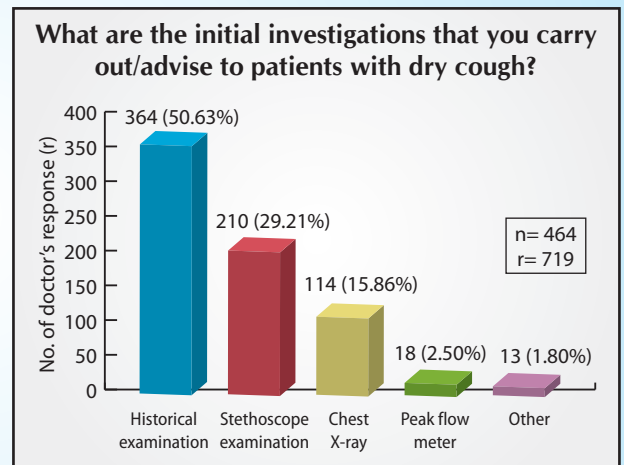
Majority of responses were in favour of sore throat and irritation 73.33% (418) as the main co-existing symptom. It was followed by cold and fever. Other co-existing symptoms were also reported. It came across that the knowledge of frequently observed co-existing symptoms may help in establishing the diagnosis of dry cough.



### 4. What are the initial investigations that you carry out/advise to patients with dry cough?

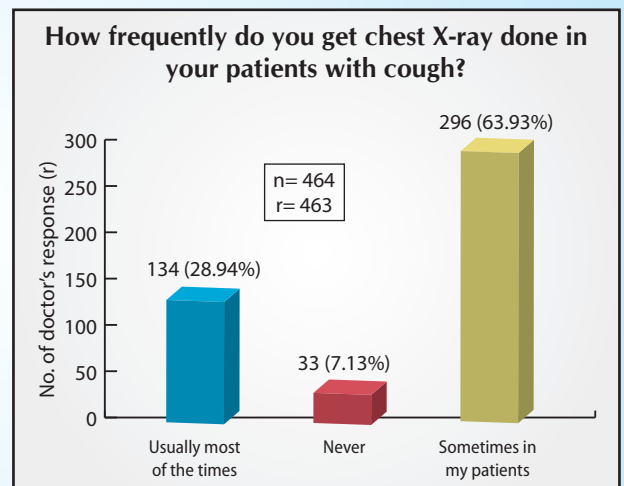
- ✓ We received 719 responses (r) from 464 responders (n). The survey evinced that around 50.63% (364) responses were in favor of historical examination as the leading initial investigation modality. However, several responses were in favor of stethoscopic examination and chest X-ray.

Moreover, there was an overlap in the choice of initial investigation; almost (20.72%) 149 responses were common for both historical examination and stethoscopic examination, this showed that solely historical examination may not be sufficient as the initial investigation in some cases, and other investigative techniques may be advised.



### 5. How frequently do you get chest X-ray done in your patients with cough?

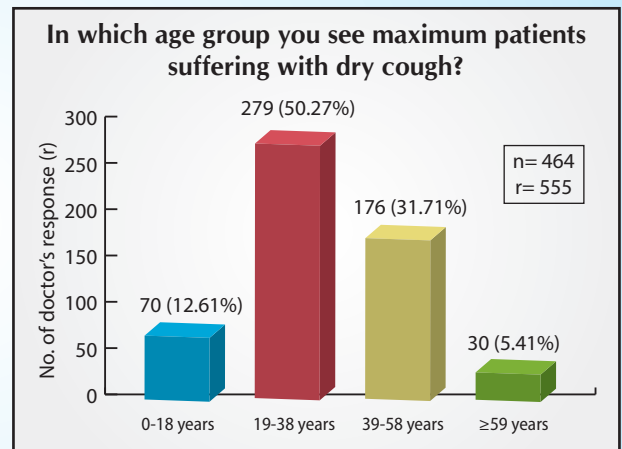
- ✓ According to the results of the previous question, chest X-ray was not advised frequently as an initial investigation. The responses to this question showed similar results. For this question, we received 463 responses (r) from 464 responders (n). Majority of responders advised chest X-ray only sometimes to their patients; 63.93% (296) responses.



**6. In which age group you see maximum patients suffering with dry cough?**

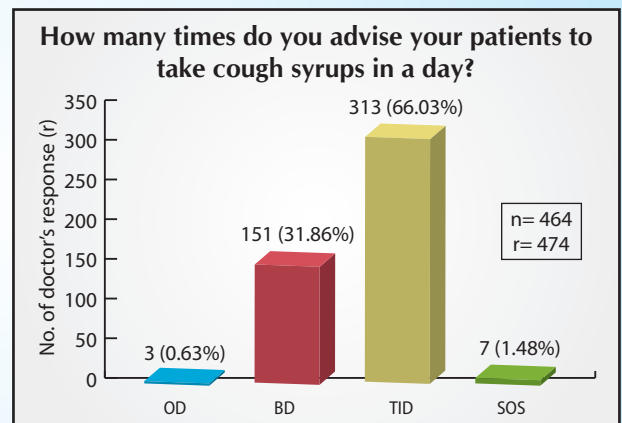
- ✓ Usually patients of all age group suffer from dry cough which is most frequent among all the other types of cough. A total of 464 responders (n) choose to give 555 responses (r) for this question. Almost half of the responses received during this survey were in favor of dry cough among the age group of 19-38 years. The age group 39-58 years got 31.71% (176) responses, followed by children and teenagers between 0-18 years and elderly  $\geq 59$  years age group.

Of note, there was a mild degree of overlap in the responses received for 19-38 years and 39-58 years age group that corresponded to (7.74%) 43 responses, highlighting that dry cough is frequently observed in clinical practice among patients belonging to these age groups (working class).



**7. How many times do you advise your patients to take cough syrups in a day?**

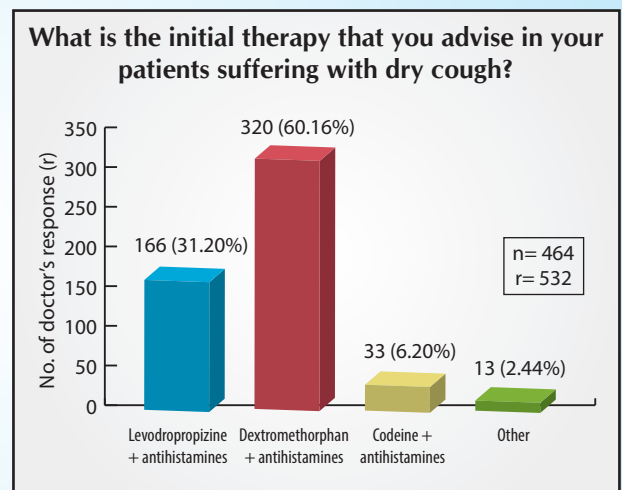
- ✓ In clinical practice the physicians generally adopt varied dosing regimen for their patients. In the survey, a total of 464 responders (n) gave 474 responses (r) when enquired regarding frequency of cough syrup advised to patients with dry cough. It was evinced in the survey that "three times a day (TID)" received 66.03% (313) responses followed by "two times a day (BD)" which received 31.86% (151) responses showing that these dosing regimens are preferred over other regimens and are most commonly prescribed to the patients.



**8. What is the initial therapy that you advise in your patients suffering with dry cough?**

- ✓ Dry cough affects a large proportion of patients; therefore, there is a need for an appropriate management strategy. For this question, we received a total of 532 responses (r) from 464 responders (n). Majority of responders were in favor of prescribing dextromethorphan in combination with antihistamines; followed by levodropropizine along with antihistamines, whereas, only few responders favored prescription of a narcotic cough suppressant (codeine) along with antihistamine or other agents.

There was an overlap in 9.39% (50) responses received for prescription of levodropropizine or dextromethorphan with antihistamines which reflected a rising trend towards prescription of levodropropizine along with antihistamines for treatment of cough in general practice.

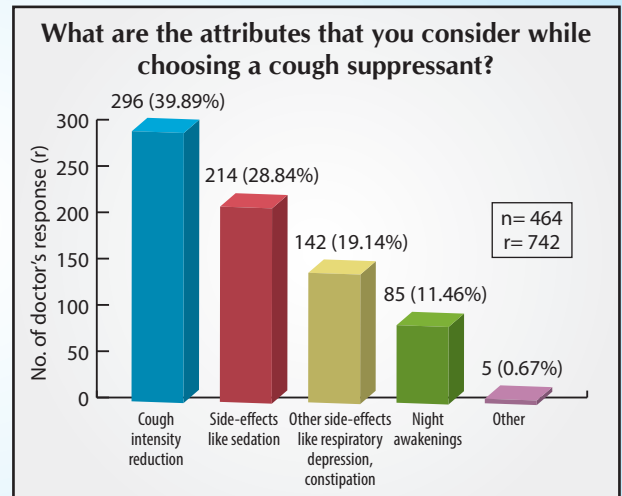




### 9. What are the attributes that you consider while choosing a cough suppressant?

- ✓ The attributes considered while choosing a cough suppressant may vary as per the discretion of the health care expert. During the survey, we received 742 responses (r) from 464 responders. Majority of responses 39.89% (296) were in favor of “cough intensity reduction” as a deciding attribute for choosing a cough suppressant. Responders also considered side-effects like sedation, other side-effects like respiratory depression and constipation, and night awakenings as parameters governing their choice.

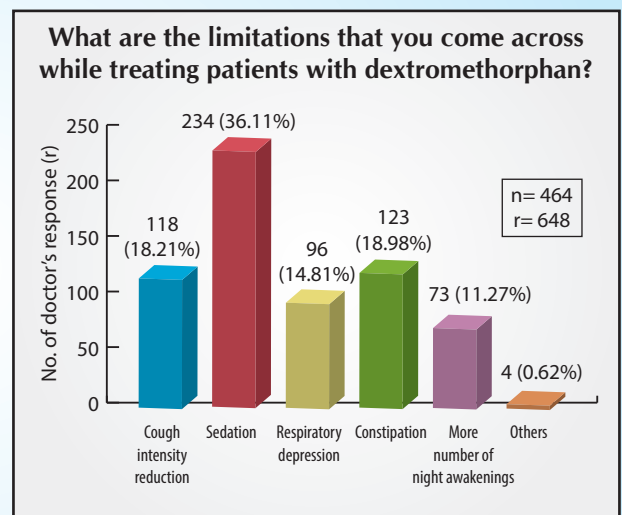
The results also showed that 15.22% (113) responses were common for cough intensity reduction and side-effects like sedation both. Although efficacy is a major attribute considered while choosing a cough suppressant for the patient, side-effects such as sedation must be taken into account to choose the most appropriate cough suppressant.



### 10. What are the limitations that you come across while treating patients with dextromethorphan?

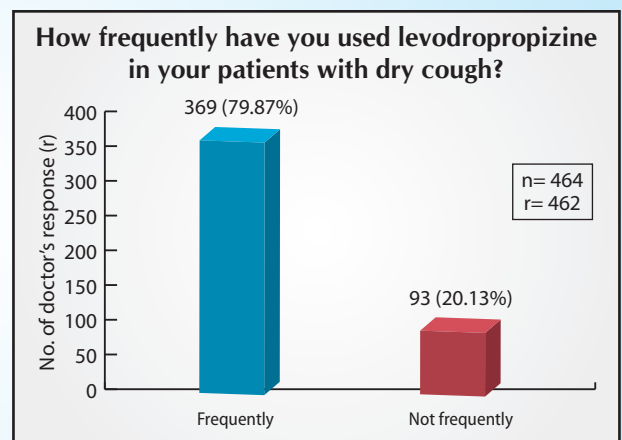
- ✓ Dextromethorphan is a widely used non-opioid anti-tussive agent with sedative and dissociative properties but its use is associated with certain limitations. A total of 464 responders (n) gave 648 responses (r) for this question. Common limitations encountered while treating patients with dextromethorphan were sedation (most common), constipation, cough intensity reduction, respiratory depression (to a lesser extent), more number of night awakenings and other causes (infrequent).

There was a slight overlap between the responses received for cough intensity reduction and sedation; 4.32% (28). This indicated that prescription of dextromethorphan was associated with certain shortcomings, especially problems related to inadequate reduction in cough intensity and sedation, which also emerged as major parameters that governed the choice of appropriate cough suppressant therapy for patients according to previous question.



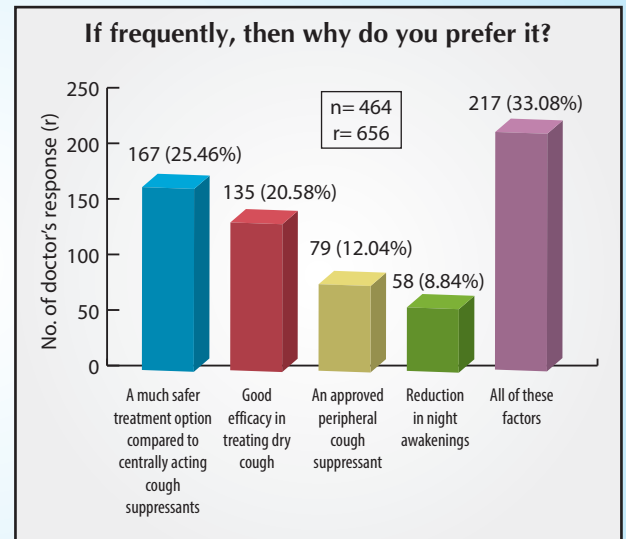
### 11. How frequently have you used levodropropizine in your patients with dry cough?

- ✓ Levodropropizine is used for patients with dry cough as it is considered to be devoid of side-effects like constipation or respiratory depression, which are often encountered while using dextromethorphan as shown in question 10. During the survey, we received 462 responses (r) from 464 responders (n) for this question. According to responses received during the survey, “frequent use of levodropropizine” received majority of responses. The results are suggestive of a good acceptance of levodropropizine as a regimen for treating dry cough.



### 11a. If frequently, then why do you prefer it?

- ✓ According to the survey, levodropropizine is now frequently used as a regimen for treating dry cough; this may be attributable to various reasons. In the survey, when enquired regarding the reasons for using levodropropizine frequently, we received 656 responses (r) from 464 responders (n). As highlighted in question number 9, efficacy and side-effect profile of an agent are considered while choosing a suitable cough suppressant; in this context use of dextromethorphan was associated with few limitations as shown in question number 10, which is not the case with levodropropizine as it is a much safer treatment option as compared to centrally acting cough suppressants, has a good efficacy in treating dry cough, is an approved peripherally acting cough suppressant, and causes reduction in night awakenings. According to responses of this question, majority of responders considered all these factors while prescribing levodropropizine frequently.



## Conclusion

Based on the current survey, dry cough may be considered as the most prevalent form in patients of all age groups. The condition is further aggravated by factors such as allergens, air pollutant, asthma and allergic bronchitis, as suggested by otorhinolaryngologists during the survey. Historical examination, stethoscopic examination, and chest X-ray are the commonly employed modalities for investigation of dry cough in patients. The results of the survey insinuate a rising trend of prescribing levodropropizine by the otorhinolaryngologists, thereby positioning it as more favorable treatment option for the management of dry cough. **Levodropropizine emerges out as a favorable option because it helps in reducing cough intensity with less sedation and fewer side-effects like constipation and respiratory depression.**

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Dr T.K. Bhowmik  
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For treatment of Dry Irritating Cough

Dr.Reddy's



# Reswas

(Levodropropizine Ph. Eur. 30 mg + Chlorpheniramine maleate IP 2 mg)

**Relief and safety with assurance**

**ACCP recommended Grade A Anti-tussive**

DCGI Approved Indication: For treatment of non-productive cough

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Dosage:  
10 ml t.i.d.



**TASTY  
GINGER  
and lemon  
flavor**



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