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Systematic Review of Different Types of Coughs Among Patients

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ABSTRACT

Cough is one of the most prevalent clinical symptoms that affect people of all ages and is a leading reason for medical consultations globally. It can have infectious, allergic, environmental, occupational, or systemic origins and manifest as an acute, subacute, or chronic illness. The causes, clinical signs and health consequences of many cough types vary, including dry cough, productive cough, nocturnal cough, allergy cough, smoker's cough, psychogenic cough and chronic refractory cough. The significance of early diagnosis, clinical examination, assessment of the patient's medical history and evidence-based treatment approaches for successful management. The burden of cough-related illnesses is also significantly decreased by pharmaceutical therapies, lifestyle changes and preventative healthcare measures.

Keywords: Coughs, Patients, Respiratory Infection.

INTRODUCTION

Coughing is a prevalent clinical symptom observed in patients of all ages and is regarded as a crucial defensive reflex mechanism of the respiratory system. It facilitates the removal of mucus, foreign substances, and irritants from the airways, thus preserving respiratory health. Nonetheless, a persistent or atypical cough may signify underlying conditions, ranging from benign virus infections to chronic respiratory ailments. Various cough varieties, including acute, chronic, dry, productive, allergy, nocturnal, and psychogenic coughs, differ in their aetiology, duration, symptoms, and clinical relevance. Acute cough is typically connected with upper respiratory tract infections, whereas persistent cough may be related to illnesses such as asthma, chronic obstructive pulmonary disease (COPD), gastro-oesophageal reflux disease (GERD), TB, or smoking behaviours. A dry cough is typically annoying and non-productive, while a productive cough entails sputum production and may indicate infections or pulmonary disorders. Comprehending the diverse classifications of coughs in patients is crucial for precise diagnosis, efficacious treatment, and enhanced patient care. A thorough analysis of various cough types offers extensive insights into their aetiology, prevalence, diagnostic methods, management techniques, and effects on quality of life, therefore enhancing healthcare outcomes and informing future clinical research.

DIFFERENT TYPES OF COUGHS AMONG PATIENTS

Acute Cough:

An acute cough persists for under three weeks and is typically induced by viral illnesses, including the common cold, influenza, or respiratory tract infections. It may also arise from abrupt exposure to dust, smoke, or allergies.



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Subacute Cough:

A subacute cough endures for a duration of three to eight weeks. It frequently arises following respiratory infections and may persist even after the infection has subsided. Post-viral irritation and mild airway inflammation are prevalent aetiologies.

Chronic Cough:

A chronic cough persists for over eight weeks and may signify serious underlying illnesses such as asthma, chronic bronchitis, gastro-oesophageal reflux disease (GERD), TB, or pulmonary disorders. Chronic cough substantially impacts patients' quality of life.

Dry Cough:

A dry cough is characterised by the absence of mucus or phlegm. It is typically linked to viral infections, allergies, throat inflammation, pollution, asthma, or adverse effects of specific drugs. Patients frequently endure throat discomfort and inflammation.

Wet or Productive Cough:

A productive cough expels mucus or phlegm from the respiratory tract. It frequently manifests in illnesses such as bronchitis, pneumonia, chronic obstructive pulmonary disease (COPD), and respiratory infections. The hue and viscosity of sputum may assist in diagnosing the underlying condition.

Whooping Cough:

Whooping cough, or pertussis, is a highly contagious bacterial infection marked by intense coughing episodes accompanied by a distinctive "whooping" sound upon inhalation. It is most prevalent in youngsters, yet it can also impact adults.

Allergic Cough:

An allergic cough arises from exposure to allergens such as pollen, dust, smoke, pet dander, or powerful odours. It is typically accompanied by sneezing, lacrimation, and nasal obstruction.

Nocturnal Cough:

Nocturnal cough primarily manifests at night and can disrupt sleep. It is frequently linked to asthma, gastro-oesophageal reflux disease (GERD), sinusitis, or cardiovascular disorders.

Barking Cough:

A barking cough sounds like a dog's bark. It is frequently observed in children with croup or upper airway infection.

Psychogenic or Habit Cough:

This cough lacks a definitive physiologic origin and is frequently associated with stress, anxiety, or psychological influences. It may vanish during slumber or diversion.



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SYSTEMATIC REVIEW OF LITERATURE

Zanasi, A. et al. (2014). Even though coughing is a self-limiting symptom of upper respiratory tract infections (URTIs), it can significantly impair a person's quality of life. Although there is little evidence to support their efficacy, patients commonly utilize homeopathic remedies to treat coughs. We carried out a double-blind, randomized clinical trial to find out if homeopathic syrups are useful in treating upper respiratory tract infections (URTIs). Both the homeopathic syrup and a placebo were given to the patients for a week. They used a verbal category-descriptive score to record the severity of their cough in a diary during this period. A viscometer was used to test the viscosity of the sputum before and after four days of treatment. Patients were also asked to subjectively rate the viscosity. Eighty participants were randomized to receive either a placebo (n = 40) or the homeopathic syrup (n = 40). Each patient completed the study. While cough scores decreased with time in all groups, the homeopathic group's cough severity was significantly less severe than the placebo group's after 4 and 7 days of therapy ($p < 0.001$ and $p = 0.023$, respectively). Sputum from 53 patients was obtained; following 4 days of treatment, both groups' sputum viscosities significantly decreased ($p < 0.001$), with the homeopathic group having the lowest viscosity ($p = 0.018$). Instead, there was no appreciable difference between the two groups' subjective evaluations ($p = 0.059$). None of the therapies had any known adverse effects. The trial's homeopathic syrup may effectively reduce the severity of coughing and the viscosity of sputum, which would make it a helpful treatment for acute coughs caused by URTIs, we concluded.

Bell, I.R. & Boyer, N.N. (2013). The significant risks to both individual and public health that result from the inappropriate prescription of antibiotics and the use of traditional over-the-counter symptomatic medicines in the treatment of paediatric upper respiratory infections (URIs) and acute otitis media (AOM). According to clinical research, over-the-counter homeopathic treatments offer useful therapeutic alternatives to prescription drugs for kids with simple AOM or URIs. Since its inception 200 years ago, homeopathy has been utilized all over the world as a safe, effective, and controversial complementary and alternative medical method. Numerous clinical investigations demonstrate that homeopathy dramatically lowers risk and speeds up early symptom relief in acute diseases as compared to conventional drug therapies. Evidence-based advantages of homeopathy include reduced antibiotic fill rates during watchful waiting in otitis media, fewer and less severe side effects, no drug-drug interactions, and a reduction in parental sick leave. New data from basic and preclinical science investigations disproves the critics' claim that homeopathic medicines are placebos with no biological impact. Consumers in the US already accept and use homeopathic remedies for self-care, as evidenced by the \$2.9 billion they spend annually on them. Homeopathy is safer and equivalent to traditional therapy, according to comparative effectiveness investigations; however, carefully thought-out efficacy trials are required. The practical application of homeopathy as a "first do no harm" approach for the early symptom management of otherwise treatable childhood URIs and AOMs is supported by the safety evidence currently available, however.

Danno, K. et al. (2013). More and more chemists are offering guidance on how to treat mild illnesses, including influenza-like illness (ILI) and ENT abnormalities. However, no studies have been conducted on the kind of OTC medications that pharmacists recommend, the success of these treatments, or the characteristics of patients who see pharmacists with these disorders. To describe the clinical and



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sociodemographic characteristics of individuals for whom French chemists have prescribed homeopathic and/or allopathic drugs for ENT or ILI conditions, and to investigate the effectiveness of these treatments. A prospective, observational, multi-centre study was conducted with randomly selected pharmacies from each of France's eight IDREM medical regions. Pharmacies were required to enrol patients who were at least 12 years old and had been having symptoms of an ENT condition or ILI for less than 36 hours prior to visiting the drugstore in order to be eligible for participation. All of the drugs in the trial were prescribed by the chemists. At the time of inclusion and three days into treatment, the severity of 13 symptoms, the total symptom score, and the effect of the condition on sleep and daily activities were all recorded. We studied patients in two groups: those prescribed homeopathic treatment in addition to or instead of allopathic medicine (HAT group) and those prescribed only allopathic medicine (AT group). Following three days of treatment, the global symptom score showed changes in the frequency and severity of symptoms in both treatment groups, as well as in the disease's effect on sleep and daily activities. The study employed multifactorial logistic regression analysis to determine independent factors that influence homeopathic medicine recommendations. Patients who were prescribed homeopathic treatment were older and experienced more severe symptoms than those who were prescribed allopathic therapy. The clinical improvements in both treatment groups were comparable after three days of therapy. For ENT and ILI disorders to be effectively treated, pharmacists are essential.

Haidvogel, M. et al. (2007). To assess the effectiveness of homeopathy versus traditional treatment for acute ear and respiratory symptoms in a primary care setting. The evidence supporting complementary and alternative medicine (CAM) is often weak, and further research is clearly required in areas like homeopathy. Objective data collection and evaluation are crucial for raising the bar for medical practice and assisting physicians in giving their patients better treatment. It is commonly known that when it comes to medical interventions, clinical studies—in particular, randomized controlled trials, or RCTs—produce the highest quality data. The RCT method entered a new area of research as a result of the development of new medications, regulatory agencies' requests for clinical data, and physicians' need to employ evidence-based treatment approaches. In this regard, the advantages and disadvantages of these investigations have been explored. The use of placebo-controlled RCTs is crucial for the development of pharmaceutical products with unknown safety and efficacy attributes. Patient demographics and highly standardized study protocols, which could produce fictitious scenarios that are not representative of routine practice, are the main sources of their limitations. Patients' treatment outcomes may also be impacted by their involvement in a placebo-controlled clinical trial, which could lead to low verum response rates or high placebo response rates.

White, A. et al. (2003). The fact that homeopathy is frequently used to treat childhood asthma. In the well-known classical form of homeopathy, prescriptions are made especially for each patient. This kind of asthma treatment has not been thoroughly studied. In a randomized, double-blind, placebo-controlled study, the effects of tailored homeopathic remedies and placebo medication as an adjunct to conventional treatment were examined in 96 children with mild to moderate asthma. The main outcome measure was the active quality of life subscale of the Childhood Asthma Questionnaire, which was administered at baseline and again at the 12-month point. Adverse responses, peak flow rates, days off school, asthma



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episodes, medication use, symptom scores, and other subscales of the same questionnaire were additional outcome variables. There was no statistically significant or clinically meaningful change in the active quality of life score. The magnitude of the effects was small, despite relative improvements on some subscales, especially the severity ones. There was no difference between the groups on the other measures. There is no evidence in this trial that children with mild to moderate asthma receiving primary care conventional treatment would benefit more from additional homeopathic medications given by qualified homeopathic practitioners than from a placebo.

CONCLUSION

Coughing is a prevalent symptom encountered by patients of all ages and in many healthcare environments. The systematic evaluation of several cough types indicates that coughs varied markedly in duration, aetiology, clinical features, and severity. Acute cough is frequently associated with viral infections and upper respiratory tract disorders, while chronic cough is typically connected to asthma, chronic obstructive pulmonary disease (COPD), gastro-oesophageal reflux disease (GERD), allergies, smoking, and environmental influences. Productive coughs typically signify the presence of mucus or infection, whereas dry coughs are often associated with irritation, allergies, or viral infections. Moreover, certain types such as nocturnal cough, allergy cough, and psychogenic cough illustrate the intricacies of diagnosis and treatment in patients. The review indicates that precise identification of cough type is crucial for efficient therapy, complication prevention, and enhancement of patient quality of life. Timely clinical assessment, accurate diagnostic evaluation, patient education, and evidence-based treatment strategies are essential for mitigating illness burden and healthcare expenses. Additionally, lifestyle alterations, environmental regulation, vaccination, and prompt medical advice can substantially aid in the management and prevention of cough. Thus, a thorough comprehension of various cough patterns in patients is essential for healthcare providers, researchers, and policymakers in formulating improved diagnostic strategies, treatment protocols, and public health interventions.

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