



Effectiveness Of Intervention On Emotional And Behavioral Effects In Acute Upper Respiratory Tract Infection

¹ Sayasri S M, ² Vaishnavi R, ³ A S Suman Sankar

^{1,2} PG Scholar, ³ Professor

¹ Department of Repertory,

¹ Sarada Krishna Homoeopathic Medical College and Hospital, Kulasekharam, Kanniyakumari, Tamil Nadu, India.

Abstract: Upper respiratory tract infections (URTIs) are common and contagious, often leading to emotional and behavioral disturbances. In the Global Burden Of Diseases, Injuries, and Risk Factors Study (GBD) 2019 stated that 17.2 billion cases worldwide were reported to have upper respiratory tract infections. This study evaluates the effectiveness of homoeopathic interventions targeting emotional and behavioral symptoms in acute URTIs. A sample of 50 cases aged 18 and above, primarily females (66%), was assessed using a structured case format and the POMS questionnaire. Emotional states such as anger, confusion, depression, fatigue, and tension were linked to specific symptom intensifications, like anger with sneezing and coughing, and fatigue with nasal obstruction. Overall, the study significant the impact of acute upper respiratory tract infections on mental well-being.

Index Terms - Behavioral effects, Emotional states, Upper respiratory tract infection.

I. INTRODUCTION

General practitioners frequently deal with acute respiratory tract infections in their day-to-day work. An acute respiratory tract infection was further divided into upper and lower tract infections. Based on the anatomical site, the terms have been defined as rhinitis, sinusitis, and bronchitis at the time of consultation. ⁽¹⁾ In the 2024 edition of ICD-10-CM, acute upper respiratory tract infection J06.9 can be used to show a diagnosis useful for acute upper respiratory illness. ⁽²⁾ In 2019, Global Burden Disease documented 17.2 billion upper respiratory tract infection cases have been reported. ⁽³⁾ India reported 41.9M respiratory cases in 2018, severe acute respiratory infection was a top cause of death for older children. ⁽⁴⁾ These illnesses cause behavioral discomfort marked by reduced attentiveness due to symptoms like nose issues and fever. ⁽⁵⁾ Changes in arousal-regulating neurotransmitters during a cold may reduce alertness. ⁽⁶⁾ Interferon alpha, peptide mediators, and interleukin 1 in the bloodstream, affect the central nervous system, impacting performance and muscle function. Altered sensory input via trigeminal nerves in the nose can impair memory functions. ⁽⁷⁾

2. NEED OF THE STUDY

Acute upper respiratory tract infections it makes changes in their quality of life. Homoeopathy is frequently used for upper respiratory tract infections, yet its effectiveness on emotional and behavioral aspects remains understudied. Homoeopathy is known for its holistic approach, addressing physical, emotional and mental symptoms. Upper respiratory tract infections may alter behavior, affecting productivity, social interactions, and daily activities. There is a lack of scientific evidence on the effectiveness of homoeopathy in managing emotional and behavioral aspects of upper respiratory tract infections. Evaluating emotional and behavioral changes alongside physical symptoms provides a comprehensive assessment of homoeopathic interventions. Addressing emotional and behavioral aspects may lead to improved patient satisfaction and treatment adherence.

3.1 Population and Sample

A sample of 50 cases diagnosed to have acute upper respiratory tract infection visiting the OPD, IPD and Rural centers of our hospital. The study duration of about 1 year by using purposive sampling technique. Samples including criteria were subjects of age group above 18 years of both sexes and subjects of age below 17 years and those who were suffered from other severe systemic diseases were excluded in this study. It was an interventional study, which have single group as per eligibility criteria observed before and after intervention and assessed after study duration without a control group. Tools has been used were pre structured SKHMC case format and POMS questionnaire was used.

3.2 Data and Sources of Data

Data collected through direct interview, observational method, physical examination and evaluated through the POMS questionnaire. It contains total mood disturbance from range of (-32 to 200) mood profile of anger (0-48), confusion (0-28), depression (0-60), fatigue (0-28), tension (0-36), vigour (0-32). To obtain a Total Mood Disturbance (TMD) score and an analysis by adding tension, depression, anger, fatigue and confusion scores and subtracting vigour score.

3.3 Theoretical framework

A sample of 50 cases diagnosed with acute upper respiratory tract infection visiting in OPD, IPD and Rural centers of our hospital were selected. Male, female patients above the age of 18 years were considered. The cases as been checked for their Behavioral effects and emotional changes at the time acute upper respiratory tract infection and it as been assessed through POMS questionnaire before and after the treatment. The outcome assessment of this study was data on emotional and behavioral changes in cases of acute upper respiratory tract infection will be observed for future reference.

3.4 Statistical tools and econometric models

The paired t-test has been used to assess the behavioral and emotional changes at the time of acute upper respiratory tract infection. Since p value < 0.05 , that's an effect of homoeopathy on the behavioral and emotional changes at the time of acute upper respiratory tract infection.

IV. RESULTS AND DISCUSSION

4.1 Results

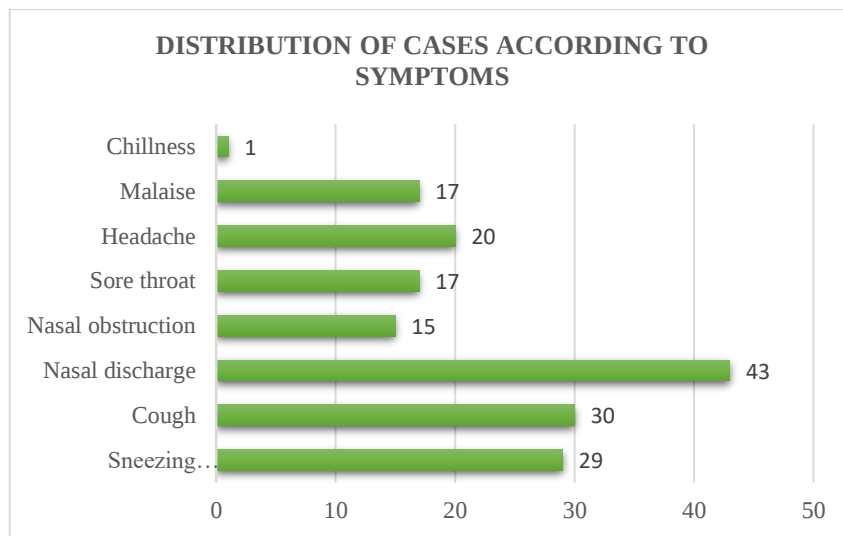


figure no 1: symptoms related case distribution

Among the 50 subjects assigned for the study, the maximum number of cases falls under the symptoms of nasal discharge: 86% (N = 43), cough 60% (N = 30), sneezing 58% (N = 29), sore throat 34% (N = 17), malaise 34% (N = 17), headache 40% (N = 20), nasal obstruction 30% (N = 15), and chillness 2% (N = 1).

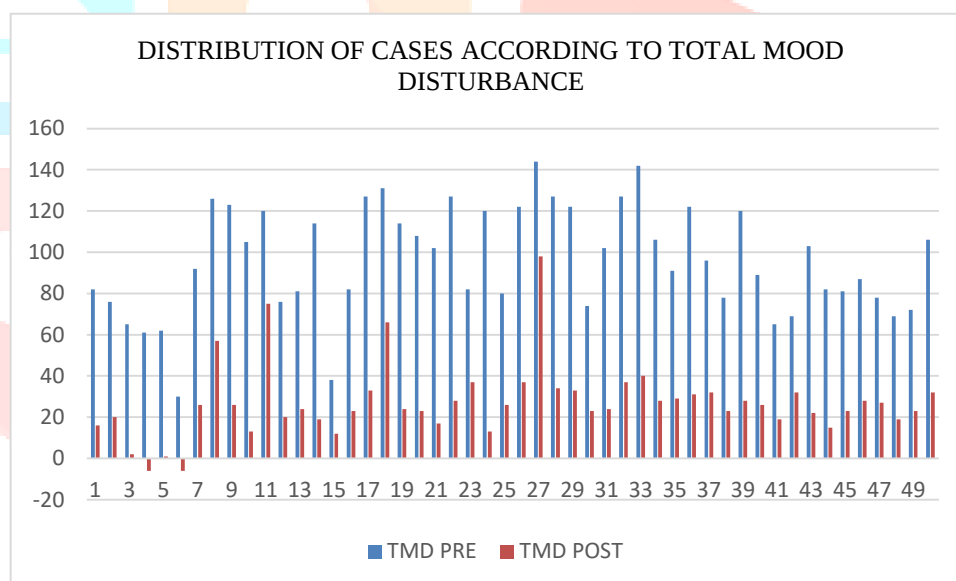


figure no 2: case distribution according to total mood disturbance

The study recorded notable reductions in emotional and behavioral symptoms post-intervention. **Anger** showed the greatest decrease of 26% (from 23 to 17), followed by reductions of 23% (13 to 10), 22% (32 to 25), 20% (15 to 12), and 14% (21 to 18). **Confusion** saw a maximum reduction of 20% (10 to 8), followed by decreases of 18% (11 to 9), 16% (19 to 16), 13% (8 to 7), and 10% (21 to 19). **Depression** improvements were highlighted by reductions to 14% (43 to 37), 15% (26 to 22 and 13 to 11), and 16% (45 to 38). **Fatigue** showed substantial improvement, with a 35% reduction (20 to 13), while smaller improvements were seen at higher percentages, such as 87% of the initial score (15 to 2). **Tension** decreased significantly, with reductions of 20% (20 to 16 and 15 to 12), 18% (17 to 14), 13% (31 to 27), and 5% (19 to 18). **Vigour** showed marked improvements, with scores doubling in some cases, e.g., from 10 to 31 (-2.1), 9 to 29 (-2.2), and 9 to 28 (-2.1), reflecting enhanced vitality.

4.2 Discussion

Out of 50 cases, the major presentation was observed among individuals ages 21-30 years, constituting 24%, females of about 66% were predominantly affected by acute upper respiratory tract infections. For instance, within the category of ANGER, individuals may experience irritability, anger, aversion to answering, and other related symptoms such as contradiction and aggravation during conversations. Similarly, under CONFUSION, difficulties with concentration and forgetfulness may manifest. DEPRESSION-related symptoms encompass sadness, despair, grief, feelings of estrangement, and a desire for company, among others. FATIGUE-related symptoms may include dullness, mental prostration, and confusion, while TENSION-related symptoms consist of anguish, anxiety, and restlessness. Among the 50 cases, irritability manifested in 6%, irritability over trivial matters 6%, anger upon being obliged to answer 8% and prostration of mind in 10% of improvement was noted across various categories. For instance, individuals with Acute Pharyngitis may manifest symptoms including irritability, sadness, confusion of mind, and anxiety, among others. Similarly, those suffering from Acute Sinusitis may experience prostration of mind and sadness, while patients with Acute Rhinitis commonly display a variety of emotional responses such as anger, anguish, despair, and restlessness, alongside cognitive impairments like difficulty concentrating and forgetfulness. 20 individuals showed marked improvement in their mental states after treatment of their acute upper respiratory tract infection. Thus, 4 individuals showed mild improvement and 26 showed moderate improvement in their mental states, attributed to factors such as maintaining causes such as their long- lasting chronic sufferings, work burden, etc. The findings highlight the complex interplay between acute illness, emotional responses and recovery routes. The majority of patients exhibited positive responses in their vigour post-treatment, underscoring the efficacy of interventions in restoring overall well-being.

II. ACKNOWLEDGMENT

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