



POLYHERBAL ANTITUSSIVE SYRUP

**Author : Raut Nandlal Kanta, Dadhe Sangram Sajjan, Shinde Ravindra Balaji,
Chintaman Dhanaji Navnath, Sandhyarani B. Gajare**

• ABSTRACT:-

Now a days the synthetic and novel drugs are the major source of curing any problems Type of disease, although these chemically synthesized drugs are harmful hazardous and Shows toxic effect on the human body, this research formulation is a Polyherbal product (expectorant) which is useful and effective to treat the acute as well as chronic cough Mainly chronic cough in patients of all ages. And these formulation are easily Administered by oral rout, Many of us suffers from the prolonged chronic cough which last for Several months or even years (in some patients) so treat this this “herbal antitussive Syrup” is best mode, this syrup consist of some prominent and effective Naturally occurring drugs or medicinal plants like, cinnamon, clove, blackpaper, tulsi, honey (as base), and menthol (as cooling agent expectorants). This particulate combination of Drugs is very effective for the treatment of cough, although this syrup can also be used For the treatment of the common cold respiratory disorders or nasal problems.

[Keywords:-Expectorants, Anti-tussive, MedicinalPlants, PolyHerbal Formulation.]

INTRODUCTION:-

Nature has been a source of medicinal agents for thousands of years, and an Impressive number of modern drugs have been isolated from natural sources, particularly Plants and with many based on their use in traditional medicine. By using medicinal Chemistry and combinatorial chemical and biosynthetic technology, novel natural product Leads will be optimized on the basis of their biological activities to yield effective Chemotherapeuticandotherbioactiveagents.(1)Duringthepastdecades,publicinterestin natural Therapies, namely herbal medicine, has increased dramatically not only in developing Countries but mainly in industrialized countries. (2)

Coughassociatedwiththeacuteandchronicconditioniscommonlyinpatients Ofallages,commoncauseofcougharebacterialorviralinfectionontheupperrespiratory Tractairpollutioncigarettesmokingforeignbodyasthmaandeosinophilicbronchitis,only Controlling the etiology of cough may not be effectuallytreatment but also addition of Desensitizing of cough pathways is also essential.(3)Treatmentof cough depends on function The cough is serving, when cough indicates an under an underlying illness but Treatmentsshouldalsoattempttocontrol,prevent oreliminateusingthe coughsuppressive Agents.Inthesituationstheuseofexpectorantsandanti-tussiveagentsareindicatednot only to Alleviate the cough but also to eliminate the more serious events occurring. (4) Sinceancienttimeshumanityhasdependedonthediversityofplant resources for Food, clothing, shelter, and traditional medicine to cure myriads of ailments. Early humans Recognized their dependence on nature in both health and illness. (5)Nature has been a source Of medicinal agents for thousands of years, and an impressive number of modern Drugshavebeenisolated fromnaturalsources,particularlyplantsandwith manybased on Theiruseintraditionalmedicine.Byusingmedicinalchemistryandcombinatorialchemical and Biosynthetictechnology, novel natural product leads will beoptimized on thebasis of their Biological activities to yield effective chemotherapeutic and other bioactive agents. During The past decades, public interest in natural therapies, namely herbal medicine, has increased Dramatically not only in developing countries but mainly in industrialized countries. (6) Inthisresearcharticlwehavetostudyanddiscusstheoneofthesuchpolyherbal anti-Tussive syrup formulation which is totally natural and effective where we have used some Of the natural drugs like Clove (Eugenia aromatica), Cinnamon (Cinnamomum cassia), Black pepper (piper nigrum), Tulsi (Ocimum sanctum), peppermint(menthol) & Honey(as A base).These particulate combination of natural drugs which have cough repellent property Are made in form of a syrup. These are nontoxic not harmful dose not show any of side Effect on human body and most superior thanof OTC drugs.

Aboutcough:-

Cough is a useful physiological mechanism that serves to clear the respiratory Passages of foreign material and excess secretions and should not be suppressed Indiscriminately (7). Cough is thought to be caused by are lex. It occurs due to stimulation Of mechano or chemoreceptor in throat, respiratory passage or stretchreceptor in the lungs (8). The sensitive receptors are located in the bronchial tree, particularly in the junction ooT hetrachea.The sereceptor scan bestimulated mechanically or chemically e.g. byinhalation of Various irritants than nerve impulses activate the cough centre in the brain. (9) Traditionally cough is classified as eitherproductive, i.e. producing mucususually Withexpectoration, ornonproductive(dry) (10).Therefore,the use of an effective agent such As dextromethorphan or codeine to suppress the debilitating cough suffered by such patients Seems appropriate (11). Non-Narcotic antitussive agents anesthetize the stretch receptor Located in respiratory passages, lungs and pleura by dampening their activity and thereby Reducing the cough reflex at its source. Narcotic antitussive agents depress the cough center that is Located in the medulla, thereby raising its threshold for incoming cough. (12) Cough may also be caused by conditions affecting the lung tissue such as Bronchiectasis, cystic fibrosis, intestinal lung disease and sarcoidosis. Coughing can also Be triggered by benign normal ignant lung tumors or mediastinal masses. Through irritation of the Nerve, diseases of the external auditory canal (wax, for example) can also cause cough. Cardiovascular diseases associated with cough are heart failure, pulmonary infarction and Aortic aneurysm. Nocturnal cough is associated with heart failure, as the heart does not Compensate for the increased volume shift to the pulmonary circulation, in Turncausingpulmonaryedemaandresultantcough.Coughingmayalsobeusedforsocial Reasons, such as the coughing before giving a speech or entering into a house or to attract Attention of other people. Cough may also be psychogenic, which is different from habit Coughing and tic coughing. Coughing may occur in tic disorders such as Tourette Syndrome, although it should be distinguished from throat-clearing in this disorder (13) Gastro-esophageal reflux is associated with a wide range of respiratory disorders, Including asthma, isolated chronic cough, idiopathic pulmonary fibrosis, chronic Obstructive pulmonary disease and cystic fibrosis. In adults with a chronic cough, i.e. a Cough longer than 8 weeks, more than 90% of cases are due to post-natal drip, asthma, Eosinophilic bronchitis and gastro esophageal reflux diseases(14). In people with Unexplained cough, GERD should be considered. This occurs when acidic contents of the Stomach come back up into the esophagus. Symptoms usually associated with GERD Includeheartburn, sourtasteinthemouth, or a feeling of acid reflux in the chest, although, more Than half of the people with cough from GERD don't have any other symptoms. An Esophageal pH monitor can confirm the diagnosis of GERD. Sometimes GERD can Complicate respiratory ailments related to cough, such as asthma or bronchitis. The Treatment involves anti-acid medications and lifestyle changes with surgery indicated in Cases not manageable with conservative measures. Proton pump inhibitor also Recommendedtoimprovethestypeofcough(15).Coughingmaybecausedbyairpollution Includingtobaccosmoke,irritantgasesanddampnessinahome.Thehumanhealtheffects Of poor air quality are far reaching, but principally affect thebody's respiratory system and the Cardiovascular system. People, who exercise outdoors on hot, smoggy days, increase their Exposure to pollutants in the air.

List of drugs used with their Biological name:

Table: 1.0

Sr.No.	Name of drug	Biologicalname	Family
1	Clove	Eugenia aromatica	Myrtaceae
2	Cinnamon	Cinnamomum cassia	Lauraceae
3	Black pepper	Piper nigrum	Piperaceae
4	Tulsi	Ocimum sanctum	Lamiaceae
5	Peppermint	Menthol/mentha	Mint
6	Honey		
7	Syrup Base		

METHODOLOGY FOR DEVELOPMENT OF SYRUP:

1) Preparation of powder of the taken drug.

Take the required amount of the crude drug (20-40g) powder the dried drug

Using the mortar and pestle crush the drug in the fine powder (clove, cinnamon, black paper) ,each drug is powdered separately, then collect them all in separate vessel and weigh Them all, they should full fillthe required amount . Clove and cinnamon should weigh Nearly 20-40g and black paper nearly 10-15g.

2) Method to put the samples for maceration:-

The powdered drug sample are now put for the process of maceration, so for Maceration the drug are soaked in 400-500ml of distilled water, or we can also use Slightly alcohol treated water nearly 5% means 2-4ml alcohol in 100ml water. Each Drug is soaked separately in different beaker by the addition of adequate amount of Watermeans13-14 times the quantity of drug, then put these beakers for nearly17-24 hours For undisturbed condition.

3) PreparationofdecoctionforleavesofTulsi:-

Firstly take the fresh green leaves of Tulsi wash them and clean well it should weigh nearly 30-40g, put in a beaker and soak with distilled water nearly 3-4 times more Quantityofdrug400 500ml, then keep aside undisturbed for nearly 4-5hours, then take Beaker and start to boil it until the quantity of water remain less than small portion Original nearly 20-25 ml. take it and filter it with muslin cloth and store well.

4) Preparation decoction of macerated drugs:-

The powdered drugs which were macerated earlier collect them and boil them Separately at constant temperature for 1-1.5 hour, up to when the quantity of water Remains less than small portion or one third, then remove the decoction by filtering it By muslin cloth and store separately it should measure nearly10-20 ml.(25)

4) Preparation of final polyherbal syrup:-

In a beaker of 100ml take nearly 50ml of honey, as the honey is itself a syrup so No need to prepare any syrup as it is our drug constituent as well as the syrup, then keep it Aside. Take all the prepared decoction of drug constituents which should be as clove-15ml, Cinnamon-15ml, Tulsi-15ml, black paper-10ml. then mix these all components in one Beaker and add nearly 0.5-1g of menthol in the beaker during mixing, add this prepared Mixture in the beaker containing the honey, shake it well that it will show one phase, keep Inside for stabilization. Atlast check the final volume of syrup to be 100ml, here our final poly Herbal syrup is prepared.

RESULT

Stability testing:-

The stability testing was done under variation of temperature by 3 condition 7°C,27°C & 43°C put for different duration of time as 24hrs, 42hrs, & 72hrs respectively Which proves the syrup have passed the accelerated stability studies .Thestability evaluation ofpharmaceutical preparations by observingthem for ayear or More, corresponding to the normal time that they would remain in stock and in use was Timeconsuming. In order to avoid this problem acceleratedstability study is used by most Of the pharmaceuticals for stability evaluation of all types of formulations. (27)

Antimicrobial activity:-

All the observed result were positive the syrup shows the anti-microbial activity Successfully, One thing is notice dhere that the F1 plate without added preservatives shows less Antimicrobial activity and less zone of inhibition as compared to the F2 plate syrup Withaddedpreservatives,hencewehaveprominentlyusedthepreservativeinoursyrup ,theresults areshown in the photographicmanner.(28)

CONCLUSION:-

Finally present study concludes by giving a comprehensive view of herbal drugs for the Treatment of cough as crude drug as well as poly-herbal formulations are good alternatives of Modern cough drugs which are having a lot of side effects. This study also suggest the future Prospects of conducting clinical research on these polyherbal formulations as well as individual crude Drug to give the clinical evidence based strength for using these drugs in the treatment of cough. This research successfully conclude that the formulated poly-herbal anti-tussive Syrupshowsitsmaximumeffectandalsodecreaseintheseverityofcough,the goodtolerability profile Of the syrup makes it particularly useful in patients with cough. Individual ingredients of the Syrup has broad spectrum activity like anti-tussive, expectorant, anti-histaminic, bronchodilator And nasal-deconjestant anti-allergic, anti-bacterial, anti-viral supported by the Scientificstudies.Accordinglystudiesconfirmsthattheeffectivenessofthispoly-herbalsyrup daily Dose of one to two teaspoons to patients with

sore throat, hoarseness of voice and condition Like chronic bronchitis asthmatic bronchitis, and acute upper respiratory tract infection in Patents of all ages.

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