INTRODUCTION

A cough (pronunciation Latin: *tussis*) is a sudden and often repetitively occurring reflex which helps to clear the large breathing passages from secretions, irritants, foreign particles and microbes. The cough reflex consists of three phases: an inhalation, a forced exhalation against a closed glottis, and a violent release of air from the lungs following opening of the glottis, usually accompanied by a distinctive sound (Chung KF 2003) Coughing can happen voluntarily as well as involuntarily.

Coughing is an important way to keep your throat and airways clear. However, excessive coughing may mean you have an underlying disease or disorder (Chang AB 2006)

Some coughs are dry, while others are considered productive. A productive cough is one that brings up mucus. Mucus is also called phlegm or sputum (Irwin RS 2006).

**Coughs can be either acute or chronic:**

- Acute coughs usually begin suddenly and are often due to a cold, flu, or sinus infection. They usually go away after 3 weeks.
- Subacute coughs last 3 to 8 weeks.
- Chronic coughs last longer than 8 weeks (Chang AB 2006).

Frequent coughing usually indicates the presence of a disease. Many viruses and bacteria benefit evolutionarily by causing the host to cough, which helps to spread the disease to new hosts. Most of the time, coughing is caused by a respiratory tract infection but can be triggered by choking, smoking, air pollution, (Abd, E 1998) asthma, gastro esophageal reflux disease, post-nasal drip, chronic bronchitis, heart failure and medications such as ACE inhibitors.

In this research will take different multi uses plant as follows:

- Ginger (*Zinziber Officinale*)
- Tulsi (*Ocimum Santcum*)
- Jethimadh (*Glycyrrhiza Gilbra*)
- Ardusi (*Adhatoda Vasaka*)
BRIEF DETAIL ABOUT PLANTS

TULSI (Ocimum Santcum)

**Biological source**: Tulsi consists of fresh and dried leaves of Ocimum sanctum linn. (Syn. ocium tenuifloram)(Kokate C.K. et al., 2007)

**Family**: Lamiaceae. (Steven Maimes 2004)

**Uses of Tulsi in respiratory ailments**-

- Contributes generally to respiratory health- Supports healthy pulmonary function, provides bronchial support. (Steven Maimes 2004) (Kokate C.K. et al., 2007).
- Treatment of allergies- They are used in treating serious allergies including inflammatory and infectious disorders, which cause symptoms like cough and running nose. (Steven Maimes 2004) (Kuhn Merrily et al., 2007).
- Used in treating bronchial asthma- As it has bronchodilatory action and expectorant action. (Steven Maimes 2004) (Biswa N. P.et al., 2005).
- Used in cough- The actions of tulsi such as antimicrobial, expectorant and antiallergic effect it can be used in cough. (Steven Maimes 2004).
- Used in respiratory ailments such as Bronchitis and tuberculosis. (Steven Maimes 2004).
- Anti-catarrh- relieves inflammation from mucus membrane. (Steven Maimes 2004).
- Anti-phelgm- causes the breakdown of mucus. (Steven Maimes 2004).
- Used in Rhinitis- inflammation of nasal membrane. (Steven Maimes 2004).

LIQUORICES- Jethimadh (Glycyrrhiza Glbra)

**Biological source**: 
Liquorice consists of dried, peeled or unpeeled,root and stolon of Glycyrrhiza glabra linn. (Kokate C.K. et al., 2007)

**Family**: Leguminosae

**Uses of Liquorice in respiratory ailments**: 

**Coughs**: When used as cough suppressant it is as effective as codeine as but more safe than codeine.

**Colds, Flu and Bronchitis**: Licorice root has traditionally been used during colds, flu and bronchitis as an expectorant remedy to promote the expulsion of phlegm from the respiratory tract.
**Throat infections:** Its soothing effects on the mucous membranes mean that it also helps relieve the pain and inflammation of sore throats, tonsillitis and other throat infections. At the same time, documented antiviral activity may support the immune system's efforts to fight off other infections.

**Expectorant and decongestant:** Licorice is commonly taken in cough mixtures that also contain other immune-boosting, expectorant and decongestant herbs.

**Children’s cough:** In children cough liquorices is used with Echinacea combined with thyme to relieve cough. It acts by breaking up bronchial mucus.

**GINGER-(Zinziber officinale)**

**Biological source:** Ginger consists of rhizomes of Zingiber officinale Roscoe.(Kokate C.K. et al., 2007)

**Family:** Zinziberaceae. (Kokate C.K. et al., 2007)

**Uses of ginger in respiratory ailments:**
- It is helpful in Common cold and flu, fever. (O’Connell F 1995).
- It is used as cough suppressant lozenges. (Ozgen, U., 2004).
- Gives symptomatic relief in asthma. (Grange J M 1996).
- Lung congestion with phlegm. (Grange J M 1996).
- Bronchitis with copious white phlegm. (O’Connell F 1995).

**VASAKA- Ardusi (Adhatoda Vasaka)**

**Biological source:**
It consists of dried, as well as, fresh leaves of the plant Adhatoda vasica nees, syn. Justica adhatoda. (Kokate C.K. et al., 2007) (Biren Shah 2010)

**Family:** Acanthaceae. (Kokate C.K. et al., 2007)

**Uses of vasaka in respiratory ailments:**(K. P. Sampath Kumar et al., 2010)
Vasaka is a well-known plant drug in Ayurvedic medicine for respiratory tract ailments. The roots, leaves and flowers and active principles of the plant possess a number of pharmacological properties and are used in cough, chronic bronchitis, rheumatism, asthma and bronchial asthma.

Vasaka acts as an antispasmodic, bronchial antiseptic, bronchodilator and expectorant. Vasaka is a unique herb that helps to support the bronchial function with bronchodilatory, expectorant and mucolytic properties.
Bronchodilatory and respiratory stimulant: (K. P. Sampath Kumar et al., 2010)
The alkaloids of Vasaka exhibit bronchodilatory and respiratory stimulant activities, comparable with that of isoprenaline and aminophylline and has also been confirmed to be safe.
In a clinical trial involving Adhatoda vasica in combination with other herbs, the severity of coughing, frequency of coughing, efficacy of mucus discharge in the respiratory tract, nasal congestion and a general feeling of sickness, showed significantly greater improvement in patients with non-complicated acute respiratory tract infections.

Mucolytic, expectorant and antitussive: - (Caldwell S 2000), (Biren Shah 2010)
The mucolytic and expectorant properties of Vasaka reduce the viscosity of bronchial secretions and facilitate expectoration.
The antitussive activity of Adhatoda vasica extract was evaluated in a study. The results revealed that Adhatoda vasica has good antitussive activity, similar to codeine, against coughing induced by irritant aerosols.