Phyto Antitussive Medicines Affect the Cough Treatment for Covid-19's Children's Patients

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Abstract

Cough was one of the most troubling symptoms for Covid-19 s patients treated at home. Pandemic years of Covid-19 brought a novel approach to the use of medicinal plants. Cough is not only distressing to patients, but also increases the risk of community transmission by respiratory droplets. Stigmatization of patients with cough can occur, leading to social isolation, particularly during the infections with covid-19. Identifying ways to control Covid -19-associated cough could help to prevent community transmission and disease spread, as well as removing the stigma of this symptom. The aim of our survey was to know the cough treatments with Covid-19 children patients treated home with simple and moderate symptoms. The behaviors of pharmacist and doctors' community for treating these symptoms with Phyto preparations. This is a survey study conducted in open big ten network pharmacy of Tirana and to the 3 main ambulatory clinics of during of Tirana during the pandemic year 2021 for the period October -December 2021. We collected information concerning the use of antitussive medicine s in this period from a questionnaire distributed to pharmacist and doctors which consisting open and closed questions. The biostatistical expert suggested to includes a combination of original question containing both the qualitative and quantitative data to the questionnaire. Data received from the questionnaire had two type of questions 1) multiple choice and 2) open questions. Results shown that antitussive medicinal plants were preferred compare with other alternatives. Mostly of the patients used in the wrong way in terms of frequency and durations. From the total 240 patients only 195 (81.25%) has given corrects to the pharmacists or have completed all the questions. From all the plants althea officinalis was the most used with 66% followed, by thymes vulgaris 29% the rest where different medicinal plants. In conclusions is necessary knowledge to orients pediatrician for the right use of Phyto medicine. Plants Althea officinalis, Thymus Vulgaris can demonstrate the same efficacy compare with synthetic antitussive medicine, but less side effects. They must be well known through educations program. Side effects of medicinal Herbs are lower, and they may be used with their proper efficacy that they have and can use longer than synthetic ones.

Keywords: Dry Cough, Antitussive Plant, Symptoms, Efficacy, Safety

Introduction

COVID-19 pandemic, caused by the novel coronavirus SARS-CoV-2, has influenced global health since its discovery in Wuhan, China. Cough is one of the most common presenting symptoms of COVID-19, along with fever and loss of taste and smell. Cough can persist for weeks or months after SARS-CoV-2 infection the post-COVID syndrome or long COVID [Guan WJ,2019, Grant MC, 2020, Canning BJ, 2020]. The pathways of neurotropism, neuroinflammation, and neuroimmunomodulation through the vagal sensory nerves, which are implicated in SARS-CoV-2 infection, lead to a cough hypersensitivity state. The post-COVID syndrome might also result from neuroinflammatory. The mechanisms of acute and chronic COVID-19-associated cough and post-COVID syndrome, consider potential ways to reduce the effect of COVID-19 by controlling cough, and suggest future directions for research and clinical practice.

Cough is not only distressing to patients, but also increases the risk of community transmission by respiratory droplets. Stigmatization of patients with cough can occur, leading to social isolation, particularly during the COVID-19 pandemic. Identifying ways to control COVID-19-associated cough could help to prevent community transmission and disease spread, as well as removing the stigma of this symptom[Goërtz YMJ. 2020, BHP, 1996, EurPharmac. 1996]

Radix Althaea consists of the dried roots of Althaea officinalis L. (Malvaceae) used for pharmacological effects . The major chemical constituents of mucilage content ranges from 10 to 20% a mixture of acidic galacturonorhamnans, neutral glucans and neutral arabinogalactans In pharmacopeias and in traditions systems is consider a as a demulcent for symptomatic treatment of dry irritable coughs and irritations of oral and pharyngeal mucosa and other indications. Also it is used in cough mix. In pharmacology the demulcent effects of Radix Althaea are due to its high content of polysaccharide [EuePharmac, 1996, Farmacopea Polska V, 1995] hydrocolloids, which form a protective coating on the oral and pharyngeal mucosa, soothing local irritation and inflammation (Althea officinalis has an Anti-inflammatory activity thanks to A polysaccharide fraction (500mg/ml) isolated from a root extract had anticomplement activity in human serum in vitro Aqueous extracts of the roots stimulated phagocytosis, and the release of oxygen radicals and leukotrienes from human neutrophils in vitro The aqueous extract also induced the release of cytokines, interleukin-6 and tumor necrosis factor from human monocytes in vitro, thereby exhibiting anti-inflammatory and immunostimulant activity [Farmacopea Polska V, 1995]

Materials and Methods

Study design, participants. The study was based on a survey in Pharmacies of Tirana in post covid -10 patients suffering the symptoms of Covid -19's children patients treated at home. This is a retrospective study conducted in open 10 network pharmacy of Tirana during the pandemic year 2021. We collected information concerning the use of antitussive medicines in this period from a questionnaire distributed to pharmacist which consisting in ten questions dedicated for pediatric uses as antitussive medicine from herbal and synthetic ones We assessed ten pharmacies. the study population comprised pharmacist completing a 15-minute paper -based survey with a minimum 10 individuals per week for the Period October-December 2021 (12 weeks), in total 240 individuals. This study includes individuals following inclusion and exclusion criteria

Inclusion criteria

Cough dry with Covid -19's children's patients up to 14 years old

Cough dry treatments with Covid -19 children's patients with simple and moderate symptoms

Exclusion criteria

Patients that dismiss the treatment

Patients that did not reach adherence

2.1 Survey questionnaire

The participating pharmacist must complete the questionnaire We assessed ten pharmacies. the study population comprised pharmacist completing a 15-minute paper -based survey with a minimum ten individuals per week for the Period March-June 2021 (12 weeks), in total 240 individuals.

The questionnaire includes a combination of original question containing both the qualitative and quantitative data. The questionnaire was controlled by the biostatistical expert which recommend us to make two type of questions 1) multiple choice and 2) open questions.

From the total 240 individuals (parents) only 195 (81.25%) has complete the questionnaire in all questions and in time. The questionnaires were distributed by hand and received the feedback the day after. English version is written below

Questionnaire

Question 1: Gender

Question 2: Age

Question 3: Is dry cough your most disturbing symptom?

Question 4: What medications are you taking at the same time?

Question 5: Do you use herbal medicines for cough or what doctor has described?

Question 6: Do you prefer herbal or synthetic medicines for cough (OTC)?

Question 7: Which of the following medicinal herbs would you choose for your cough?

Salvia Officinalis

Laurus Nobilis

Althaea Officinalis

Plantago

Thymus Vulgaris

Question 8: Have you heard of profit or side effects of medicinal plants?

Question 9 Why you prefer herbal medicine for cough?

Question 10: Do you agree do give this medicinal herb tea for all individuals not only for children

Statistical analyses were done with SPSS 25. Descriptive statistic and frequency were two variables. Description questions were used for qualitative data. Closed questions are considering a simple descriptive statistic included frequency and distributions.

Results and Discussion

From the total 240 patients only 195 (81.25%) has complete the questionnaire. Participants has completed all the question despite been correct or not. Our participants in total were 195 were 125 were females (64%) and 70 were male (36%). The data shown in Table 1.

Table 1. Baseline characteristics

	Number	%
Gender		
Male	70	36 %
Female	125	64%
Covid-19 status		
Post Covid -19 patients cough continue	136	69.49 %
Covid patients treated home	60	30.51 %
Age		
1-5 years	78	39.74%
5-10 years	37	18.67%
10-14 years	81	41.59%

All the participants (100%) have dry cough symptoms, where 82% dry cough and 8% wet cough 10% mix cough. Their cough was caused SARS COV-2 and 68% were post Covid-19 status. Their dry cough is over 2 weeks and they have been treated earlier with the other drug. All agreed to take the Phyto medicine for caught treatment. Children 's parents accepted herbal treatments as well old patients. The results were 57.55% considered successful while 42.45% have continued the co-treatment with another medicine. All patients accepted the use of medicinal herbs for pediatric and elderly age groups, with younger ones being skeptical of their effectiveness. Only 2.45% of them admitted that medicinal herbs had side effects, while all the others admitted only their effectiveness. From all the medicinal plants althea officinalis was the most used with 66% followed, by thymes vulgaris 29% the rest where different medicinal plants .

Althaea officinalis L. (Malvaceae) is an indigenous to western Asia and Europe medicinal plant . Major chemical constituents of Radix Althea content ranges from 10 to 20% and consists of a mixture of acidic galacturonorhamnans, neutral glucans and neutral arabinogalactans . R. Althea is used as a demulcent for symptomatic treatment of dry irritable coughs and irritations of oral and pharyngeal mucosa . The demulcent effects of Radix Althaea are due to its high content of polysaccharide hydrocolloids, which form a protective coating on the oral and pharyngeal mucosa, soothing local irritation, and inflammation.

Antitussive activity is knows for R. Althea, when intragastric administration of a polysaccharide fraction, isolated from an aqueous root extract suppressed the intensity and the frequency of coughs induced by mechanical irritation of laryngopharyngeal and tracheobronchial mucosa The antitussive activity of this

polysaccharide fraction (50 mg/kg body weight) was as effective as Syrupus

Althaeae (1.0g/kg body weight), and more effective than prenoxdiazine (30 mg/kg body weight) (Nosal'ova G, 1992).

Althea officinalis cause a weak inhibition of mucociliary transport in isolated, ciliated epithelium of the frog esophagus was demonstrated after treatment of the isolated tissues with 200 ml of an aqueous root macerate (6.4 g/140 ml) . There have been great advances in our understanding of the pathways underlying cough and cough hypersensitivity [WHO monographs, 2006]. Cough is a reflex that requires minimum conscious control, occurring through the activation of peripheral sensory nerves into the vague nerves, which provide input to the brainstem at the solitary nucleus and the spinal trigeminal nucleus [Trease and Evans, 2009, WHO, 1998, WHO,1997]. The neurotropism of SARS-CoV-2 could explain the other accompanying symptoms of COVID-19 and post-COVID syndrome[Dhand R, 2020, Bisset NG, 2019, Menni C, 2020]

Conclusions

The uses for a long time for treating dry cough caused by Covid -19 children patients results more beneficial compare to other synthetic medicine for cough treatment. The population by the traditional is oriented more and more to medicinal plant, but the all the providers have to trust more and more.

It is necessary knowledge to orients individuals for the right use of medicinal herbal with antitussive effect that Althea Officinalis can demonstrate especially when they are for use for a long period of time.

Recommendations

Treating the acute and chronic cough of COVID-19 is based on available treatments and guidelines, but intensification on using medicinal plants can give more benefits and less side effect.

The educations program for developing knowledge on medicinal plant and for dry cough treatments need to be more and more efficient.

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