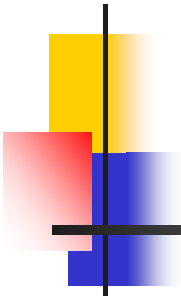


Use of Herbal Products in Asthmatic Living on the US/Mexico Border



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Abstract

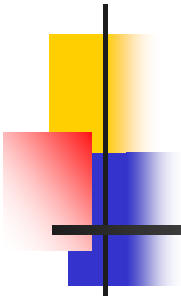
PURPOSE: To evaluate the prevalence of herbal products (HP) usage in adult, asthmatics requiring hospitalization.

METHODS: A retrospective chart review of admissions for asthma was conducted to determine HP documentation. Subsequently, a prospective, semi-structured interview analysis was conducted in patients who were admitted for asthma exacerbations for a one-year period. A bilingual interviewer was used to evaluate types and frequency of HP used specifically for the treatment of asthma.

RESULTS: A total of 67 cases were reviewed retrospectively while 60 were interviewed. We found no documentation of HP use by chart review while prospective interviews showed 41.7 % using HP. Of the 25 who used HP the most common were: oregano 28%, chamomile 20%, garlic 16% eucalyptus 12%, and lemon 12%. A total of 8 patients reported taking an HP that could possibly result in a drug interaction with an anti-asthmatic medication or could actually exacerbate the asthma. In addition, another 16 patients reported using an HP that could interact with other drugs or cause other types of adverse reactions. Of greatest concern is the use of these herbs as essential oils either taken internally or applied directly to the nasal passages.

CONCLUSION: There is an obvious lack of documentation regarding herbal product use in medical records most likely due to the fact that many healthcare providers may not be aware of the effects of herbal products. Some herbal products used in our population could actually interact with anti-asthmatic agents and/or result in compromised asthma control, therefore this information should be included in routine history examinations.

Herbal Products



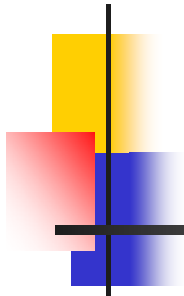
Herbal Product *	Number	Percent
Oregano^a	7	28
Chamomile^a	5	20
Ajo^{a,b,c}	4	16
Lime^a	3	12
Eucalyptus^a	3	12
Gordolobo	2	8
Coffee^{a,b}	2	8
Teas^{a,b}	2	8
Cinnamon^a	1	4
Tomillo^a	1	4
Chile	1	4

* Research for herbal contraindications and interactions by
Armando Gonzalez Stuart, Ph.D., Faculty of Zootechnics,
University of Chihuahua, Mexico

a-Herbal products that have been implicated with adverse reactions.
b-Herbal products that have been implicated with drug interactions.
c-Herbal products that could interact with a disease state.

Results

Health Care Utilization



	Retrospective (N=67)		Prospective (N=60)	
Medications				
Obtained from	No.	%	No.	%
U.S. M.D./PA/Nurse Prac	11	(16%)	30	(41%)
Mexican M.D.	1	(1%)	2	(3%)
U.S. Pharmacy w Rx	35	(52%)	15	(20%)
Mexico Pharmacy w/o Rx	9	(13%)	20	(27%)
Other	2	(3%)	7	(9%)
Unknown	7	(10%)	0	

	No.		%	
Tobacco	No.	%	No.	%
Abuse	29	(43%)	36	(60%)
Current	6	(9%)	12	(20%)
Past	23	(34%)	24	(40%)

Demographics

	*Retrospective (n=67)		**Prospective (n=60)	
Gender	No.	%	No.	%
Male	17	25	16	27
Female	50	74	44	73
Citizenship				
USA	60	90	58	97
Mexico	7	10	2	3
Ethnic Origin				
Caucasian	13	23	8	13
African American	3	5	3	5
Hispanic	38	67	49	82
Other	3	5	0	
Age (yrs) on Admission	Mean	STD	Mean	STD
	48	±16.3	48	±17.0
Age (yrs) 1st Diagnosed	Mean	STD	Mean	STD
	32	±20	32	±19
Years w/Diagnosis (yrs)	Mean	STD	Mean	STD
	16	±11	17	±15.9

*Retrospective = 2 Year Retrospectively collected data

**Prospective = 1 yr (12 month) Prospectively collected data



Methodology

- **The study was conducted on two groups,**
 - **Group 1 (N=67) was a retrospective chart review**
 - **Group 2 (N=60) was a prospective semistructure interview using a four page bilingual (Spanish and English) questionnaire.**

- **The study was approved by the Texas Tech University Health Science Center at El Paso and University of Texas at El Paso IRB.**

- **An informed consent was obtained from each patient in the prospective study.**

- **Patients were interviewed and data was collected using a 4 page bilingual (Spanish and English) questionnaire.**

- **Inclusion criteria: Patients that are 18 yrs of age and older and had a diagnosis of asthma.**

- **Primary endpoint of this study was to establish herbal product use in asthma patients.**

- **Secondary endpoint of this study was to document patterns of use of herbal products, determine herbal products that could cause negative outcomes, and determine the extent of Mexican drugs used.**

Background



- The study was conducted at R.E. Thomason General Hospital in El Paso Texas.
- Eighty percent of the population in El Paso Texas is Hispanic, primarily Mexican-American.
- NEJM 1993 - 34% of Americans use CAM (6% of participants were Hispanics).
- Herbalgram 1997 – 60 million Americans use herbs accounting for \$3.24 billion in sales.
- Dietary Supplement Health and Education Act of 1994 – allows products to be labeled with certain statements.
- JAMA 1998 – 42% of Americans use CAM (10% of participants were Hispanics). Most common CAM: relaxation techniques 16.3%, herbal products 12.1%, massage therapy 11.1%, chiropractic 11%, spiritual healing 7%, megavitamins 5.5%, (Folk remedies 4%).
- Pharmacotherapy 2002 – Almost 60% of the participants used herbal products.



Most Commonly Used Herbal Products

Herbal Product

Therapeutic Use/Adverse Reaction

Canela "Cinnamon"

Cinnamomum spp.

Tea has expectorant properties. Essential oil (from the bark) can be neurotoxic if ingested.

Eucalipto

Eucalyptus globulus

The essential oil is used to treat respiratory infections externally, but can be very toxic if ingested, causing respiratory distress. Applying the oil to the nostrils of babies or asthmatic patients can result in fatal bronchospasm.

Gordolobo "Everlasting"

Gnaphalium spp.

Employed as a tea, this herb has not shown to be toxic, although long term use has not been evaluated.

Ma Huang *Ephedra*

Sinensis

This herb should not be used in small children, as well as in asthmatic patients who are running a fever or who suffer from hypertension or anxiety.

Manzanilla or Chamomile

Matricaria recutita

Boiled flower -heads are used to inhale the vapors. Anaphylaxis, although rare, can happen in susceptible individuals.



Most Commonly Used Herbal Products

Herbal Product

Therapeutic Use/Adverse Reaction

Oregano

Origanum spp.

Tea has expectorant properties. Concentrated teas are abortifacient. Essential oil has expectorant properties applied topically. Toxic if ingested.

Tomillo "Thyme"

Thymus vulgaris

Tea has expectorant and antiseptic effect. Essential oil can be neuro-toxic if ingested.

Garlic – Ajo

Garlic's active principles interfere with platelet aggregation, potentially retarding blood clotting.

"Teas"

(type not specified)

Green tea is safe to use in moderation. Black tea (fermented green tea), may be astringent and can cause iron depletion. It may also be over-stimulating to the central nervous system due to its caffeine content.

Lemon (perhaps "lime"?)

The peel may be irritating and cause skin sensitization in susceptible individuals. Some patients suffering from migraine may have headaches if ingesting citrus fruits.



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CONCLUSION



There is an obvious lack of documentation regarding herbal product use in medical records, most likely due to the fact that many healthcare providers may not be aware of the effects of herbal products. Some herbal products used in our population could actually interact with anti-asthmatic agents and/or result in compromised asthma control, therefore this information should be included in routine history examinations. Additional research in this area should include documenting adverse reactions to herbal products and studying differences in product sources, routes of administration, and the use of essential oils.