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Original article

In-depth Report on Pharmacological Effect of Herbal Medicine and It's Formulation with Clinical and Psychological Characteristics of Patients

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ABSTRACT:
The study of herbal medicine to develop a simple survey to determine the patientpopulationactivelyutilizingdietarysupplementsand/orherbs,during the pre operative period. HMs includes herbs, herbal remedies and finished herbal products that contain plant components or other plant substances as active ingredients. During a 3-month period, surgeons and anesthesiologists consulted with all patients on their current use of traditional remedies immediately before the administration of anesthesia. A list of 16commonly used medications was made available to the patient with a questionnaire as a guide. The questionnaire records the age, gender and names of traditional medicines currently being taken. They include Design, Participants, Outcomes, Procedures, Statistical analysis. The results were analyzed using descriptive statistical analysis. Differences in the patient's sexual effects and the patient's age in the prevalence of herbal use were assessed using z analysis. P value of <0.03 is statistically significant important. A detailed analysis of performance deficits found the use of herbal remedies to be associated with female sexuality, higher education, suffering from fibromyalgia, lung disease or depression, having an internal health control center and not eating fast, while patients with back pain were unlikely to use herbal remedies. Increased patient awareness about safe HM use is important considering that most HM users are being informed by friends or the media. Depending on the quality of the product, or in the case of being taken in conjunction with other medicines, traditional medicines can cause harmful adverse reactions. HMs have become a part of traditional medicine and health care providers need to be aware of how they are used by patients and ensure that health care policies exist to improve their safety and efficacy.
Keywords: Herb, Herbal remedies, Herbal medicine, p-value.

1. INTRODUCTION

Herbal Remedies (HMs) are a subset of traditional medicines that include herbs, herbal remedies, herbal remedies and finished herbal products that contain plant components or other plant substances as active ingredients [1]. In the early 1970's, the World Health Organization (WHO) began to encourage governments to use local knowledge of HMs to detect disease [2]. In 1991, the WHO director-general emphasized the importance of medicinal plants in the health of individuals and communities in the forty-four World Health Assembly report [3]. HMs are relied upon to support, promote, maintain and restore human health; as a result, they are widely used worldwide [4-9].Over the past decade, the use of HMs and their products has increased dramatically. Because HMs, which include botanicals and plant health products are generally considered safe because of their natural origin and long-term use, they have become a popular health care item. Medicinal products in the form of medicines and dietary supplements can be purchased by consumers online and over the phone, without medical supervision [9, 10]. The availability of direct HM sales to consumers creates a potential risk of toxicity, misdiagnosis, contamination, deception, drug and food interactions, abuse and overuse of drug supplements. There has been a significant increase in the increase and consumption of nutritional supplements over the past two decades. Nutraceuticals include all herbal medicines, dietary supplements, and vitamins. Although herbal products are not restricted or are often recommended by traditional health care providers, patients seeking conventional and informal health care often use these over-the-counter products. There are more than 400 prescription and over-the-counter medicines now available or available for consumption in the Noble Ayurveda Hospital [11].

Table1: Some commonly used herbs, their adverse actions and anesthetic considerations

Herb	Adverse Effects	Anesthetic Considerations
Ginseng	Hypertension, insomnia, headache, vomiting, epistaxis, Prolonged bleeding time, hypoglycemia	Increased risk of intraoperative hemodynamic instability
Echinacea	Unpleasant taste sensation, tachyphylaxis, Potential hepatotoxicity	May potentiate barbiturate toxicity
Garlic	Halitosis, Prolongation of bleeding time, hypotension	Increased risk of intraoperative hemodynamic instability
Ginger	Prolongation of bleeding time	Increased risk of intraoperative hemodynamic in stability
Gingko Biloba	Platelet dysfunction	Increased intraoperative and postoperative bleeding tendencies. May decrease effectiveness of intravenous barbiturates
St.John'swort	Dry mouth, dizziness, Constipation, nausea	Pseudoephedrine, MAOIs, SSRIs should be avoided
KavaKava	Characteristic ichthyosi formdermopathy	Maypotentiate effect of barbiturates/benzo-Diazepines thereby causing Excessive sedation
Feverfew	Aphthous ulcers, gastrointestinal irritability, headache	Increased risk of intraoperative hemodynamic instability
Ephedra	Hypertension, tachycardia, cardiomyopathy, CVA, cardiacarrhythmias	Mayinteractwithvolatileanesthetics.,halothane,andfatalcardiacdysrhythmias.Profound intraoperativehypotension controlled with phenyl ephedrine and not pseudoephedrine.

Most patients do not disclose their use of herbal remedies to their health care providers. In part, patients often view herbal remedies as just drugs and non-prescription drugs. When introducing surgical procedures, such patients may perform a major challenge or risk for the anesthetist in responding to the unexpected anesthesia during surgery [12, 13].To date, there are no data on the incidence and prevalence of additional medication and dietary interventions among surgical patients.

The purpose of this study was to raise awareness among clinical anesthesiologists about the use of traditional medicines patients present for preanesthetic testing. Since some of these remedies are known to cause unexplained and potentially severe changes in hemodynamic intra operative, increased bleeding tendency, and other interactions of anesthetics, it is wise for the anesthesiologist to have a good understanding and understanding of these important agents.

Table 2: Pharmacological effects and potential perioperative complications of eight commonly used herbal remedies

Name of herb	Common uses	Pharmacological effects	Potential perioperative complications
Echinacea, purple cone flower root	Prophylaxis and treatment of viral, bacterial and fungal infections	Stimulation f the immune system. With long term use may be immunosuppressive [14,15].	Reduced effectiveness of immuno suppressants. Potential for wound infection with long-term use. May cause hepatotoxicity especially when used with other hepatotoxicdrugs[16,17]
Ephedra, mahuang	Diet aid	Indirectly and directly acting sympathomimetic [18].	Dose-dependent increase in heart rate and blood pressure with potential for perioperative myocardial infarction and stroke. Arrythmias with halothane. Tachyphylaxis with intraoperative ephedrine[19]
Garlic,ajo	Antihypertensive, lipid-lowering agent, anti-thrombus-forming	Inhibits platelet aggregation (partially irreversibly) in a dose dependent manner. Lowers serum lipid and cholesterol levels[20,21]	May potentiate other platelet inhibitors. Concerns for perioperative bleeding. Concerns for neuraxial blockade
Ginseng, ajo	To protect the body against stress And restorehomeostasis	Poorly understood. Possible similar mechanism to steroid hormones. Inhibits platelet aggregation(partlyirreversibly).Prolongsactivatedpartialthromboplastintime [26,27]	Potentialtoincreaseperioperativebleeding.PotentialforHypoglycemia
Kava, avapepper	Anxiolytic	Possible potentiation ofy-aminobutyric acid (GABA)transmission [28]	Potentiates sedative effects of anesthetic agents. Possible Withdrawalsyndromeaftersuddenabstinence.Recentreportsofkava-induced hepatotoxicity to the medicines control agency[29]
St. John's wort, gout weeds, amber, hardhay	Treatment for depression and anxiety	Central inhibition of serotonin, noradrenaline and dopamine.Inductionof cytochromes4303A4andP4302C 9 [30,31]	Decreasedeffectiveness ofcyclosporine,alfentanil,midazolam,lignocaine, calciumchannelblockers anddigoxin[31]

Valerian, vandalroot, allheal	Potentiates sedative effects of anesthetic agents. Withdrawal-type syndrome with sudden abstinence	Potentiation of GABA neurotransmission [32]	Potentiates sedative effects of anesthetic agents. Withdrawal-type syndrom e with sudden abstinence

***Asparagus racemosus Willd* (Shatavari):**

A potent Ayurvedic rejuvenative. It supplies many female hormones and mostly recommended for those women who have hysterectomies. It also helps to maintain urinary tract and strengthens the immune system and also purifies the blood.

***Commiphora mukul Engl.*(Guggul):**

A major ingredient in joint and immuno care and regarded as a remedy in Ayurvedic medicine; it increases white blood cell count to possess strong immuno-modulating properties. It also protects against the common cold as well as used in various other conditions like lower cholesterol and triglycerides,while maintaining the HDLtoLDLratio.

***Cyperusscariosus Br.*(Nagarmusta):**

Useful in supporting healthy genitourinary system and have hepatoprotective properties.

***Garcinia cambogia Dr* (Garcinia):**

Fruits contain biologically active compounds (−) hydroxycitric acid, which is known to inhibit the synthesis of lipids and fatty acids. HCA inhibits the enzyme ATP-citrate lyase that leads to reduce production of acetyl CoA, which is a key substance in fat and carbohydrate metabolism. Therefore, formation of LDL and triglycerides is very low. It also suppresses appetite by promoting synthesis of glycogen. That way the brain gets signals of fullness and satisfaction sooner. Garcinia contains significant amounts of vitamin C and used as a heart tonic.

***Glycyrrhiza glabraL.* (Yashtimadhu, Licorice):**

It is a versatile medicine in India and China, for gastrointestinal health. It is a mild laxative, soothes and tones the mucous membranes, and relieves muscle spasms. It is an antioxidant, cancer protecting, botanical boosting, and certain immune functions such as interferon production. Its mode of action is a sananti mutagen, preventing damage to genetic material that can eventually result in cancer.

***Gymnema sylvestre R. Br.* (Gurmarar):**

ItsSanskritnamemeansliterally"sugardestroyer,"hasaglycolyticaction, and reduces the strength of a glucose solution. It has been used in Ayurveda to regulate sugar metabolism for several centuries. It increases insulin production, regeneration of pancreas cells, and the site of insulin production. Another property is abolishing the taste of sugar, so that Gurmarar has been effective to suppress and neutralize the craving for sweets.

***Melia azadirachtaL.*(Nimba,Neem):**

It has strong health alleviating activity, used as a tonic and astringent that promotes healing. The extract has antispasmodic action. Its usage in Ayurvedic medicine for thousands of years has proved its detoxifying properties. It has shown most beneficial effects for the circulatory, digestive, respiratory, and urinary systems.

***Momordica charantia L.* (Karela,Bittermelon):**

Karela has been widely used in Ayurvedic medicine. It contains Gurmarin, a polypeptide considered to be similar to bovine insulin, and has a strong sugar regulating effect by suppressing the neural responses to sweet taste stimuli.

***Moring apterygo sperma Gaertn* (Shigru,Horseradish tree):**

Shigru contains physiologically active principles that is effective in a broad range of health needs. It contains"Pterygospermin," anantibiotic-like substance.

***Piper longum L.* (Pippali, Indian Long Pepper):**

Pippali is a powerful stimulant for both the digestive and the respiratory systems and has juvenating effect on lungs. It plays an important role in release of metabolic heat energy. This effect is the result of increased thyroid hormone level in the body. Pippali a typical Ayurvedic complementary component whose benefit is to increase the bioavailability and enhance absorption of the other active ingredients.

***Piper nigrum L.* (Maricha, Blackpepper):**

The black pepper is one of the most important spices which is widely used to amplify the body's ability to absorb nutrients contained in the food and aid the digestive process.

***Terminalia chebula Retz.* (Haritaki):**

Haritaki is a safe and effective purgative, expectorant, and tonic. It is an important ingredient of the classical Ayurvedic formulation "Triphala" which has a combination of three fruits. Tiphalpha is an important Ayurvedic medicine, which promotes health through successive steps of purification anddetoxification.Itisknowntohavestrongantimutagenicactivity, because of its very rich content vitaminC.

***Tinospora cordifolia Miers*(Guduchi):**

Guduchi is a rich source of natural vitamin C and effective in inhibiting the growth of bacteria and in building up the immune resistance and has immune-boosting ability. Use of this plant increases white blood cells the killing ability of macrophages, the immune cells responsible for fighting invaders.

***Withania somnifera(L.)Dunal* (Ashwagandha):**

In Ayurvedic medicines Ashwagandha holds a place similar to Ginseng in traditional Chinese medicinal therapies. It is also called the "Indian Ginseng." It has been used for thousands of years as a popular remedy in Ayurvedic systems for many conditions. It is one of the best health tonics and restorative agents that have been used to treat general debility.

***Zingiber officinale Rosc* (Sunthi,Ginger):**

Ginger is considered an adjuvant in many Ayurvedic formulas in which it enhances absorption and prevents gastrointestinal side effects. It is a very common spice which is used in Ayurvedic medicine o improve digestion and to prevent nausea. These properties help bowel movements and relax the muscles which control the digestive system.

Table3: Some important herbal formulations frequently used intraditional Ayurvedic system in India

Disease	Formulation's ingredients /ratio	Dose/method of use
Anemia	Shatavari	4 gm of powder is given to the patient, twice daily with water
	Ashwagandha	
	Amla	
	Fish poison	
	Doctor bush	
	Licorice	
	Indian long pepper	
Asthma	Yellow berried nightshade Indian long pepper	4 gm (one teaspoonful) of mixed powder given to the patient, twice a day (morning and at bed time)with water
	Ginger	
	White turmeric	
	Tulsi	
	Amla	
Cancer	Neem Orchid	4 gm of mixed powder should be given to the patient, twice a day (morning and night)with luke warm honey for cancer cure
	Tellicherry bark	
	Giloy	
Arthritis	Indian long pepper Yellow berried nightshade	4 gm of mixed powder should be given to the patient, twice daily(morning and evening, one hour before meals) with ginger juice for rheumatic problems
	Ashwagandha	
	White turmeric Amla	
	Castor oil	
Blood circulation	Ginger	4 gm of mixed powder is given to the patient, twice daily with water
	Indian long pepper Ashwagandha Amla	
	White turmeric	
	Tulsi	
Chronic constipation	Tellicherry bark	4 gm of mixed powder is given to the patient, at night before going to bed, with water
	Amla	
	Senna	
	Licorice	
Chronic fever	Chronic fever	4 gm of mixed powder is given to the patient twice daily before meals with water
	Giloy	
	Tulsi	
	Neem	
	Tellicherry bark	
	Indian long pepper	
	Ginger	
	White turmeric	
Cough	Amla	3gm of mixed powder should be given to the patient twice daily(morning and at night before going to bed)with luke warm mixed with honey to cure cold.
	Tulsi	
	Indian long pepper	
	Ginger	
	Neem	
Cysts	Neem Tellicherry-bark Ashwagandha Giloy	4gmofmixed(oneteaspoonful)powder is given to the patient, twice a day(morning and evening) with water
Dentaldisease	Neem Yellow palm	The powder is applied othe gums and teeth, two times
	Oak	day. Additionally, agargle of the decoction (3 gm of powder mixed in 150 ml of water)
Diarrhoea	GingerAmla	3 gm of mixed powder is giventothepatient,threetimesaday,withcurdfordysenteryanddiarrhea
	Tellicherry bark	
	Cocograss	
Dislocation of bone	Shatavari	3gm of mixed powder is given o the patient, twice a day with water for dislocation of bones and fractures
	Ashawagandha	
	Neem	
	Amla	
Diabetes	Amla Neem Gurmar	4gm of mixed powder should be given to the patient, twice a day with water
	Giloy	
Fistula	Licorice	3 gm of mixed powder should be given to the patient, twice daily with water to treat fistula
	Giloy	
	Neem	
	Ashwagandha	
Femalesterility	Shatavari	3gm of mixed powder is givento the patient twice daily, halfanhourbeforemealswithmilk
	Ashwagandha	
	Licorice	
	Amla	
	Gular	
General health tonic	Ashwagandha	4gm of powder is given to the patient, twice daily (morningandevening) with milk
	Shatavari Licorice	
	Amla	
Gastritis	Ginger	4gmof (one teaspoonful)mixed powder is given to the patient twice daily, half an hour before meals with water
	Indian long pepper Peppermint	
	Amla	
	Doctorbush	
Hair problem	Shatavari	4gmofmixed powder is given
	Ginger	To the patient, twicea daily with honey
	Ashwagandha	
High blood pressure	Ashwagandha	4 gm of powder is given to the patient, twice a day (morning and night)with honey
	White turmeric	
	Amla	

	Tulsi	
	Cocograss	
Hearttonic	Tellicherry bark Peppermint Giloy	3 gm of mixed powder is given to the patient, twice a day with water
	Amla	
Intestinal worms	Ashwagandha	3 gm of mixed powder is given to the patient, twice daily(morning and night) with water
	Indian long pepper	
Epilepsy	Ashwagandha	3 gm mixed powder is given to the patient, twice daily(morning and evening)with
	Amla	fruit juice to treat Hysteria
Leucorrhoea	Amla	3 gm of mixed powder is given to the patient, twice daily with water
	Neem	
	Betel	
	palm	
	Bhringraj	
Livertonic	Guduchi	4gm of mixed powder is given to the patient twice daily, half an hour before meals with water
	Amla	
	Tellicherry bark	
	Bhringraj	
	Neem	
	Doctorbush	
Lackof appetite	Ginger	4 gm of mixed powder is givento the patient, two times a dayaftermealswithwaterforindigestion
	Indianlongpepper	
	Amla	
	Haritaki	
	Guduchi	
	Senna	
Malesterility	Ashwgandha	4 gm of mixed powder is given to the patient, twice a day with honey
	Licorice	
	Amla	
	Ginger	
	Amla	
Migraine	Licorice	4 gm of mixed powder is given to the patient, twice a day with honey
	Neem	
	Guduchi	
	Haritaki	
	Tulsi	
	Bhringraj	
Obesity	Haritaki	4gmofpowderisgiventothe
	Amla	patient, twice a day with warm water
	Ginger	
Paralysis	White turmeric Ashwagandha	3gm of mixed powder is given to the patient, three times a day with honey
	Ginger	
	Indian long pepper	
Prostate enlargement	Guduchi	4gm of mixed powder is given to the patient twice a Day, morning and evening before meals with water
	Zygophylleae	
	Amla	
	Ginger	
	Haritaki	
Piles	Bhringraj	4 gm of mixed powder is given to the patient, twice daily(morning and at bedtime)with
	Haritaki	Water
	Amla	
	Indian long pepper	
Sleeplessness	Ashwagandha	3gm mixedpowderisgiventothepatient,at night before
	Indianlongpepper	Going to bed,with milk
	Licorice	
Skindisease	Guduchi	3gm of powder is given to the patient, twice a day before meals with water to cure allergy
	Neem	problems
	Amla	
	Tulsi	
Sexualdebility	Shatavari Ashwagandha Licorice	About 4 gm of mixed powder should be given to the patient, twice daily(morning and at night before going to bed) with
		milk
Throat disease	Haritaki	4gm of mixed powder is given to the patient twice daily, morning and at bed time with honey
	Licorice	
	Yellow fruit night shade	
	Indian long pepper Amla	
Thyroid problems	Haritaki	3gm of mixed powder is given to the patient, twice daily with luke warm water
	Licorice	
	Ginger	
Urinary tract	Ginger	4gm of mixed powder is given to the patient, twice a day with water
	Yellow fruit nightshade	
	Guduchi	
	Shatavari	

2. MATERIAL AND METHOD

During a 3-month period, surgeons and anesthesiologists consulted with all patients on their current use of traditional remedies immediately before the administration of anesthesia. The questionnaire formed part of a routine pre-surgery checklist and asked whether the patient was taking, or at some point 2 weeks ago, taking herbal medications.

A list of 16 commonly used medications was made available to the patient with a questionnaire as a guide, as not all inquirers knew about herbal remedies. However, if the

patient was taking another type of medication that was not listed this was recorded. Vitamins and minerals are not included in this study. Non-English speakers were not included in the questionnaire.

The questionnaire records the age, gender and names of traditional medicines currently being taken. In the case of patients taking such remedies, their notes are repeatedly examined to obtain any herbal prescriptions from the pre assessment clerk or part of the drug information for the anesthetic form. The results were analyzed and analyzed using descriptive statistical analysis. Differences in the patient's sexual effects and the patient's age in the prevalence of herbal use were assessed using z analysis [33].*P*-value of <0.03 is statistically significant important.

❖ **Design:**

This cross-sectional study was part of an internal quality assurance program that assessed the impact of integrated treatment outcomes on health outcomes and quality of life of patients admitted to the Department of Internal and Integrated Medicine-clinical status of patients with internal disease, using standard and complementary therapies. Seriously ill, from a Noble Pharmacy College. Although the department may attract patients who generally prefer combination therapy, patients should be referred to the department by their general practitioner. The cost of attending an integrated medicine clinic is covered by Noble Ayurveda Hospital official health insurance and private health insurance companies and as a result, treatment will not be limited to the choice of personal treatment or socio-economic status.

❖ **Participants:**

The study used a simple sample design in which all patients referred to the Department of Internal Medicine and Integrated Between December 2021 and February 2022 were invited to participate. All patients were adults who had been diagnosed with a chronic internal health condition, and were referred to the department by a general practitioner for a period of two (atleast) weeks of patient treatment. The majority of patients referred to the hospital were significantly affected by their disease status and had a history of failed treatment prior to admission. No other input or output methods were used.

❖ **Outcomes:**

Personal research, based on pencil and paper,contains 36 items, and has an average time of 30minutes.The study was designed to measure six contextual effects, each described below.

Herbal medicine use:

The Freiburg Questionnaire on Attitudes on Naturopathy was used to identify a range of complementary therapies used by participants to treat primary medical complaint prior to obtaining integrated patient care. In the analysis presented here, only the use of herbal medicines was evaluated, which asked the following question: Have you ever used herbal medicine in your primary medical complaint? (Response options: yes, no). Patients who reported the use of herbal medicine in managing their primary medical complaint were also asked: How effective was herbal medicine in your first medical complaint? (Response options: helpful, helpful, harmful).

Socio-demographic characteristics:

Participant age and gender were taken from hospital records. Additional sociological information about the level of education (i.e., undergraduate, high school graduate), employment status (i.e., full-time, part-time, unemployment), and relationship status (whether in a relationship or not in a relationship) was collected through research. These changes served as possible predictions of the use of traditional medicine, as well as the following life style measures: smoking status(i.e.,smoker,formersmoker,non-smoker),alcoholconsumption(i.e.,not eating, less than twice a week, at least twice a week), and fast food (i.e., abstinence), less than twice a week, at least twice a week).

Health status and clinical characteristics:

The patient's primary diagnosis was confirmed by a referral physician and was documented as the ICD-10 (World Health Organization) diagnostic code. In this analysis, the diagnosis was categorized:

a) osteoarthritis,
b) arthritis,
c) fibromyalgia,
d) backpain,
e) headache,
f) other pain,
g) high blood pressure,
h) heart disease ischemic,
i) irritable bowel syndrome,
j) inflammatory bowel disease,
k) pneumonia,
l) other, rare conditions.

Thepatient'sgeneralhealthstatuswasre-evaluatedona5-pointscaleandcategorizedaspoor,fair,good,very good or verygood.

Mental health:

Anxiety and depression were assessed using the 14-item Hospital Anxiety and Depression Scale (HADS). Scores from 8 to 10 points were defined as lower anxiety or depression, while 11or more points were defined as limited anxiety or depression.

Satisfaction with health and life in general:

Satisfaction with life and satisfaction with life in general were assessed using two questionnaire items for satisfaction in life. Each item included a5-point scale response set, using

1 = very unsatisfactory and 5 = very unsatisfactory. High scores were an indication of greater satisfaction with life or general health. Every patient was classified as having high (i.e., median) or low satisfaction (i.e., less median) with health and high or low satisfaction with general health.

Health locus of control:

Responseoptionsrangedfrom"stronglydisagree"to"stronglydisagree".Thetoolassessesthree aspects of a health environment (3 items each), including internal (i.e., health status seen as controlled by you), external-social (i.e., health status seen as controlled by others) and external risk (i.e., health condition is considered to be based on luck or fate). In every patient, each size was divided by the upper(i.e.,above the median) or lower(i.e., below the median).

❖ **Procedures:**

Participantswereinformedofthestudystaffwhentheyarrivedattheclinic,andaquestionnairewasthengiventoparticipantsassoonastheywereadmitted.Theparticipantinformationsheetwasaccompaniedbyaquestionnaire,whichexplainedthepurposeofthestudy,themeaningofthestudy,therightsoftheparticipant,andthecontact details of the researcher. Questionnaires are completed by the patients themselves, and then collected by the clinic staff on cecompleted by the patient a few days later while the patients are in the hospital. Relevant patient data were also collected from hospital records (as described below). Patients were free to refuse to participate in the study.

❖ **Statistical analysis:**

The square survey was used to compare social, clinical and psychological factors among patients who had used traditional medicine in their primary medical complaint and those

whohadnot.Apvalueof≤0.05wasconsideredstatisticallysignificant.

An independent variation of the use of traditional medicine (here called predictions; which note that this should not take the causal relationship) was obtained using detailed descriptive regression analysis, in which the regression method was used with Wald's statistical value ≤0.05.

Continuous variables were divided and adjusted ratings with confidence intervals of 95%calculated; p-values ≤0.05 are considered statistically significant. The factors included in the first retrospective model are limited to those found to be significant (p ≤0.10) associated with the use of herbal medicines as determined by statistical analysis.

3. RESULT

A detailed analysis of performance deficits found the use of herbal remedies to be associated with female sexuality, higher education, suffering from fibromyalgia, lung disease or depression, having an internal health control center and not eating fast, while patients with back pain were unlikely to use herbal remedies [Table 4].

Table 4: Independent predictors of herbal medicine use for the patient's primary medical implaints (Results from multivariate logistic regression analysis).

Predictor variables	p-values	Adjusted odds ratios	95% Confidence interval
Fast food abstinent	<0.001	3.00	1.73-5.22
Gender	<0.001	2.03	1.50-2.75
Lung diseases	0.017	2.00	1.13-3.52
High school graduate	<0.001	1.65	1.28-2.13
Fibromyalgia	0.007	1.65	1.15-2.36
High internal health locus of control	0.017	1.33	1.05-1.68
Subthres hold depression	0.042	1.32	1.01-1.72
Spinal Pain	0.039	0.73	0.55-0.98

Higher satisfaction with life and higher internal health control were both positively correlated with the notion that herbal remedies were useful, whereas smoking and the use of herbal medicines for headache so irritable bowel syndrome were negatively associated with thought ful relief [Table5].

Table 5: Independent predictors of the helpfulness of herbal medicine for the patient's primary medical complaints (Results from multivariate logistic regression analysis).

Predict or variables	p-values	Adjusted odds ratios	95% Confidence interval
High internal health locus of control	<0.001	3.58	2.26-5.68
High life satisfaction	0.001	2.62	1.51-4.57
Current smoker	0.008	0.48	0.28-0.83
Irritable Bowel Syndrome	0.041	0.35	0.13-0.96
Headache	<0.001	0.33	0.18-0.60

❖ **Demographic and socioeconomic data of the study population:**

A total of 400 patients completed the questionnaire, and 302 were answered appropriately for inclusion in the study. The mean age among study subjects was 37.0 (28.0-50.0) years [range18–81; 36.0 (29.0–47.0) years for HM users and 38.0 years (27.0–52.0) for non-HM users].The median age of HM users was similar to non-HM users(p=0.227).

Statistical analysis of HM users and non-users revealed that HM use was higher among women (53.4%) than men (43.2%) (p = 0.002). In addition, a statistically significant relationship was found between functional status and HM use (p=0.002). Further analysis showed that government officials are more likely to use HMs. There was also a correlation between marital status and HM use (p = 0.034). Marital status issues listed on divorce / widow / widower are less likely to use HMs.

There was no linear correlation between age groups and HM use (p = 0.063) however, there was a strong linear correlation between level of education and HM use. Higher education level in high school is likely to use HMs. (p = 0.001). There was also a strong correlation of the line between monthly family income and HM consumption. As the monthly family income increases HM consumptional so increases (p=0.001).

Table 6: Socio demographic, clinical, and psychological characteristics of patients who used herbal medicine for their primary medical complaint (herbal medicine users) and those who did not (herbal medicine on-users).

Characteristics	Herbal medicine use (n=400),%	Herbal medicine on-use (n=550),%	p-value
Age group			
Less than 30 years	6.0	5.7	0.851
30 to 39years	14.7	13.1	0.305
40 to 49years	19.8	19.6	0.956
50 to 64years	41.0	38.0	0.161
65 years or greater	18.5	23.6	0.005
Gender			
Female	84.7	75.5	<0.001
Education			
High school graduate	32.8	23.8	<0.001
Employment			
Full-time	26.5	28.1	0.450
Part-time	16.0	16.9	0.586
In a relationship	58.0	59.7	0.443
Main diagnosis			
Fibromyalgia	14.7	9.5	<0.001
Spinal pain	14.6	22.2	<0.001
Headache	11.8	11.8	1.000
Other pain	9.3	11.9	0.055
Osteoarthritis	8.8	9.3	0.759
Arthritis	7.7	5.6	0.059
Lung diseases	6.3	4.3	0.046
Inflammatory bowel disease	5.8	4.3	0.125
Irritable bowel syndrome	4.2	2.4	0.022
Hypertension	2.5	3.9	0.084
Ischemic cardiac disease	1.0	1.2	0.836
Other conditions	13.3	13.6	0.846
Health status			
Good, very good or excellent	15.0	17.8	0.085
Mental health			
Subthreshold anxiety	28.3	23.7	0.022
Threshold anxiety	35.5	35.0	0.852
Subthreshold depression	26.4	22.2	0.033
Threshold depression	22.4	21.7	0.707
Satisfaction with health/life			
High health satisfaction	70.5	72.4	0.351
High life satisfaction	82.5	84.9	0.131
Health locus of control			
High internal	62.5	55.4	0.001
High external-social	62.5	71.2	<0.001
High external-fatalistic	61.5	63.9	0.380
Smoking status			
Current smoker	17.4	22.6	0.016
Past Smoker	30.8	33.4	0.328
Alcohol use			
Abstinent	42.7	40.0	0.240
Regular use	15.0	17.8	0.095
Fast food consumption			
Abstinent	6.1	2.8	<0.001
Regular use	85.8	87.8	0.185

❖ Prevalence and types of herbal medicines used:

A total of 48.8% of subjects used HMs at least once. The various HMs used by our people are shown in [Table 7]. A wide range of methods were used, most commonly *Camelia sinensis(*14.2%), *Rosmarinus officinalis* (10.2%) and *Zingiber officinale* (9.1%). Groups of less than0.4%, with a total of 6.0%, are classified as "others" (L-Carnitin, Co enzyme-Q, Chrome, Linseed, Horse-Chestnut, Mangosteen ,Cypress,etc.)

Table7: Types of herbal medicines used.

Herbal medicine	Latinname of herbal medicine	%
Green tea	*Camellia sinensis*	14.2
Rosemary	*Rosmarinus officinalis*	10.2
Ginger	*Zingiber officinale*	9.1
Fennel	*Foeniculum vulgare*	7.5
Garlic	*Allium sativum*	7.3
Sage	*Salvia officinalis*	6.9
Other	(L-Carnitin,CoenzymeQ,Chrome,etc.)	6.0
Nettle	Urticasp.	6.0
Echinacea	Echinaceasp.	5.3
Fishoil		4.6
Vitamins		3.8
Senna	*Cassia acutifolia*	3.5
Physalis Peruviana Goldenberry		3.3
Gingko	*Gingko biloba*	1.1

Other herbal teas		2.0
Lime	Tiliasp.	1.8
Carob	*Ceratonia siliqua*	1.5
Almond oil	Prunusamygdales'oil	1.1
Ginseng	*Panax ginseng*	0.9
St John'sWort	*Hypericum perforatum*	0.7
Mango	*Mangifera indica*	0.7
Shark Cartilage		0.4
Milk Thistle	*Silybum marianum*	0.4
Horse-Chestnut	*Aesculus hippocastanum*	0.4
Black cumin	Nigella *sativa*	0.4

❖ Medical conditions and concurrent use of other prescribed medications:

A total of 38.3% of all respondents and 40.0% of HM users were simultaneously using other prescribed medications. Prescribed and commonly used drugs were used for the following diseases: high blood pressure(33.5%),psychiatric disorders(11.1%), diabetes(10.1%),respiratory system disorders(9.9%),hypercholesterolemia(9.2%),hypothyroidis m(5.4%).%), heartdiseases(3.7%),allergies(2.5%),constipation(2.5%),rheu matism(2.5%),cancer(2.2%),bloodclottingdisorders(1.6%).L essthan0.9%groupswereclassifiedas"other"drugs(5.8%).

❖ Reasons for choosing and using a HM:

Most of the patients used HMs to maintain their health. Other reasons for using HMs are shown in [Table8].

Table 8: Reasons for herbal medicine use.

Reasons for herbal medicine use	%
For maintaining health	20.8
Weakness	18.4
Weight reduction	10.4
Musculo skeletal pain	9.7
Cough and cold symptoms	8.0
Gastrointestinal discomfort	7.9
Headache	5.1
Other	3.5
Diabetes	2.9
Asthma	2.2
Fever	2.2
High blood pressure	1.8
Hair loss	1.8
Skin problems	1.5
Stress management	1.3
Painreliever	0.9
Detoxifyandprotect liver	0.7
Cancer	0.5
Quit smoking	0.4

A total of65.1% of all respondents reported visiting their physicians for the same complaint, and 61.5% used medication prescribed by a physician for this complaint. The reasons why participants chose HM instead of the prescribed drug are listed in [Table9].

Table 9: Reason for choosing an herbal medicine instead of a prescribed medicine

Reasons	%
Strengthen health	27.2
Arenotharmfulon grounds of their natural design	25.4
Has less side effects	17.0
Totally safe	10.8
More effective than medicines	10.6
Is more easily available	4.4
Is more cheaper	1.5
Other	2.9

The main source of information or advice about HM use was most likely Herbalists (57%),Pharmacy(17%),Internet (6%),Supermarket (5%),Television/Phone Order (5%),Growing Themselves (4%), Herbal medicine distributor (3%), OTC Shops (3%). (Figure 1) shows where participants found HMs.

❖ Adverse events associated with herbal medicines:

A total of 11.3% of all HM users said they had a negative impact that was attributed to HM use in the past year. The different types of side effects are listed in Fig 2.From this data,11.3%;92.2% of respondents experienced side effects 1-4 times and 7.8% reported experiencing side effects 5-8 times in the past year. When a side effect occurred, 58.8% stopped using that HM permanently, 17.6% stopped using HM until the side effects passed, 15.7% called their doctorand7.8%continuedtouseHM.Thepercentageofpatients whousedthedrugatthesametimehadatleastoneside effect of 51.0%.

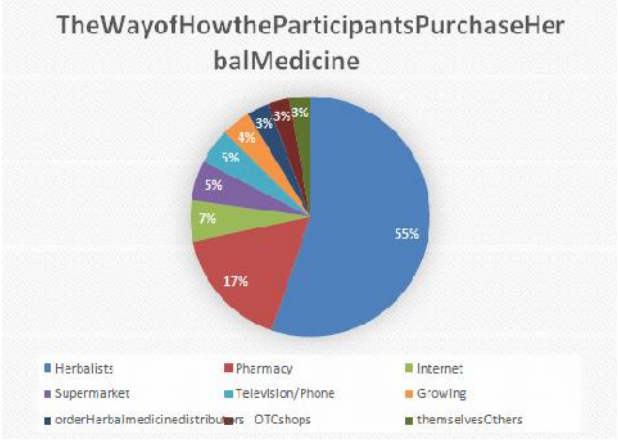

Fig 1: The way of how the participants purchase herbal medicine:

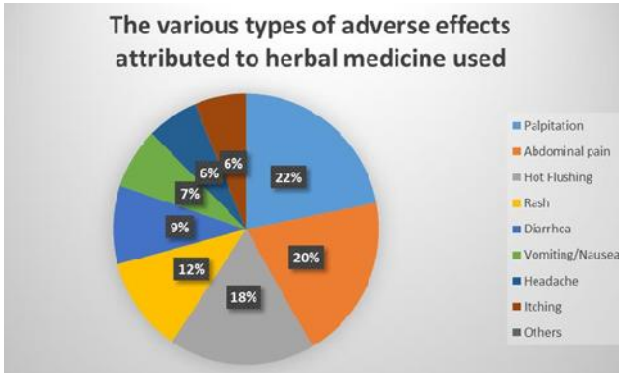

Fig 2: The various types of adverse effects attributed to herbal medicine used.

4. DISCUSSION

For the first time, this study provided basic information on the methods and application of HMs in Noble Pharmacy College. A total of 48.8% of patients in this hospital population study used HM. Little is known about the characteristics and personal reasons why HMs are preferred by adults in Noble Pharmacy College. The results also showed that those who received higher education (after high school) and higher monthly family income showed higher use of HM statistics. Our results were similar to most of the studies reporting that middle-aged women with higher education level used HMs in higher proportions [34, 35].

In our results those who have divorced / widowed / widowed are less likely to use HM. This is due to the low monthly household income. HM use is increasing [36], and demographic and socio-economic profiles of HM using population, spread and prescription drugs, reasons for HM use, a major source of recommendations and how people buy HM Time. Such changes in attitudes toward HM are also reflected in a national health survey in the US [37].

The study showed that in 2007 young adults were less likely to use herbal remedies and supplements while those over 65 years of age were more likely to use them compared to 2002 [37]. There was no study comparing HM demographic structures using population in Noble Pharmacy College over time. Our results provide data on the various stages of HM use in the same area of college poorly regulated [38].

Internet / media marketing and product advertising are difficult to control, and they can reach many people in a short period of time. Among our results the most commonly used HMs were green tea, rosemary, ginger and garlic. Green tea has been recommended in traditional Chinese medicine for headaches, body aches and pains, indigestion, depression, detoxification, as a stimulant and to prolong life. Research has been done on antioxidant, antimutagenic, anticarcinogenic, anti-hypertensive, cardiovascular effects, antidiabetic, antiviral and antibacterial properties of green tea [39]. So, these many protective effects may make green tea the first choice as a potential HM.

Studies confirming changes in the use of the remedy and the use of supplements should be done periodically. The most widely used HMs and reason for use may vary from country to country due to media effects on advertising and marketing. We also found that most HM users receive advice about HM from friends and the media(television, radio and newspaper/magazine).

Our results raise the need for more patient awareness about the safe use of HM, as many HM users have been informed by friends or the media. The impact of relatives, friends and neighbors on HM selection was reported[40].Our results were similar to the 51.4% reports in the United States[41]but lower than those reported in Nigeria which have been reported between 60% and 86% [40,42].

People who have experienced HM performance can recommend HMs to friends and family members. Friends are an important source of information and our results also reflect the great need of consumers and public education on the proper use of HMs [43].The impact of the media(13.1% television,14.2%radio, and 4.0% newspaper / magazine) was the second source of information for patients about HM. Previous studies have shown that cancer patients receive information about HM especially in the media (50.5%) and friends/family (48.4%) [44].

This can sometimes lead to problems as some media outlets may exaggerate the effect of treatment and provide misleading information [45]. Information is also received by medical doctors and pharmacists which also highlights the importance of postgraduate education.

In our study, maintaining health, improving weakness, weight loss, musculoskeletal pain, cough and cold symptoms were the most common reasons for using HM. In the USA, national studies have reported that the most common medical conditions used for herbal remedies were upper respiratory infections, arthritis, depression, musculo skeletal pain, memory development and menopause [35,46].

Our results show that 38.3%of all respondents and 40.0% of HM users were using or had used another prescribed medication with HM. Although our study did not show statistical significance between HM users and non-HM users, it has previously been reported that people taking prescription drugs are associated with higher HM use [47]. A total of 53.2% of all participants believed that HMs were harmless (25.4%), had minimal side effects (17.0%) and were completely safe (10.8%). Noble Pharmacy College study found that 71% of people agreed that natural health products are better for them than chemical or drug products [35].

Our study showed that although 56.2% of participants received their HMs from a herbalist, only 1.3%received information from these staff members, this may be a problem for her training and teaching of herbs.

Side effects related to HM use were reported by 11.3% of all HM users, and 51.0 percent of those currently using prescribed medications. Increasing reports report critical

clinical interactions between prescription drugs and supplements [48-50].

However, monitoring systems used to detect adverse reactions due to remedies are generally inadequate, found in less than 1% of all cases; therefore, adverse events due to remedies are possible and may not be widely reported [51].

Traditional medicine can cause harmful side effects depending on th equality of the product and if taken in combination with other medicines. Concomitant drug administration often makes diagnosing the cause of adverseeventsevenmoredifficultbecauseitisdifficulttodistinguishtherealcausativeagent.All in all, herbal remedies are at risk of side effects due to drug interactions with drug diets if not properly tested. Reports of serious adverse events associated with the use of these products raise questions about their safety, especially their use in high doses and/or existing illnesses [52].

The regulation and registration of herbal medicines are not well developed in many countries, and the quality of herbal products on sale is generally uncertain. This may be the cause of many bad events but it needs to be confirmed. Sometimes it can be time consuming and difficult to integrate HMs into a health care system. These delays in regulation, registration and quality control may be the reason why a bad event is seen on HMs.

This study shows that the HM site is part of health care in Noble Pharmacy College, as it is nationwide. Given these facts, HMs need to be carefully integrated into health care policies and the medical education system in order to provide better safety and effectiveness.

5. CONCLUSION

This is the first study to describe the high use of HM among adults in INDIA. About one in two people had already used or used HM last year. Authorities must ensure that there are accessible guidelines on the safety, efficiency and effectiveness of HMs. Safety should be at the forefront of the supply of medical and pharmaceutical products, and quality control is an important factor. There has been a dramatic increase in drug use in recent times, and the results of this study show that patients do not appreciate clinicians who anesthetize before their special surgery. In addition, there is little incentive, if any, for pharmacists to conduct clinical trials of these products. More than 100 deaths, related to the use of herbs, have been reported in medical journals. The literature on anesthesia, unfortunately, did not address this important issue, although the American Society of Anesthesiologists (ASA) recently commented on the neurological care of patients using herbal supplements. While research identifies a number of herbal drug use predictions-which are not the same as general CAM use predictions-it also reveals new information gaps that need further investigation. Addressing these gaps will broaden our understanding of herbal users' motivations, which will also help inform policy, practice and education programs to better meet the needs of this clinical population.

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