Original article:

Unani preparation 'Sharbat Misali' is useful as an alternate medicine to safely treat anemia: A pilot study

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Abstract:

Background: Unani Medicine had its golden past in the middle age. Allopathic medicine evolved with simultaneous exploration of modern scientific development. Discovery of chemicals and antibiotics to deal infectious disease led foundation of epitome of modern medicine. There is however growing tendency among people to show their to depend on plant source and time old preparations. It is estimated that about 80 percent of population of the Asia and African countries uses herbal medicine for health care. This scenario opened the scope and merit to evaluate the preparation(s) which people are still using and the present study tested the usefulness and safety of 'Sarbat Misali' an Unani hematinic preparation in treating anemia. ***Materials and Methods:*** A total 31 women of age 24-40 yrs were enrolled in the study following ethical guidelines. The volunteers offered the choice and were free to refuse for not being included. Anthropometry recorded and blood sample obtained for biochemical test from the consenting subjects and prescribed with the preparation. Weight recorded and blood samples taken at the baseline end of four weeks. During study period they were in touch for their allegiance to taking the test preparation. Hemoglobin was estimated using autoanalyzer. Serum creatinine and SGPT were determined by standard biochemical method using autoanalyzer. ***Results:*** Blood hemoglobin level showed significant increase at the end of the supplementation (12.03±0.82) compared to the baseline level (10.78±1.08) ($p<0.001$). Serum creatinine and SGOT did not show any statistical difference between before and after supplementation. ***Conclusion:*** Data concluded that Sharbat Misali an Unani preparation of hematinics improved hemoglobin level and safety was supported by the fact of unaltered hepatic and renal functional status, however, to conclusively comment on adverse and toxic effect(s) chronic study needs to be undertaken with attention of inclusion of exhaustive biochemical markers.

Keywords: Sharbat Misali, Unani preparation, alternate medicine, anemia, safe

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Introduction:

Unani system of medicine is one of the traditional systems of medicine had its genesis in Greece (Unan) which assumed to be stated Unani system in 5th and 4th Century B.C under the patronage of Hippocrates (Borate). The system then developed in Arab and Persian lands. Arabians introduced the practice in Indian subcontinent where it attained the zenith of scientific development[1]. The other branch of ancient healing refers to Ayurvedic medicine 'Science of long life' is 5000 year old system of Indian medicine (1000-1500 BC)[2]. This system described the use of plants and minerals to treat disease. Ebers papyrus, the ancient Egyptian records found to contain over

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850 plant medicines[3]. Most astonishing works were done by Charak and Sushruta in the first millennium BC. Sushruta Samitha contained the description of 700 medicinal plants and 64 preparation of mineral sources and 57 based on animal sources[4]. Use of plants as medicine was practiced in ancients China. The oldest Chinese record about plant medicine dates back to 5000 years BC. The then Emperor said to have documented more than 300 medicinal plants and their use[5]. Succeeding generations augmented their endeavor and by 7th century Tang Dynasty treatise on herbal medicine[6]. The Greeks and Roman also had used plants as medicine and their practice was preserved in the writings of Hippocrates provided the pattern for development of western medicine[7]. During the medieval period medical school 'Bimaristan' began to appear in the Islamic world among Persians and Arabs. Muslims physicians and botanist continued to enrich knowledge in this filed. Al-Dinawari described more than 650 plant drugs in the 9th century and later on in 13th century Ibn-al-Baitar described more than 1400 different plants, foods and drugs. Al-Baitar was credited with 300 discoveries[8,9]. Islamic scholars have introduced experimental scientific methods in the field of medicine which lead to evolve science of pharmacology. The contemporary European medicinal practice was no match to Greek-Arab advancements. Abu-al-Abbas was the pioneer in introducing experimental method and Al-Nabati introduced empirical techniques to test, describe and identify numerous meteria medica[10] which has continued for three centuries. However, this second millennium also saw the growing use of chemicals to treat the then newly evolving diseases, in particular Syphilis. Then the world saw the scientific developments in diverse arena. During this time biologists endeavored to understand the pathological basis of disease and looking for specific subjects to treat which has heralded the era of modern medicine. There has been remarkable progress in the control of infectious disease all over the world. People are often receiving treatment for different neoplastic diseases and getting surgery to correct heart ailment. Medicine has reached the era of organ transplant giving people hope to prolong life which was unthinkable in the middle of the past century and at the same time people are getting used to high calorie and process food and becoming accustomed to sedentary life style and this has increased the risk for development of noncommunicable disease (NCDs) not only in developed but also in developing countries. There is no quick fix in the treatment of NCDs and health care financial burden is increasing. Hence, although for infections and surgical causes, in fact in case of emergencies people sought advice from practitioners of modern medicine but for chronic and trivial condition(s) they opt for alternate available option.

In the face of tremendous progress of medicine, however, concern exists that most of drugs are synthetic compound and are associated with numerous side effect(s). Moreover, modern medicines are getting more and more costly and people from developing countries often face tough choice to make. According to a World Health Organization (WHO) report about 80 percent of population of the Asia and African countries uses herbal medicine for some aspect of primary health care. In US and Europe people uses herbs less in clinical setting but has become increasingly more in recent years since evidences are being accumulated for its effectiveness. Since there is increasing trend of using of medicinal plants among the people of developed countries and existing practice in Asia and African countries WHO, the specialized agency of the United Nations (UN) which is concerned with international public health, proposed Quality Control Methods for medicinal plant materials in 1998 in order to support WHO Member States in establishing quality standards and specifications for herbal materials, within the overall context of quality assurance and control of herbal medicines[11]. In the European Union herbal medicines are now regulated under the European Directive on Traditional Herbal Medicinal Products[12]. In the United States, most herbal remedies are regulated as dietary supplements by the Food and Drug Administration[13-14].

Owing to the increasing inclination of people to herbal products a big number of modern pharmaceuticals company are investing in this line. *Sharbat Misali* is one of the herbal hematinic preparations of one local pharmaceutical company and alternate medicine practitioners frequently prescribing to treat anemia.

There is obvious rational question whether this is at al correcting anemia by increasing hemoglobin level or just having a placebo action and at the same time the practitioner prescribes the product without any baseline investigation and never check the laboratory support improvement, if any. Moreover, data regarding its effect on other system are lacking. Hence evaluation the hematinic effect and investigate the side effect, if any, of the herbal preparation 'Sharbat Misali' may help the traditional and alternate medicine practitioner in their pursuit

of people's benefit. Measurement of hemoglobin was the target variable. Hepatic and renal functional status was evaluated by measurement of serum creatinine and SGPT.

Material and Methods

Selection of the subjects

Subjects visiting the Gynae OPD of Ibn Sina Medical College Hospital were requested to take part in the study with the consent of the physician. Variables of interest were measured at baseline and at the end of the course of treatment.

Detail information, nature and purpose of the study was prepared in Bangla and given to each of the patients. In necessary cases briefing was made to them by research assistant and written consent obtained from the voluntarily agreed subjects.

Study subjects

A total of 31female patients regularly seeking medicare from Ibn Sina hospital consented and recruited in the study. Those having other disease, including menorrhagia and polymenorrhea and unwilling were excluded.

Variables of interest

Variables of interest for the study were height, weight, hemoglobin levels, SGPT, serum creatinine and urea.

Ethical considerations

The volunteers were detailed about the purpose and nature of the study. They were under no pressure to comply with the request of the investigator. They were also been informed that Respondents were free to withdraw their name(s) from the study. On information volunteers consented to Since people are willingly opted to the herbal medicines. Only those volunteers were approached to participate in the study. Individual's information was coded by the principal investigator and anonymity of the individual participants was strictly maintained.

Statistical analyses

Data was presented as mean±SD and number (percent) as appropriate. Parametric and nonparametric tests were performed to calculate statistical difference as applicable. Data were managed by Statistical Package for Social Science (SPSS). P value <0.05 was taken as level of significance at 80 statistical power.

Results and Discussion

Dependency on alternate medicine is not uncommon among the people in Bangladesh and there has been growing trends among people towards this form of medicare. Thirty one volunteers completed the open ended study. Data at baseline and after the supplementation were shown in table 1 and 2. Mean age of the subjects was in mid twenties. Body weight and blood pressure of the study subjects at the start and end of the study was almost similar (Table 1) which demonstrate the consistence of the data within itself.

At the end of the study mean hemoglobin level significantly increased (12.03±0.82) from the baseline (10.78±1.08) ($p<0.001$) which is carry the important motivation in favor of use of alternate medicine. In the event of lack of scientific evaluation of alternate medicinal preparations health hazard is always a concern in its use. In this regard the present study highlights the lack of any derangements in renal and liver functional status as evidenced by similar levels of SGPT (30.4±3.6 vs 29.5±4.2 respectively) and serum creatinine (0.95±0.06 vs (0.93±0.07) the baseline and at end of the study respectively. Efficacy of any drug following its oral administration is presumed to be affected number of confounding factors in particular of gastrointestinal system related. The study subjects did not complain any gastrointestinal symptoms during the study not even revealed on examination during their visit to the investigator.

Iron preparation has also been reported to be used since Vedic period. Mineral resources were one of the natural resource used in Ayurvedic preparations from the time of Charaka. Record dates back to 2nd century which depicts the preparation 'Navayasa Lauha and Lauha Rasayana' in Charaka Samhita and used for treatment related to plaeness. The external uses of iron are also found in oil preparation (Taila Kalpana) and Varti preparations[15]. The renewed interest traditional medicine also has been evident in recent reports. Ayurvedic hematinic preparation has been test on animal and found to improve blood hemoglobin levels not having deleterious effect on other organs[16]. This highlights the necessity to systematically evaluate the traditional preparations which people are using blindly for medicare to examine the expected benefit(s) and deleterious effects it might be causing to their health.

This study is a novel example as how to approach with Unani medicine practices in the age of 'Evidence based medicine'.

Taking in consideration of possible adverse and side effect of medicinal preparations it is important that Unani products should pass through basic clinical trial procedure and stand out the prerequisile scientihc validation and contributing in human health parallel with modern medicine. Identification of active component of the traditional preparation is

also importent to understand the possible mechanism of action.

Conclusion:

It may be concluded that Sharbat Misali showed significant improvement in the hemoglobin level of the study subjects and did not show not any compromised hepatic and renal functions after the supplementation.

It is also important to find out the active ingredient(s) in these preparations and their mode of action. Moreover every Unani product better be tested for its bioavailability and deleterious effects on vital organs. Further study, however, needs to perform and checked for adverse effect of its use after substantially longer period including relatively large number of subjects. Future of Unani medicine is bright if we test every medicine in modern laboratories to evaluate it's real role to heal the claimed ailments, as well as it's effect on kidney, liver and other vital organs. At least this study was able to establish a scientific footing for to deal with Unani medicine in the age of evidence based medicine.

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Table 1: Age, weight and blood pressure of the study subjects

Variables	Baseline	Final	Range (minimum-maximum)
Age (yrs)	26.77±6.14	-	19 - 40
Weight (kg)	50.86±5.9	52.4±3.6	39 - 62
SBP (mmHg)	108±10	110±11	90 - 120
DBP (mmHg)	70±8	68±10	60 - 80

Data were expressed as mean ±SD and range (minimum-range). SBP, systolic blood pressure; DBP, diastolic blood pressure

Table 2: Hemoglobin, plasma creatinine and SGOT of the study subjects at baseline and after supplementation

Variable	Baseline	Final	*p values*
Hemoglobin (g/dl)	10.78±1.08	12.03±0.82	<0.001
Creatinine (mg/dl)	0.95±0.06	0.93±0.07	0.128
SGPT (U/L)	30.4±3.6	29.5±4.2	0.098

Data were expressed as mean±SD. Student's paired t-test was performed to calculate statistical difference before and after study P value <0.05 was taken as significant.

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