International Journal of Current Research in Medical Sciences
ISSN: 2454-5716
P-ISJN: A4372-3064, E -ISJN: A4372-3061
www.ijcrims.com

Original Research Article

Volume 4, Issue 6 -2018

DOI: http://dx.doi.org/10.22192/ijcrms.2018.04.06.002

Novel Standardization and characterization of Vedi Annabethi Chenduram

Sundari S*[1] , Thiruthani M* [2] , Essakkypandian G* [3]

[1]PG Scholar Department of Nanju Noolum Maruthuva Neethi Noolum (Siddha Toxicology) Govt. Siddha Medical College, Palayamkottai, Tamilnadu, India.

[2]HOD Department of Nanju Noolum Maruthuva Neethi Noolum (Siddha Toxicology) Govt. Siddha Medical College, Palayamkottai, Tamilnadu, India.

[3]Lecturer Department of Gunapadam (Siddha Pharmacology) Govt. Siddha Medical College, Palayamkottai, Tamilnadu, india.

Corresponding author : **Dr. S. Sundari** PG Scholar,
Department of Nanju Noolum Maruthuva Neethi Noolum (Siddha Toxicology)
Govt. Siddha Medical College, Palayamkottai, Tamilnadu, India.
E-mail :*22mardrsundari@gmail.com*

Abstract

Standardization of siddha preparations is an important task in establishing the safety and efficacy of the drug. Characterization of siddha formulation renders wide range of information in predicting the nature and structure of phyto constituents which renders the actual therapeutic efficacy of the formulation. The main aim of the present study is to standardize Vedi Annabethi Chenduram, a nano sized formulation and also to characterize the same by using Sophisticated techniques like Scanning Electron Microscope (SEM), Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-OES) and X-ray diffraction (XRD).

Keywords: Vedi Annabethi Chenduram, Standardization, Characterization, Sophisticated techniques.

Introduction

Siddha system of medicine is always remarkable due to the use of metals and minerals in their preparations. The metals /mineral drugs are treated with herbs which are given as bhasmas and chendurams. Bhasmas are fine ash obtained through incineration. Chendurams are prepared by the process of sublimation and they are very much potent medicines. They having some advantages like include better stability, lower dosage, and sustained availability

Materials and Methods

Details regarding the sample:

The ingredients of VABC are Iron sulphate and Pottassium nitrate as mentioned in Gunapadam Thathu Jeevam.

Details regarding SEM Analysis:

To evaluate the size of the particle, surface topography SEM Analysis was carried out using at SAIF, IIT Madras. The sample was mounted on specimen stab, placed inside the microscope's vacuum column evaporator and a beam of electrons passed from an electron gun, travelled through a series of magnetic lenses. The electrons are counted by detector and the signals are sent to the amplifier. The number of electrons dispersed from each spot of the sample builds up the resultant image. The micrographs obtained give sufficient data about the topography of the sample.

Details regarding ICPOES Analysis:

The Inductively Coupled Plasma Optical Emission Spectrometric analysis was done using Perkine Elmer Optima 5300 DV.

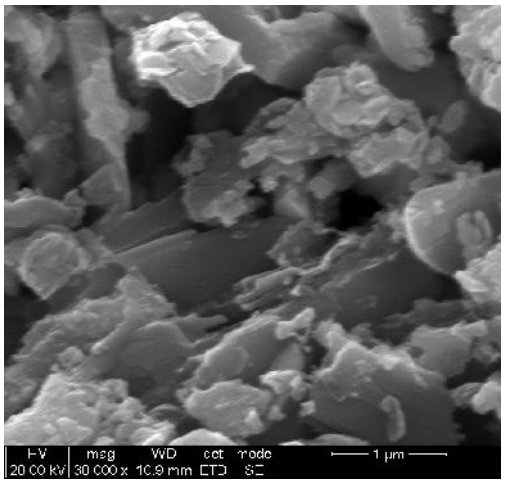
Details regarding XRD Analysis:

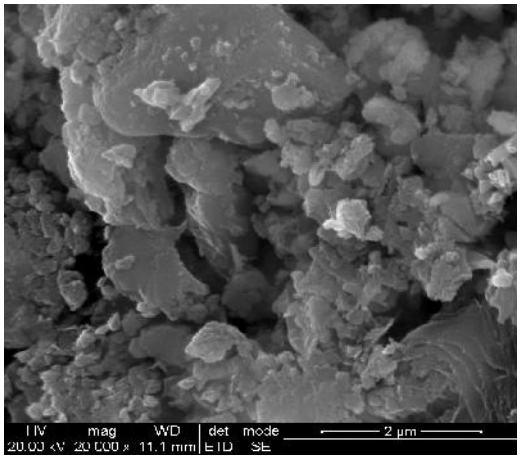
The XRD studies was done in IIT Madras by using Bruker discover D8 X ray diffractometer.

Results and Discussion

SEM Analysis:

Image of SEM analysis for VABC





The morphology of the VABC can be determined by SEM (FEI Quanta).A representative portion of each sample must be sprinkled onto a double side Carbon tape and mounted on aluminium stubs, in order to get a higher quality secondary electron image for SEM examination. We have observed from SEM photographs that particles are spherical in shapes and sizes are in the range from 0.5 micron to 2 microns. Although the particle sizes of different batches showed similarity, It seems that these particles are aggregates of much smaller particles. When dispersed in an aqueous medium, these preparations form a negatively charged hydrophobic particle suspension. This hydrophpbicity gives the particles a tendency to aggregate together to form larger particles. VABC exhibited larger sizes and agglomeration of the particles. Therefore, the comparatively larger size may be due to the agglomeration of the particles by repeated cycles of calcinations involved in preparation.

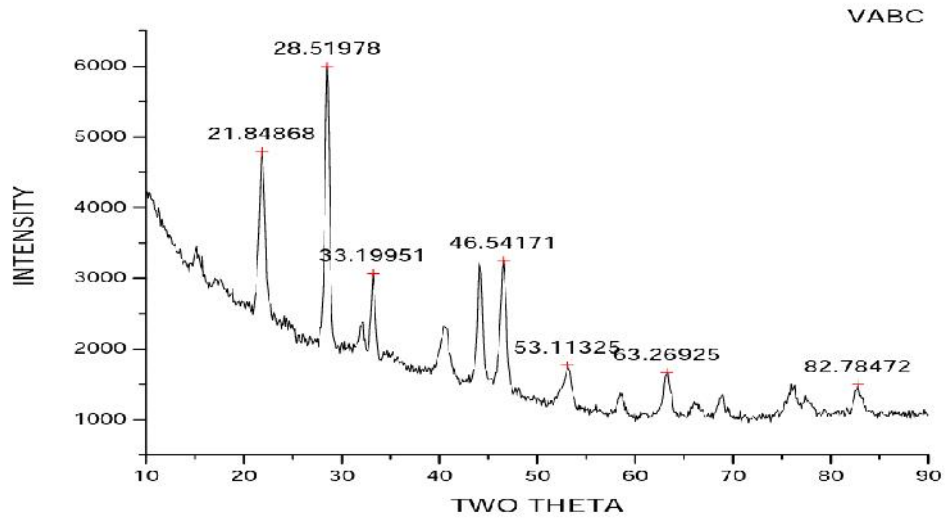
ICP – OES Analysis:

As 188.979	**BDL**
Cd 228.802	**BDL**
Cu 327.393	**BDL**
Pb 220.353	**BDL**
Ni 231.604	**BDL**
Hg 253.652	**BDL**

The heavy metals such as Mercury, Lead, Arsenic, Cadmium, Copper, Nikel are present in the sample VABC as within the WHO permissible limits. This ICPOES Analysis clearly indicates the presence and quantity of some compounds and confirms that the drug is safe for therapeutic use.

XRD Analysis:

Results of XRD



X –ray power diffraction (XRD) is a rapid analytical technique primarily used for phase identification of a crystalline material and can provide information on unit cell dimensions. The obtained XRD clearly indicates that the given sample VABC is crystalline in nature. The peaks confirms that it has ferrous compound.

Conclusion

The SEM analysis of this siddha formulation Vedi Annabethi Chenduram reveals the surface morphology of the drug. Theparticles are spherical in shapes and sizes are in the range from 0.5 micron to 2 microns. The size of the particles are present in nano in range .This confirms that the drug Vedi Annabethi Chenduram can be considered as nano medicine. So the bioavailability of the drug is more.

The ICPOES analysis confirms the presence of heavy metals such as Mercury, Lead, Arsenic, Cadmium, and Nikel are identified within the WHO permissible limits. This clearly indicates that the drug is very safe for therapeutic use.

The XRD studies confirms that the drug is crystalline in nature. Hence it ensured the efficacy of VABC established the fingerprint for standardization of the effective metal formulation.

Acknowledgements

The authors wish to thank The Vice Chancellor, The Tamilnadu Dr. MGR Medical University, Gunidy, Chennai and to Indian Medicine And Homoepathy Department Arumbakkam, Chennai and specially thank to the Principal, Government Siddha Medical College Palayamkottai.

I represent my heartful thanks to Mr. A.Senthivel M.B.A for providing necessary facilities to carry out this work.

References

1. Gunapadam Thathu Jeevam – Dr.R .Thiyagarajan B.I.M. 4TH Edition 1992.
2. K.S, Murugesa Mudhaliar, Gunapadam mooligai vaguppu3
3. T.V.Sambasivampillai , The research institute of siddhar's science vol.1
4. Novel standardization method and characterization of Ayakantha chenduram Efficient Herbal medicine for Anaemia.
5. Text book of Pathology Hasrshmohan Sixth edition
6. Dr.K.S.Narayanareddy The essentials of forensic medicine and Toxicology Third edition.
7. Rajesh bardalae principles of forensic medicine and Toxicology First edition 2011.
8. M.Nadkarni, the Indian Metaira Medica with Ayurvedic, Unani and Home remedies.
9. Iron compounds and their preparations, inorganic pharmaceutical chemistry.
10. Siddha material Dr. Anaivaarianandhan Ph.D, Dr.M.Thulasimani MD(Pharm)
11. Apurba Nandy principles of forensic medicine including Toxicology Third edition
12. Taxonomy of Angiosperms S.Sankaranarayanan M.Sc, M.Phil year of edition 2009.
13. Richa yagi, EktaMenghani , A Review on *Plumpago zeylanica* : A Compelling herb Internationl journal of pharma sciences and research vol 5 no 04 Apr2014 , page no 119p126.
14. Standardization of Aya Chenduram A Nanosized Herbo mineral siddha formulation using modern techniques.

Access this Article in Online	
	Website: www.ijcrims.com
	Subject: Siddha Medicine
Quick Response Code	

How to cite this article:
Sundari S , Thiruthani M , Essakkypandian G. (2018). Novel Standardization and characterization of Vedi Annabethi Chenduram. Int. J. Curr. Res. Med. Sci. 4(6): 12-15.
DOI: http://dx.doi.org/10.22192/ijcrms.2018.04.06.002