

Short Article

Women Tonic Toxicity and Physicochemical Studies

Raphael Nyarkotey Obu, RND, PhD

Nyarkotey College of Holistic Medicine, Tema C7, Ghana

Article History

Received: 18.03.2020

Accepted: 12.04.2020

Published: 15.04.2020

Journal homepage:

<https://www.easpublisher.com/easjms>

Quick Response Code



Abstract: *Aim:* This study was conducted to assess the toxicity and physicochemical studies of an herbal product *Women Tonic* formulated for gynecological health. *Method:* Six (6) samples of Women Tonic were sent to the Kwame Nkrumah University of Science and Technology, KNUST, Ashanti region, Ghana to the Department of Herbal Medicine for analysis. *Result:* The Product, Women Tonic have been established for quality control purposes and is safe in laboratory animals. *Conclusion:* The Product is safe for use in Ghana.

Keywords: Women Tonic, Mixture, Health, Toxicity, Herbal, Product.

Copyright @ 2020: This is an open-access article distributed under the terms of the Creative Commons Attribution license which permits unrestricted use, distribution, and reproduction in any medium for non commercial use (NonCommercial, or CC-BY-NC) provided the original author and source are credited.

METHODOLOGY & FINDINGS

Tab 1 Phytochemical and Physicochemical Study

WOMEN TONIC NAME	-	Women Tonic
Indication	-	Not stated
Active Ingredients	-	Not stated
Date Of Manufacture	-	Not stated
Date Of Expiry	-	Not stated
Batch Number	-	Not stated
Produced By	-	REDEEMER HERBAL CLINIC AND RESEARCH CENTRE LTD.
1. Organoleptic Properties		
Form	-	Liquid
Colour	-	Brown
Taste	-	Bitter
Odour	-	Characteristic
2. Physicochemical Properties		
Ph	-	5.23
Dry weight per MI	-	0.1248g
Specific gravity/MI	-	0.9998
3. Phytochemical Properties		
Reducing sugars	-	Positive
Saponins	-	Positive
Alkaloids	-	Not detected
FlavonoidsS	-	Not detected

Phytosterols	- Not detected
Terpenoids	- Positive
Tannins	- Positive

Tab 2

4. Fourier-Transform Infrared Fingerprint Of Women Tonic

Sample preparation: About 20mL of the herbal mixture was evaporated to dryness.

Instrumentation: A small amount of the dried mixture was placed on the sample area of the Bruker Fourier transform infrared (FT-IR) spectrometer and scanned between 4000-400cm⁻¹ with a resolving power of 4cm⁻¹ and a cumulative scanning limitation of 24times.

Results: Principal peaks appeared at wavenumbers 3298.57, 2931.11, 2880.77, 1107.65 and 1107.65cm⁻¹

Comments: Fourier-Transform Infrared (FT-IR) Fingerprint of Women Tonic has been established for reference.

Remarks

Characteristic physiochemical properties of Women Tonic have been established for quality control purposes.

Table 3 Acute Toxicity

Animal Species	No. of animals/group	Route of administration	Doses administered	No. of death Recorded	Approx. lethal dose	Duration of study
Sprague-Dawley Rats	18 males, 3 groups (n=6)	oral	0, 6.25 and 12.5g/kg	No deaths recorded	Above 12.5 g/kg	48h

Remarks

A volume of 750ml of the mixture was evaporated to dryness to obtain a semi-solid mass (Yield=4.53% w/v) this was reconstituted by dissolving in distilled water (2g/ml). Rats were treated with 0, 6.25 and 12.5g/kg of the test product and observed over 48hours for signs of toxicity.

None of the animals died during the study period and no signs of toxicity attributable to the test product treatment were observed. The lethal dose (LD50) of the product was estimated to be above 12.5g/kg (Table 1).

CONCLUSION

The results indicate that the LD50 of the extract from Women Tonic was greater than 12.5g/kg body weight in rats. Which can be regarded as of low toxicity in the rats.

DISCUSSION

None of the laboratory rats died in the process (Table 1). Toxicity of Herbal products are a subject of both local and international interest in the health sector as more patients turned to these remedies for their health. Toxicity of herbal products Pharmacovigilance for complementary medicines is at the gestational stage (Barnes, J. 2003). Data are lacking in several areas

relevant to safety. Standard pharmacovigilance tools have additional limitations when applied to investigating safety concerns with complementary medicines. It is therefore paramount for all herbal medicinal products to get tested and approved by the FDA in Ghana before commercialization.

CONCLUSION

The Product, Women Tonic is safe and has successfully passed the toxicological analysis conducted at the Kwame Nkrumah University of Science and Technology, KNUST, Ashanti Region, Ghana.

Conflict of Interest: None

Acknowledgement

The author thanks his staff, Mr. George Nartey and student, Philip Opey of Redeemer Herbal Clinic & Research Center for producing the product for the research.

REFERENCES

1. Barnes, J. (2003). Quality, efficacy and safety of complementary medicines: fashions, facts and the future. Part II: Efficacy and safety. *Br J Clin Pharmacol*, 55(4), 331-40.