

International Journal of Pharmacognosy and Pharmaceutical Research

ISSN Print: 2664-7168
ISSN Online: 2664-7176
Impact Factor: RJIF 8
IJPPR 2023; 5(1): 64-65
www.pharmacognosyjournals.com
Received: 09-06-2023
Accepted: 14-07-2023

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Spectrophotometric analysis of *Azadirachta indica* lotion by UV- visible spectrophotometer

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DOI: <https://doi.org/10.33545/26647168.2023.v5.i1a.55>

Abstract

Background: Through this research work standardization of *Azadirachta indica* lotion by the spectrophotometric analysis UV- visible spectrophotometer.

Methodology: The Homoeopathic medicated lotion were prepared by mixing Homoeopathic mother tincture in the aqueous base distilled water at definite drug and vehicle proportion i.e 1:9, afterwards each sample were undergoes into the UV- visible spectrophotometer for qualitative analysis.

Results: The absorbance capacity of *Azadirachta indica* Q is 0.8982 at 601.50 nm, *Azadirachta indica* lotion is 0.8988 at 466.00 nm.

Conclusion: The *Azadirachta indica* lotion gives better results in terms of absorbance capacity under UV- visible spectrophotometer.

Keywords: *Azadirachta indica*, lotion, UV- visible spectrophotometer, standardization

Introduction

Neem (*Azadirachta indica* A. Juss) is maybe the most valuable customary therapeutic plant in India. Each part of the neem tree has some restorative property and is subsequently monetarily exploitable. During the last five many years, aside from the science of the neem compounds, significant advancement has been accomplished concerning natural movement and therapeutic utilizations of neem. It is presently thought to be as an important well spring of novel normal items for improvement of meds against different infections and furthermore for the improvement of modern items. This audit gives a higher perspective chiefly on the natural exercises of a portion of the neem intensifies secluded, pharmacological activities of the neem removes, clinical examinations furthermore, conceivable restorative uses of neem along with their security assessment.

Restorative plants are a vital part of human culture to battle sicknesses, from the beginning of development. *Azadirachta indica* A. Juss (Syn. *Melia azadirachta*) is well known in India and its adjoining nations for more than 2000 years as one of the most flexible restorative plants having a wide range of organic movement. *A. indica* A. Juss and *M. azedarach* are two firmly related types of Meliaceae. The previous is prominently known as Indian neem (Margosa tree) or Indian lilac, and the last option as the Persian lilac. Neem is an evergreen tree, developed in different pieces of the Indian subcontinent. All aspects of the tree has been utilized as customary medication for family cure against different human sicknesses, from antiquity [1-6]. Neem has been broadly utilized in ayurveda, unani and homeopathic medication and has become a cynosure of present day medication. The sanskrit name of the neem tree is 'Arishtha' signifying 'reliever of ailment's what's more, subsequently is considered as 'Sarbaroganibarini'. The tree is as yet viewed as 'town dispensary' in India. The significance of the neem tree has been perceived by the US Public Institute of Sciences, which distributed a report in 1992 named 'Neem - a tree for tackling worldwide issues'. The progression of neem research has prior been documented [7, 8].

The neem tree has been depicted as *A. indica* as ahead of schedule as 1830 by De Jussieu [9] furthermore, its ordered position is as follows:

Order: Rutales Suborder Rutinae
Family: Meliaceae (mahogany family)
Subfamily: Melioideae Tribe Melieae
Genus: *Azadirachta*
Species: *Indica*

The class *Azadirachta* A. Juss which includes three types of Indo-Malayan beginning has been described in detail ^[10,11]

Materials and Methodology

- **Type of study:** Analytical study
- **Site of Study:** PIHR (Parul Institute of Homoeopathy & Research, Homoeopathic Pharmacy Laboratory, Parul University, Vadodara, Gujarat)
- **Duration of Study:** (1 week)
- **Drugs:** *Azadirachta indica* Q
- **Vehicle:** Distilled water
- **Preservative:** Sodium Benzoate
- **Preparation:** The Homoeopathic Medicated lotion were prepared by Mixing Homoeopathic Mother tincture *Azadirachta indica* Q in the Base of distilled water as (1:9) given by Pharmacopoeia.
- **Sample groups:** There are three main sample groups:
- **Standard group:** *Azadirachta indica* Q
- **Preparations:** *Azadirachta indica* lotion
- **Control group:** Distilled water

Steps for preparation

1. Measurements
2. Mixing
3. Filling
4. Labelling

Measurements: Take Drug and vehicle proportion i;e (1:9), drug is taken as 1 part whereas Vehicle is taken as 9 parts.

S. no.	Materials	Quantity
1.	<i>Azadirachta indica</i> Q	1 ml
2.	Sodium Benzoate	1 gm
3.	Distilled water	18 ml

(ml- milliliters, gm- Grams, Q- Mother tincture)

Mixing

Drug mixes in a Vehicle with continuous stirring by Glass rod until and unless homogeneity forms.

Filling

Homoeopathic Medicated lotion were kept in a hard glass bottles, which should be sterile with tight packing.

Labelling

There should be proper label on the body of bottle as per rules and regulations.

Storage

The sample should be stored under cool and dark place, away from the sunlight, dampness, and strong smelling bottles.

Results

Physical parameters

1. **Colour:** Light brown
2. **Smell:** Characteristic odour
3. **Consistency:** Clear, Visible

The absorbance capacity of *Azadirachta indica* Q is 0.8982 at 601.50 nm, *Azadirachta indica* lotion is 0.8988 at 466.00 nm.

Table 1: Absorbance capacity of *Azadirachta indica* Q

S. no.	Name of Sample	Absorbance	Wavelength
1.	<i>Azadirachta indica</i> Q	0.8982	601.50 nm

(Q- Mother tincture, nm- nanometer)

Table 2: Absorbance capacity of *Azadirachta indica* lotion

S. no.	Name of Sample	Absorbance	Wavelength
1.	<i>Azadirachta indica</i> lotion	0.8988	466.00 nm

(Q- Mother tincture, nm- nanometer)

Conclusion

The *Azadirachta indica* lotion gives better results in terms of absorbance capacity under UV- visible spectrophotometer.

Acknowledgement

Authors would like to Thanks Principal Dr B P Panda sir, Parul University for this Platform to complete my research work.

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