



## Herbal Topical Formulation for the treatment of Vaginal Infection: An Overview

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### Article info

Received: 10/01/2021

Revised: 22/02/2021

Accepted: 27/02/2021

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### Abstract

Gynecological disorders include various diseases out of which vaginal infection i.e., vaginitis commonly known as vaginal infection caused by a fungus i.e., *Candida albicans* is very common and frequent especially among Indian women's. Vaginal candidiasis is the second most common vaginal infection and it is so frequent that after using allopathic herb, female tends to use herbal medication. It accounts for a quarter and about 85-95% are due to fungus *Candida albicans*. It has been noticed and recorded that about 75% of females pursue with vaginal candidiasis once in her life time, and about 50% twice and 5% women's 4 times in a year. The present paper focused of herbal topical formulation for the treatment of vaginal infection.

**Key words:** Vaginal infection, Topical formulation, Treatment

### Introduction

Medicinal plants are a common link between the traditional and modern medical science as they are the main source of drugs and medicaments. In the early 20<sup>th</sup> century, 90% of drugs in most Pharmacopoeias were tincture extracts of pure compounds derived from the vegetable sources. During the last century various modern procedures have been adopted for the determination of biological activities of the plant extracts and the identification of active principles such as chromatographic analysis, spectroscopic estimations etc.

In the view of importance of medicinal plants as remedies to diseases, there is need of proper and documented investigation of the plants. Although medicinal plants have been used in the treatment of various disease and disorders of both animal and human from time being, but recently they are subjected to scientific studies.

It is true that not all medicinal plants are as useful as claimed traditionally, but still they have provided us a vast field to investigate and validate their folk-lore.

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Literature on herbal drugs revealed that a number of plants have been identified for the treatment of the same. A comprehensive work done by various scientist and research scholars in the treatment of women disorders were discussed below.

#### **Herbal drugs for gynecological disorders**

**Bahera (2006)** studied plants used for gynecological disorders by tribals of Mayurbhanj district, Orissa, India. In the present paper about 24 plant species belonging to 24 families were recorded which are used for the treatment of gynecological disorders. The paper enumerates part used, ethnomedicinal claims along with chemical and pharmacological actions of selected plants.<sup>1</sup> **Dwivedi *et al.*, (2008)** investigated folk lore uses of some plants by the tribes of Madhya Pradesh with special reference to their conservation. In the present paper authors has revealed about 80 plant species such as *Abrus precatorious*, *Bauhinia variegata*, *Mucuna prurita*, etc., which are used for the treatment of several disorders including gynecological disorders.<sup>2</sup> **Shukla *et al.*, (2008)** studied indigenous medicine used for treatment of gynecological disorders by tribal of Chhattisgarh, India. The present paper enumerates the use of several plant species by tribal's of region used for the treatment of gynecological disorders. It was also suggested in present paper that future studies on drug development will lead to development of several new drugs and their formulation.<sup>3</sup> **Dwivedi *et al.*, (2010)** investigated ethno-medicinal plants used to treat gynecological disorders by tribal people of Madhya Pradesh, India. The present paper deals with use of various herbs in the treatment of gynecological disorders by the tribals of Madhya Pradesh.<sup>4</sup> **Nath *et al.*, (2010)** revealed traditional knowledge on ethno-medicinal uses prevailing in tribal pockets of Chhindwara and Betul Districts, Madhya Pradesh, India. In present communication 77 plant species from Chhindwara and 50 plant species from Betul district has been identified by local peoples and used as paste, powder, juice, decoction and extract for the treatment of women disorders.<sup>5</sup> **Dwivedi and Kohli (2012)** investigated folk-lore uses of *Guizotia abyssinica* (L.F) Cass. among tribal and rural people of Madhya Pradesh. In the present paper it was revealed that the selected plant species is used for the treatment of several types of female disorders.<sup>6</sup>

**Shukla *et al.*, (2012)** studied a case study of medicinal plants used by local women for gynecological disorders in Karaikal (U.T. of Puducherry). Total 44 plants were reported to be used as gynecological disorders.<sup>7</sup> **Shrivastava (2013)** studied ethnomedicinal plants used for treatment of gynecological disorders by tribal of Dindori district of Madhy Pradesh. In the present paper several plants were recorded as claimed by tribals of the region to be used as gynecological disorders.<sup>8</sup> **Gupta and Solanki (2013)** studied Herbal folk remedies used in treatment of gynecological disorders by tribals of Simalwara region, Dungarpur, Rajasthan. In this investigation 27 species along with their medication has been reported.<sup>9</sup> **Sharma *et al.*, (2013)** studied herbal remedy for gynecological problems in ethnic communities of Jharkhand state, India. The present paper enumerates use of 30 plant species in 32 ethnic communities of Jharkhand using herbs for the treatment of gynecological problems.<sup>10</sup> **Sadeghia and Mahmood (2014)** studied Ethno-gynecological knowledge of medicinal plants used by Baluch tribes, southeast of Baluchistan, Iran. In this paper total of eighty plant species belonging to 43 botanical families were documented. It was also revealed that some of the herbs viz., *Nigella sativa*, *Pistacia atlantica*, *Anethum graveolens*, *Carum carvi* and *Trigonella foenum-graecum* have excellent results in women's disorders especially vaginal infection.<sup>11</sup> **Das *et al.*, (2014)** investigated a few traditional medicinal plants used as Antifertility agents by ethnic people of Tripura, India. This paper represents detailed profile of 55 plant including scientific name, family, common name, parts used, activities, mode of preparation and dosage. Used for the treatment of disorders including antifertility.<sup>12</sup> **Singh *et al.*, (2014)** revealed study of some ethnomedicinal plants used to cure some gynaecological disorders from Anpara-renukoot region of Sone Bhadra district. Total 24 plant species were recorded to cure gynecological disorders by tribals of Anpara-Renukoot region. In this paper plant profile along with botanical name, family, local name and parts used to cure gynaecological disorders were discussed.<sup>13</sup> **Van Andel *et al.*, (2014)** studied medicinal plants used for menstrual disorders in Latin America, the Caribbean, sub-Saharan

Africa, South and Southeast Asia and their uterine properties.<sup>14</sup>

**Das et al., (2015)** investigated the use of medicinal plants for the treatment of gynaecological disorders in the Eastern parts of India. About 100 indigenous medicinal plants have been recorded. The name of the plants, the parts used and the method of application have been investigated in details. It was suggested that in future these plant may be accessed for various active phytochemicals and pharmacological screening to formulate potent drugs.<sup>15</sup> **Singh et al., (2016)** investigated use of ethno-medicinal plants for treatment of gynaecological disorders by tribal women. The present paper enumerates the use of several medicinal plants from in the treatment of gynaecological disorders by the tribal women's of Jabalpur, Madhya Pradesh. Further studies were suggested to validate the claims and herbal drug development for treatment of such disorder.<sup>16</sup> **Laddimath and Rao (2016)** studied herbal medicine used to treat primary infertility in women by traditional practioners of Vijayapur (Bijapur) district of Karnataka, India.<sup>17</sup>

#### **Vaginal Candidiasis: A review**

Vaginal candidiasis is the second most common vaginal infection and it is so frequent that after using allopathic herb female tends to use herbal medication. It accounts for a quarter and about 85-95% are due to fungus *Candida albicans*. It has been noticed and recorded that about 75% of females pursue with vaginal candidiasis once in her life time, and about 50% twice and 5% women's 4 times in a year.<sup>18-23</sup> Some of the works done by authors are mentioned below:

**Goode et al., (1994)** studied infectious vaginitis, selecting therapy and preventing recurrence.<sup>24</sup> **Guaschino et al., (2001)** investigated efficacy of maintenance therapy with topical boric acid in comparison with oral itraconazole in the treatment of recurrent vulvovaginal candidiasis.<sup>25</sup> **Vacheva-Dobrevski et al., (2003)** investigated comparative study of itraconazole and fluconazole therapy in vaginal candidosis.<sup>26</sup> **Sovizi (2007)** studied comparison of the effect of *Nigella Sativa* suppository with clotrimazol vaginal tablet in treatment of vaginal candidiasis.<sup>27</sup> **Johnson et al., (2008)** discussed about evidence-based emergency medicine/rational clinical examination, diagnostic utility of physical examination, history, and

laboratory evaluation in emergency department patients with vaginal complaints.<sup>28</sup> **Fouladi et al., (2009)** reported the comparison of *Zataria multiflora* Boiss (Avishan Shirazi) and Clotrimazol vaginal cream in the treatment of candidiasis vaginitis.<sup>29</sup> **Akbarzadeh et al., (2010)** discussed about causes and clinical symptoms of vaginal candidiasis in patients referring to selective clinics of Shiraz University of Medical Sciences.<sup>30</sup> **Mousavi et al., (2010)** studied a comparative study on the therapeutic effect of the propolis vaginal cream and clotrimazol on candida vulvovaginitis in reproductive aged women.<sup>31</sup> **Bahadoran et al., (2011)** investigated the therapeutic effect of vaginal cream containing garlic and thyme compared to clotrimazole cream for the treatment of mycotic vaginitis.<sup>32</sup> **Roosbahani et al., (2013)** studied effect of *Myrtus communis* capsule on vaginal candidiasis treatment.<sup>33</sup> **Janani et al., (2013)** studied a comparative study of effect of myrtus vaginal cream and clotrimazol vaginal cream in the treatment of vaginal candidiasis.<sup>34</sup> **Fard et al., (2015)** studied therapeutic effects of *Nigella sativa* Linn (Black Cumin) on *Candida albicans* vaginitis.<sup>35</sup> **Kordi et al., (2015)** investigated comparison of the effect of garlic extract vaginal douche and clotrimazol vaginal cream in the treatment of women with vaginal candidiasis.<sup>36</sup> **Mehni et al., (2015)** studied therapeutic effects of *Bunium persicum* Boiss (Black Zira) On *Candida albicans* vaginitis.<sup>37</sup> **Farshbaf-Khalili et al., (2016)** discussed comparing the effect of garlic, *Zataria multiflora* and clotrimazole vaginal cream 2% on improvement of fungal vaginitis: a randomized controlled trial.<sup>38</sup> **Ballabh and Chaurasia (2011)** investigated herbal formulations of desert plants used for gynecological disorders. 12 very common types of gynecological disorders were found to be treated by traditional herbalist using eight types of herbal formulations.<sup>39</sup> **Lakshmi and Gupta (2014)** studied Ayurvedic preparations and gynaecological disorders. Several types of ayurvedic preparations were reported to be used in the treatment.<sup>40</sup> **Khan et al., (2016)** studied evaluation of toxicological profile of a polyherbal formulation. A herbal formulation formulated was evaluated for its toxicological profile and was found to be effective for the treatment of women

disorders such as menorrhagia, metrorrhagia, leucorrhea, irregular menstrual cycle, premenstrual syndrome and post-menopausal bleeding.<sup>41</sup>

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**Cite this article as:**

Gehlota S., Dwivedi S., Gupta S.K. and Shrivastava S. K. (2021). Herbal Topical Formulation for the treatment of Vaginal Infection: An Overview, *Int. J. of Pharm. & Life Sci.*, 12(2): 57-62.

Source of Support: Nil

Conflict of Interest: Not declared

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