# USE OF HERBS IN MANAGEMENT OF STD'S

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**ABSTRACT**

*The sexually transmitted disease (std) are the disease occur by the sexually intercourse mostly and they are chronic and can because of death every year millions of people of the world due to std but still the second problem is there is no drug is present that can totally cure the std so the one of the one of the oldest system ayurveda can help to management of std the ayurveda is the mostly trusted system of medicine and have seen treatment and management of various disease the teases of ayurveda can be found in ancient Indian literature the std is one of the common and deadliest disease ever but the there is not much awareness in which amount its required but this paper will help to gain basic knowledge toward the std and also give an idea about the herbal or ayurvedic management toward the std there are lots of herbs are present like berberine , eucalyptus plant are present that can help to treat or manage the std .*

**Keywords:-** *Sexually Transmitted Disease, Ayurveda, Berberine ,Eucalyptus ,Chlamydia ,etc…..*

## 1.INTRODUCTION

The sexual health of young people is undoubtedly a major concern in the physical and psychological domains, and the university population is one of the main groups at risk of infection by sexually transmitted diseases (STD's). This leads to the need to pay special attention regarding their knowledge and exposure to risk behaviours, in order to estimate possible predictors of preventive behaviours [1] In most countries, STDs are currently the most prevalent group of infectious diseases that require reporting, especially among people aged 15 to 50. In light of the high prevalence of acute infections, their socioeconomic effects, and their contribution to the spread of the human immunodeficiency virus, their control is crucial (HIV). Over 125 million cases of serious bacterial and viral STD are thought to occur each year on a global scale. [2] An estimated 374 million new cases of one of the four treatable STIs—chlamydia, gonorrhoea, syphilis, and trichomoniasis—occur year. It is estimated that more than 500 million people between the ages of 15 and 49 have herpes simplex genital infection (HSV or herpes) [3] In India, 30 million people are thought to be infected with STIs or RTIs, with half of them merely exhibiting symptoms. Numerous studies have revealed that people who have STIs considerably increase their risk of contracting and transmitting HIV during intercourse. Infections, both ulcerative and non-ulcerative, have been shown to raise this risk. There is no doubt about the risk of. HIV prevalence rates among STI patients are very high: in Andhra Pradesh they are 22.8%, in Maharashtra they are 15.2%, in Manipur they are 12.2%, and in Delhi they are 7.4%. [4]This susceptibility to STD infection is likely related to the maturational stage of early adulthood, where sexual experimentation tends to rise, as well as the presence of various barriers, such as ignorance of the std's and challenges in receiving treatment. [1]

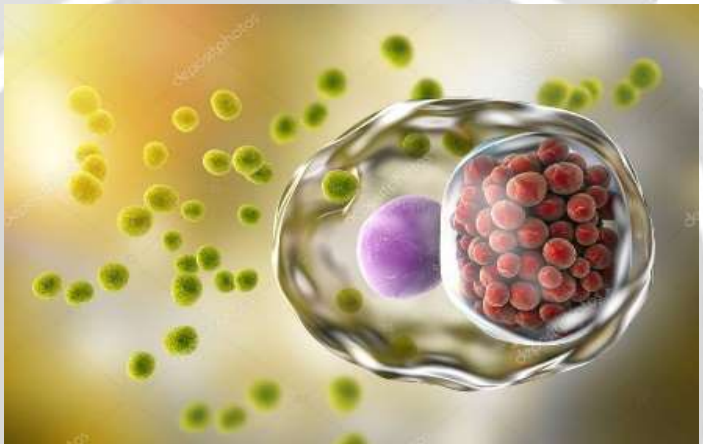
Another major obstacle to treating STDs is that there is no pharmacological therapy that can totally cure the condition at any stage of its occurrence. [5] Effective case management, condom promotion, and health education are all necessary for preventing STDs or their sequelae. [6] 7 Many AIDS and STD patients are turning to alternative medical practises like ayurveda for assistance. Without any supporting scientific data, medicinal plants have long been used to treat a variety of infectious disorders.[7]Ayurveda is a scientific tradition of harmonious life, and its roots can be found in Rigvedic and Atharvaveda wisdom from long ago. Indian traditional medicine dates back thousands of years and includes the practise of Ayurveda. Several Ayurvedic medications have been used to treat and manage a variety of human ailments. As a "tradition to trend," various medications have been manufactured and used from Ayurveda since ancient times. For better therapeutic leads, the potential of Ayurvedic medicine needs to be further investigated using cutting-edge scientific validation techniques [8]Numerous causes, including bacterial, viral, fungal, parasitic, and protozoal, might contribute to the spread of STDs. [9]

Chlamydia, herpes simplex types 1 and 2, human papillomavirus (HPV), syphilis, gonorrhoea, bacterial vaginosis, trichomoniasis, and pelvic inflammatory disease are among the most prevalent STDs [10]

## 2. DISEASES RELATED TO SEXUALLY TRANSMITTED DISEASE

### 2.1 Chlamydia

Infections of the reproductive system by Chlamydia trachomatis are among the most common sexually transmitted infections.[11] at the UK. Chlamydial infection is most common in men and women between the ages of 20 and 24 and 16 and 19. [12] The burden of disease is disproportionately high in Sub-Saharan Africa and southern and Southeast Asia, with 15 million new cases per year in Africa and 45 million per year in southern Asia. Given that a recent study in China found that 2.5% of persons between the ages of 20 and 64 have the virus, the incidence of infection across Asia may really be higher than this estimate. Recent population-based research in Britain3 found similar prevalence rates (2.1%). Infection is primarily seen in adolescents and young adults, which highlights a common epidemiological feature of C. trachomatis. Rates are almost two times higher (4.2%) among a random sample of young people (18-26 years) in the United States. [13]



The Chlamydophila genus includes Chlamydia trachomatis. These bacteria replicate inside eukaryotic cells and are gram-negative, anaerobic, intracellular obligates. Based on experiments using monoclonal antibodies, C. trachomatis divides into 18 serovars (serologically variable strains). These serovars have the following correlations with various diseases. [14]:

**Serovars A, B, Ba, and C**: A dangerous ocular disease called trachoma is widespread in Asia and Africa. It has the potential to result in blindness and is characterised by chronic conjunctivitis.

**Serovars D-K:** Genital tract infections, neonatal infections

**Serovars L1-L3:** In tropical nations, lymphogranuloma venereum (LGV) is associated with genital ulcer illness. [15]

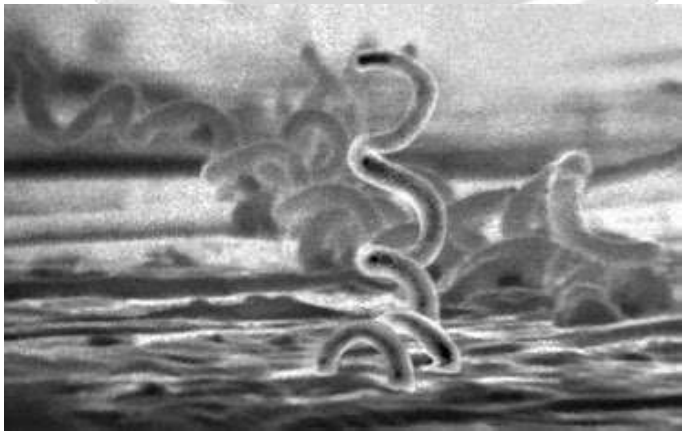
infections with genital chlamydia can be treated with berberine just as successfully as C. trachomatis. Chlamydial infections can be treated locally using vaginal depletion packs and douches that include berberine. [16]

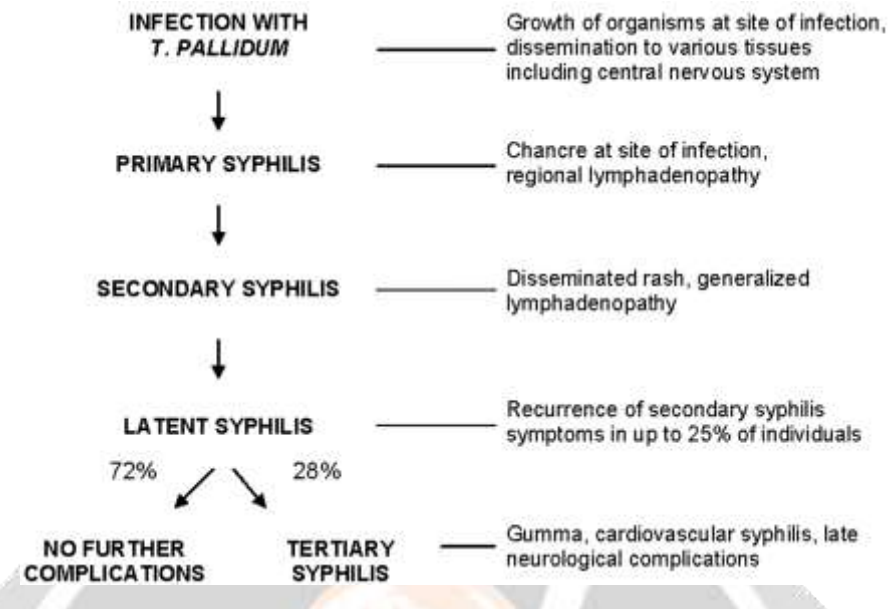
Natural yellow plant extract known as berberine has a long history of usage in Chinese and Ayurvedic medicine. It is an alkaloid found in Berberis vulgaris, Tinospora cordifolia, and many other plants' roots, stems, bark, leaves, and rhizomes. The AMPK enzyme, which controls cellular processes that balance lipid, glucose, and energy imbalances, is activated by berberine. According to studies, berberine has a number of pharmacological properties, including anti-inflammatory, anti-cancer, anti-viral, and anti-diabetic actions. For brief periods of time, berberine may be safe for the majority of humans, however it is dangerous for diabetes patients, new-borns, babies, pregnant and nursing women, and new mothers. The pharmacology and therapeutic applications of berberine are outlined in the current review [17]

**2.2 Syphilis**

Treponema Pallidum, a bacterium that belongs to the Spirochaetes phylum, Spirochaetes order, and Spirochaetosis family, is the source of the sexually transmitted disease known as syphilis. However, there are at least three additional species known to cause human treponemal diseases, including Treponema pertenue, which causes yaws, Treponema carateum, the four bacteria cannot be distinguished from one another by morphological, chemical, or immunological techniques. [18]

The several phases of syphilis were first fully defined by Philippe Rico in the middle of the 1800s. Syphilis is a multistage disease with a variety of and wide-ranging signs. Here is a schematic representation of untreated syphilis. [19]






According to the most recent estimation of the WHO, approximately 17.7 million individuals 15–49 years of age globally had syphilis in 2012, with an estimated 5.6 million new cases every year. The estimated prevalence and incidence of syphilis varied substantially by region or country, with the highest prevalence in Africa and >60% of new cases occurring in LMICs. The greatest burden of maternal syphilis occurs in Africa, representing >60% of the global estimate [20]

Soma, Due to its strong antibacterial qualities, soma is regarded as one of the most efficient traditional and herbal medicines as well as a home cure for STDS. Soma's fruit, tree bark, roots, and leaves all have significant medicinal significance, and the plant's anti-inflammatory and antibacterial characteristics will undoubtedly aid in the treatment of diseases like syphilis. Additionally, soma includes saponin, which is a mixture of phytochemicals (plant chemicals) that support the immune system, strengthen the body's defences against infection, and heal the body. [21]

The Rigveda, an old Veda text written between 1400 BCE and 900 BCE, contains the oldest recorded mention of the "Soma" plant. Its juice was once referred to as "Somarasa." It formed an offering to gods as a sacrificial drink[22]Somlata (Sarcosoma acidum Wight.&Arn.) is a perennial trailing shrub with joined branches that produces milk white latex and bears opposite leaves that are scale-like. [23] Its diameter is 0.5 to 1 cm, and the

stem's length ranges from 2 to 4 metres. The root's depth is from 5 to 8 inches, and it has 3 to 5 brownish sub-root branches. The plant blooms from July to February and produces light yellow and purple flowers. [24]

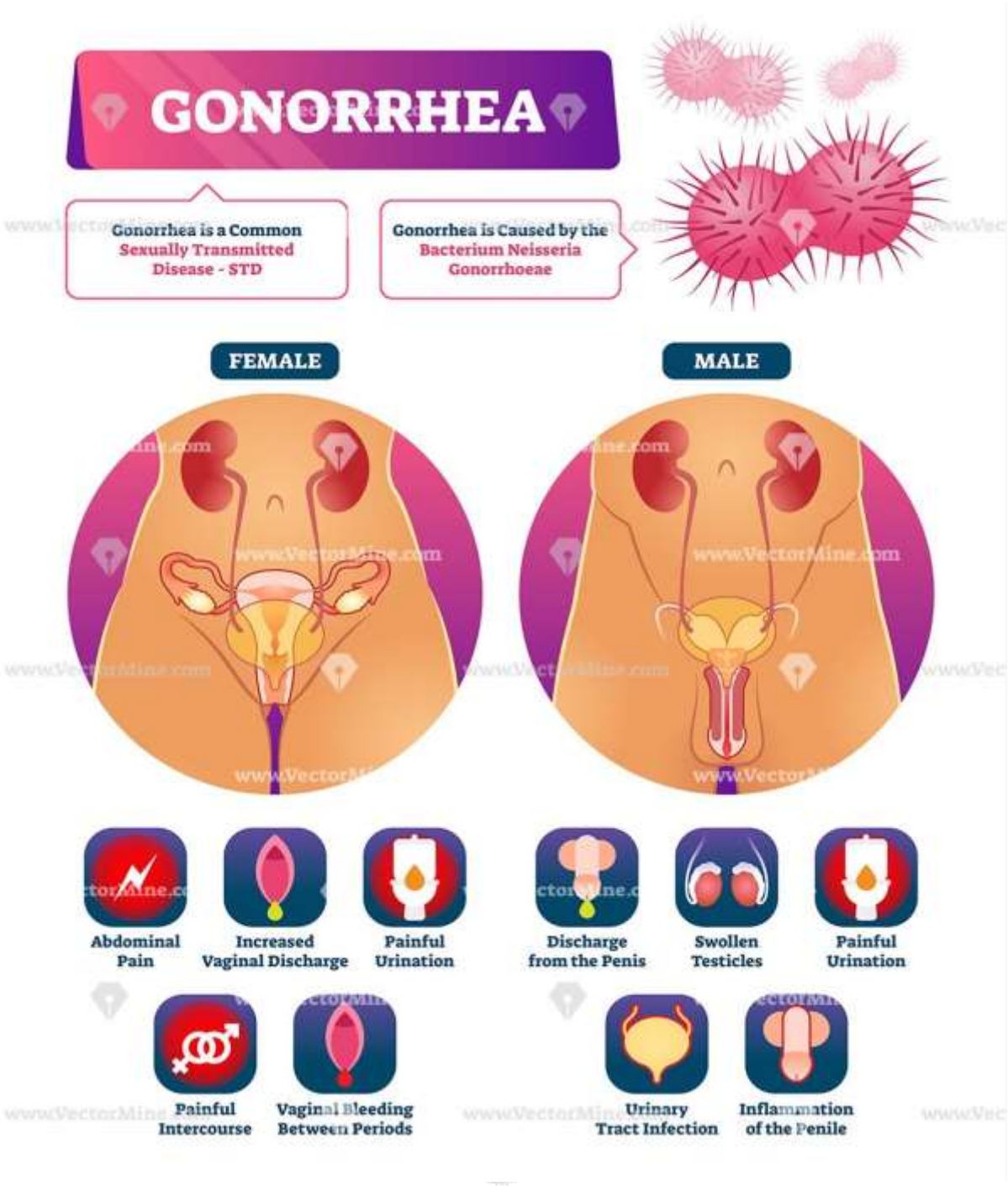
The shrub can be found all over India, Sri Lanka, Pakistan, and Europe. It is found in dry, rocky areas of the Western Ghats (Sahya Mountain ranges), Coromandel Coast, Konkan, Deccan, Karnataka, Andhra Pradesh, Tamil Nadu, Maharashtra, Madhya Pradesh, Kerala, Bihar, and Bengal. [25] [24]

The chemical makeup of the plant varies depending on where it is found and how it is distributed. The plant that grows in India's warm climate primarily contains sugar. Alpha and beta amyrins, traces of tannin, Malic acid, Succinic acid, Alkaloids, Phytosterols, and Beta sitosterol Acetate of lupeolandlupeol [24]

### **2.3 Gonorrhoea**

A sexually transmitted illness with a high morbidity burden is gonorrhoea. Despite treatment recommendations, the prevalence of the disease is rising across the globe. This is mostly caused by the emergence of germs that are resistant to antibiotics, ineffective diagnostic techniques, and inadequate sexual education [26] The chromosomal mutations N. gonorrhoeae underwent between 1976 and 1985 over a ten-year period showed remarkable genetic resilience in the development of clinically significant antimicrobial resistance. [27]

The second most typical notifiable disease in the United States is gonorrhoea. There were 330,132 new cases of gonorrhoea reported in total year 2004. According to the National Health and Nutrition Examination Survey (NHANES) and the National Longitudinal Study of Adolescent Health, respectively, the estimated national prevalence of gonococcal infection among those 14 to 39 years old was 0.25 percent and 0.4 percent, respectively (Add Health). The frequency is higher among some groups, though—for example, 2.1% of black young adults in Add Health—and in other places (5.5% of men 16 to 24 years old enrolling in Georgia's National Job Training Program). In 1994 figures, it was anticipated that gonorrhoea and PID would cost about $790 million in direct costs. [28]




**Implications**

Gonococcal infections have critical implications to reproductive, maternal and new born health including:

- A Five-Fold Increase Of HIV Transmission
- Infertility, With Its Cultural And Social Implications
- Inflammation, Leading To Acute And Chronic Lower Abdominal Pain In Women
- Ectopic Pregnancy And Maternal Death
- First Trimester Abortion
- severe neonatal eye infections that may lead to blindness [29]

Eucalyptus, specifically Eucalyptus essential oil, has antibacterial effects on some microorganisms. In general, gram-positive bacteria are more susceptible to this plant's antimicrobial actions than other types of bacteria.

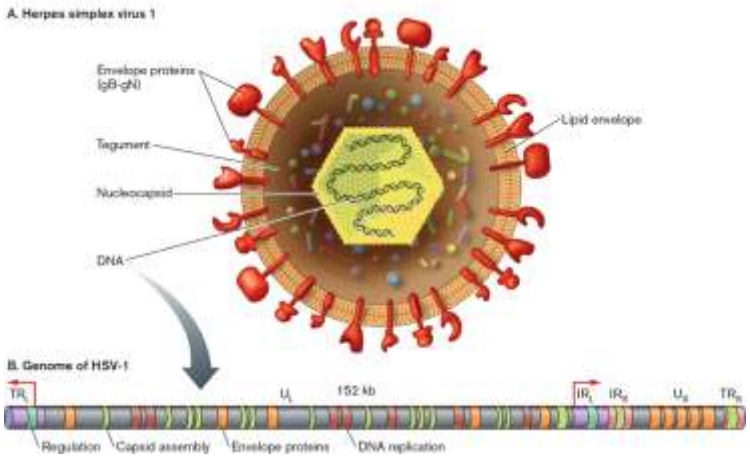
Eucalyptus has occasionally been recommended for the treatment of gonorrhoea, with extremely encouraging outcomes. [21]

The major chemical composition of *Eucalyptus globulus* are $\alpha$-pinene, $\beta$-pinene, terpenes, tannins, and so forth [30]

**2.4 Herpes simplex viruses**

Herpes simplex viruses are present in even the most isolated human groups and are spread throughout the world. Adults around the world have between 60 and 95% of either HSV-1 or HSV-2. HSV-1 is more prevalent than HSV-2, and rates rise with ageing. HSV-1 frequencies range from 70% to 80% in groups with low socioeconomic position and from 40% to 60% in groups with higher socioeconomic status. As of 2003, there were approximately 535 million people between the ages of 15 and 50 who had HSV-2, or 16% of the world's population. Sub-Saharan Africa had the highest prevalence rates and western Europe had the lowest, with higher rates among women and those living in poorer nations. In the United States, the prevalence of HVS-1 and HVS-2 infections is 57.7% and 16.2%, respectively. Blacks had an HVS-2 of 39.2% and women had an HVS-2 of 20.9 %. The most common cause of vaginal ulcers worldwide is herpes infection, and the use of HSV PCR to identify HSV infection has increased. [31]

Many herpes virus types HSV-1—can cause genital infections but mainly spreads through direct contact with saliva above the waist. In the brainstem's trigeminal ganglia sensory ganglion cells, the virus enters a latent state. Stress (physical or mental), immune suppression, menstruation and other hormonal changes, as well as environmental changes, might reactivate an infection. HSV-2—can cause oral sores but only spreads by direct intercourse below the waist. There can be transmission of either type even in the absence of obvious lesions. in the sacral or lumbar ganglia goes dormant. similar to HSV-1 reactivation Symptoms and signs Prodromal tingling or itching for one to two days may accompany the onset of painful, fluid-filled vesicles with




erythematous bases in Herpes labialis or genitals. After 5-7 days, the vesicles rupture, producing yellow-crusted

lesions that disappear without therapy 12–21 days after the outbreak starts. If an epidemic frequently affects the same location, scarring could result. The initial infection may result in systemic myalgia, fever, and more serious symptoms. In new-borns or those who have compromised immune systems, the virus can potentially lead to ophthalmitis or diseases of the central nervous system (CNS). When a patient presents in an unexpected way, viral culture, Tzanck smear, or escalating viral titers can be used to confirm the diagnosis in addition to clinical assessment. [32]

A number of the compounds found in lemon balm leaf have demonstrated anti-HSV activity in vitro. Previous research claimed that rosmarinic, caffeic, and ferulic acids were in charge of inhibiting HSV-1 activity. [33]More recently, it has been demonstrated that the terpenoids in lemon balm prevent HSV-2 proliferation. [34]

**2.5 Bacterial vaginosis**

About 21 million people in the United States alone suffer from bacterial vaginosis, often known as Gardnerella vaginitis. After therapy, this illness frequently recurs, with symptoms returning in 50% of women within a year. This syndrome has been linked to pelvic inflammatory disease, according to some study, and puts women at risk for HIV and other STIs.[35]The most frequent cause of vaginal discharge and odour in women is bacterial vaginosis, which affects 29% of all females. The following are risk factors

- Douching regularly
- Smoking
- Multiple partners
- No use of condoms [36]


The following herbs which are used in the management of bacterial vaginosis [37]

| Herbs and their parts | Type of extract | components | Type of vaginitis |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Tea tree oil (melaleuca alternifolia) | Oil | Terpinen-4-ol, α-terpineol, linalool, α-pinene, and β-pinene | BV, Candidiasis, and Trichomoniasis |
| Garlic (allium sativum) | Aqueous | Allicin, alliin, and ajoene | BV and Candidiasis |
| Persian shallot (allium Hirt folium) | Alcoholic | Allicin, alone, | BV, candidiasis, and Trichomoniasis |
| Zakaria multiflora | Oil and cream | Carvacrol, thymol carvacrol, and linalool | Carvacrol, thymol carvacrol, and linalool |
| Goldenseal (hydrates canadensis) | | Hydrastine, berberine | BV, candidiasis, Trichomoniasis |

**3. Conclusion**

Several factory excerpts and their ingredients retain exertion against sexually transmitted conditions indicating their huge eventuality as an effective measure for forestallment and treatment of STDs including AIDS. Plant deduced microbicides and plantibodies are some of the new approaches for forestallment of HIV and other sexually transmitted pathogens. Herbal drugs can be developed as a safe, effective and provident volition to medicines presently approved for characteristic treatment of STDs.

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