Chapter 2  Review of Literature

This chapter will explore the literature that is relevant to understanding the development of medical textiles and interpreting the result of this convergent study. Main aim of this chapter is to review the newest trend and development in the field of medical textiles and how can we cure the skin diseases with the help of textiles, with the objective to identify those alternative or approaches that make this type of camisoles for the treatment of back acne by surface contact which are environmental, economic, technological and scientific point of view. In this Chapter resent progress in the field of medical textiles, Ayurveda will be described, with special emphases on application of herbs on camisoles for treatment of back acne. In the 1st review related to medical textiles has been describe and in the second phase review related to herbs has been described.

1. Herbal treatment of acne:- various synthetic drugs medicated fabrics are available in market but them having their own side effects. From the decades herbs are considered as the safe and effective medicine for various diseases. Herbs are present abundantly in our environment, various synthetic drugs have been applied on the fabric as finishes in the textile mill but they harm the human body. Now days herbal finishes has been applied on the fabric to make the fabric antimicrobial. With this research attempt has been made to cure back acne by developing antibacterial camisoles by applying herbal extracts. Medicated garments have been used for the treatment of various skin disorders. Basically medicated fabrics in been used in hospitals some of medicated textile products are surgical gowns sanitary pads, sutures, bandages, wipe outs etc.

2. Herbal application in textiles.

Thilagavathi and Krishna Bala 2007 author has discovered that microencapsulated herbal extracts possess very good resistance for microbes even after the 15 wash. Antimicrobial finish has been imparted to the cotton fabric by the direct application method and by the microencapsulation using pad dry cures method. To enhance the durability of the antimicrobial finish to the number of washes, the microencapsulation of herbal extracts has been done by phase separation/coacervation. Microcapsule has
produce using herbal extracts as core and acacia as a wall material. The structure of microcapsules has been evaluated using light microscopy with image analysis technique.

[1] Sathianarayana et al. 2010 author has founded that herbal extracts from Tulsi leafs and Pomegranate when applied on the cotton fabric it act as a good antibacterial finish, four methods has been used for the application of the finish on the fabric direct application method (pad dry cure method), micro-encapsulation, resin cross-linking and their combination all the treatment show good washing durability up to 15 washes except direct application method. Direct application method can use in the surgical cloths like sanitary napkins, bandage gauze which do not need to be washed. In resin cross-linking and microencapsulation treatment a slight decrease in crease recovery angle and tensile strength but in the combination method no significant changes was seen.[2]

Minakshi 2010 has discovered that Ayurvedic textiles direct us to a new way of living, chemical and disease free and healthy life. Ayurvastra is eco-friendly and life sustain. Allopathic medicine treats the symptoms whereas Ayurveda deals with the basic causes. Ayurveda has proven a boon. To cure various skin disease various herbs extracts is being used like Aloe Vera, Henna, Golden Champa, and Neem etc. Ayurvartra is of two types one is to cure the disease and second one is for the well being. The synthetic clothing will not be degrade for 200 years but Ayurvastra will break down without damaging the environment that’s why it is called as eco-friendly and it is having healing properties which is good for human body various synthetic dye create irritation to human body.[3]

Adivarekar et al. 2011 have discovered that Application of herbals extracts on cotton opens up new avenues for herbal as well as Textile industry i.e. it is clean room fabrics, as herbal treated garments can be used in medical gown, inner wears, bandages, operation theater fabric etc. the extracts of Amla, Myrobolan, Garlic, Tulsi, Neem and Turmeric impart excellent antimicrobial property when applied alone, as well as in combination other extracts like Henna, Aloe Vera, Banyan leaves and Peepal leaves does not impart excellent antimicrobial properties. [4]

Dr. Jayalakshmi and Manjusha 2011 has founded that 100%cotton herbal medicated fabric control and cure various diseases without causing side effect when medicinal
product combined with herbal extracts. The study proves that the herbal treated cloth has the ability to protect us from various skin diseases and provide relief from viral infected disease and mental depression since the herbal treated cloth or garment come in prolong contact of the body. The medical products with herbal finish are eco friendly; free from pollutants and chemical hazards. In this study inner wear has been prepared for skin rash on the back the innerwear is medicated will the various herbs Neem and Aloe Vera are two of the herbs which is being used in this research anti allergic test conducted for skin rash proves that the material had no irritant reaction to human skin. Anti fungal test which was also conducted for skin rash clearly shoes that the treated material had 13 per cent of fungal reduction. [5] 

Rangari et al. 2012 author hasfounded that Ayurvastra is the branch of Indian ancient form of medicine, which is known as Ayurveda. The scope of Ayurvastra is endless and it is the way to keep healthy .It is used by the Ayurvedic health clinic to cure various skin disorders, high blood pressure, diabetes, eczema, psoriasis, hypertension, cardiac problem, asthma & insomnia. Ayurvastra do not add up the global warming but helps in minimizing it. Chemical dyes are used by the textile industries which are having a very bad effect on human skin and immune system. The most effective time to wear the Ayurvastra is during meditation and sleep. [6] 

Mahesh et al. 2011 author has founded that the antibacterial efficiency of Neem and Turmeric coated fabric is less effective then Pomegranate it is may be due to its binding properties. This study show that coated fabric show anti bacterial properties against gram negative bacteria. The wash durability of the treated fabrics was found to be 5 wash, for gram positive and negative bacteria the reduction value reaches to 33.23% and 24.31%.for the coating exhaust method found to be effective then dip coating method. This technique can be used in textile industries as an antimicrobial finish for both gram positive and negative bacteria. [7] 

Chandrasekaran et al. 2012 Author has found that herbal treated fabrics are able to cure various diseases like allergic dermatitis, psoriasis, asthma, liver disorder, headache, joints pain, sinus trouble/cold. In this research 16 medicinal plants were taken like Neem Turmeric, Holy basil, Sandal wood etc and 7 garments were developed by the combination of the herbs for the construction of the garments 100% plain weave cotton
and knitted has been taken then the fabric is being dyed with the herbs. The study is an alternative of drug delivery which minimizes the side effects of the herbal extracts by oral route these fabric are eco friendly. [8]

**Ganesan et al. 2012** author has founded that herbal treated fabric is able to cure various skin disease like scabies, seasonal skin disease, urticaria, eczema and inflammation skin disease. Microencapsulation of herbal extract of Aloe Vera, Bitter Guard, Cuminum Cyminum and Ginger simple technique using herbal extract as core material and gum acacia as wall material its application on the fabric with pad dry cure method. Author observed that ginger was having excellent and good result for the seasonal skin allergy and scabies (95%) (90%), Bitter Guard having average result for urticaria (60%), Aloe Vera having good result for the inflammation skin disorder (90%) and Cuminum Cyminum was having poor result for the treatment of eczema. Thus with research author has founded that Cuminum Cyminum is not having a good effect on the treatment of eczema on the other hand ginger is very much beneficial for the treatment of seasonal skin allergy and scabies.[9]

**Saluja Mohit 2012** has explained that the concept of dyes that are natural improves the wearer health. Ayurvastra is an eco-friendly that is truly free from chemicals, life sustaining and naturally dyed apparels and the color are made from medicinal botanical herbs. With the help of Ayurvastra we can cure various skin disorders, high blood pressure, diabetes, eczema, psoriasis, hypertension, asthma & insomnia because herbs dye fabric having the ability of healing and act as absorber through skin. Medicinal value of the cloth increases when it is bleached with the cow urine. Further it is a fabric which boosts up the energy, mood enhancer, blood purification and cooling. It is free from chemicals which beneficial for environment as well as for the human body. It is time for the Indian Government & textile industries to encourage & support this precious heritage of India. [10]

**Malpani 2013** has concluded that the protective aspect of textiles have provided the most textile ground for innovative development. Hygiene is most important in today scenario fragrance become the most important factor. Unpleasant odor comes out from the body due to perspiration. So consumers look for the good odor and microbial problem and this can be achieved by the anti microbial finish. Antimicrobial finish is been applied on the
fabric by using the Neem oil, Aloe Vera and Tulsi extracts it has been observed by the author that herbal finish with 10% Neem oil show 56% reduction against S. aureus and 95% against E.coli whereas on the other hand the fabric treated with Aloe Vera gel 10% show 86% reduction against S. aureus and 95% against E.coli. The 100% Neem oil treated fabrics reduced to 65% and 96% of S.aureus and E.coli. With the results author has revealed that Aloe Vera is having excellent antibacterial efficiency as compare to the Neem oil and Tusli in case of E.coli. [11]

**Nan Thazin Hein et al. 2013** author has discovered that Aloe Vera is having antimicrobial properties. When the extract is being applied on the surface of the fabric no bacterial growth has been found (B. subtilis, Pseudo, B. pumilus and E. coli) from six bacteria. While no activity was observed for S.aureus and candi. There was slight difference in the physical properties of the bleached treated cotton fabric and bleached untreated fabric. [12]

**Hooda et al. 2013** author has discovered that Aloe Vera treated scoured fabric show (96.70%) excellent antimicrobial activity then Aloe Vera treated grey fabric (68.50%) because scouring improves absorbency power and it was reveals that scoured Aloe Vera fabric was able to withstand upto 20 washes and after 20 washes also it is effective about (77.37%) against the bacteria’s. In this research methanol Aloe Vera extract was prepared with maceration method the application of the extract on the fabric was pad dry cure method. The weight add on percentage in the scoured Aloe Vera fabric was (10.21%) and in the grey Aloe Vera fabric was (9.94%). Aloe Vera extract is antimicrobial finish and it can be applied on the fabric as herbal antimicrobial finish. [13]

**Veena and Vimalni Heena 2013** author has reveal that methanol extracts of Tulsi have got the antibacterial activity against the Methicillin Resistant Staphylococcus aureus. Herbal extract of Tulsi is being applied on the cotton knitted fabric by direct application method it has been observed that Tulsi leave extract having antimicrobial properties when applied on the fabric it beneficial for the textiles industries to develop medicated fabric for the treatment of skin disease ,asthma and malaria. The study also reveals that antimicrobial efficiency of Tusli contains large amount of carotenoid and the carotenoid which was present in the extract help in healing of staphylococcal scaled skin syndrome. [14]
Hooda et al. 2013 author has founded that when Aloe Vera leaf extract was applied on the grey wool fabric with pad dry cure method then add on weight was 4.35% with 3g/l which increased to 6.88% with 5g/l concentration on the other hand when Aloe Vera extract was applied on the enzymatically scoured wool fabric weight was attained 4.63% with 3g/l which increase to 7.00% with 5g/l concentration. When the extract was applied on the grey fabric the reduction of bacteria was 86.50% with 3g/l which increased to 90.00% with 5g/l concentration and when applied on enzymatically scoured wool fabric in the concentration of 3g/l and 5g/l the reduction for both was same 96.67% and 96.70%. Author also reveals that up to 10 washing cycles the percentage of bacterial reduction value for Aloe Vera treated grey wool fabric was same but on 15 washing cycles it has been observed that reduction percentage of bacterial decreased 83.87% with 3g/l and 87.58% with 5g/l , at the end of 20 washing cycle the percentage of bacterial reduction value reached to 77.78% with 3g/l and 76.38% with 5g/l on the other hand enzymatically scoured wool fabric having very good resistance to bacterial attack up to 20 washing cycle on the 20 washing cycle there was slight reduction 78.13% with 3g/l and 82.81% with 5g/l. At the end author concluded that enzymatically scoured wool fabric having very good antimicrobial activity then the grey wool fabric. [15]

Karpagam et al. 2013 researcher discovered that bamboo bandages can be used for accidental wounds because in results it has been seen that bamboo performs faster on stain release. Among the three untreated samples (100% bamboo, 100% cotton and 50:50 bamboo-cotton) bamboo have higher wickability. Since bamboo becomes softer and more absorbent it enhances higher wickability. Bamboo-cotton is having higher wickability then cotton when the sample is treated with vitamin C and Triclosan which provide wickability for the better transport and when the fabric is treated with Aloe Vera it improves absorbency and wickability. The research also reveals that bamboo and bamboo-cotton fabric having good absorbency power then cotton because bamboo is soft and hollow in nature. Bamboo cotton treated fabric can be used for trauma conditions and 100% cotton treated with Triclosan to avoid infections and microbes, Aloe Vera and vitamin E finish produce, fragrance, cooling effect and also prevents the skin from getting scars. [16]
Sunny Pannu (2013) has founded that the apparel dyed from herbs that natural they prevent various skin disease, body odor to improve physiological comfort value of garments. As innerwear are next to skin so it should we medicated because less pass age of air and lots of perspiration which ultimately developed infection. Medicated innerwear is a base layer which transport moister away from skin best comfortable during workout and effective resistance to microbial growth. [17]

Saranya Devi et al. 2014 author has reveal that when cotton fabric is dyed with the extract of the plant named as araucaria columnaris it forms antibacterial finish. dye was extracting with the two solvents methanol and ethyl acetate this study reveals that extraction with methanol produce dark brown color and having maximum zone of inhibition as compare to the ethyl acetate on the other the extraction with ethyl acetate light brown color has been obtained. This type of finish is surely beneficial for the fields like medical; food pharmaceutical etc, because of toxic effect of synthetic materials used in different fields. This can be used as antimicrobial finish against both for gram positive and gramnegative bacteria. This finish is 100% eco-friendly.[18]

Anjali Sood et al.2014 author has reveal that the herbs like Aloe Vera, Neem, Turmeric, Devadaru, Bhringraj, Niligiri Taila, Shatapushpa, Walnut, Lajjalu and Kayaputi having no allergic reaction on the skin the fabric which is having herbal finishes do not create having type allergic reaction on skin. The fabric which is used in the textiles industries having lots of chemicals used for various purposes like for the finishing,dyeing etc which is having their side-effects on the skin. The test was conducted by the researcher he/she prepared the patches of the medicated fabric and paste on the back of the subject and after 24 hours researcher observed there is no allergic problem to the subject after 24 hour the observation was conducted at 48 hours then also their was no allergic problem on the back of the subject. Dyeing and finishing with the herbs are good for the human skin. [19]

D Ravi et al.2014 researcher has discovered that when the fabric is dyed with the natural herbs directly it is having superficial coating it gets washed by 3-5 washes. Textile fabric treated with microencapsulation-cum cross linking technique provide stiffness impart good crease recovery ,give fine finished texture and never loose up the tensile strength, wash durability up to 13-15 washes .moreover the herbal dyeing method increase the
antimicrobial property, make the fabric eco-friendly, prevent from skin cancer to certain extend, protection from harmful solar rays. Apart from all it is very healthy textile product which in order to keep away all type of pathogenic disease caused by communicable pathogens. [20]

**P.Ganesan and T. Ramachandran 2014** researcher has founded that the antimicrobial activity of copper enriched herbs treated samples exhibits a better performance for selective skin diseases. 100% bamboo and 70/30 blend of bamboo and micro-denier polyester fabrics have higher zone of inhibition as compare to 100% micro-denier polyester. It has also observed that the activity of copper enriched herbal treated garments is last up to 10-15 washes for all the washable knitted garments. Garments made from encapsulation method was given to the various disease patients it has observed that marigold treated garments is good (85%) for allergic dermatitis, peppermint extract treated garment was good (85%) and average (64%) for detergent allergy in hands (chemical allergy), camphor treated garments excellent (92%) and average (60%) for disease like parthonia allergy, psoriasis. [21]

**V. Krishanaveni and B. Aparna (2014)** researcher has founded that the Aloe Vera treated fabric is very much beneficial for the treatment of atopic dermatitis and eczema skin infection. Researcher prepared the single jersey cotton knitted garments by Appling the herbal finish on the fabric by microencapsulation herbal extract as core material and gum acacia as a wall material by using pad dry cure method the result shows that the inhibition zone for staphylococcus aureus is 19mm, 29mm for 20% and 40% concentration on the other hand zone of inhibition for E.coli is 17mm, 23mm for 20% and 40% concentration. 40% concentration shows excellent activity against both gram positive staphylococcus aureus and gram negative E.coli bacteria.[22]

**Farida and Bhumika Solanki (2015)** researcher has describes that the fabric dyed with the help of herbs like Sandalwood, Neem, Turmeric etc are not cacogenic and help the individual to keep health. Scope for Ayurvastra is endless, and it is the way to keep people healthy. This principle is used to maintain good health by adopting a healthy way of life. [23]

**S.Sumathi et.al (2015)** author has discovered that the combination of all the three (Green tea, Neem leaf and Aero root) herbal extracts are found to be excellent activity when
compared to the untreated fabric the zone of inhibition for the herbals with solvents extracts is 24, 26,28mm for A.niger and 42, 41,43mm for T.ressei the results showed that aero root herb having more antifungal activity against standard organism. Herbal extract treated fabrics are found to be more suited for the health care textiles. Herbal treated fabric is good for the skin infections and diseases. Author also discovered that the zone of inhibition for the antifungal activity of treated cotton fabric is 69 and 83mm against A.niger andT.ressei. [24]

S.Sumathi et.al (2015)“with the study has founded that neem leaves green tea and aero root as source of antimicrobial finish on organic cotton fabric. From the qualitative & quantitative antimicrobial assessment methods, it was found that the treated fabric sample possess maximum antimicrobial activity against Staphylococcus aureus &Escherichia coli. The durability of the herbal finishing is increased by microencapsulation methods Antimicrobial effect shows even for the washed fabrics. Clothes attained through this research believe in restoring the balance with in the body’s system and strengthen the immune system with good aroma. These natural extract impregnated wellness garments will give added protection from different organisms present in air and improved health for pregnant women and infants. The fabric will not be affected due to the finishing, as it is natural, eco-friendly and cost effective” [25]

3. Herbal effect on microbes.

Anil et al. 2008The researcher founded that the variety of Ayurvedic drugs, such as Sookshma Triphala, Thiostanin, Sunder Vati and Amalakimashi Vati, are used for the treatment of acne. These are very safe and effective. This review focuses on the use of herbal drugs for the treatment of Acne Vulgaris that have been found to be very safe and effective. There are various tropical agents like benzoic peroxide, antibiotics and retinoids. [26]

Kumar et al. 2007Author has discover that Staphylococcus epidermidis and Propionibacterium acnes have been recognized as pus-forming bacteria triggering an inflammation in acne. Hemidesmus indicus, Eclipta Alba, Coscinium fenestratum, Curcubito pepo, Symplcos racemosa, Euphorbia hirta and Tephrosia purpurea are some of the plants extracts which inhibits the growth of the Propionibacterium acnes and
Coscinium fenestratum, Hemidesmus indicus, and Symplocos racemosa inhibits the growth of both the bacteria Propionibacterium acnes and staphylococcus. In bioautography assay, the *Coscinium fenestratum* extract produced strong inhibition zones against *Propionibacterium acnes*. Phytochemical screening of Coscinium fenestratum revealed the presence of alkaloid which could be responsible for activity. Taken together, the data indicated that Coscinium fenestratum had a strong inhibitory effect on *Propionibacterium acnes* and *Staphylococcus epidermidis*. [27]

Abbasi et al.2010 the researcher formed four compositions of cream with the extract of aloe Vera, Salix alba bark, Sugar cane, Neem, Wild mint, Cucumber, Mint, Tulsi, Sulfur, Benzoic Peroxide etc and in these formulation sulfur was used for the antifungal agent and bismuth subnitrate was used for the relief of redness and scars which is developed due to acne. Triethanol amine was used as a pH adjuster in most of the compositions. The pH was maintained for all the compositions near to the skin that is 6.0-6.5 so that no irritation can occur on the skin, for antioxidant and emollient vitamin E was added. The researcher had taken four samples from these extracts and found all the samples effective for the treatment of acne but sample 1 (Stearic acid 16.22%, Paraffin oil 0.95%, Cetyl alcohol 0.95%, Triethnol amine 0.51%, Propylene glycol 4.77%, Isopropyl-myristate 0.95%, Glycerin 1.90%, Propyl paraben 0.095%, Derma soft 1.90%, Sulfur 0.38%, Borax 0.76%, Vitamin E (tocopherol) 0.56%, Zinc oxide 0.76%, Bismuth subnitrate 1.90%, Extracts of Aloe Vera 0.63%, Salix albabark 0.63%, Sugar-cane 0.63%, Distilled water 65.7%) and sample 2 (Stearic acid 24.2%, Cetyl alcohol 1.2%, Triethnol amine 1.32%, Propylene glycol 0.95%, Isopropyl-myristate 1.2%, Glycerin 2.0%, Sulfur 1.90%, Borax 1.90%, Vitamin E (tocopherol) 0.56%, Honey 3.5%, Menthol 0.76%, Distilled water 49.95%, Extracts of Azadirachta indica (neem) 1.76%, Ocimum sanctum (tulsi) 1.76%, Cucumis sativus (cucumber) 1.76%, Mentha sylvestris (wild mint) 1.76%, Mentha piperita (mint) 1.76%, Aloe Vera 1.76%) are most effective compositions with negligible side effects so for the commercial level it seems to be most suitable. [28]

Mohammed Rahmatullah et al.2010 Author has explained that plants were used for the treatment of various diseases like loss of sexual desire, mucus, constipation, respiratory problems, burning sensation in the body, eye diseases, leucorrhea, marinating healthy hair and to increases lactation in nursing mothers. For the medicinal purpose leaves are
the major portions of the plants to be used 41.4% of total uses the leaves of Justicia Adhotada were used for the treatment of biliary problems, coughs, respiratory problems, frequently thirst, fever diabetes, leprosy, vomiting tendency and tuberculosis. Achyranthes Asper leaves were used for the treatment of vomiting tendency, cough, obesity; respiratory tract disorder, piles, pain and gastrointestinal disorder and the roots of Achyranthes Asper were used for the treatment of jaundice. The white flowers of Calotropis Gigantean were used for the treatment of gynecological problems, piles and to increase sperm count on the other hand red color flowers from the same species were used for the treatment of leprosy, coughs, piles, poisoning and edema, piles is the disease which can be treated with both color of the flowers. further author has explained that Neem leaves, bark, root, flower, fruit are good for eyes, increase lung capacity, wasting away of body, diabetes, acne biliary disorder, fatigue, coughs, fever, thirst, loss of appetite and helminthiasis. [29]

**Joshi et al. 2011** researcher has founded that among the four plants tested Ocimum Sanctum (Tulsi), Eugenia Caryophyllata (Clove), Achyranthes Bedentata (Datiwan) and Azadirachta Indica (Neem) E Caryophyllata was found to be most effective against S. typhi. The largest zone of inhibition (22mm) was obtained with E Caryophyllata against S. typhi and minium bactericidal concentration (MBC) value of 5gm/l was obtained with A. indica against S. typhi. All the plants were ineffective against E. coli. A phytochemical analysis was performed for the detection of alkaloid, glycosides, terpenoids, steroids, flavonoids, tannins and reducing sugars and for the analysis of lipids present in plant extracts thin layer of chromatography was also performed using solvent system chloroform, methanol and water (10:10:3). with the study author also discovered that K. pneumonia and E. coli were found to be resistance with all the plants extracts. [30]

**Shweta and Swaralata 2011** have founded that acne commonly more common in teenagers. There are no of tropical and systematic therapies using synthetic ingredients but they having their own side effects, herbal therapies are safer for the external and internal use to cure acne. Our traditional heritage is hiding number of miraculous herbs which are safe and effective alternative to cure acne. [31]

**Gill et al. 2013** has explained about nature for the treatment of Acne Vulgaris the researcher found that herbs like Aloe Vera, Neem, Barberry Turmeric, Eucalypts, long
Pepper and dandelion is very much beneficial herbs for the treatment of Acne Vulgaris. Moderate exposure to Sunlight help the acne patient in the treatment but excessive exposure of sunlight may lead to pre mature wrinkles, sunburn and skin cancer. Oil-based cosmetic and moisturizers is also the cause of acne. The people those who are suffering from acne they having low level of vitamin A and E. Seafood is not responsible for the development of acne but it makes the acne worse because in sea food there is a large amount of iodine when it mix up the blood streams it irritates the pores.[32]

**Chandy K.T:** has explained that the Neem tree is the herb which is being used in Ayurvedic medicinal system. It is very beneficial for various skin disorders such as scrofula, indolent ulcers and ring worms. The researcher also explains that Neem oil suppresses several species of pathogenic bacteria like Staphylococcus aureus which is a common source of food poisoning. Various methods of extraction process have been explained by the author like hexane, alcohol and water extraction process. In Andhra Pradesh people use to feed their cattle after parturition for increasing the milk production. [33]

**Raj Kumar G and KrishnaveniV:** author has discovered that Aloe Vera is having antimicrobial properties. In this research cotton fabric was treated with the commercial gel, Aloe Vera leave extract and Aloe Vera gel extract the washing fastness test reveals that 100% and 75% gel treated fabric stood up for 20 washes on the other hand Aloe Vera leave extract and commercial gel stood for 15 washes. The Aloe Vera fabric found to be very hygienic with less fungi and bacteria. [34]

**Banupriya .J,Dr.V.Maheshwari2014:** in this study researcher was showing the comparison between herbal and conventional methods in antimicrobial finish. Researcher has discovered that herbal based antimicrobial finish is higher than that of conventional finished antimicrobial fabric. Michelia X Alba herbal extract treated fabric are eco-friendly, biodegradable and non toxic to the skin. [35]
4. Rationale of the Investigation

Due to stress, in present scenario the change in lifestyle occurs, which results in indigestion which in turns causes diseases like back acne, cancer, various skin diseases and heart problems. The treatment of such diseases with drugs and coatings are not preferred because of high cost and the number of side effects. Therefore the medicated camisoles have been developed with the help of herbs so that the side effects to finishes and dyes which are normally applied in the textiles mills can be avoided. These herbal finishes are accessible, diverse and economically viable and also have no of negligible side effect. In the view of the above contest, it is noticed that herbal dyes and finishes having less side effects as compared to synthetic dyes and finishes.

Now days there are various organizations that are developing medicated fabrics i.e. “Ayurvastra” for various skin diseases like acne on chest, back, butt and face, rashes, eczema, skin cancer, leg ulcer etc. Hence, this study enlightens the path of medicated fabrics discovery from medicinal plants for various skin disorders including back acne.
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