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Formulation and Evaluation of Polyherbal Hand Sanitizer

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INTRODUCTION

Dysmenorrhea also called menstrual cramps is the pain cause by the womb muscle contraction during the periods. Dysmenorrhea is also occur during pre- menstruation and post menstruation. In this research you prepare the herbal roll on to reduce the pain of menstrual cramps. The Roll on composition ingredients are Clove, thymol, Mentha, Camphor and asafoetida. The case study of Roll On includes the 35 patients. The patients are advised to apply the Roll On over the lower abdomen. Dysmenorrhea can be classified as primary and secondary dysmenorrhea. Primary dysmenorrhea is a lower abdominal pain happening during the menstrual cycle which is not associated with other diseases or pathology.

Medications such as aspirin, ibuprofen and naproxen reduce prostaglandin production and thus reduce menstrual cramps. The combination of hormonal birth control with anti-prostaglandin medication can be very effective in both preventing and treating menstrual cramps.

Inspite of all these medications we prepare a herbal roll on oil for prevention of menstrual cramps which we named 5 Day Feminine Herbal Roll on.

AIM & OBJECTIVE:

AIM :-

To prepare Polyherbal roll-on by using selected herbs to diminished the side effect of Alcohol based roll-on to reduce Dysmenorrhoea.

OBJECTIVE:

The main aim for the preparation of a polyherbal roll-on is for “reduction of dysmenorrhoea”. It plays a vital role in the control and reduction of any sort of pain during the menstrual cycle. The main motto of this polyherbal roll-on is to reduce the frequency of the menstrual cramps which occurs during the menstruation period on every month. Because of the dysmenorrhoea, females get an bad impact on their schedule of that time. Therefore we introduced “5 days herbal feminine roll-on” so every women can free comfortable in their schedule.

LITERATURE SURVEY

Formulation of herbal ROLL-ON from Indian herbs:

Ali B. Essential oils used in aromatherapy: A systemic review. Singapore: Hainan Medical University; 2015.

In the large proportion of women who get little to no relief from OTC analgesics, our meta-analysis suggests that heat, acupressure or exercise may provide an effective adjunct, or in the case of exercise and heat an effective alternative to, analgesic medication for the management of pain in primary dysmenorrhea. Current research does not address the significant non-specific effects associated with exercise or acupressure interventions.

MATERIALS & METHOD

Collection of herbs for roll on to reduce dysmenorrheal:

Collection of seeds, leaves and flower of different herbs were done from different surroundings in accordance to extract oils from different collected herb for the formulation of herbal roll on to reduce dysmenorrhea. These herbs were collected from the areas like from the laboratories of our college and from our native places. The extraction procedure of oils was done in our lab area only.

The plants were selected on the basis of their potency of anti-microbial activity, anti-inflammatory activity, pain-reliever, anti-viral and etc. The herbs which we preferred for our herbal roll-on were – Camphor, mentha(mint), clove, thyme(ajwain) and asafetida(hing).

These herbs were collected and weighed properly. After weighing the solid form was converted into powdered form and then it was placed for extraction procedure in order to extract respective oil from its crude form and then the extracted oils were used for the formulation of 5 days of herbal feminine roll-on to reduce dysmenorrhea.

CLOVE:

Cloves (*Eugenia caryophyllus*) are the aromatic dried flower buds of a tree in the family Myrtaceae. The medicinal properties of clove have been known over the centuries. It is beneficial as a home remedy in curing various health ailments. Cloves have long been considered a home remedy in India for toothaches, joint pains, indigestion, asthma, cough, skin disorders, headache, etc. These health benefits of clove can be attributed to its antimicrobial, antiseptic, antispasmodic, carminative, expectorant, germicidal, rubefacient, stomachic and stimulant properties.

EXTRACTION OF CLOVE OIL USING CLEVINGER APPARATUS:

Procedure: 60gm of clove in round bottom flask attached to the Clevenger apparatus with sufficient amount of water which boiled at 80°C to 90°C. The water vapour along with the active constituent was condensed by the condenser and collected in graduated collecting tube of the apparatus. Then isolate the eugenol with separating funnel. The volatile distillate was saturated with sodium chloride and added with some ether. Then, the ether layer and hydro layer were divided by the funnel. After dehydrated by anhydrous sodium sulphate, the ether layer was extra heated in the 60°C water bath to make all to be concentrated and the ether to be recovered. The clove oil was weighed 1.6 ml and this procedure was performed twice. [5]

By this extraction procedure we extracted the clove oil from the clove. Afterwards when the heat is discontinued, the mixture of oil collected in the collecting chamber of the Clevenger apparatus is taken out slowly in the beaker.

Then the mixture of oil is poured into the separating funnel with different solvents to separate out the crude form of oil. In the separating funnel different layers were formed according to the different parameters like: viscosity, surface tension, density, solubility, vapour pressure and etc.

MENTHA:

Mentha arvensis (also known as mint) is a genus of plants in the family Lamiaceae (mint family). The most predominant among them are depression, anxiety, nervous tension, lack of self-esteem, asthma, rheumatism, bronchial congestion, lack of appetite, fever, rheumatic conditions, halitosis, dandruff, acne, flatulence and bad breath.

EXTRACTION PROCESS FOR MENTHOL:

The HD method consists of placing 330g of grounded mint leaves inside a 500ml flask of Clevenger type apparatus with 250mL of distilled water for hydro-distillation and carried out at least in duplicate during a 6-h extraction process. The water vapour along with the active constituent was condensed by the condenser and collected in graduated collecting tube of the apparatus. Separation of active constituent by adding 50ml dichloromethane in separating funnel. The remaining water removed by adding anhydrous calcium chloride and filter it. After heating 1.6 ml menthol is obtained.

AJWAIN:

Trachyspermum ammi (L.) Sprague or commonly Ajwain is a herbaceous herb belonging to the family Apiaceae. Ajwain seeds revealed to possess antiseptic, stimulant, carminative, diuretic, anesthetic, antimicrobial, antiviral, nematocidal, antiulcer, antihypertensive, antitussive, bronchodilatory, antiplatelet and hepatoprotective as well as antihyperlipidemic effects, many of those were remarked by early Persian physicians.

EXTRACTION PROCESS FOR THYMOL:

Take about 250 ml of water in the steam generator and start heating to produce steam. In the round bottom flask take about 75 gm of crushed carom seeds. A vigorous current of steam from steam generator is passed through the round bottom flask. A part of the steam condenses in the round bottom flask. As more and more steam is passed, the steam volatile components pass through the condenser along with steam. These contents on condensation are collected in the receiver. The contents in the round bottom flask may be heated by a Bunsen burner to prevent excessive condensation of steam. The process of steam distillation is continued for about half an hour. Transfer the distillate to a separating funnel and extract with 20 ml portions of petroleum ether 3 times.

CAMPHOR:

Camphor oil is extracted from the wood of camphor trees, known scientifically as *Cinnamomum camphora*, and it has a strong aroma. It can also be synthesized from turpentine. Camphor oil is popular in aromatherapy, as it helps relieve respiratory congestion. It also has antitussive properties that can help ease coughs in children and adults. Essential oils may help treat Trusted Source headaches, including migraine headaches. Those that contribute to a calming atmosphere may also promote sleep. A 2019 study in mice investigated the effect of *Cinnamomum camphora* on migraine. It found that the essential oil could suppress pain-sign. **ASAFOETIDA (HING):** Hing or Asafoetida additionally referred to as Hingu in Hindi, Ingu in Kannada, Inguva in Telugu, and Perungayam in Tamil is an imperative culinary factor not an unusual place in each Indian kitchen. Asafoetida (*Ferula asafoetida*) is an oleo-gum resin crafted from the stems of the *Ferula* vegetarian of the Umbelliferae family. Hing plants are pale greenish yellow in color, fruits are oval, flat, reddish-brown loaded with milky juice, and roots are thick, huge, and pulpy. They bleed an extract equivalent to that of the

EXTRACTION PROCESS FOR ASAFOETIDA OIL:

The Asafoetida oil is derived by steam distillation of the asafoetida tree gum and this oil can be used to increase the standards of many delicacies. The Asafoetida oil has a lot of different properties which provides the users with different kinds of benefits which includes relief from intestinal disorders, blood purifier and also a brilliant element to balance mental stress. Due to so many benefits and also available at an affordable rate, the Asafoetida oil is sold worldwide on various websites. Another method is dissolving asafetida in hot oil and adding it drop by drop in the required formula. Hing oil is extracted by the method of steam distillation.

FORMULATION:

Add 1.02 ml of camphor oil in selected container. Then add 0.97 ml of menthol oil, 1.06 ml of clove oil and 0.95 ml of thymol oil into it. And at last 1 ml of asafoetida oil. The mixture was blended properly or about 10 to 15 minutes. The formulation was stored in seal packed container in cool and dry place.

FORMULA:

| Sr.no | Ingredients | Quantity Taken (ml) |
|-------|----------------|---------------------|
| 1. | Camphor oil | 1.02 |
| 2. | Menthol | 0.97 |
| 3. | Clove oil | 1.06 |
| 4. | Thymol | 0.95 |
| 5. | Asafoetida oil | 1 |



Fig.5.10: formulation of herbal oil roll-on

RESULT:

This study observes significant effect on sign symptoms which showed 80% efficacy on Dysmenorrhoea. There was significant relief from menstrual cramps for long duration which might be due to aromatic medicated oil. Therefore it may be concluded that 5 days Herbal Feminine Roll-on can be effective and safe in management of dysmenorrhoea. This 5 days Herbal Feminine Roll on is used by more than 30 patients. The reviews from the patient are on positive.

SUMMARY

5 days herbal Feminine Cramp Relief Roll On is an innovative, herbal stain-free roll on that provides continuous relief from menstrual cramps. The cramp relief easily gets absorbed into the skin and doesn't leave any stain over your clothes or residue/oil over your body.

Although menstruation is a normal part of a woman's life, severe period pain need not be. Women don't have to simply put up with it – menstrual pain can usually be treated effectively. If you have very painful periods or the pain keeps getting worse over time, it can be a good idea to see a doctor

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