

A REVIEW ON HYGIENE WIPES USING ESSENTIAL OIL TO ALLEVIATE STRESS

¹P. Yasotha and ²*C. Sobithaa

¹Assistant Professor, ²Post Graduate Student Department of Costume Design and Fashion
Psg College of Arts and Science, Coimbatore, India.

Article Received on
21 May 2020,

Revised on 10 June 2020,
Accepted on 02 July 2020,

DOI: 10.20959/wjpr20207-18045

*Corresponding Author

C. Sobithaa

Post Graduate Student

Department of Costume

Design and Fashion

Psg College of Arts and

Science, Coimbatore, India.

ABSTRACT

The purpose of wet wipes are cleansing, makeup removing, refreshing and many other purposes. Wipes can be used as disposable or re-usable depending upon the material. Spun lace viscose fabric is used in refreshing wipes which absorbs moisture and retain it for a long period which is also disposable. One of the major component in wet wipes is essential oils which are concentrated and cannot be used on the bare skin. Essential oils are extracted from the herbs, obtained by steam or hydro-distillation. It can be extracted from all organs of the plant. Each plant is unique and has its own medicinal and aromatic values. Essential oils are mixed with glycerol to get a solution which is miscible with distilled water. Glycerine are colourless, odourless, sweet taste with a syrup-like consistency. Skin health plays a major

role in the wet wipes where the skin becomes smooth, soft and prevents the acne. Good health is to handle stress, live a longer and more active life. Considering the values with the special focus, refreshing wipes are made using carefully selected ingredients that will yield potential benefits such as uplifting mood, reduce stress and tiredness, calm nerves and help with concentration.

KEYWORDS: Herbs, medicinal, aromatic, essential oil, hygiene, refreshing.

INTRODUCTION

A wet wipe or wipe type product comprising an oil-in-water emulsion that cleans the surface of the skin and provides enhanced skin health benefits. Refreshing wipes are used to clean the skin, uplifts our mood, relieve the stress and anxiety. Spun lace viscose fabric is used in these wipes. Essential oils are used as the main ingredient to prepare the refreshing wipes. They

have medicinal properties and fragrances that lasts in our body a little longer.^[1] The essential oils are also used in aroma therapy. Glycerine diffuse the essential oil into dilute form and mix with the distilled water and rose water which acts as a toner.^[2] Considering all those properties the refreshing wipes are prepared. One particular application is the use of wet wipes for wiping parts of the human body particularly when water is not available, for example when travelling.^[3]

Wet wipe

A wet wipe has various types such as a baby wipe, an adult wipe, hand wipe, a face wipe, a cosmetic wipe, a household wipe, industrial wipe, a personal cleansing wipe, cotton balls etc., There are many types of wipes in our day to day life. The wet wipe indicates that the fabric is wet and it is used to wipe a thing.^[4] They are used to clean a product or a person. The emulsion in the wipe can be water, oil and any other liquid content. Generally, each wet wipe can contain about 100 to 600 weight percent and desirably from 250 to 450 weight percent liquid based on the dry weight of the wipe for improved wiping. In a particular aspect, the amount of liquid contained within the wet wipe is from 300 to about weight percent and desirably 330 weight percent based on the dry weight of the wet wipe. If the amount of liquid is less than the above-identified ranges, the wet wipe may be too dry and may not adequately perform it's function. If the amount of liquid is greater than the above- identified ranges, the wet wipe may be oversaturated and soggy and the liquid may pool in the bottom of the container.^[4] Each wet wipe is generally rectangular in shape and may have any suitable width and length. For example, the wet wipe may have an unfolded length of from 2.0 to 80.0 centimetres and desirably from 10 to 25 centimetres. The wet wipe retains its strength characteristics despite packaging and prolonged storage in a wet condition. Depending upon the tensile strength, absorbing property and end usage of the fabric is selected for the wipe.^[5]

Spun lace viscose fabric

Spun lace is one of the method used in non-woven fabric production. It is also called as hydro entanglement. Spun lace non woven fabric use short staple fibers, among those most popular is viscose and polyester staple and sometimes polypropylene. The fiber used in this refreshing wipes is viscose. Viscose is an important cellulosic man-made fiber mostly used in textile industry. Cellulose is obtained from wood pulp and cotton.^[6] Viscose has the properties of biodegradability, high strength, rapid moisture absorption, breathable, soft, smooth, relatively light, versatile, drapes well and does not trap body heat.^[7]

Essential oil

India has more resources of herbal medicines which is traditional medicines to cure many ailments. One among those medicines are essential oils.^[8] Essential oils are first developed in the middle ages by arabs which are obtained by steam or hydro-distillation. Essential oils are extracted from various aromatic plants generally localized in temperate to warm countries like Mediterranean and tropical countries where they represent an important part of the traditional pharmacopoeia. Essential oils are volatile, natural, complex compounds characterized by a strong aroma formed by aromatic plants as secondary metabolites.^[1] Essential oils are known for their antiseptic properties i.e., bactericidal, virucidal, fungicidal, medicinal properties and their fragrance, Essential oils are used in embalmment, preservation of foods, antimicrobial, analgesic, sedative, anti-inflammatory, spasmolytic and locally anaesthetic remedies. They can be synthesized by all plant organs, i.e. buds, flowers, leaves, stems, twigs, seeds, fruits, roots, wood or bark, and are stored in secretor cells, cavities, canals, epidermis or glandular trichomes.^[9]



Fig 1: Essential oils.

Benefits of the essential oil used

1. Peppermint oil

- Encourages feeling of relaxation.
- Calms pain, inflammation, and muscular spasms/contractions.
- Eases feelings of stress and negative sentiments, such as anxiety.
- Helps to reduce nasal congestion, ease coughs and promote easy breathing.^[10,11]

2. Lavender oil

- Calms inflammation, pain and irritation.

- Eases feelings of stress and negative sentiments, such as anxiety.
- Encourages restful sleep.
- Supports wound healing.
- Comforts headache pain
- Promotes easier breathing.
- It relieves skin irritations and allergies.^{[12][13][14]}

3. Frankincense oil

- Calms inflammation, pain, bloating, and cramping.
- Eases feelings of stress and negative sentiments, such as anxiety.
- Supports and enhances immune function.
- Encourages feeling of relaxation.
- Supports wound healing.
- Diminishes the appearance of scars.
- Eases respiratory discomfort, such as inflamed nasal passages, coughing and difficulty breathing.
- Eases feelings of nausea and symptoms of digestive discomfort.
- Stimulates and boosts circulation.^[15,16]

4. lemon grass oil

- Used to treat digestive problems and high blood pressure.
- Relieve stress, anxiety and depression.
- Prevent gastric ulcers or relieve nausea.
- Relieve headaches and migraines.
- Eases menstrual cramps.
- Alleviates joint muscle pain.^[17,18]

Glycerine

Glycerine, also known as glycerol or glycerin. It is a clear viscous liquid, colourless, odourless and has a mild, sweet taste with a syrup-like consistency. It is non-toxic, easily digested and is environmentally safe. Glycerine is a sugar alcohol derived from animal products, plants or petroleum.^[2] Vegetable glycerine is typically made from soybean, coconut or palm oils. It is particularly popular in the cosmetic industry but has several other uses as well. It may also provide health benefits, such as skin health to better hydration. But it became economically and industrially significant in the late 1800s when it was first used to

make dynamite. Vegetable glycerine is made by heating triglyceride- rich vegetable fats such as palm, soy and coconut oil under pressure or together with a strong alkali, such as lye.^[19] This causes the glycerine to split away from the fatty acids and mix together with water, forming an odourless, sweet-tasting, syrup-like liquid. Glycerine was discovered more than two centuries ago by the Swedish chemist Scheele, when he heated a mixture of litharge(lead oxide) and olive oil. He extracted and isolated a sweet tasting liquid which he named “sweet oil” (oelsuess). It is often added to foods to help oil and water-based ingredients mix, sweetening or moistening the final product. It can be also used to prevent ice crystals from forming in frozen foods, such as low- fat frozen yogurt, ice cream and other desserts. Glycerine is a common ingredient in pharmaceutical drugs, including heart medication, suppositories, cough remedies and anaesthetics. It is commonly added to soaps, candles, lotions, deodorants and makeup.^[20]

Preparation of wet wipes with essential oil

Cut a spun lace viscose fabric of 5*5 inches. Pour 2-3 drops of essential oil in the glass bowl. Take 1/2 table spoon of glycerine and mix it with essential oil.^{[1][21]} Stir it well until essential oil mix with glycerine to get a transparent liquid solution. Take 80ml of distilled water in a beaker and pour it in a glass bowl. Take 2 table spoon of rose water and pour it in the bowl. Mix all the ingredients finely.^{[5][22]} The liquid solution is prepared. Dip the 5*5” spun lace viscose fabric into the liquid solution for 1 minute. Take the fabric out and squeeze it well. Keep it in a closed container or air tight pouches. The wipes are dispatched for use.^[19]

CONTAINERS

Each individual wet wipe is arranged in a folded configuration and stacked one on top of the other to provide a stack of wet wipes. Such folded configurations are well known to those skilled in the art and include c-folded, Z-folded, quarter-folded configurations. The stack of folded wet wipes may be placed in the interior of a container, such as a plastic tub, zip lock cover, sealed packets to provide a package of wet wipes for eventual sale to the consumer. Alternatively, the wet wipes may include a continuous strip of material which has perforations between each wipe and which may be arranged in a stack or wound into a roll for dispensing. The wet wipe does not lose its tensile property or retain of its wetness even in a prolonged storage if it is packed in a air tight condition.^[23]

Skin health and benefits of wet wipes

- Leave the skin soft and clean.
- Enables quick and easy hygiene throughout the day
- Raise personal hygiene standards.
- No self-tanning streaks.
- Prevents body acne.
- Some wet wipes are enriched with aloe and a light scent to soothe the skin and reduce odours.
- Improved skin health.
- They are pH Balanced.
- Ideal when running water is unavailable.
- Suitable for frequent use.
- Convenient.
- Perfect for long plane rides.^{[21][22]}

Side effects of using essential oil

Even though essential oils are natural products, they will cause side effects. The potential side effects of essential oils include.

- **Irritation and burning:** Always dilute oils with a carrier oil before applying it to the skin. Apply a small amount to a small area of skin first to test for any reactions.
- **Asthma attacks:** While essential oils may be safe for most people to inhale, some people with asthma may react to breathing in the fumes.
- **Headaches:** Inhaling essential oils may help some people with their headaches, but inhaling too much may lead to a headache in others.
- **Photo toxicity:** Some essential oils make you more sensitive to the ultraviolet rays from the sun. This makes you photosensitive and causes sunburns to develop faster and more severely than normal. According to the University of Minnesota, citrus-based oils applied to the skin are most likely to cause. Avoid sun exposure after using these oils and apply a sunscreen.^{[1][9][24]}

CONCLUSION

Wet wipes are an essential one in our day to day life. The wet wipes are easy to use, which are compactable and can be carried even in our pockets. The stressful life that we undergo in our daily routine, these wipes do an effective work. They are used to relieve the stress and

tiredness when travelling far or doing any hectic work. Value addition in production will have demand. These kinds of aroma added value addition products will have good market demand. The wet wipes has the oil fragrance, while inhaling it, it relieves stress and gives a pleasure feeling. It will make the skin glow, toned and keeps us fresh. Some feel unpleasant and allergic to certain fragrances which are used according to their preferences. The wipes gives the pleasure feeling which eases the person from the work. Each wipe have different property depending upon the fragrance and the medical values.

REFERENCES

1. F. Bakkali, S. Averbeck. Biological effects of essential oils, 2006.
2. Keith Schroeder Won Young Oh. Glycerin. 17 february 2020.
3. Helen Viazmsky. Wet wipe, 1992.
4. Michael Edward Carrier. Wet wipes, articles of manufacture and methods for making same, 2011.
5. Sylvie Chamba, Bad Soden. Process for making a wet wipe using a concentrated emulsion, 2004.
6. Frankie M.C. Ng, Winson Y.W. Kho. Spunlaced Non-Woven Fabric Technology And Its Recent Development In China, 1998.
7. A Gericke, J Van der Pol (née De Bruin). A comparative study of regenerated bamboo, cotton and viscose rayon fabrics. Part 2: antimicrobial properties, 2011.
8. Yasotha, P., Sangeetha, K., & Rajendran, r. Phytochemical and antimicrobial potential of seed and bark extracts of swietenia mahagoni (L.) Jacq, 2019.
9. Chelsea R. Manion, Rebecca M. Widder. Essentials of essential oils, 2018.
10. Bruno P. Chumpitazi, Gregory Kearns, and Robert J. Shulman. The physiologic effects and safety of Peppermint Oil and its efficacy in irritable bowel syndrome and other functional disorders. Jan 2018. doi: 10.1111/apt.14519
11. Alankar shrivastava. A review on peppermint oil, May 2009.
12. H. M. A. Cavanagh and J. M. Wilkinson. Biological activities of lavender essential oil, 2002.
13. HMA Cavanagh, JM Wikinson. Lavender essential oil: a review, 2005.
14. Gabriel Fernando Esteves Cardia, Saulo Euclides Silva-Filho, Expedito Leite Silva, Nancy Sayuri Uchida, Heitor Augusto Otaviano Cavalcante, Larissa Laila Cassarotti, Valter Eduardo Cocco Salvadego, Ricardo Alexandre Spironello, Ciomarn Aparecida Bersani-Amado, Roberto Kenji Nakamura Cuman. Effect of Lavender (*Lavandula*

- angustifolia) Essential Oil on Acute Inflammatory Response, March 2018.
15. Bozena kiczorowska. Frankincense - therapeutic properties, Jan 2016.
 16. Sara Esmaelzadeh-Saeieh, Mitra Rahimzadeh, Nafiseh Khosravi-Dehaghi, Shokufeh Torkashvand. The effects of inhalation aromatherapy with *Boswellia carterii* essential oil on the intensity of labor pain among nulliparous women, 2018.
 17. Gagan Shah, Richa Shri, Vivek Panchal, Narender Sharma, Bharpur Singh, and A. S. Mann. Scientific basis for the therapeutic use of *Cymbopogon citratus*, stapf (Lemon grass), 2011.
 18. Mohamed Nadjib Boukhatem, Mohamed Amine Ferhat, Abdelkrim Kameli, Fairouz Saidi, Hadjer Tchoketch Kebir. Lemon grass (*Cymbopogon citratus*) essential oil as a potent anti-inflammatory and antifungal drugs, 2014.
 19. Eric Jungermann, Norman O.V. Sonntag. Glycerine, 1991.
 20. Du Puis, R.N., Lenth, C.W. & Segur, J.B. Glycerine derivatives, their properties and uses, 1941.
 21. Marie Nelson. Wet wipes having skin health benefits, 2000.
 22. Randall Glenn Marsh. Composition for wet wipes containing a non-irritating skin health benefit ingredient and the process for making, 2005.
 23. Simon D. J. Hill. Folding and stacking configuration for wet wipes, 1998.
 24. BabarAli, Naser AliAl-Wabel¹ SaibaShams, AftabAhamad, Shah AlamKhan, FirozAnwar. Essential oils used in aromatherapy: A systemic review. 2015
 25. Abbas Meamarbashi & Ali Rajabi. The effects of peppermint on exercise performance, 2013.
 26. Asja Sarkic, Iris Stappen. Essential Oils and Their Single Compounds in Cosmetics—A Critical Review, 2018.
 27. Benjamin J. Malcolm, Kimberly Tallian. Essential oil of lavender in anxiety disorders: Ready for prime time?. March 2018.
 28. Sujit shrikrushnarao gulhane, ranjit turukmane. Hydroentangling process and properties of spunlace nonwovens. November 2018.
 29. Yinjiang Zhang, Chao Deng, Yuxiao Wang, Chen Huang, Yi Zhao, Xiangyu Jin. A new dispersible moist wipe from wetlaid/spunlace nonwoven: Development and characterization, February 2018.
 30. Peter kalustian. Pharmaceutical and cosmetic uses of palm and lauric products. February 1985.
 31. Jain, R K; Sinha, S K; Das, Apurba. Compression characteristics of spunlace nonwoven

- fabric, 2019.
32. Resmi. G, Dr. S. Amsamani. Antimicrobial efficiency of bio-synthesised nanosilver finished viscose spunlace non woven fabric, June 2015.
 33. George Endel Deckner, Cincinnati, OH(US); Lee Ellen Drechsler, Cincinnati,OH (US); Mathias Kurt Herrlein, Hofheim (DE); Ursula Christina Glaser, Wiesbaden (DE); Randall Glenn Marsh, West Chester, OH (US); Antonio Martinez-Campoy, Risselshiem (DE); Philip Andrew Sawin, Liberty Township, OH (US). Composition for wet wipes that Enhances the efficacy of cleansing While being gentle to the skin. Feb 19, 2013.
 34. Randall Glenn Marsh, Hamilton, OH (US); Thomas James Klofta, Cincinnati, OH (US); Kristin Hofmann Miller, Springboro, OH (US); Jacqueline Marie (52) Duderstadt, Cincinnati, OH (U S). Lotion composition for wet wipes. Nov 3, 2011.
 35. Todd P. Silverstei. The real reason why oil and water don't mix. Vol. 75 No. 1 January 1998.
 36. Fred F. Scheuer. Treated paper and non-woven material for wiping surfaces and method, 1965.