



Ushering in the Age of Endemic

THE 11TH INTERNATIONAL INNOVATION, INVENTION & DESIGN COMPETITION INDES 2022

EXTENDED ABSTRACTS BOOK



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AN INNOVATION AND TRANSFORMATION OF ORGANIC SHEET MASKS FROM BLACK CUMIN EXTRACT (*NIGELLA SATIVA L.*)

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ABSTRACT

Facial skin care processes have basically undergone various types of innovations and transformations that have rapid development in the world of skincare. As it is known that face skin is quite sensitive for the most, including the women who carry out periodic maintenance. By using a sheet mask, it is hoped that it will be able to prevent skin aging. Meanwhile, the purpose of the research is to innovate a sheet mask made from the basic material of Black Cumin (*Nigella Sativa L.*) which has the property to disguise black spots and as an antioxidant on the face by taking the result of the extraction process. In addition, there is an additional Glycerin as the main raw material in making sheet mask extract which has properties to moisturize facial skin in a structured manner. To get the maximum result, this study also refers to the method of literature – the previous literature related to an innovation of black cumin extract for sheet masks.

Keywords: Sheet Mask, Black Cumin, Antioxidant, Glycerin, Extraction.

1. INTRODUCTION

Smooth, soft facial skin, and avoiding various kinds of radiation is a dream for the majority of people. It is undeniable that human skin is prone to aging and exposure to radiation as a result of physiological activity as well as exposure to strong UV rays. This condition can occur at any time if it is not balanced with sufficient and structured treatment. Meanwhile, one of the easy, efficient, and fast facial care programs can be seen through the use of sheet masks periodically. The use of these sheet masks is not without reason but can help the regeneration process to rejuvenate facial skin to return to health and brighten with some active content in it. However, as is known that sheet masks that are often used have high chemical raw materials so that they can be an obstacle for people who have sensitive skin. That way, there is a new innovation by using natural spices as the basic ingredient for sheet masks. Meanwhile, one of the innovations of organic-based sheet masks can be seen through the composition of Black Cumin as the main ingredient.

Black cumin (*Nigella Sativa L.*) is one of Indonesia's typical spices that is still a unit in the Ranunculaceae family where the majority of its growing habitat is located in West Asia to Europe. Referring to research by Aljabre and Randhawa (2015) mentioned that there are several active ingredients located in black cumin seeds including, the extract oil itself, Thymoquinone, Thymohydroquinone, Dithymoquinone, Thymol, Carvacrol, Nigellimine-N-Oxide, Nigellidine, Nigellidine, and Alpha-Hederin. Referring to the content contained in black cumin

seeds, there are several main benefits that are efficacious for facial skin care including being anti-inflammatory, immune stabilizer, hypoglycemic, and has a high level of antioxidants to prevent cancer (anticancer). Thus, this study is aimed at determining the feasibility of a black cumin sheet mask to the skin care process so as not to leave prolonged effects or blemishes.

2. FINDINGS

All research related to the extraction of Black Cumin seeds to become the basic material for this organic sheet mask has certainly gone through structural stages. As it is known that Antioxidants are the main factor necessary for the process of protecting the skin from reactive oxygen compounds that can be found in the content of extracted black cumin oil. By performing extraction in a structured manner, it will get a significant result to be reprocessed in biochemical processes. Based on research conducted by Palamutoglu et al. (2022), inverse gel formation method is considered more effective to prevent damage in black cumin oil so that it will get a better result.

Then, there is also an encapsulation test of black cumin oil which shows high activity in counteracting radicals. Based on research by Ahmad et al. (2017), black cumin oil has several ingredients that are considered good for maintaining the human immune system and skin health, such as, the antimicrobials that prevent bacterial growth activities, and anti-inflammatory and antifungal properties. Black cumin seed oil also has a low toxin content so that it can be used reliably by all people.

3. METHODOLOGY

This study refers to the method of literature and the previous literature related to an innovation of black cumin extract for sheet masks. According to the research, it is known that extraction of black cumin seeds uses two methods, namely water distillation and cold press methods which aim to compare differences in the chemical composition of volatile compounds based on the extraction technique which used 3 kg of black cumin seeds that had been mashed and put into a distillation tool and a press. The yield of black cumin oil (distillation) was obtained as much as 7 ml and the yield of black cumin oil (cold press) was obtained as much as 90 ml with a specific gravity of 0.914 and a yield of 2.742%. This shows that to get more black cumin oil, it is recommended to use a cold press extraction technique. In addition, non-essential compounds can also be extracted using the cold press technique.

4. CONCLUSION

This paper is about the effects of black cumin and its ingredients strongly indicate its pharmacological potential in dermatology. From these potential ingredients, black cumin can be processed into the main ingredient for sheet mask product innovation. In addition, its low degree of toxicity makes it trusted to be used. Thus, in its development, standard drug development methods are needed to formulate topical therapies for use in dermatology.

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