

DEVELOPEMENT OF HERBAL SANITARY NAPKIN WITH HERBAL FINISH

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ABSTRACT

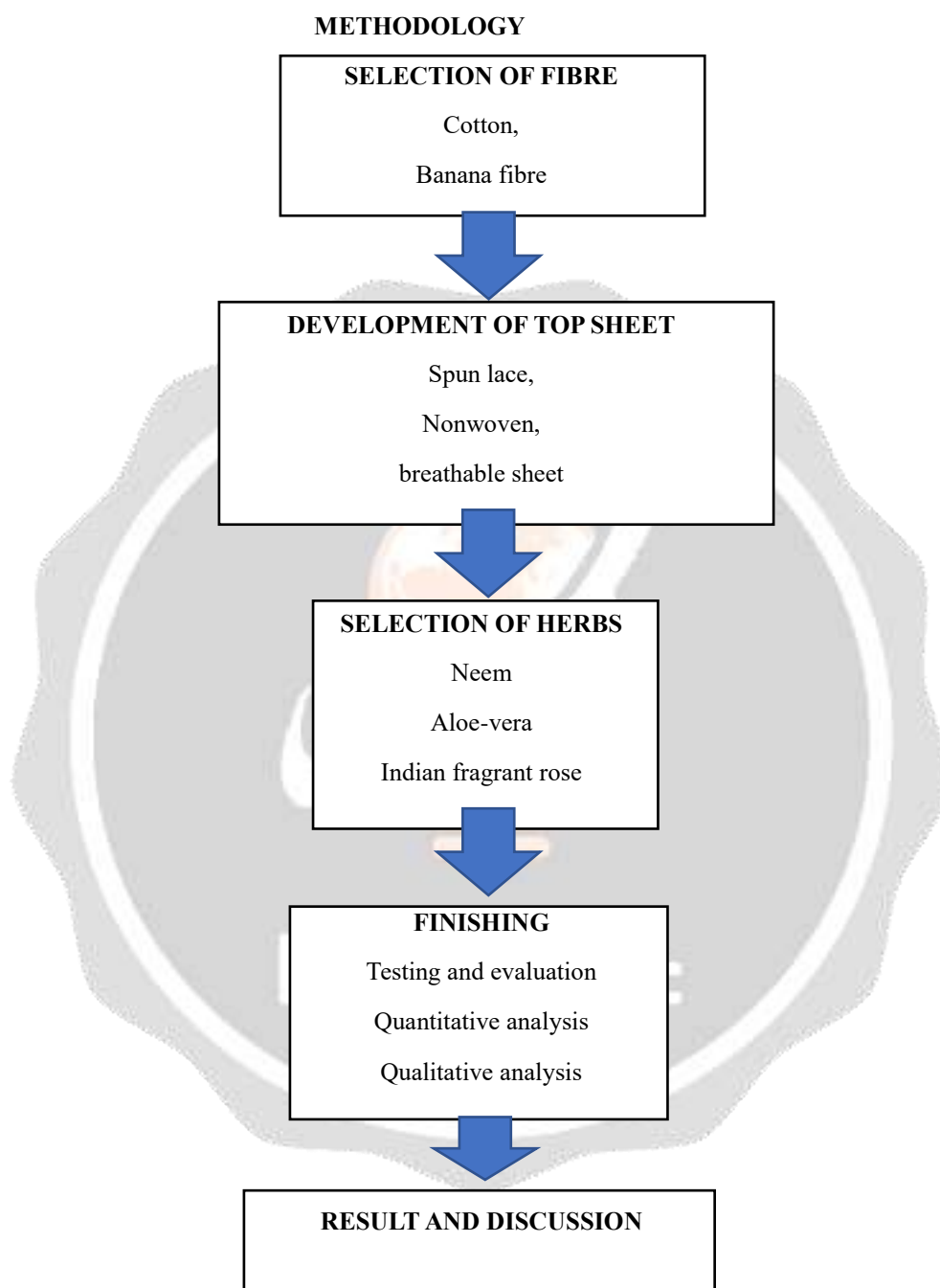
The paper develops an eco-friendly herbal sanitary napkin with biodegradable resources. The top sheet was developed by needle punching wool fibre over cotton non-woven fabric, and the core layer was sandwiched between cotton and banana fibre. Three different combinations of core layer were tried by sandwiching SAP (Super Absorbent Polymer) sheet between cotton, and banana fibre, The specific strength properties of banana fibres are better than other conventional fibres. Banana fibres have light weight, fire resistance quality, high strength, smaller elongation, biodegradability, great potentialities and robust moisture absorption quality. The performance of the napkin was assessed by absorption capacity, strike through, and wet back test. Banana fibres have superior strength, fire resistance, biodegradability, potentialities, and moisture absorption qualities. Biodegradable polyethylene and natural herbal powders used as antimicrobial agents. Banana core sanitary pads have high absorbency and biodegradability. Banana fibres have light weight, fire resistance quality, high strength, smaller elongation, biodegradability, great potentialities and robust moisture absorption quality. Biodegradable polyethylene plastic was used as barrier layer. The performance of sanitary napkin was assessed by absorption capacity, strike through, wet back test. There natural herbal powders (name , aloe Vera, rose) were used as antimicrobial agents. It is revealed from the results that sanitary pad made of banana core. chemical free and no added fragrance ,banana fibre have high absorbing capacity and biodegradable ,napkin made with cotton material ,no allergic reactions and rashes

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INTRODUCTION

Menstruation is a natural process that occurs in girls and women of reproductive age every month, usually around the age of 12. It can begin as early as eight o'clock and last 21-35 days. Women must be cautious when it comes to menstruation hygiene, as it can lead to reproductive illnesses. The menstrual pad is an absorbent item worn by women in their underwear when menstruating, bleeding after giving birth, recovering from gynaecologic surgery, experiencing a miscarriage or abortion, or in any other situation where it is necessary to absorb a flow of blood from the vagina. It is made of cotton and banana fibre, which is one of the strongest natural fibres and biodegradable. It is recommended to be changed every 3-4 hours to avoid certain bacteria that can fester in blood. Adhesives on the pad can be irritating on any part of the skin, especially this sensitive area.



SELECTION OF FIBRE

NEEM

Neem has antibacterial, antiviral, anti-parasitic, Neem leaf has antibacterial properties It is also antifungal. Need leaf is also antioxidant, anti-mutagenic and ant carcinogenic.

ALOEVERA

Phenolic compounds of Aloe Vera powder can still be maintained. Some of quality parameters such as water content, pH, solubility, colour, appearance, and microbiology are compliance with the standard of available commercial product.

BANANA FIBRE

Banana plant does not only produces delicious fruit but it also provides textile fibre known as banana fibre. Banana fibre is a natural fibre having low thickness, appropriate rigidity and mechanical properties and high disposability and renewability. It is also recyclable and biodegradable. Banana fibre is a fibre obtained from pseudo-stem of banana plant



Fig:(01)banana fibre

It has a similar look to bamboo fibre, yet its fineness and spin ability are superior to bamboo fibre.

COTTON

Fig:(02)cotton

Cotton is sustainable, renewable, and biodegradable, It is eco-friendly fibre, It Absorbs water and breathable material. It is natural, cellulosic fibre. It is soft, light weight and absorbent material.

Organic cotton is the best choice for people with sensitive skin, allergies, and chemical sensitivities. Organic cotton refers to naturally cultivated cotton without the use of any synthetic agricultural chemicals such as fertilizers or pesticides or transgenic technology. It was first planted in the 1980s as an attempt to secure sustainable, ecological, and bio dynamic agriculture.

NEEM

Azadirachta indica, commonly known as Neem, has attracted worldwide prominence in recent years, owing to its wide range of medicinal properties.



fig:(03)neem

Neem leaf powder is an integral part of Ayurveda medicine, and it is used to balance antiseptic Neem leaf powder purifies the blood, battles free radical damage, flushes out toxins, treats insect bites and cures ulcers.

INDIAN FRAGRANT ROSE

The anti-inflammatory properties of rose water can help reduce skin redness, prevent additional swelling, and soothe the discomfort of acne. rose water is rich in vitamin C and phenolics, making it a natural, anti-inflammatory option for inflamed acne. Antioxidants in Rose prevent cell damage and help in regenerating skin tissues. They also neutralize free radicals, providing anti-aging benefits to the skin as well. While the rose is excellent for all skin types, it is incredibly effective for dry skin. It contains moisturizing

SPUNLACE NON WOVEN



fig(04)spun lace

Spun lace is a non-woven fabric, based on the bonding by water jets of carded web. The hydro entangled bonding technology is a system in which water is emitted under high pressure and velocity from closely positioned nozzles onto a web of loose fibres.

NON WOVEN SHEET



fig(05)non-woven

Non-woven fabrics are broadly defined as sheet or web structures bonded together by entangling fibre or filaments (and by perforating films) mechanically, thermally or chemically

Non-woven fabrics are extensively used in the manufacture of both single use (or disposable) and durable clothing, notable market segments being protective clothing, garment linings, interlinings, wadding's, shoe linings and synthetic leather fabric

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Non-woven PP is made by taking polypropylene polymers and spinning them using heat and air into long fluffy threads, like cotton candy, then pressing the threads together between hot rollers to get a flexible but solid fabric with a weave-like texture similar to canvas. Waterproof layer non-woven made of polyester.

RESULT AND DISCUSSION

REPORT

TEST OF ABSORBENTS

The absorbency time test determines the suitability of a fabric for a particular use, as in the case of gauze or towelling. A drop of water is allowed to fall from a fixed height onto the taut surface of a test specimen. The time required for the water drop to disappear is measured and recorded as wetting time.

Tests are conducted on absorbents by subjecting them to liquids. If they can soak adequately without leaking, they are accepted to be good. Five minutes after the last gush from the absorbency test, six pre-weighed dry filter papers are placed on the sanitary pad and held down for 30 seconds.

TEST OF PH VALUE

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TEST OF DISPOSABILITY

Sanitary napkins should be made from disposable materials. For that, they are put in a container of 15 litres of water and are stirred. Disposable pads get disintegrated when they are subjected to the test.



MODEL	SIZE	ABSORBENCY
HERBAL SANITARY NAPKIN	280*150mm	150ml
	330*160mm	180ml

It contains herbal, cotton in core layer and it is absorbed that better quality cotton used,
The absorbing time is within 1 seconds

CONCLUSION

From the result of performance characteristic of herbal sanitary napkin we can conclude that sanitary napkin can be manufactured by the available natural resources(Herbs)developed sanitary napkin shows satisfactory performance in terms of absorption, strike through, wetback, leakage proof etc .banana fibre demonstrate high wicking rate than core blend of cotton |banana .strike through test shows no significant difference with respect to antimicrobial treatment the most common problems of respondents were found to be wetness, leakage and need of frequent changes .despite the fact that the use of super absorbent polymer enhanced the absorption and leakage prevention of sanitary napkin, the sense of dryness and leakage prevention are not fully met in existing sanitary napkins. Therefore, in further studies, the gelatine property of the absorbent layer should be enhanced and also some studies should be performed on the moisture management properties of upper layer, namely top sheet and acquisition-distribution layer also, there were statistically significant differences between the rating of some statement depending on the age groups of respondents, such as leakage prevention and having wings as performance criteria.

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HERBAL SANITARY HERBAL NAPKIN
FINAL PRODUCT



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