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ANTIFUNGAL AND ANTIBACTERIAL SKIN PATCH FROM SELECTED HERBAL EXTRACTS

PROBLEM STATEMENT

Conventional medicated skin patches may have side effects on skin tissues. The patch lacks nutrients important for skin rejuvenation. The used of skin patches enriched with natural herbal extracts can help in the healing process on skin affected by fungal and bacterial infections.

PRODUCT DESCRIPTION

- This skin patch has an antifungal and antibacterial properties which act against microbes such as *Escherichia coli*, *Staphylococcus aureus*, *Proteus mirabilis* and *Candida albicans*.
- It can also inhibit the growth of *Vibrio cholera* and *Proteus vulgaris*.
- A new formulation which is a mixture of extracts from *Tridax procumbens*, *Lawsonia inermis* and *Euphorbia hirta* herbs is effective against fungal and bacterial infection on skin.
- The patch is made from cotton gauze enriched with the herbal mixture.
- It is easy to apply, elastic and comfortable for attachment to the skin surface.
- Besides, it can also repair the uneven skin structure caused by dry skin, skin rashes and other skin problems.
- These selected herbs contain many active ingredients such as flavonoids, antioxidants, phenols and minerals.



Figure 1: Cotton gauze enriched with active anti-fungal and anti-bacterial properties from herbal extracts.

COMMERCIAL POTENTIAL

- Herbal extract skin patches, also helps to rejuvenate skin tissues.
- Natural ingredients, non-chemical and non-toxic.
- Easy to apply and comfortable.
- Suitable for all ages.

NOVELTY

- New medicated formulation using selected herbal extracts
- Skin adhesive or patch enriched with active anti-fungal and anti-bacterial ingredients made from natural herbs.
- Novel non-wound skin adhesive or patch for antifungal and antibacterial treatment

COLLABORATION

- Collaboration with Technology Park Malaysia, Perlis, Malaysia.

PUBLICATIONS

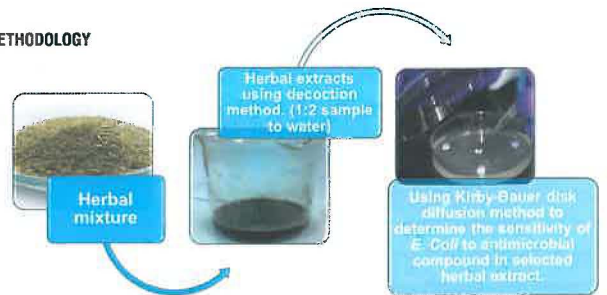
- Gold Medal in EXPo Unimap, 2014
- Publication in Scopus for Icomeia 2014
- International Postgraduate Conferences on Engineering Mathematic (IPCEM) 2014.

PROCESS FLOW

a) SAMPLES

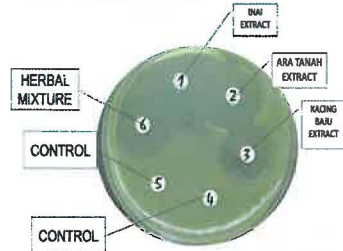


b) METHODOLOGY

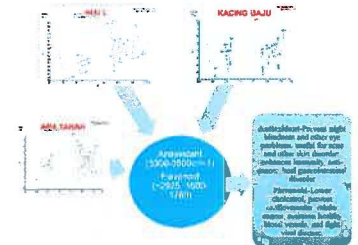


RESULTS

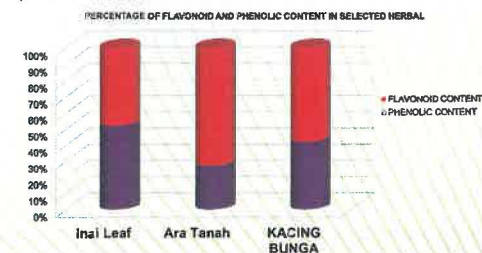
a) RESULT FOR *E. coli* – INHIBITION THROUGH DISK DIFFUSION METHOD



b) FTIR ANALYSIS - SECONDARY METABOLITES



c) PERCENTAGE OF FLAVONOID AND PHENOLIC CONTENT



ACKNOWLEDGEMENT

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