

## ABSTRACT

*Psoriasis is a chronic skin disease that causes inflammation and the formation of skin plaques that interfere with the sufferer's quality of life. This research aims to synthesize and understand the characterization of bacterial cellulose-polyvinyl alcohol (PVA) hydrogel as a candidate drug delivery material that can increase the delivery of active ingredients into the skin for psoriasis. Bacterial cellulose is synthesized using coconut water which is used as a fermentation medium for *Acetobacter xylinum*. After formation, the bacterial cellulose was homogenized with a 10% PVA solution, then glutaraldehyde and glycerol were added to improve the mechanical properties and elasticity of the hydrogel. Then heated at 80°C for 4 hours. The test parameters that will be carried out in this research are the FTIR test, viscosity test and fluid affinity test. a) FTIR test results show that a function is formed. These functions include C-H, C=O, Amide II (C-O) skeletal bonds, as well as C-H bending vibrations and C-O stretching. b) The viscosity test shows that the hydrogel material formed is suitable for use in topical products. Fluid Affinity shows that the hydrogel produced in this study meets the criteria for type 1e, which is suitable for use as a wound dressing, especially for dry wounds with low exudate. Thus, the synthesis and characterization of bc-pva hydrogel as a candidate for drug delivery in psoriasis.*

**Keywords:** *Glycerol, glutaraldehyde, hydrogel, psoriasis, bacterial cellulose-pva*