VALIDATION OF THE METHOD FOR IDENTIFICATION OF PARACETAMOL IN JAMU FOR RATIOS USING HPLC (HIGH PERFORMANCE LIQUID CHROMATOGRAPHY)

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ABSTRACT

Background: *Paracetamol is a chemical with medicinal properties that cannot be used in herbal medicine preparations based on Food and Drug Supervisory Agency (BPOM) Regulation Number 25 of 2023. Based on the Indonesian Pharmacopoeia Edition VI, paracetamol analysis uses the High Performance Liquid Chromatography (HPLC) method. However, the chromatography systems used are different. Therefore, it is necessary to carry out research related to the validation of the HPLC method for identifying paracetamol in herbal medicine for aches and pains.* ***Objective:*** *The aim of this research is to validate the HPLC method for identifying paracetamol in herbal medicine for stiffness based on the most optimal method.* ***Research Method:*** *This research uses four different moving phases and two different flow rates for optimization. Then validation is carried out in the form of accuracy, precision, specificity, linearity, detection limit and quantification tests on the most optimal method.* ***Research Results:*** *The results of the research that has been carried out show that the method with a mobile phase of ammonium acetate:methanol:acetonitrile (90:5:5) buffer with a flow rate of 1.5 mL/min is the most optimal method. The results of the validation of the most optimal method show that the accuracy test obtained an average %recovery of 104.35%, the precision test obtained a %RSD of 0.44%, linearity of 0.995, detection limit of 2.184 ppm, quantification limit of 6.619 ppm, and specifications that have met the requirements.* ***Conclusion:*** *Based on the research results, it can be concluded that the analytical method used is sufficient to meet the requirements for determining paracetamol levels in herbal medicine for stiffness and rheumatic pain.*

Keywords: *Paracetamol, Jamu ache rheumatic pain, HPLC*