IDENTIFICATION OF SIBUTRAMINE HCl AS A PHARMACEUTICAL CHEMICAL IN SLIMMING HERBAL MEDICINES SOLD ON E-COMMERCE USING THE TLC METHOD

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ABSTRACT

Background: Obesity is a growing global health issue, leading to increased demand for slimming products. One common form of these products is jamu (traditional herbal medicine), which has become more accessible through e-commerce platforms. However, this ease of distribution also increases the risk of illegal products containing Chemical Drug Substances (BKO), such as sibutramine HCl. Sibutramine is often added to suppress appetite but can cause serious side effects, including cardiovascular disorders. The Indonesian National Agency of Drug and Food Control (BPOM) revoked its distribution license in 2010, yet some manufacturers continue to use it. This study analyzes slimming jamu sold on e-commerce platforms, focusing on identifying the presence of the BKO sibutramine HCl in products with fake BPOM registration numbers. **Objective:** This research aims to identify sibutramine HCl in slimming jamu products sold online using the Thin Layer Chromatography (TLC) method. **Methods:** The study used a qualitative descriptive TLC method. The TLC system consisted of silica gel GF254 plates with a mobile phase of acetone:chloroform (7:3 v/v). **Results:** Out of 5 samples tested, 4 samples (SB, DT, DJ, and NR) showed the same Rf value (0.875) as the sibutramine HCl standard, indicating the presence of sibutramine HCl. One sample (PK) had a different Rf value (0.95), suggesting it either tested negative or contained a different compound. Thus, 80% of the tested samples in this study were found to contain sibutramine HCl. **Conclusion:** The findings indicate that the majority of slimming jamu products sold on e-commerce platforms, particularly those with fake BPOM registration numbers, tested positive for sibutramine HCl (4 out of 5 samples).

Keywords: Chemical Drug Substances (BKO), Sibutramine HCl, Slimming Jamu, Thin Layer Chromatography, E-commerce.