



UNIVERSITI TEKNOLOGI MARA

**“THE OPTIMIZATION OF COOLING TIME OF BETAMETHASONE
VALERATE CREAM PREPARATION IN PHARMACY MANUFACTURING
DEPARTMENT, HOSPITAL MELAKA**

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ABSTRACT

The stability of a cream preparation is important to ensure the maintenance of product quality, safety and efficacy throughout its shelf-life. The stability may be evaluated physically or chemically such as evaluates for its appearance, clarity, odour, pH, viscosity, degradation products, preservative and antioxidant content if present and also microbial limits. Thus, this study is conducted to determine the optimum cooling time for betamethasone 17-valerate cream (bvc) prepared in Pharmacy Manufacturing Department of Hospital Melaka before closing its container. This study seems important as if the container is closed too early, the effect of such action will likely affect the stability of the cream either physically or chemically. So, for this research study, in total of 10 samples of 100g of bvc with different cooling time were taken randomly to be observed. Then, we focused on the physical changes of the cream to determine which samples that can maintain their physical stability until the expiration date which is in 6 months duration. From the results, all of the samples were observed with no change in colour and odour characteristics including cracking of the cream. Nevertheless, the appearance was changed and the level of changes were divided into five rankings. Then, the results was simplified in table form and with usage of Microsoft Office Excel, graphs were tabulated. Next, the optimum cooling time is 6 hours and the result can be used to produce an elegant pharmaceutical product with an excellent maintenance of physical stability over its shelf life. Thus, patient will have no doubt to use the product, less product wastage and can help in saving the country's economy in pharmaceutical field.

Keywords : Betamethasone 17-valerate (BVC), cooling time, physical stability, shelf-life.

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