UNIVERSITI TEKNOLOGI MARA

QUANTIFICATION STUDY OF CAPTOPRIL EXTEMPORANEOUSLY PREPARED BY HOSPITAL SUNGAI BULOH

NURUL DYANA BT HARUN

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ABSTRACT

Most of the liquid formulations are prepared in concentrations that are not suitable for administration to children. They have difficulty in swallowing drugs in solid dosage form such as tablets and capsules. To overcome this problem, drug suspensions are prepared extemporaneously by pharmacists by reformulating the drug from the solid tablet dosage form to the suitable desirable dosage for pediatrics. Captopril is one of the common extemporaneously preparation prepared for treatment of children with heart failure. The aim of this study is to identify the stability of captopril syrup 1mg/ml prepared by Hospital Sungai Buloh and to quantify the captopril syrup 1mg/ml using HPLC. The HPLC system with UV detector with 220 nm wavelength was chosen. The samples were analyzed at day7, 14 and 21. The formulation found to be stable at 21 days at room temperature. The captopril syrup concentration was decreased by 12% of the initial concentration after 7days.

Keywords: Captopril, HPLC, Extemporaneous preparation, room temperature.

CHAPTER 1

INTRODUCTION

1.1 Introduction

Some drugs that are necessary for pediatric patients are not commercially available in dosage forms. In order to overcome this problem, pharmacists have to prepare the drugs extemporaneously for individual patients use. Extemporaneous compounding involves re-formulation of medications into suitable dosage forms as required by a patient (Nunn, 2003). We must consider the physical, chemical, and biological characteristics of all drug substances and pharmaceutical ingredients that we use in formulating the product. The formulation made must be compatible with one another to produce a stable drug product which have a pleasant taste, and easy to administer.

Nowadays, most of the drugs are available in form of tablet and capsule. However, tablets and capsules are generally unsuitable for administration to children aged less than four years and suitable tablet strength might not be available for use in older children (Nahata & Allen Jr., 2008; Tony Nunn & Julie Williams, 2005) . This is because a solid dosage forms containing a fixed dose that would also be impractical to be use in these