UNIVERSITI TEKNOLOGI MARA

ANTIMICROBIAL ACTIVITY OF DIFFERENT FUNGAL EXTRACTS (NW11a, NW1b, 11L1c)

NASYRAH AMALINA BT SARGINAN

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ABSTRACT

The increasing number of newly emerging pathogens, uncontrolled multi drug resistance towards stains and widely spreading infectious disease acquired a new antimicrobial agent to be discovered and developed immediately. The aims of this study is to find out either the isolated fungi used in this study have antimicrobial activity or not besides studying the morphology of the fungi and do extraction process to yield the crude extract. The method used is by cultivating the fungi on the Malt extract agar and Malt extract broth for 14 days and then do extraction process using EtOAc and n-BuOH. The antimicrobial activity of the fungi is tested using Disk Diffusion Method. From the findings, none of the isolated fungi shows antimicrobial activity. This negative result might be due to several factors such as too low extract concentration used and the metabolite of the fungi may be destroyed during the extraction process.

CHAPTER 1

INTRODUCTION

1.1 Background

The discovery of antibiotics has begun in 1939 and 1940 where three significant antibiotics were found, namely, thyrothicin (of bacteria origin), penicillin (a rediscovery of an antibiotic of fungal origin) and actinomycitin (a product of actinomycetes) (Swartz, 2002). Since that, many researches have been extensively conducted and antibiotics such as tetracyclines, cephalosporins, aminoglycosides and macrolides were discovered. However, in 1960 and 1970, semisynthetic penicillinase-resistant penicillins and cephalosporins and the emergence of methicillin-resistant strain of *S. aureus* have been reported (Swartz, 2002). This serious problem and other factors, the newly emerging old and new pathogens (mycobacteria, anerobs, etc.), the high mortality of some common bacterial diseases, the problems of viral infections and neoplastic diseases required new agents that have therapeutic value to be introduced immediately (Berdy, 2005). Natural products have been found to be precious for the discovery of the new agents than synthetic combinatorial libraries.

1.2 Natural products and secondary metabolite

Natural products are obtainable from all living organism, mostly from higher plants (Berdy, 2005). Nowadays, most of the pharmaceuticals are products of synthetic