

Abstract

The toxicity of antineoplastic drugs has been well known since they were introduced in the 1940s. Most antineoplastic drugs are nonselective in their mechanism of action, they affect noncancerous as well as cancerous cells. During the 1970s, evidence indicated health care workers may be at risk of harmful effects from antineoplastic drugs as a result of occupational exposure. Since then, reports from several countries have documented drug contamination of the workplace and identified drugs in the urine of health care workers. Evidence also exists of teratogenic and adverse reproductive outcomes and increased cancers in health care workers. During the past 30 years, professional organizations and government agencies have developed guidelines to protect health care workers from adverse effects from occupational exposure to cytotoxic drugs. Being the only health care provider for oncology care in Macau, it is paramount important to develop standard guidelines for safe handling of hazardous drugs. Hence, by reviewing various standards of practice around the globe, this paper aims at developing applicable guidelines that assures minimal risk to health care workers in the workplace.

Keywords: Isolators, biological safety cabinet, cleanroom, cytotoxic drugs, anti-neoplastic agents, hazardous drugs, validation, cleanliness

This paper consists of eight parts:

Chapter I: Introduction – By analyzing and comparing the existing literature, this paper introduces the background, purpose, structure and method of this research and defines the terminologies and terms referred in this paper. Findings show that standard of practice for safe handling of hazardous drugs is essential in the workplace. Our current practice for safe handling of hazardous drugs in Macau is greatly differed from the practice that many countries employ.

Chapter II: Legal Requirements – Comparing the Occupational Health and Safety Regulations for safe handling of hazardous drugs in different countries. Results show that an employer has a legal duty to protect the health of employees in the workplace.

Chapter III: Administrative Controls – Reviewing the administration controls employ in various parts of the world. While guidelines differ in some respects, the general principles and goals are very similar.

Chapter IV: Types of Engineering Controls – Introducing the types of engineering controls designed to eliminate or reduce worker exposures to hazardous drugs.

Chapter V: Engineering Controls – Comparing the different engineering controls that other countries employ which may reduce the risk of handling hazardous drugs.

Chapter VI: Standard of Practice in the Asia Pacific Region – Discussing and understanding the standard of practice in the Asia Pacific Region enable us to provide a safer workplace environment for health care workers in Macau.

Chapter VII: Current Situation in Macau – Discussing the current situation and the problem existing in Macau.

Chapter VIII: Strategies for Implementation of Safe Handling of Hazardous Drugs in Macau – Providing recommendations and solutions for safe handling of hazardous drugs for the future development of practicing guidelines that is applicable for the health care settings in Macau.