



UNIVERSITI TEKNOLOGI MARA

THE EFFECTIVENESS OF RADIOACTIVE IODINE THERAPY ON THYROTOXICOSIS

**HAMIDAH BINTI SHABRI
NURUL LIYANA SYAMIMI BINTI ZAKARIA
NURUL NAJIAH BINTI AZAMAM**

**DIPLOMA IN PHARMACY,
FACULTY OF PHARMACY,
UNIVERSITI TEKNOLOGI MARA
PULAU PINANG**

MARCH 2018

The Effectiveness of Radioactive Iodine Therapy on Thyrotoxicosis

Prepared by:

**(Hamidah Binti Shabri, Nurul Liyana Syamimi Binti Zakaria, Nurul Najiah
Binti Azamam)**

1st Supervisor: Cik Suriana Binti Md Yusoff

Pharmacy Department, Hospital Universiti Sains Malaysia,
Kubang Kerian.

2nd Supervisor: Mdm Wan Nordini Binti Wan Hasnor

Lecturer of Faculty of Pharmacy, UiTM Pulau Pinang,
Bertam Campus.

Submitted in partial fulfilment for the Diploma in Pharmacy of

Faculty of Pharmacy,
Universiti Teknologi MARA
Pulau Pinang

March, 2018

Faculty of Pharmacy,
Universiti Teknologi MARA
Pulau Pinang

ABSTRACT

Radioactive iodine has been widely used to treat hyperthyroid since past 60 years. Hyperthyroid is a medical condition that occur where an overactive thyroid cause the thyroid gland to produce too much of thyroid hormone which are thyroid-stimulating hormone (TSH) and thyroxine (T4). In this study, an attempt has been made to study the effectiveness of radioactive iodine (RAI) on thyrotoxicosis. This study is focused on the changes of thyroid hormone in patients that took radioactive iodine as their treatment for thyrotoxicosis. Our study was done at Hospital Universiti Sains Malaysia (HUSM), Kubang Kerian, Kota Bharu which also own Radiopharmacy department itself. Our study subject was the previous patient who came to the Radiopharmacy department to receive RAI treatment within the years of 2007 to 2016. 100 patients were chosen randomly from the patient attendance form. From the data, the effectiveness of the RAI treatment is obtained. The TSH and T4 level before and after the treatment were taken to compare the level of both hormone. The TSH level before treatment is below the normal range (0.3 mIU/L – 4.2 mIU/L), while level of T4 is higher than normal range (12 pmol//L – 22 pmol/L) which called hyperthyroidism. After the treatment, the level of both hormones are either within the normal range, hypothyroid or hyperthyroid. This study also collected the number of relapsed cases across races, ages and gender. For race, Malay had the highest number of relapsed than Chinese. Female patients recorded the most number of patient relapsed compared to the male patients. From the result of geriatric patients, age between 51 years old to 60 years old make the highest mark in the number of relapsed case. The sufficient dose for RAI therapy recorded that high dose can

reduce the number of relapsed case. From the result, dose of 15mCi is better and effective than 10mCi. Radioactive iodine is used to treat hyperthyroid and improve the survival rates of patients for a better quality life and it is proven to be effective.

ACKNOWLEDGEMENT

First and foremost, we would like to thank all those who gave us chances in conducting and completing this research as our Final Year Project. Also, a lot of thank to Department of Pharmacy in HUSM Kubang Kerian, Kota Bharu, Kelantan especially Radiopharmacy Department for helping and guiding us toward completing this research. This research maybe could not have been done without their help and we are very grateful to have them on our side along this research.

Also, we would like to express our gratitude toward our 1st supervisor Cik Suriana Binti Mohd Yusof from Department of Pharmacy in HUSM for her guidance and commence on our research also her experience has aid us a lot in our research. Next, how could we forget on En Hanif Bin Abdul Rahman, a pharmacist who helped us when Cik Suriana was on leave for 3 months due to the health problem. More, we would like to thank our faculty supervisor, Puan Wan Nordini Binti Wan Hasnor as she has instil us with her new and fresh ideas and she also have excellent experience in doing research so, with her guidance we do not need to worry about almost of every problems encountered in this research. Then, we also want to thank Madam Che Noriah for her full commitment in ensuring us in correct path in our research progress. We were very grateful to have her reminding us on important aspects in the research and preparing us tentative to ease our work.

Furthermore, our sincerest thanks to all Pharmacist and Pharmacist Assistants in HUSM whom directly or indirectly involves in this research and helping us in our study research in HUSM.