

Synopsis for Dissertation Submitted



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for the partial fulfilment for the award of the degree of
Master of Business Administration (MBA)
in
Hospital and Health Management

By

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Title: A STUDY ON EMERGING TRENDS IN RADIOPHARMACEUTICALS DRUGS

INTRODUCTION:

Radiopharmaceuticals, which combine radioactive isotopes with pharmaceutical compounds, play a pivotal role in the realms of diagnostic and therapeutic imaging within nuclear medicine. With the continuous evolution of healthcare technologies, it is crucial to explore new trends and advancements in radiopharmaceuticals to enhance their efficacy and broaden their applications.

RESEARCH QUESTION:

What are the emerging trends in radiopharmaceuticals, particularly in the context of diagnostic and therapeutic imaging within nuclear medicine?

OBJECTIVES:

1. To review the latest developments in radioisotope production and radiolabeling techniques for radiopharmaceuticals.
2. To study the changes in trends in radiopharmaceutical research and development, clinical trials, and product launches.

MATERIAL AND METHODS:

- **STUDY DESIGN:** Systematic review and analysis.
- **SETTING:** Data collected from various scientific databases and clinical trial repositories.
- **STUDY POPULATION:** Research studies, clinical trials, and publications related to radiopharmaceuticals.
- **INCLUSION CRITERIA:** Studies on radiopharmaceutical drugs published between January 2010 and June 2024.
- **EXCLUSION CRITERIA:** Studies on radiopharmaceutical drugs published before 2010.
- **DURATION OF STUDY:** 3 months.
- **SAMPLE SIZE:** Not applicable (systematic review).
- **SAMPLING TECHNIQUE:** Purposive sampling of relevant studies and trials.
- **DATA COLLECTION PROCEDURE:** Collection of secondary data from sources such as ClinicalTrials.gov, company pipelines, literature reviews, and recent publications.

OPERATIONAL DEFINITIONS:

- **Radiopharmaceuticals:** Medicinal preparations containing radioactive isotopes used in diagnostic or therapeutic procedures, typically administered to patients for imaging or treatment purposes.
- **Radioisotopes:** Isotopes of chemical elements that exhibit radioactive decay, commonly utilized in the production of radiopharmaceuticals for medical applications.

DATA ANALYSIS PLAN:

The data analysis will involve a descriptive and exploratory approach, focusing on identifying patterns, trends, and advancements in the field of radiopharmaceuticals. This includes analyzing the types of radioisotopes used, the development of theranostic agents, and the technological progress in radiolabeling and targeting methods.

ETHICAL CONSIDERATIONS:

Since this study involves the review of existing literature and clinical trials, there are no direct ethical concerns related to human subjects. However, ethical considerations related to the accuracy and integrity of the reviewed data will be maintained.

IMPLICATIONS OF RESEARCH:

This research aims to highlight the advancements in radiopharmaceuticals, which could lead to improved diagnostic and therapeutic options in nuclear medicine. The findings may inform future research, clinical practices, and the development of new radiopharmaceuticals, ultimately benefiting patient care and treatment outcomes.

REFERENCES:

1. Forward to the Past: The Case for Quantitative PET Imaging
2. The development of new radiopharmaceuticals
3. Intra-Arterial Delivery of Radiopharmaceuticals in Oncology: Current Trends and the Future of Alpha-Particle Therapeutics
4. Radiopharmaceuticals for cardiac imaging: Current status and future trends
5. Design and Challenges of Radiopharmaceutical