International Platform of Registered Systematic Review and Meta-analysis Protocols

INPLASY

Immune checkpoint inhibitors in cancer patients from the perspective of pharmaceutical care: a scoping review

INPLASY202460108

doi: 10.37766/inplasy2024.6.0108

Received: 26 June 2024

Published: 26 June 2024

Lira, GA; Brandão, JA; Anderson, L; Bassi, ÊJ.

Corresponding author:
Ênio José Bassi

enio.bassi@icbs.ufal.br

Author Affiliation:
Universidade Federal de Alagoas.

ADMINISTRATIVE INFORMATION

Support - FAPEAL.

Review Stage at time of this submission - Data analysis.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202460108

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 26 June 2024 and was last updated on 26 June 2024.

INTRODUCTION

Review question / Objective The objective of this scoping review was to assess the contribution of pharmaceutical care to the management of cancer patients undergoing treatment with immune checkpoint inhibitors (ICIs).

Background The International Agency for Research on Cancer – IARC (2022) estimates that from 2022 to 2030, there will be 24.1 million new cases of cancer worldwide. This illness is influenced not only by genetic predispositions but also by several risk factors inherent to individuals and the environment. Currently, several therapies are employed in the treatment of cancer, including conventional modalities such as surgery, radiotherapy and chemotherapy, as well as more recent treatment approaches such as targeted therapies and immunotherapy. In recent years, a promising class of drugs has emerged to fight cancer: immune checkpoint inhibitors (ICIs), a type of immunotherapy capable of enhancing the immune response. These medications target the PD-1/PD-L1 and CTLA-4 pathways. ICIs may lead to adverse events (AEs) in patients while cancer therapy is ongoing. These side effects are classified as immune-related adverse events (irAEs) and general adverse events. IrAEs can affect a single organ or multiple systems simultaneously. Depending on the severity of the AEs, treatment with ICIs may be permanently discontinued or, in more severe cases, may lead to debilitating consequences or even death. A professional trained to identify and monitor drug-related problems is the pharmacist, who, through pharmaceutical care, seeks to optimize and enhance the effectiveness and safety of pharmacological therapies. The pharmacist is a qualified and essential professional for identifying, preventing and resolving drug-related problems (DRPs), thus contributing to reducing morbidity and mortality associated with drug therapy, improving quality of life for patients, preventing additional costs resulting from inappropriate medication use, and adding value to patient safety.

Rationale Cancer treatment has become a significant health challenge, with notable changes in recent years due to increasing knowledge of cancer biology. The use of immune checkpoint inhibitors (ICIs) has shown promising results, but ICIs can induce adverse events (AEs), which can cause serious consequences for patients. Pharmaceutical care aims to prevent, identify, and address issues related to medications, such as AEs caused by these agents.

METHODS

Strategy of data synthesis A search was conducted in electronic databases including Pubmed, Embase, Scopus, and Web of Science to identify manuscripts published up to July 2023 focusing on the utilization of immune checkpoint inhibitors (ICIs) in the treatment of adult cancer patients who received pharmaceutical care. The MeSH terms for immune checkpoint inhibitor, neoplasms, and pharmaceutical service were used. The search was not limited by time period or language, and the results were imported into Mendeley (Elsevier), with duplicates removed.

Eligibility criteria The inclusion criteria were as follows: 1) studies conducted with adult cancer patients undergoing treatment with ICIs; 2) studies reporting toxicity experienced by patients receiving treatment with ICIs; 3) studies utilizing FDA-approved ICIs; and 4) studies including pharmacist involvement in patient care. The exclusion criteria were as follows: 1) systematic review studies or any other type of review, such as a narrative literature review; 2) studies using ICIs not approved by the FDA at the time of article selection; 3) studies involving pediatric populations; and 4) studies without the direct participation of a pharmacist.

Source of evidence screening and selection A search of electronic databases, including PubMed, Embase, Scopus, and Web of Science, was conducted to identify manuscripts published up to July 2023 that focused on the use of ICIs for the treatment of adult cancer patients who received pharmaceutical care. The MeSH terms for immune checkpoint inhibitor, neoplasms, and pharmaceutical service were used.

Data management The initial screening of articles was independently conducted by two authors based on titles and abstracts, with a focus on immunotherapy for adult cancer patients. Any discrepancies were resolved by a third author. After that, the availability of full-text articles was checked, and those unavailable were excluded. The selected studies were analyzed, and data were extracted based on the inclusion criteria. They were organized in Microsoft Excel spreadsheets, which included general data of each study (authors, year and journal of publication, country and period of completion), data on the study population (age, sex, type of cancer and presence of any comorbidity or particularity), specific data about the study (number of participants, ICIs used, treatment duration, ICI protocol or dosage, reported adverse events, classification of adverse events by severity and time from treatment with ICI until the onset of adverse events) and data related to the pharmacist's participation in the study (role of the pharmacist, tools used, pharmaceutical interventions, and the outcome of pharmaceutical interventions).

Language restriction There was no language restriction.

Country(ies) involved Brazil.

Keywords Pharmacist; Pharmaceutical care; Cancer immunotherapy; Immune checkpoint inhibitors.

Contributions of each author

Author 1 - Giselle Amorim Lira - Concept of the study, data collection, data analysis and management, data synthesis, first draft of manuscript, manuscript writing and review.
Email: gamorim017@gmail.com
Author 2 - Júlia de Andrade Brandão - Data collection, data analysis, data review, review of the manuscript.
Email: andradebrandaojulia@gmail.com
Author 3 - Leticia Anderson - Data analysis, manuscript writing and review.
Email: leticia.anderson@iqb.ufal.br
Author 4 - Ênio José Bassi - Concept of the study, manuscript writing and review.
Email: enio.bassi@icbs.ufal.br