## REVIEW ARTICLE

## **Adjuvant Approach to Mitigate the Adverse Effects of Cancer Treatments Using Homeopathic Medicines**

Arun Kumar<sup>1,2</sup>, Mahima Sharma<sup>1</sup>, Suneel Prajapati<sup>3</sup> and Pankaj Gupta<sup>1,\*</sup>

<sup>1</sup>Drug Standardization Unit, DDPR-Central Research Institute for Homeopathy, Under Ministry of AYUSH, Govt. of India, Noida 201301, Uttar Pradesh, India; <sup>2</sup>Institute of Nuclear Medicine and Allied Sciences (INMAS)-DRDO, Delhi 110054, India; <sup>3</sup>Central Forensic Science Laboratory, Ministry of Home Affairs, Government of India, Kharadi, Pune, Maharashtra, India

**Abstract:** *Background:* Worldwide, cancer patients are facing problems with life-and-death decisions due to the associated severe adverse and sometimes fatal effects of existing conventional treatments. Due to the severe adverse effects of existing therapies, effective cures are progressively explored for anticancer treatment. Mostly the conventional therapies are based upon nonspecific cellular destruction properties; therefore, a treatment approach is desired to reduce the toxic burden upon normal tissues. Among all alternative medicine systems, homeopathy is one of the most popular treatments for cancer patients globally due to its minimal side effects.

## ARTICLE HISTORY

Received: October 04, 2021 Revised: February 01, 2022 Accepted: March 03, 2022

DOI: 10.2174/1573394718666220512163517

*Methods*: In this present review, we have attempted to comprehend the literature reports on homeopathic medicine in cancer treatment.

**Results:** Homeopathy has also proved its adjuvant approach to minimizing the symptomatic consequences of cancer. However, the insufficiency of evidence and lack of recurrence of the trials cause difficulty in drawing any conclusion about homeopathy as adjuvant therapy. Based upon the etiology, the genoprotective potential of homeopathic drugs was reviewed and found inconsequential evaluation and scanty literature.

**Conclusion:** Hence, the present review gives a comprehensive summary of retrospective studies and suggests an integration of rational drug selection, standard protocols, and quantitative analysis for revealing the differential role and plausible application of homeopathy in better cancer management.

Keywords: Cancer, radiotherapy, chemotherapy, adjuvant, complementary and alternative medicines (CAM), cancer treatments.

## 1. INTRODUCTION

The increasing prevalence of cancer with an estimated 9.6 million deaths in 2018 is a matter of global concern. A large number of studies have been undertaken to identify the potential risk of cancer and its efficacious treatment modalities. Despite it, cancer is remaining to be the second most common cause of death throughout the world [1]. Recognizing it as a leading cause of death, World Health Organization (WHO) has projected an increasing trend of annual new cases of cancer, *i.e.*, 14.5 to 21.6 million from the year 2012 to 2030 [2]. Such life-threatening risks and public health concerns have been taken on priority as a global issue by many nations so that the severe consequences of cancer can be managed effectively. As for cancer treatments are concerned, chemotherapy, surgery, and radiotherapy are the most common therapies which are available nowadays.

However, these conventional therapies always lead to dangerous long-term complications viz; both 'on-target' and 'off-target' effects on heart, liver, and brain [3-6] along with enrichment of many cancer stem cells [7, 8]. In radiotherapy, the pathogenesis of normal tissues along with tumor cells is a major challenge [9, 10]. To overcome these global challenges, researchers have been adopting new and safe modalities of screening cancer for the last few decades. However, the potential efficacy of all treatments is still controversial. Therefore, the pros and cons of existing therapies are still prompted to elucidate more efficacious approaches in the battle of cancer. The researchers are not expecting any magic bullet or a breakthrough in this direction, but they believe in the advancement and better application of conventional therapies [11-14]. Hence, existing modalities of treatment will remain the mainstay of cancer treatment for the probable future with appropriate modifications. Therefore, the usage of adjutants in main therapy has been endeavored to overcome the possible side effects on normal tissues of cancer patients [15-21]. Looking around the world, homeopathy is a popular alternative therapy to cure various acute as well as

<sup>\*</sup>Address correspondence to this author at the Drug Standardization Unit, DDPR-Central Research Institute for Homeopathy, under Ministry of AYUSH, Govt. of India, Noida 201301, Uttar Pradesh, India; Tel: +91-9999339018; E-mail: pankajgupta77@gmail.com