**ABSTRACT**

Cancer is characterized by a condition in which tissues grow abnormally and spread throughout the body. There are several factors responsible for the causes of cancer. Any substance which causes cancer is a known carcinogen. According to the 15th report on carcinogens in 2021, 256 substances are anticipated to cause cancer in humans. Mainly, there are three types of carcinogens, i.e., physical, chemical, and biological carcinogens. Carcinogens can enter the body through the process of dermal contact, ingestion, inhalation, or injection. The majority of carcinogens need to be metabolically activated in vivo before they may cause cancer. Carcinogens introduced into cells are metabolized by phase I enzymes and detoxified by phase II enzymes. Phase I enzymes convert the carcinogens into DNA-binding compounds. The chromosomal DNA and the DNA-binding metabolites interact to generate DNA adducts, which can lead to mutations or the emergence of cancer. Carcinogens also disrupt many signaling pathways, which are involved in apoptosis. Smoke is one of the major carcinogens, which accounts for 95% of cancer deaths globally. Other carcinogens include arsenic, asbestos, and bacteria. There are several techniques available for the sensitive detection of carcinogens. But there should be new methods of early detection of carcinogens so that the risk of cancer can be minimized. Reduced occupational exposure to carcinogens, worker’s protection from carcinogen exposure, limiting carcinogenic emissions from a single vehicle and education on a healthier diet can all help to lower the risks of cancer.