

## The effect of intermittent fasting on cancer prevention: a systematic review

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### Background:

Cancer consists of a large group of diseases and is considered one of the key health problems in developed countries as it negatively affects patients' life expectancy and quality of life. At the forefront of research is the prevention of cancer through diet. The aim of this study is to examine the effect of intermittent fasting on cancer prevention.

### Methods:

A systematic review was performed in PubMed and EMBASE from inception to December 2019 to identify relevant preclinical studies examining the above association. The search strategy included a combination of search and MESH terms related to intermittent fasting and cancer. Specific inclusion and exclusion criteria were set for the selection of articles. Two researchers systematically screened articles and data were extracted from shortlisted articles. Qualitative data was synthesised thematically, and a narrative synthesis was produced.

### Results:

307 reports were assessed, but only 6 preclinical studies met the inclusion criteria. Most studies concluded that intermittent fasting had a positive effect in the appearance of tumours, either by slowing down the cancer incidence through the reduction of the number of lesions and inflammation of the tissues, or by reducing the risk of certain types of cancer.

### Conclusions:

Intermittent fasting with calorie restriction appeared to have an anticancer effect in animal experiments. However, due to the limitations of the studies included, future well-designed randomized clinical trials should examine the effect of intermittent fasting over longer periods of time, parallel forms of cancer and different patient populations.

### Key messages:

- Animal experiments indicate a possible preventive effect of intermittent fasting on certain types of cancers.
- Due to the methodological shortcomings and heterogeneity across the studies included, more clinical experiments are strongly needed.