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**EFFECT OF FIBRE IN COLON CANCER**

*Dr. Meena Kumari Patangay, Mrs. Hannah Jessie Francis, Mrs. Y.V. Phani Kumari,S.Sharathsha, K.Sathyabhama, S.Vaishnavi, G. Keerthana, V.Manasvini Reddy*

**Department of Nutrition, St. Ann’s College for Women, Hyderabad**

**ABSTRACT**

The systematic review was to evaluate the association between dietary fibre intake and colon cancer risk. Colon cancer has become the 2nd& 3rd most common type of cancer in females and males respectively. The frequency rate of colon cancer is increasing along with the changes in lifestyle and dietary habits in East Asia. The cause of colon cancer are environmental factors & genetic factors affect each other. Dietary fiber is considered as the prevention of colon cancer. Whole grains & other foods containing fiber were found to be inversely related to colon cancer.

Keywords: Colon cancer, Dietary fibre, Life style disorder

**INTRODUCTION**

Dietary fibre is a key nutrient that plays an important role in maintaining the human health and is obtained from plant foods only, for examples vegetables, fruits, soy, and cereals [1]. The main source of dietary fibreis whole grains which contain germ, bran and endosperm [7]. Dietary fibremay reduce the severity of colorectal cancer [13]. Dietary fibreis not present in the single form dietary fibreis present in two form that is of insoluble fibreand solublefibre (grains, most vegetables) slows down the digestion and reduces the cholesterol and insoluble is non digestible and passes through the colon [18]. Increasing daily intake of 5g of cereal fibremay reduce the 22% risk of causing colorectal cancer [28].

colorectal cancer occurs in colon (or) rectum [13]. colorectal cancer is the third most cancer that is occurring among both women and men [5]. Colorectal cancer represents 10% of all the cancers, and nearly 1.8 million new cases and approximately 900,000 deaths worldwide in 2018 [8]. They are some nonmodifiable factors that are associated with the risk of colorectal cancer such as age, ethnicity, gender, and menopause. However, some modifiable factors may reduce the improving the risk of colorectal cancer such as overweight or obesity, low level of physical activity, high intake of alcohol, and smoking [1].

Burkitt hypothesized thatfibre might protect against colon cancer by increasing stool bulk [14]. High intake of dietary fibrecan reduce the risk of colon cancer (or) diets high in vegetables, grains, or fruits are also associated with the reduced risk of colon cancer [9]. fecal carcinogens are diluted when intake of dietary fibreis increased and transit time is also reduced, bacterial fermentation offibre to short-chain fatty acids with anticarcinogenic properties increases [10]. Reduced risk of colorectal cancer with dietary intake was observed by meta-analysis [16].

Originally, the benefits of dietary fibrewere thought to be limited to providing fecal bulk and laxation [4]. Today, it is recognised that the dietary fibreplays an important role in numerous physiological functions, as well as in the prevention and treatment of certain diseases [17].

**DISCUSSION**

Although limited research in population of eastern asia , generated strategy 295 results.5 case control study analyzed combination of effect of fibercoloncancer . fiber is divided into two- dietary , total fiber .few studies found ,compared reference category , risk reduced in colorectal cancer due to total fiber intake .1 study found greater intake of fiber from cereal has been reduced the incidence colon cancer[1].multivarible hazard ratios95% confidence intervels of colon cancer risk by cohort total fiber intake 10g / day .the colon cancer rates in adults were 12 and 7 cases per 10,000 person in a year respectively .men in spain , total fiber intake was observed .women in Denmark ,in Sweden had the lowest total fiber intake in both men and women [2]. This is the follow up of 6-20 years in 13 cohort studies ,7328414 person-year were accumulated and 8081 incident colorectal cancer cases in men 2776, women -5305, 5726 colon cancer .[3]. Study of 405 articles patients 49964 ,it showed dietary fiber protective against colorectal cancer patients in asia [4] association for whole grains intake but not dietary fiber .intake of whole grains was inversely associated with all CRC cancer[5] a total of 8248 colorectal cancer cases from 1340841 participants ,with four dietary fiber sources cereal\grain, vegetable, fruit , legume fiber [6]the summary relative risk for colorectal cancer ranged from 0.89 [7]a the study conducted by murphy in 2012 also included Greece[8]iterviewees could be expected to be more aware of the hypotheses associating with cancer [9]dietary fiber intake was inversely associated with the risk of colorectal cancer in most of them , with no evidence of significant heterogeneity between subgroups in meta regression analyses [10]when we combined the studies into a single data set and analyzed association using across-study sex specific quintiles[11]fiber intake density per day were older ,weighed less , had a lowerbody mass index ,smoked less and consumed more folate[12]thera was significant publication bias against colorectal cancer[13] shows the distribution of cases and accordind to sex , education , physical activity ,family history of colorectal cancer[14]high vegetable intake were associated with 28% reduction of risk of rectal cancer[15]adenoma cases were more likely to be male , to be of non-hispanic white ethnicity[16]in numerous animal models for studying colon cancer, few types of fiber have clearly been shown to prevent the formation of cancer[17]based on the analysis of over 800 of these plant foods, 80/130g/day fiber intake estimated daily[19,27]consumption of processed or red meat , especially cooked on high temperature associated with risk of colorectal cancer[20]some studies have failed to support the theory of fiber depleted diet as a causative factor[21]the analysis of high versus low intake of fruirfiber and risk of colorectal cancer [22]heterogeneity among studies shows a variation of heterogeneity research for dietary fiber prevent colorectal cancer[23]mean intake of total dietary fiber was 80%to 100% higher quartile than in lowest for men and women whereas the proportions of current smokers decreased with an increasing total fiber intake [24]intake of various food groups in cases and controls . for fruits a,grains,meat and sea food did not find any colorectal cance , rectal cancer significant differences [25]high fiber diets were associated with lower mortality [26,30]the researchers found that colorectal cancer patients who had a high total fiber intake had a lower risk of death than those with low total fiber intake [28]California linked high consumption of fiber to a 46% reduction the risk of rectal cancer [29]colorectal cancers are the third most common worldwide [31]analysis of high versus low intake of legume fiber and risk of colorectal cancer[32]a team found 10% risk of colorectal cancer reduction by consuming 10g of fiber eaten a day [33]incidence ,mortality from colorectal cancer ,last few years has decreased[34]people with high fiber intake tended to have heathy lifestyle[35,45]however ,uncertainly remains specific impact of dietary fiber on colorectal cancer[36]patients of rectal cancer larger proportion were present smokers [37]fiber from fruits , cereals and vegetables are not associated with risk of colorectal cancer[38]rectal cancers were slightly more in northeastern than southwestern Japan [39]colan cancer is the second highest cause of death in US[40]there was no specific interaction between men and women and fiber intake [41]the main source of dietary fiber intake 62%, from cereals48.5% ,from vegetables 27% ,from fruits 16.0% legumes, 8.4% from seeds and nuts [42]whereas patient with high fiberinkae were likely have stage 1 cancer comparing to others[43]intake of vegetable ,soluble , insoluble and total fiber showed reduced risk of colon cancer[44]

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