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Health-related quality of life, dietary behavior and body composition among colorectal cancer patients

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Colorectal cancer is the third most common cause of death by cancer worldwide. In 2014, about 1.4 million new colorectal cancer cases occurred, with highest rates in economically developed countries. However, mortality rates have decreased throughout past decades as a result of earlier diagnosis, improved diagnostic tests and advances in cancer treatment. Alongside recurrence and survival, health-related quality of life is an increasingly important clinical outcome in cancer patients. Health-related quality of life can be related to tumor progression and therapy as well as to health behaviors, such as dietary habits, dietary supplement use, or body composition. Health-related quality of life in colorectal cancer patients is threatened by health problems persisting for years after diagnosis and treatment. Thus, there is a strong need for early identification of patient characteristics that determine patient's health-related quality of life and to develop preventive and targeted intervention strategies such as nutritional support or individual exercise training as well as recommendations for dietary supplementations in colorectal cancer patients. With the increasing number of cancer survivors, studies on health-related quality of life are of growing importance.

Thus, the aims of my thesis were (1) to examine the associations between specific dietary patterns and longitudinal health-related quality of life changes in 192 colorectal cancer patients, (2) to identify dietary supplement-exposed subgroups of 211 colorectal cancer

patients and investigate associations with health-related quality of life over time, and (3) to study the role of computed tomography-quantified body composition on longitudinal health-related quality of life among 138 colorectal cancer patients during the time period before tumor resection and twelve months post-surgery.

Four major dietary patterns were identified: “Western” dietary pattern characterized by high consumption of potatoes, red and processed meat, poultry, and cakes, “fruit&vegetable” pattern: high intake of vegetables, fruits, vegetable oils, and soy products, for the first time a “bread&butter” pattern: high intake of bread, butter and margarine, and “high-carb” pattern: high consumption of pasta, grains, nonalcoholic beverages, sauces and condiments. A “Western” dietary pattern after surgery is inversely associated with health-related quality of life in colorectal cancer patients, whereas a diet rich in fruits and vegetables may be beneficial for patients’ health-related quality of life over time. Further, dietary supplement use increases after a colorectal cancer diagnosis. Women and patients without a stoma are more likely to use dietary supplements during the first year after tumor resection. Dietary supplement use is associated with lower physical functioning and higher pain scores six months post-surgery. Moreover, patients with high amounts of visceral fat exhibited worse scores of social functioning and deteriorated pain scores after tumor resection.

My results offer further support of the role of dietary behavior and body composition as modifiable risk factors of outcomes, in particular health-related quality of life, and suggest early interventions such as individual nutritional support and exercise training during the first year after primary tumor resection in patients with colorectal cancer.