A Systematic Review of Cognitive Impairment in Individuals With Colorectal Cancer

Ye Wang, BN, Zhiming Wang, BN, Rongyu Li, BN, Zheng Sun, BN, Yi Zhang, BN, and Qiuping Li, PhD, FAAN

PROBLEM IDENTIFICATION: Patients with colorectal cancer (CRC) encounter varying degrees of objective and subjective cognitive impairment. The prevalence of objective and subjective cognitive impairment, factors affecting cognitive impairment, and interventions are presented in this review.

LITERATURE SEARCH: The CINAHL Plus®, Cochrane Library, Embase®, PsycINFO®, PubMed®, and CNKI databases were systematically searched from the time of the database's establishment to May 2023. Manual searches for the relevant articles in the literature's references were also conducted.

DATA EVALUATION: The results were independently assessed by two reviewers.

SYNTHESIS: 25 studies were included. The prevalence of cognitive impairment in individuals with CRC was measured differently according to study designs. A model of factors contributing to cognitive impairment guided the integration of factors, including cancer treatments, psychosocial factors, and physical and emotional health conditions. Incorporated intervention programs could be integrated between objective and subjective aspects. Interventions relieved cognitive impairment in individuals with CRC.

IMPLICATIONS FOR NURSING: The results of this review supported enhanced assessment and monitoring of cognitive impairment, particularly subjective cognitive impairment.

KEYWORDS colorectal cancer; cognitive impairment; psychosocial adjustment
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Colorectal cancer (CRC) is the third most prevalent cancer and the second most fatal cancer (Siegel et al., 2023). The five-year relative survival rate for CRC has risen to around 65% because of the advances in early screening, diagnosis, and treatment (Li et al., 2021). The five-year survival rates for rectal and colon cancer are reported to be 67% and 64%, respectively (Miller et al., 2022). During the diagnosis and treatment of CRC, patients exhibit certain physical and emotional symptoms, such as cognitive function alteration or impairment (El-Shami et al., 2015; Hess & Insel, 2007).

Cognitive impairment occurs within the central nervous system, and patients with non–central nervous system cancer have also reported experiencing cognitive impairment (Wefel et al., 2014). The influence of chemotherapy on cognitive function (e.g., specific drug, dosage) has been termed "chemotherapy-related cognitive impairment," also known as "chemobrain" or "chemofog" (Dwek et al., 2015; Hermelink, 2015; Wefel et al., 2014; Winocur et al., 2018). Data from a systematic review reported that about 30%–40% of patients with cancer experienced cognitive impairment before treatment and 50%–75% had cognitive impairment during treatment (Janelsins et al., 2014). About 35% of patients reported cognitive impairment for months or even years after treatment (Janelsins et al., 2014). Cognitive impairment is not only a side effect of chemotherapy, but also can occur at any stage during the cancer trajectory (Cerulla Torrente et al., 2020; Mayo et al., 2021).

The International Cognition and Cancer Task Force (ICCTF) has recommended neuropsychological (NP) testing, also known as objective cognitive impairment (OCI) evaluations, as the gold standard for detecting cognitive impairment (Wefel et al., 2014). Attention, memory, information processing speed, and executive function were all measured by NP tests in the corresponding studies (Joly et al., 2015; Wefel et al., 2011). Subjective cognitive impairments