



Reliable Indicators of Cancer Related Malnutrition for an Outpatient Oncology Nutritional Screening Tool Identified Through a Systematic Review

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Authors' contributions

This work was carried out in collaboration between all authors. Author LH designed the study, conducted the searches, performed the quality assessment and data extraction and produced the first draft of the manuscript. Author JM reviewed the analysis. All authors read and approved the final manuscript.

Conference Abstract

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ABSTRACT

Background: Cancer related malnutrition (CRM) is commonly observed yet is associated with poor response to intensive cancer treatments, increased risk of chemotherapy related toxicity, increased risk of post operative complications and also reduced survival times [1]. Research suggests that these negative outcomes can be avoided through early nutritional intervention; hence the importance of identifying those at risk of CRM via prompts nutritional screening [1]. Cancer treatment is often provided within an outpatient setting where nutritional screening procedures are inconsistent [2] and where few nutritional screening tools used have been formally validated in cancer patients [1]. Therefore the aim of this study was to identify reliable indicators of CRM with the potential to be included within an oncology outpatient nutritional screening tool.

Methods: The databases Pubmed, Cinahal Plus and Open Grey were systematically searched by a sole researcher. The search procedure included the terms Indicators & Malnutrition along with the following additional search term combinations: Cancer,

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Oncology, Cancer & Outpatients and Oncology & Outpatient. No date restrictions were imposed. Predetermined inclusion exclusion criteria were used. Selected studies underwent quality assessment and data extraction. Quantitative studies that reported on indicators and variables of adult CRM that were deemed suitable for a nutritional screening tool were included.

Results: From 217 studies, twelve all of observational methodology met the inclusion criteria; all lacked rigour in sampling. Five studies with a total of 6041 participants indicated unintentional weight loss (UWL) is common in cancer; four had a statistical significance. Six studies reported on body mass index (BMI), two suggested cancer was associated with a low BMI however four suggested that UWL was more prevalent than a low BMI and highlighted limitations of the measurement. Six studies reported on gastrointestinal (GI) cancer, a range of GI cancers were represented; all studies indicated an additional risk of malnutrition in GI cancer. Three studies reported on metastatic disease (MD), all suggested malnutrition and UWL was more prevalent in MD; two reported statistically significant results. Two studies suggested poor performance status (PPS) is associated with poor nutritional status; both studies were comprehensive; one was a large European study the other compared against a control. One study reported symptoms of anorexia and fatigue increased the risk of malnutrition within cancer.

Discussion: The overall quality of the research is poor yet this review helps consider the evidence collectively. This review suggests UWL could be a reliable indicator of malnutrition in cancer. In regards to BMI the review suggests relying upon BMI as an indicator of malnutrition is inadequate. This corresponds with other research and the consensus is BMI should only be used in conjunction with other nutritional markers [2]. This review indicates additional risk of malnutrition within GI cancer, MD and PPS. Further evidence is required on the effects of anorexia and fatigue.

Conclusion: Although the evidence base is limited by observational study designs and methodological weaknesses, the results indicate UWL maybe a reliable indicator of cancer related malnutrition; BMI may be useful but has limitations within this population. Patients with GI malignancy, MD and PPS seem to have a higher risk of malnutrition.

Keywords: Cancer; oncology; malnutrition; screening; outpatients.

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