Prioritization of Diet and Cancer Manuscripts: A Brief Primer

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The editors of Cancer Epidemiology, Biomarkers & Prevention (CEBP) are prioritizing manuscripts on diet and cancer to ensure the publication of high-quality studies that are relevant to our readership. To be considered for publication, both the peer reviewers and the senior editor must judge a study to be executed carefully, analyzed appropriately, and interpreted thoughtfully; in addition, a study must be novel, contribute to the resolution of controversy, or, in other ways, contribute substantially to the scientific literature. However, high demand for journal space requires us to set priorities for selecting, from among the many outstanding manuscripts we receive, those that will be published. The editors of CEBP recognize that any epidemiologic or experimental study may play a role in furthering our understanding of the relationship between diet and cancer, and all manuscripts are considered for publication regardless of design. The discussion below describes our publication priorities for observational and experimental studies of diet and cancer risk, diet and cancer-related outcomes, small-scale experimental studies of nutrition and cancer-related endpoints, and methodologic studies.

For epidemiologic studies of diet and cancer, the highest priority will be given to randomized trials and to observational cohort studies. We give somewhat higher priority to studies using well-validated, unbiased biomarkers to assess dietary exposures but recognize that many dietary exposures can only be assessed using self-report measures. Lower priority will be given to case-control studies, in which disease assessment is completed after disease diagnosis, or cross-sectional studies, in which biomarkers are collected at or after disease diagnosis. We recognize that studies of very rare cancers require the use of a case-control design, and these studies will be given special consideration.

For epidemiologic studies of diet and cancer-related endpoints, the design priorities follow those given above for studies of cancer risk. In addition, we will give high priority to manuscripts in which the endpoints are closely linked to neoplastic progression or cancer risk. Lower priority will be given to studies using endpoints that are either not specific to cancer or for which a link with cancer is not established.

This prioritization scheme is designed to favor the publication of studies in which confounding, bias, and measurement errors are minimized. The primary outcomes of large, randomized cancer prevention trials are likely to be published in less specialized journals with a broad readership; however, CEBP is well positioned to publish secondary analyses that address additional endpoints or hypotheses. These trials are unique in that they are least likely to be subject to confounding, bias, and measurement errors. In some cases, cohort studies using well-validated biomarkers of dietary exposures will be superior to those that measure diet by self-report, because some exposures cannot be measured by self-reported diet (e.g., selenium) and exposure assessment is not subject to differential bias. Cohort studies that measure diet by self-report will continue to play a role in understanding relationships between diet and cancer risk; however, it is important to recognize that, regardless of the assessment method, diet will be measured with both error and bias. Authors are urged to present relevant, contemporary data on the measurement characteristics of their dietary assessment method, and reviewers will be requested to consider the quality of dietary assessment as a key factor in their critiques. With the exception of studies of very rare cancers, case-control studies are less likely than cohort studies to contribute meaningfully to our understanding of diet and cancer for several reasons. Most importantly, contemporary participation rates in controls are generally far lower than those for cases such that the factors that are associated with participation cannot be separated from those potentially related to disease. In addition, retrospective assessment of diet and postdiagnostic measures of dietary biomarkers are subject to bias by disease status, which further weakens any inferences that can be drawn from these studies. Cross-sectional studies of dietary biomarkers and cancer are highly problematic, because cancer itself or risk factors for cancer such as inflammation can dramatically change concentrations of serum micronutrients and lipids.

Small-scale, controlled studies of diet and nutrition have been a part of CEBP since the journal’s inception and remain a priority. These are used to test mechanistic hypotheses underlying associations of diet and cancer.
that are derived from observational epidemiology, animal experimental models, and in vitro systems. Human experimental studies are logistically complex and, because they are often conducted with small sample sizes, may be statistically underpowered. To assist reviewers, we urge authors to include a description of the sample size considerations used to design the experiment. Null results from human experimental studies can be difficult to interpret; in addition to a true lack of treatment effect, null results could be explained by low power, an inappropriate treatment dose, too short a treatment period, or, in the case of novel and preliminary studies, the use of poorly validated or unreliable assay methods. Given these concerns, priority will be given to sufficiently powered studies, with well-characterized treatments and outcome measures, and well-justified contrast groups. Null results and study limitations need to be discussed carefully in relation to these issues.

The journal welcomes manuscripts that address methodologic or practical aspects of conducting research on diet and cancer. The highest priority for these manuscripts will be given to those directly relevant to human cancer research. General nutritional science studies are not appropriate for the journal readership, and studies conducted in experimental animal or in vitro models may be referred to a more appropriate AACR journal.

Disclosure of Potential Conflicts of Interest

No potential conflicts of interest were disclosed.

Received December 29, 2010; accepted December 29, 2010; published online May 5, 2011.
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Cancer Epidemiol Biomarkers Prev 2011;20:725-726.

Updated version

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