

Literature Review Sections

Introduction

- Establishes significance of subject and need for examining research being done in it
- Identifies purpose of literature review

E.g.-- *This report seeks to review the current epidemiological literature on childhood cancers and arsenic exposure to assess the strength of the evidence that arsenic exposure may be an etiological risk factor for childhood cancers.* (“Arsenic Exposure and Childhood Cancer”)

- Identifies trends/subtopics it will discuss

E.g.-- *For greater clarity of presentation the analysis of the works was divided into several themes, discussed in detail below:*

- 1. motivation to donate blood among the general population and among blood donors;*
- 2. regularising blood donations and rate of return after the first donation;*
- 3. adverse reactions and reasons for exclusion from donation;*
- 4. strategies for reducing adverse reactions.* (“Gender Differences in Giving Blood”)

In some reviews, some of these functions may occur in the Methods section or early in the Results. But they must appear near the beginning of the literature review.

Methods

- Describes how sources were located—what databases were used, any collections of records searched, any authorities contacted.

E.g.-- *We searched for English-language literature describing the influence of climate change on skin in the following commonly used websites: PubMed (<http://www.pubmed.com>); Google (<http://www.google.com>); the International Society of Dermatology website library (<http://www.intsocderm.org/>); Centers for Disease Control and Prevention (<http://www.cdc.gov/>); and the World Health Organization (<http://www.who.int/en/>). (“Climate Change and Skin Disease”)*

- Identify criteria for selecting or excluding studies

E.g., *We searched the National Library of Medicine's PubMed literature database (www.pubmed.gov) for all studies addressing both childhood cancers and environmental arsenic exposures. We excluded case reports and replicate studies that assessed the same population. References from selected papers were searched for additional studies. (“Arsenic Exposure and Childhood Cancer”)*

Note how this example from “Do Toxic Substances Pose a Threat to Rehabilitation of Lake Trout in the Great Lakes?” both establishes the need for the review and describes methods, and this occurs in a single introductory section. Again, section boundaries and the placement of functions is not absolute, but the key functions are carried out clearly.

Because toxic substances will continue to be present in the Great Lakes basin, fisheries managers should be aware of the role of contaminants in preventing lake trout rehabilitation. This paper reviews studies which have sought to establish a relation between toxic substances and lake trout mortality or morbidity and provides recommendations for future research and for managers. Studies on the lethal and sublethal effects of toxic substances on fish in general have been summarized elsewhere (e.g., Fitchko 1986, Atchison et al. 1987, Bucke 1993, Dunier and Siwicki 1993) and will not be reviewed in this paper.

Findings

- Describes findings and sometimes methods of important studies of the topic.
- May provide comment on some studies
- Divided into labeled sections devoted to trends or subtopics the writer is emphasizing
- Each section begins with an introduction identifying the subtopic/trend and briefly characterizing the studies it addresses, either by the focus of their inquiry or their methods.

E.g.--- *The first area of research concerned the reasons why members of the general population give blood in order to identify motivations that could be the focus of greater attention in recruitment campaigns. Studies in this area are usually conducted by self-administered questionnaires in large populations.* (“Gender Differences in Giving Blood”)

E.g.-- *Additional evidence on the link between toxic substances and lake trout reproductive failure is provided by studies on changes in the activity of certain enzymes during early development. Because biochemical reactions are among the first quantifiable effects on organisms, the activity of enzymes can be used as an indicator of exposure to specific toxic substances.* (“Do Toxic Substances Pose a Threat to Rehabilitation of Lake Trout in the Great Lakes?”)

- Each section concludes with a summary of the findings of studies discussed in it.

E.g.-- *In general, the data in the literature on the reasons why people give blood suggest that there are some differences in motives, with altruism and helping others being more important among women and more individualistic aspects and social pressure being of greater relevance among men.* (“Gender Differences in Giving Blood”)

Findings, cont.

- Studies in findings may or may not be referred to in the text by author(s). When writers of reviews choose to name study author(s), those receiving the most attention should be so identified.

E.g.-- *Burdick et al. (1964) [conducted] the first study of the effects of toxic substances on lake trout reproduction. They reported that concentrations of DDT in excess of 2.9 µg/g in lake trout eggs resulted in considerable fry mortality and concluded that this mortality was induced by DDT. Their results were consistent with other 1960s research on salmonids such as brook trout (Macek 1968) and coho salmon (Johnson and Pecor 1969, Willford et al. 1969). Stauffer (1979) and Mac et al. (1981), however, could not show that DDT- or PCB-induced mortality was severe enough in eggs to account for the reproductive failure of Lake Michigan lake trout. Berlin et al. (1981) hypothesized that Stauffer (1979) and Mac et al. (1981) were unable to show a relation between toxic substances and early development mortality because they conducted their experiments in a "clean" hatchery or laboratory environment; i.e., Berlin et al. (1981) suspected that toxic substance concentrations in eggs were not sufficient to cause mortality. ("Do Toxic Substances Pose a Threat to Rehabilitation of Lake Trout in the Great Lakes?")*

- Studies might be introduced by:

Finding-- Glynn et al. found that the percentage of people prepared to donate blood because they believed it to be beneficial to their own health was twice as high in men as in women, confirming that self-centred aspects are prevalent among men. ("Gender Differences in Giving Blood")

Method-- Both Tseng and co-authors (1968) and Mukherjee and co-authors (2005) conducted skin examinations of residents from villages with wells containing very high levels of arsenic. ("Arsenic Exposure and Childhood Cancer")

Chronology--More recently, Mac and Schwartz (1992) and Mac et al. (1993) analyzed archived samples (1977-1988) of individual adult female lake trout and their eggs... ("Do Toxic Substances Pose a Threat to Rehabilitation of Lake Trout in the Great Lakes?")

Discussion

- Summarizes findings, points to gaps in research and areas needing further study, or makes recommendations for action. (often, concluding sections of studies themselves will suggest these)
- Usually begins with overall summary of the reviewer's assessment of the studies—a brief statement of “What have we learned here?” This should demonstrate that the review has accomplished its purpose

E.g.,-- Based on this review, we believe that exposure to toxic substances has the possibility of affecting lake trout mortality and morbidity, and, thus, the species' rehabilitation. (“Do Toxic Substances Pose a Threat to Rehabilitation of Lake Trout in the Great Lakes?”)

The hypothesis that childhood cancer might be caused by arsenic exposure was considered tenable and worth examining, as arsenic exposure (occupational, environmental, and medicinal) has been well demonstrated in adults to be a cause of specific cancers. Our literature review found no evidence of an association between arsenic exposure and childhood cancer. (“Arsenic Exposure and Childhood Cancer”)