Research Ethics in Nutrition Education

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ABSTRACT Public and professional concern about ethical issues in research is increasing, and oversight and control over research activities are expanding. Relatively little attention has been specifically devoted to research ethics in nutrition education, which is an interdisciplinary and multidisciplinary field that uses research methods primarily from the social sciences. Existing ethical frameworks provide theories, principles, and rules applicable to nutrition education. Important ethical concepts and issues include informed consent, deception, privacy, anonymity, confidentiality, and randomization. Research misconduct has not been a major issue in nutrition education. No code of ethics exists specifically for nutrition education research, although ethical guidance may be sought from the codes of other organizations. Awareness and training in research ethics is important to insure high quality research and to prevent ethical problems in the future. Nutrition educators can benefit from increased consciousness about ethical issues in research, greater knowledge about basic ethical theories and practices, and obtaining, disseminating and developing ethical resources useful to nutrition education research activities.

INTRODUCTION

Research ethics involves the “more or less deliberate and systematic consideration of moral problems arising in connection with the conduct and consequences of scientific research” (1). Widespread attention to research ethics as a social problem began with the Nuremberg trials of the late 1940s, and concern has escalated during recent years. The current high level of interest has led to the scrutiny of research by people outside the scientific community, and to a consequent rise in the oversight and control of research activities by many groups and organizations. This involvement in research by outsiders is evidenced by the development and implementation of Institutional Review Boards (IRBs) for approval of research protocols, funding agency requirements for the ethical screening of proposals, the inclusion of research issues in codes of ethics of professional organizations, and the requirement of assurances of ethical procedures by scientific journals.

Norms about acceptable research procedures are changing. Some of the classic studies about issues relevant to nutrition education might not be acceptable to contemporary Institutional Review Boards. For example, studies by Claire Davis that let infants self-select foods (2) might not be approved in the current ethical climate. Most of the attention being given to research ethics has focused on clinical research on individuals, although recently there is a movement towards a more stringent ethical examination of preventive, educational, and community research (3).

Nutrition education research is increasing in quality and quantity, incorporating more diverse perspectives and procedures, and becoming more complex and sophisticated. As research in nutrition education continues to blossom and evolve, it is important to consider ethical issues. Nutrition as a field is beginning to discuss research ethics (4); however, nutrition educators have paid relatively little explicit attention to the topic. Some books consider ethical issues in nutrition education and community nutrition research (5, 6), but otherwise little specific guidance exists.

Nutrition educators participate in a wide variety of roles, including researcher, practitioner, teacher, businessperson, administrator, and others. Each role includes its own rights and duties, and different role obligations may lead to conflicts of interest. Ethical relationships between the researcher and participants in research are the primary focus of most discussions about research ethics; however, ethical dilemmas exist because of conflicts between the role of researcher and other roles. For example, a nutrition education researcher may encounter a participant in a focus group who makes a biologically incorrect nutrition statement that is accepted by others in the group. A dilemma exists for the nutrition educator between remaining in the research role and only observing that nutrition misinformation was stated and disseminated, versus shifting to a practice role and correcting the person making the statement.

Nutrition education increasingly involves partnerships with a variety of individuals and institutions. Research typically requires funding to cover the costs of personnel, materials, and procedures, and the source and influence of funding partners may raise ethical dilemmas. Research sponsorship may create conflicts of interests between the role of researcher and other roles. Researchers need to maintain their own autonomy in seeking and using funding, and may want to avoid sponsorship that detracts from the credibility of the research. Awareness of potential conflicts of interest, disclosing them early in the research process, and communicating with everyone involved are useful
strategies to avoid problems in this area.

Much contemporary nutrition education research involves the evaluation of interventions, programs, or policies. A number of potential conflicts of interest exist in evaluation research, including those between researcher and practitioner, client versus scientific needs, pressures to demonstrate effectiveness, etc. Even well planned, theory-based nutrition education interventions may not be successful, and careful reflection about the reasons for the lack of success is essential for a complete evaluation that can provide lessons for further research and practice (7). Evaluation researchers have been sensitive to ethical issues in their activities, and their insights can help nutrition educators recognize potential ethical dilemmas in evaluation research and in strategies for dealing with them (8).

Nutrition education research is interdisciplinary and multidisciplinary. It uses methods from the basic social science disciplines of psychology, sociology, anthropology, political science, economics, geography and history, and other social science fields such as education and communication. Ethical guidance for nutrition education researchers can be drawn from publications about ethics in social science research (9–11), the research fields of epidemiology (12, 13) and statistics (14, 15), and medical research (16–18).

Nutrition education shares common ethical problems with the social and life sciences. For example, the requirement for informed consent is applied similarly by a nutritionist studying obese people and a sociologist examining juvenile delinquents. While ethical problems in nutrition education research are universal, some topics may be discipline specific. Nutrition education researchers can apply the well developed ethical theories and concepts from other areas to the special topics of the field.

**THEORETICAL FOUNDATIONS FOR RESEARCH ETHICS**

Ethical theories, principles, and rules provide guidance in considering ethical dilemmas in nutrition education (19). Beauchamp and Childress (20) provide a useful classification for these tools. Broad ethical theories exist at the highest and most abstract level. Fundamental principles operate at an intermediate level. Rules are more specific. Finally, ethical decisions are the most concrete expressions of ethical actions.

Ethical theories can be consequentialist or nonconsequentialist. Consequentialist theories decide ethical issues on the basis of the outcome of ethical decisions. This might be seen in a utilitarian cost-benefit analysis that suggested that the most ethical way to conduct research would be to do investigations that lead to the greatest good for the largest number of people. By contrast, nonconsequentialist theories make ethical decisions irrespective of the consequences. This might be seen in the Kantian dictum that people should always be treated as ends in themselves rather than means to ends, with research participants always needing to be treated with full respect despite the methodological costs of these ethical efforts. Several basic ethical principles guide ethical decisions, including autonomy (self determination), beneficence (providing benefit), nonmaleficence (preventing harm), and justice (fairness). Ethical rules are derived from theories and principles, such as rules about truth-telling, privacy, and confidentiality.

It is important to recognize the difference between law and ethics. Laws codify societal norms and are enforced through the criminal justice system. Some laws specifically deal with procedures in research ethics and must be considered in research activities and procedures. Ethics are guidelines for behavior and may not necessarily involve formal enforcement. What is legal may not necessarily be considered ethical, and many ethical rules are not formalized into laws. The legal system is important in research ethics because it provides procedures for resolving problems that otherwise cannot be dealt with (21).

**ETHICAL CONCEPTS AND ISSUES IN NUTRITION EDUCATION**

In addition to theories, principles and rules, a number of ethical concepts and issues are essential considerations in research. Informed consent is one of the most fundamental considerations in research ethics. Based upon the ethical principle of autonomy, informed consent includes five elements: disclosure, comprehension, competence, voluntariness, and decisions (22). Researchers have an ethical (and often legal) duty to obtain informed consent from potential research participants before beginning to study them. Informed consent becomes problematic under several conditions. When people do not have sufficient autonomy to consent for themselves (such as children, the mentally ill, or those who are unconscious), proxy consent must be obtained. A relevant proxy is asked to make a substituted judgment based upon the perceived wishes and best interests of the incompetent person (23). Assent is the actual agreement of a potential research participant to research involvement, and is necessary in addition to personal or proxy consent (17). Active consent is the agreement by research participants to be studied, and is required for research that involves substantial costs or risks. For example, a long-term study using diet records places a considerable respondent burden on the participants, and they need to actively consent before beginning their involvement. Passive consent may be used to enlist people in research unless they explicitly request not to be involved, and is sometimes used where minimal research risk exists (24). For example, one examination of children’s nutrition knowledge in New York City school children used passive consent by notifying parents that their children would complete questionnaires unless the parents explicitly refused.
to permit their children to participate (25).

Deception of research participants should be avoided, but informing people about the purpose of a study may make it difficult to conduct some types of research (9). Telling young women that a questionnaire is intended to detect whether or not they have an eating disorder may lead some to answer differently than if the explanation is that the study is simply about food habits. This dilemma has sometimes been dealt with by distinguishing between active and passive deception. Active deception provides misinformation, which strongly violates informed consent and is not ethically justifiable. Passive deception provides accurate but incomplete information. For example, a study of nutrition claims in food advertisements told participants that the investigation was studying "consumer attitudes and opinions about advertisements for food that frequently appear in magazines," rather than that it was studying types of nutritional claims (26). Passive deception weakly violates informed consent, and compensates for the deception by debriefing participants with complete information after the study is completed.

Privacy is an important concept in research ethics, involving the maintenance of a person's control over information about themselves. The right of a researcher to acquire information about someone is balanced by the obligation to safeguard knowledge about that person. Anonymity and confidentiality are used to protect privacy, and the two concepts should not be confused. Anonymity is the strongest method of insuring privacy, where the researcher does not know and cannot trace the identity of research participants. Anonymity is possible in questionnaires, and is often ethically desirable in studies that may involve potentially stigmatized conditions such as eating disorders (27). Confidentiality is a weaker method of maintaining privacy, where the researcher can identify research participants but takes explicit steps to insure that access to research information about the person is limited. To avoid the use of names or other information that may risk privacy intrusions if they are revealed, researchers instead create unique identifiers for participants in their studies. Confidentiality is necessary in studies that require follow-up contacts, such as the development of coding systems to track cohorts of children in long-term studies examining nutrition programs (28).

Informed consent is implemented differently for various research methods. Surveys and questionnaires obtain consent in their introductions (29). For many anonymous nutrition education surveys, written consent may not be required. The implied consent of completing the survey may be sufficient. Questionnaires that are linked to other data or that involve followups need to consider issues of confidentiality in the identification of the respondents, using confidential identification numbers or other methods.

Qualitative research is increasingly used in nutrition education (30), and requires special attention to protect the identity and confidentiality of informants. Privacy is an issue, with depth interviewing often probing intensely into individuals' lives and participant observation permitting researchers to observe many aspects of people's behaviors. Consent in ethnographic research can be problematic because the future course of the data collection is not rigidly structured and may vary from what was originally planned.

The randomization of people to different interventions and the withholding of an intervention to a control group are ethical issues associated with experimental research designs. The random assignment of people to two different nutrition education interventions, such as lectures or videotapes (31), provides the strongest scientific evidence for making comparisons. Ethical questions exist about the justice and autonomy present under randomization, with utilitarian counter-arguments supporting randomization under the position that scientific benefits outweigh other costs (17). Methodological alternatives to random assignment exist (32, 33), but the researcher may then be faced with the dilemma of having completed an adequate study that is not perceived to be strong by other researchers and policy makers. Use of control groups may be seen as ethical when an extra benefit is provided to the experimental group, assuming prior knowledge has not yet proved that the intervention is definitely superior. Utilitarian arguments are used to suggest that benefits may be omitted for control groups as long as they are not deprived of other useful and usual benefits that are available. Benefits may be extended to control groups after completion of a study.

RESEARCH INTEGRITY: PREVENTING MISCONDUCT AND FRAUD

In the past, scientific integrity was largely taken for granted. Scientists were highly respected, and control over misbehavior was left to the researchers and their institutions. Few examples of wrongdoing received widespread attention, and those involved in such misdeeds were seen as rare bad apples and treated more as oddities than symptoms of problems in the research enterprise. Today, public confidence in research has ebbed as a result of the considerable attention to unethical research practices in many scientific fields (34, 35). Nutrition, in general, and nutrition education, in particular, have not received much negative publicity about misconduct compared with other fields. Yet, as part of the scientific enterprise, nutrition education is subject to the current skepticism about and lack of confidence in research.

Nutrition education is a multidisciplinary and interdisciplinary field that involves interventions with individuals, families, communities, and organizations. The public, research participants, practicing professionals who are consumers of research, and researchers in various disciplines may have different expectations about the proper conduct of research. A consensus may exist that faking of data is fraudulent, but perspectives may diverge for other re-
research practices, such as how long questionnaires should be kept after a study is completed. This diversity between groups requires that nutrition education researchers be sensitive to variations in ethical norms about research practices and standards, which are often in disagreement. For example, in research collaborations, sociologists may expect that only the key people involved in a study should be included as co-authors, while physicians may expect co-authorship for granting permission to interview their patients.

Research misconduct can be classified into four general areas of concern about maintaining scientific integrity: funding, relationships, data, and communication. Funding is required for most research, and misconduct can occur in procurement (making false claims in proposals), utilization (using funds for non-research purposes), and reporting (misleading reports to funders). Ethical problems in research relationships include relationships with organizations (failing to obtain approval by institutional review boards), colleagues (plagiarism), employees (not acknowledging their contributions), students (exploitation), research participants (violations of privacy), and others. Data misconduct can arise during collection (fabrication), management (ownership problems), analysis (fishing for significant statistical relationships), and dissemination (omitting selected findings). Communication misconduct exists in presentation (exaggeration of conclusions beyond the findings of the study) and publication (submission of the same material to several journals simultaneously). Knowledge about these and other problems can assist nutrition education researchers to anticipate and prevent misconduct.

Peer review is the process where experts in the field examine the quality of research proposals and publications, acting as gatekeepers to insure that ethical integrity and quality scientific practice is maintained. Peer review ensures some safeguards in the system of allocating resources to research and disseminating the findings, although it has come under some challenges during recent years. At this time, both the Journal of Nutrition Education and presentations at the annual meeting of the Society for Nutrition Education are peer reviewed. It may be useful to examine the peer review process in nutrition education to insure that it avoids problems revealed in other fields, such as multiple submission, author inflation, etc.

Nutrition education research has not had many of the pressures of “big science” in the past, although that does not necessarily mean that misconduct has not occurred in the field. As nutrition education research continues to develop and grow, it is important to provide mechanisms to prevent, detect and deal with misconduct. Many of these are already in place in universities and other institutions. The development of Institutional Review Boards (IRBs) during the 1970s was followed by the growth of committees to deal with misconduct during the 1980s. Nutrition educators can proactively be involved in promoting research integrity by socializing new investigators into responsible research practices, serving as role models by demonstrating integrity and conducting ethical research, being vigilant for problems that may occur within the field, and responding responsibly if problems are suspected.

CODES OF ETHICS

One mechanism for dealing with ethical issues is a code of ethics. Such a code formalizes ethical principles and rules, and has multiple functions, including advice, discipline, clarification of expectations, and professionalization. Often codes include research practices within their purview. Codes may be regulatory, providing rules that govern behavior, or educational, describing existing norms. One study of professional organizations found that about 30% of professional organizations had their own codes of ethics, another 25% subscribed to the codes of other societies, or their primary professions, and 45% had no applicable codes.

Nutrition education does not currently have a code of ethics for practice or research. The American Institute of Nutrition (AIN) and the American Society for Clinical Nutrition (ASCN) Code of Professional Responsibility and the code of ethics of the American Dietetic Association (ADA) are relevant to nutrition education research. Nutrition education researchers may be guided by research issues discussed in codes of ethics from a variety of non-nutrition organizations, such as the American Psychological Association, Association for the Advancement of Public Opinion Research, American Statistical Association, etc. The Society for Nutrition Education may want to consider developing a code of ethics and, if one is developed, it would be important to include research issues.

INCREASING ATTENTION TO RESEARCH ETHICS IN NUTRITION EDUCATION

The scientific community is increasing its ethical awareness and activities, and nutrition educators can benefit by pursuing that lead. Rather than waiting for ethical awareness to diffuse into nutrition education, it would be valuable to seek out and to develop new capabilities in research ethics. Proactive involvement in ethical issues is a more adaptive strategy than reactive responses to problems. A number of steps can be taken to develop awareness and capabilities in the future, both for individuals and for the field of nutrition education.

Individual nutrition education researchers can increase their personal consciousness about ethical issues in their work. This sensitization involves learning about potential problems that others face and asking ethical questions during the process of planning, executing, and communicating research. Awareness of the ethical dilemmas of researchers in other fields may lead to insights that will prevent similar
problems in nutrition education. Nutrition educators need to strive to conduct innovative and high quality research, which may include tackling difficult issues with methods not familiar to all researchers. For example, conducting in-depth interviews with physicians, patients, and sales representatives about breast and infant formula feeding might be a difficult research project to have approved by a hospital Institutional Review Board, but certainly would offer important insights for nutrition educators.

Individuals in the field of nutrition education can also work to increase their sensitivity to ethical issues. This can be done by discussions at conferences, through publications, and through the development of a consensus about moral dilemmas in research. General training in nutritional ethics is useful (19), and should include research ethics. It may be useful to develop informal or formal rules or codes specifically for nutrition education research. An examination of publication practices in the Journal of Nutrition Education to ensure that ethical problems that exist in other journals are avoided (36) may also be beneficial. Getting ethics on the agenda of issues to be considered in research is a useful goal for nutrition education as the field continues to develop its research capabilities.

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NOTES AND REFERENCES