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Assessing Perceptions Toward Implementation of the Nutrition Care Process Among
Registered Dietitians in Northeast Tennessee

A thesis
presented to
the faculty of the Department of Family and Consumer Sciences
East Tennessee State University

In partial fulfillment
of the requirements for the degree
Master of Science in Clinical Nutrition

by
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May 2007

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Keywords: nutrition care process, nutrition diagnoses, nutrition care model

ABSTRACT

Assessing Perceptions Toward Implementation of the Nutrition Care Process Among Registered Dietitians in Northeast Tennessee

by

Jessica Lee Gourley

The purpose of this study was to survey registered dietitians in Northeast Tennessee to determine attitudes toward implementation of the nutrition care process prior to and following education about the nutrition care process and/or implementation of the nutrition care process in their respective healthcare facilities. Approximately 100 registered dietitians were involved in the study. Data were collected through electronic submission and written inquiries. The findings of the study identified that there was a need for further research regarding implementation of the nutrition care process and that negative attitudes, opinions, and barriers were broken down by education, implementation, and exposure to the nutrition care process.

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CHAPTER 1

INTRODUCTION

In 2003, the American Dietetic Association introduced a standardized language for all dietitians entitled the nutrition care process (NCP). Development of the nutrition care process provided a means for registered dietitians to become more autonomous within their profession. Having a standardized language had been identified as an obstacle in the profession of dietetics, and until 2003 the profession never had a universal language. By implementing this standardized language, dietitians have the potential to receive higher reimbursement rates from insurance companies as well as be seen as more valuable in the provision of healthcare (1-4).

Along with the nutrition care process, the American Dietetic Association introduced a nutrition care model. The four steps in the nutrition care process, which are nutrition assessment, nutrition diagnosis, nutrition intervention, and nutrition monitoring and evaluation, were shown in relationship with the five concepts in the nutrition care model as shown in Appendix A (1). This new process provides dietetics professionals with the best possible foundation for the highest quality patient centered care (1).

Statement of the Problem

The purpose of this research was to survey registered dietitians in Northeast Tennessee to study attitudes toward implementation of the nutrition care process prior to and following education about the nutrition care process and/or implementation of the nutrition care process in their respective healthcare facilities.

Significance of the Problem

Because the concept is relatively recent, little research has been conducted on implementation of the nutrition care process. It is well known that change brings about uncertainty and resistance (5-7). In evidence based practice, it has been found that lack of knowledge regarding new information was one of the biggest barriers to implementing a new process. In healthcare settings negative attitudes toward the new evidence based practice were also prevalent and presented problems regarding implementation (8). Understanding the attitudes of registered dietitians, as well as their knowledge of the nutrition care process, are essential to understanding how to eliminate the barriers so that implementation can be completed within the respective healthcare facilities.

Question to be Addressed

Do attitudes and/or lack of knowledge of the nutrition care process affect its implementation?

Hypothesis

With increased knowledge and understanding, attitudes and opinions will be positive toward the nutrition care process.

Assumptions

Assumptions of this study include:

1. It was assumed that subjects will feel comfortable answering the questions.

2. It was assumed that subjects will answer the survey honestly.
3. It was assumed that subjects were comfortable completing electronic surveys.

Limitations

Limitations of this study include:

1. This study was limited to subjects from the Northeast Tennessee region and results cannot be generalized.
2. This study was conducted by electronic transmission and therefore email addresses were not always valid because of changing environments, jobs, or lack of updating with the appropriate personnel.
3. There is no guarantee that the same subjects completed each iteration of the survey instrument.
4. Not all registered dietitians in Northeast Tennessee work in a clinical setting where the nutrition care process has been reinforced.
5. Not all registered dietitians in Northeast Tennessee participated in the professional development workshop.

CHAPTER 2

REVIEW OF LITERATURE

The Purpose of the Nutrition Care Process

The American Dietetic Association first introduced the nutrition care process as a standardized language for registered dietitians in 2003 (1). Research has shown that implementing a standardized language in any profession gives that profession value. This is accomplished by being able to show comparable outcomes; this is evidenced by physicians and nurses being able to show their effectiveness in all healthcare settings (1-3). Documentation of outcomes has been conducted and has been found to play an important role in assessing and delivering outcomes of care for decades (2,3). Reimbursement for services is based upon the outcomes of patient care in many healthcare professions (2,3). Therefore, a standardized process for nutrition care gives registered dietitians the opportunity to be the sole providers of nutrition care. The standardized language provides professional autonomy for registered dietitians by outlining exactly what they can provide in regard to nutrition care. This demonstrates registered dietitians' effectiveness in the overall outcome of patients' health (1,2). ADA's President, Rebecca Reeves, stated that the future of ADA relied upon "full implementation by our members and by our profession of evidence-based practice, standardized language for the dietetics profession, and ADA's nutrition care process and model (9)." Adoption of all of these elements will also help ensure the registered dietitians a critical position on the healthcare team.

The nutrition care process promotes improved quality of care given to patients. It will provide and emphasize the dietitians' ability to think critically and to provide scientifically evidenced based nutrition care to patients. By doing this, the dietetics practitioner gains professional autonomy by demonstrating improved outcomes related to the use of the nutrition care process. In turn, registered dietitians will be recognized as the ultimate providers of nutrition care (1,3). Dr. Mary Kight described the nutrition care process and nutrition diagnosis as a way for registered dietitians to evolve into more valued professionals, as has been the case with medicine, nursing, and pharmacy, instead of entry level assessors of nutrition care (4). In one qualitative study, it was found that interviewees voiced a need for evidenced-based practice as well as an ability to think and read critically and apply this in their practice (10).

Standardized Process vs. Standardized Care

The standardized process, as Lacey and Pritchett defined, is meant to provide a standardized language between registered dietitians but not dictate standardized care for every patient (1). The nutrition care process provides a mechanism for registered dietitians to have a consistent method to provide nutrition care. Standardized care, however, means that each person would receive the exact same nutrition care, which is not the intention of the nutrition care process (1).

The standardized language of care among nutrition providers defined by Hakel-Smith and Lewis is needed to effectively communicate, document, and evaluate the effectiveness of nutrition care (3). Medical professions, as well as nursing professions, have developed standardized languages and processes to enhance their roles as

healthcare providers and to assist in reimbursement rates for their services. As the authors described the need for a standardized language, they summarized as follows:

“If we cannot name it, we cannot control it, finance it, teach it, research it, put it into public policy, or claim reimbursement for it. Without a viable and standardized language system to describe the nutrition care of patients in all settings, our discipline will remain invisible in health care systems, and our value and importance will go unrecognized and unrewarded.” (3)

Difference Between MNT and NCP

Medical nutrition therapy was first developed when dietetics practice groups requested to know the exact protocols for medical nutrition therapy and practice guidelines. The American Dietetic Association developed a tool kit for nutrition providers so that they would have the direct guidelines and evidence based research on hand. These guidelines, known as medical nutrition therapy, began the process of identifying what scientific conclusions were behind nutrition treatments from the dietetics professional. These nutrition guides were updated every two years so that the dietetics professional could have access to the most up to date scientific information (9,11).

Medical nutrition therapy was simply defined as treating or managing a disease with nutrition, whereas the nutrition care process specifies the exact steps that a dietetics professional considers when delivering medical nutrition therapy. The nutrition care process promotes individualized care for each patient by means of a four-step process. Each step would be completed differently for each patient, thus promoting the best outcome for the patient (1).

Nutrition Care Model and Four Step Process

While introducing the nutrition care process, the American Dietetic Association also developed the nutrition care model (Appendix A). The model was developed to show the five different constructs of the nutrition care model as well as the four steps of the nutrition care process. The way in which they are interdependent and related is also evident in the model (1,4).

The steps of the nutrition care process are based upon the scientific method, which is the same method upon which physicians and nurses based their standardized language (2,3). Although there are four steps in the nutrition care process, there are six questions that must be asked in the scientific method; these are the same questions that registered dietitians must use in the nutrition care process (1,2). The four steps of the nutrition care process are nutrition assessment, nutrition diagnosis, nutrition intervention, and nutrition monitoring and evaluation (1,2,12).

Research on Implementation of the Nutrition Care Process

Research from the American Dietetic Association has shown that implementation of the nutrition care process will take more than a decade. When full implementation has occurred, the dietetics profession will truly be recognized as the distinguished providers of the highest quality nutrition care (3,9). Research completed by Hakel-Smith, Lewis, and Eskridge compared the differences of documentation levels between two different Midwestern tertiary-care hospitals, labeled A and B (2). They looked at the documentation of nutrition practitioners for evidence of the nutrition care process within the institutions. The researchers used a comparative, descriptive design and a chart

review was completed on 60 closed patient records. The dietetics staff at institution A had been educated on the nutrition care process and standards of the nutrition care process were in place, including a nutrition diagnosis and a standardized language. Institution B's dietetics staff had been educated on further assessment and on nutrition assessment standards of MNT standards from the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). The instruments used in this study were a process evaluation instrument, coding form, and codebook developed by the researchers. According to the authors, "the instrument was used to identify a) the presence or absence of the nutrition care process steps, b) appropriate relationships between the steps of the nutrition care process, and c) completeness of the nutrition care process chain (2)." The three different phases the institutions could have been in were complete, incomplete, and interrupted, and the codebook had detailed instructions for the completion of coding the nutrition documentation (2).

The study authors reviewed 58 charts after two were omitted for not having an assessment by a nutrition practitioner. The author concluded that dietetics practitioners at institution A were three times more likely to document using standardized language and the ADA's nutrition care process steps than those in institution B, which focused primarily on JCAHO standards of assessment. However, there were no outcome data collections at either of the institutions indicating that neither institution had a completed chain of criteria for the nutrition care process. This meant that the full chain of criteria developed, relating to the nutrition care process, was not met by either of the institutions. The study showed that full documentation of all of the nutrition care process steps were needed to make the best clinical judgments and to direct nutrition

interventions as well as provide optimal outcomes for patients. The standardized language can be used to effectively communicate these needs (2).

An article written on an educator's experience in teaching the NCP to her students provided beneficial information on future implementation of the NCP (13). Dietetics educators are the major influence for the future dietetics professionals. Their role in teaching the NCP is critical for entry-level dietetics professionals and for long-term change in the profession. Educators can no longer assume that students understand everything they teach. Instead, an assessment of students' knowledge needs to be obtained, and the educator must examine his or her readiness to change as well. Traditional lecture and in-class testing methods need to be reexamined to focus on understanding and comprehension instead of memorization. Teaching the NCP will require both practice and experience that focuses on the steps of the NCP (13).

An educator at the University of Wisconsin at Green Bay has revamped her curriculum to focus on the steps and implementation of the NCP (13). After many classes, students still had problems understanding all of the components to put the big picture of nutrition care into perspective. There were problems of setting realistic goals for patients and in seeing the difference of measurement in outcomes for nutrition care versus medical or nursing care. The educator has implemented strict criteria and has revised syllabi for MNT I & II classes pertaining to the NCP. There are no longer tests but in-depth case studies so that students can learn and understand the various processes of the NCP. The continuous practice and feedback has allowed the students to become more comfortable in using the NCP and, therefore, making them more likely to implement it in the future (13).

The Six Clinical Judgments

Research conducted by Nancy Hakel-Smith, PhD, RD and Nancy Lewis, PhD, RD, reviewed the six critical thinking processes in the nutrition care process and investigated the need for a standardized language (3). The six steps that are the components of the scientific method approach to the nutrition care process are as follows: a) collecting evidence; b) determining diagnosis; c) determining etiology; d) establishing goals; e) determining and implementing interventions; f) measuring and evaluating patient outcomes (3). The nutrition diagnosis is the critical thinking area for the nutrition practitioner. By gathering data and accurately identifying and clearly stating nutritional problems, the problem solving strategies and outcomes become effective. Benefits to the dietetics profession will include increasing the understanding of nutrition treatments and outcomes among healthcare team members and patients; standardized documentation in the dietetics profession; making the link between nutrition care and patient outcomes better known. All of these benefits can lead to a better understanding of what nutrition care provides for the patients (3).

Nutritional Diagnosing

Before the final nutrition care process was developed in 2003, several other models for a nutrition care process were developed to fully understand the purpose of nutrition diagnosing; this was the step that set the dietetics profession apart from that of physicians, nurses, etc. (4). One of the models was developed by Mary Ann Kight, PhD, RD, and professor and principal representative of the Fairchild Diagnostic Nutrition Research Endowment at the University of Arizona, Tucson. It consisted of a nine-step

nutrition care process and model that focused on the quality improvement aspect of patient outcomes as well as an expansion of the conventional approach for the practice of dietetics. Dr. Kight found that nutritional diagnosing was a critical element in the nutrition care process and that only registered dietitians were qualified to make nutrition diagnoses. Just as a physician would be able to diagnose a patient with diabetes mellitus, a registered dietitian would be able to diagnose the patient with the nutritionally related problems that accompany diabetes (4).

A study conducted by Satya S. Jonnalagadda, PhD, RD has similar positive outcomes for nutritional/educational intervention from the registered dietitian must be measurable over a period of time, such as prior to and following education/nutrition intervention (14). The author reinforced that reimbursement for services was affecting the survival of practitioners. Thus, having an effective measurement for outcomes, as well as a system for other professionals to see a nutrition provider's value were the only ways to increase autonomy within the profession. The study emphasized that changes in attitude were needed to include medical nutrition therapy to help control and manage specific disease states, such as diabetes mellitus (14).

In the 2002 European Society for Clinical Nutrition and Metabolism (ESPEN) guidelines for nutrition screening, ESPEN described assessing patients as more than just assessing needs of patients nutritionally. Assessing includes a full history, exam, drugs the patient may be taking, interpretation of laboratory tests, as well as gastrointestinal assessment; these correlate with the components of the nutrition care process. Along with assessing, ESPEN defined monitoring and outcomes so that effectiveness of care is established. It also allows the registered dietitians to

communicate effectively with other members of the healthcare team as well as to the community, which would also correlate with the standardized language of the nutrition care process (15).

Further Developments from the NCP

A Scope of Dietetics Practice Framework (SODPF) was developed to assist with defining what services a dietetics practitioner can perform in a particular setting (16). However, it did not state an exact list of procedures or treatments that a registered dietitian could perform. The SODPF established a range of services that the dietetics professional can perform, but it was subject to change with new technology, knowledge, and health care environment. If a specific list of services a dietetics professional could perform was established, it would actually limit individuals' knowledge, skills, and competencies. Therefore, as the SODPF was developed, it assisted with accountability in documentation of outcomes for the NCP to provide consistent level of care (16).

After the NCP was established, the standards of practice in nutrition care were developed to describe a competent level of nutrition care practice that was also shown by the NCP (17). The standards of practice were based upon the NCP and reflect the growing practices of what a dietetics professional can do. The standards of practice were also based upon the NCP's model of intertwining relationships and outcomes. The standards of practice complement the standards of professional performance. However, the standards of professional performance are directed more toward those who are not in a clinical setting but are still based upon the NCP (17).

Attitudes

The nutrition care process embraces the concept of evidenced based practice which is consistent with the practices of all other health professions. Its concepts require a systematic approach as in the nutrition care process to use research based evidence along with the practitioners' knowledge and patient values and goals to develop a care plan to optimize patient outcomes (8).

A study conducted by Byham-Gray, Gilbride, Dixon, et al. assessed the perceptions, attitudes, and knowledge (PAK) of evidenced based practice since it was being implemented and required by the American Dietetic Association along with the nutrition care process (8). In the study, five hundred fifty registered dietitians were randomly selected from a set of dietetics practice groups. Of the 550 who received surveys, 258 responses were returned and assisted in determining PAK regarding evidenced based practice. The results from this study showed that there were barriers to implementing evidenced based practice including lack of time, knowledge of evidenced based medicine, resources, unsupportive health care team members, etc. It was found that those who had taken a class in research methods had more positive attitudes regarding evidenced-based practice compared to those who had never had such a course. Additionally, those who read more research frequently (weekly compared to monthly), had higher levels of education, and belonged to two or more professional groups were found to have more positive attitudes. These same attitudes were found by studies that included physicians. It was also found that those who had longer experience in their fields held more negative attitudes toward implementation of evidenced base practice. Lack of knowledge regarding evidenced based practice was

one of the most notable reasons that this practice and its principles have not been implemented (8).

Prochaska's research on the Stages of Change (precontemplation, contemplation, preparation, action, and maintenance) describes the willingness to change to a new system of processes (18). Just as patients must go through stages in behavior change so must professionals in their respective workplaces. Focusing on the research regarding stages of change, those trying to change usually go through the steps of the Transtheoretical Model to achieve the change. As seen in a review of literature on stages of change, two authors found that the progress that clients make has a direct correlation with the pre-change state of thinking (18).

In the same manner, research conducted on stages of change regarding nutrition practice has shown that using several different constructs assists in making an effective intervention (19). Those constructs include "processes of change, decisional balance, and self efficacy." Not all participants are simply willing to change. Some do not see a need for change, thus information given to those needs to be specific for the stage that they are in, such as focusing on increasing awareness for change (19).

Implications

There has been limited research conducted on the nutrition care process and its implementation into healthcare settings. Since its introduction in 2003, changing the thinking of registered dietitians about the processes they go through to treat patients has been important in the introduction of the nutrition care process (1). The overall purpose of the nutrition care process is to promote professional autonomy and

recognition for the dietetics profession (1-4). Providing a standardized language to the profession of dietetics promotes the same professional autonomy that was granted to physicians, nurses, and pharmacists (1-4,14-15).

The Transtheoretical Model of Stages of Change could describe what some registered dietitians may be facing regarding the nutrition care process. Some registered dietitians are not aware of a need for change to the nutrition care process and some may recognize the need to change but are not sure how to implement the changes (18,19). Medical nutrition therapy was defined and developed to show the treatment that dietitians can provide to patients. However, the nutrition care process delves deeper into the exact processes, including critical thinking skills, education, and experience that registered dietitians possess in order to effectively treat patients with nutritional problems. A physician can diagnose disease; the registered dietitian can diagnose the nutritional implications the disease could cause and effectively treat the implications based upon the nutritional diagnosis, intervention, and scientific evidence (4,14,15).

CHAPTER 3

RESEARCH METHODOLOGY

Subjects

The study population included approximately 100 registered dietitians in the Northeast Tennessee region. This is the approximate number of registered dietitians who are employed in Northeast Tennessee and were chosen by convenience sampling. The survey was administered electronically using an online survey hosting website known as *Survey Monkey* as a pre- and posttest, and was administered via a written survey at the conclusion of a professional development workshop. The email addresses for the registered dietitians were collected through the Tri-Cities District Dietetic Association (TCDDA) Membership Directory. As a member of the TCDDA, the principal investigator had full access to the list of names and email addresses of registered dietitians in the Northeast Tennessee region. The survey was given to those who were actively practicing in the field of dietetics. Retired registered dietitians or those not employed in dietetics were excluded.

Procedures

There were three phases of the study; the first phase and third phase were administered via electronic submission. The second phase was administered via a written survey after a professional development workshop. An introduction to the study with an informed consent document attached was sent to registered dietitians who were actively practicing dietetics within the Northeast Tennessee region. If the participant

agreed to the informed consent document, he/she proceeded to the survey completion phase (Appendix B). The survey was conducted through an electronic survey system so that all responses were kept anonymous.

The participants were informed of a professional development workshop where they were given training and guidance on implementing the nutrition care process within their facilities. The workshop was held at Johnson City Medical Center, Johnson City, TN, and the cost to attend was \$35.00. The workshop was conducted by Chris Biesemeier, MS, RD, LDN, FADA, Assistant Director of Nutrition Services at Vanderbilt University Medical Center. The topics of discussion included evidence based practice, nutrition care process and model, how to determine nutrition diagnoses, critical thinking steps, the importance of a standardized nutrition language, and integration of nutrition care process and standardized language in provision of nutrition care. At the conclusion of the professional development workshop, the participants were given a written survey that contained the same questions as the previous electronic survey to complete (Appendix B).

During the next six to eight weeks, participants had the opportunity to implement the nutrition care process within their healthcare facilities. Several facilities within the Northeast Tennessee region implemented the nutrition care process. Registered dietitians were able to implement and practice what they had learned in the professional development workshop as well as read and learn more about the nutrition care process. The follow-up survey (posttest) was sent electronically eight weeks after the professional development workshop to determine if changes to NCP had been

implemented and if the professional development workshop improved attitudes and opinions toward the nutrition care process.

The results from the surveys were entered into the personal investigator's computer, downloaded to a statistical program, and then burned to a CD. Upon completion of the research, the disk and paper surveys are being kept in a locked filing cabinet at the residence of the principal investigator for a period of 10 years and then will be destroyed. The procedures for this study followed the guidelines of the Institutional Review Board at East Tennessee State University.

Instrumentation

The survey that was administered in all three phases of the research can be found in Appendix B. The questions were developed based upon literature and with assistance from registered dietitians who reviewed the questions, suggesting few revisions, and then reviewed again; survey responses were based upon the Likert Scale. The survey was validated by giving it to a sample of dietetics professionals.

The variables that were measured by the survey were understanding of the NCP; barriers to implementation of the NCP; knowledge enhancement; and attitudes toward implementation in a healthcare facility. Understanding of the NCP was measured using questions 1, 2, 4, 7, 8, 9, 10, 11, 14, 16, 17, and 20. Barriers were measured using questions 3, 12, and 15. Knowledge enhancement was measured using question 13. Attitude toward the NCP was measured using questions 5, 6, and 18.

Data Analysis

Data from the participants were pooled from all three phases and tabulated in Microsoft Excel. Analysis of data was completed using the Likert Scale with pre coded paired sample values. The data were evaluated quantitatively based on attitudes prior to, and following, the professional development workshop.

CHAPTER 4

RESULTS

The Sample

Of the 100 registered dietitians in Northeast Tennessee who were surveyed during the first electronic survey, there were 54 respondents. The second phase of the survey occurred at the professional development workshop. The written survey was distributed to attendees following the workshop. There were approximately 40 to 50 participants in attendance and 32 participants returned the survey following the workshop. In the third and final phase of electronic submission, there were 100 registered dietitians electronically surveyed, and 35 respondents. All of the respondents on the final survey were asked whether or not they attended the professional development workshop. Results for all of the questions can be found in Appendix C.

Understanding

Question numbers 1, 2, 4, 7, 8, 9, 10, 11, 14, 16, 17, and 20 focused on the subjects' understanding of the nutrition care process. The following graphs show the changes in understanding throughout the three phases for some of the questions. Figure 1 shows the increase in understanding after the professional development workshop.

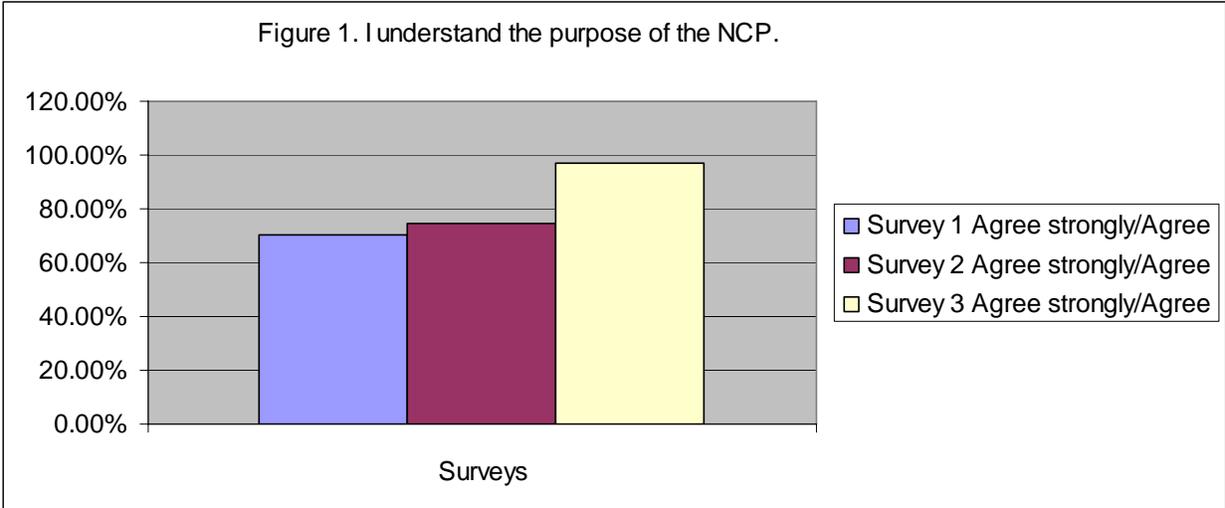


Figure 2 shows how registered dietitians feel about the amount of time it will take to use the nutrition care process.

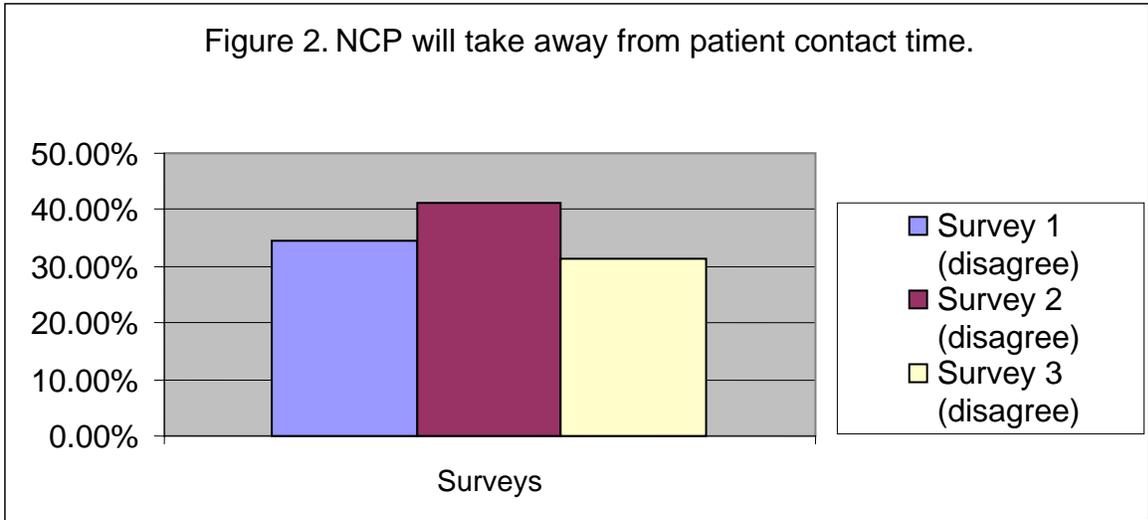


Figure 3 shows how registered dietitians feel about the NCP serving as a universal language among registered dietitians.

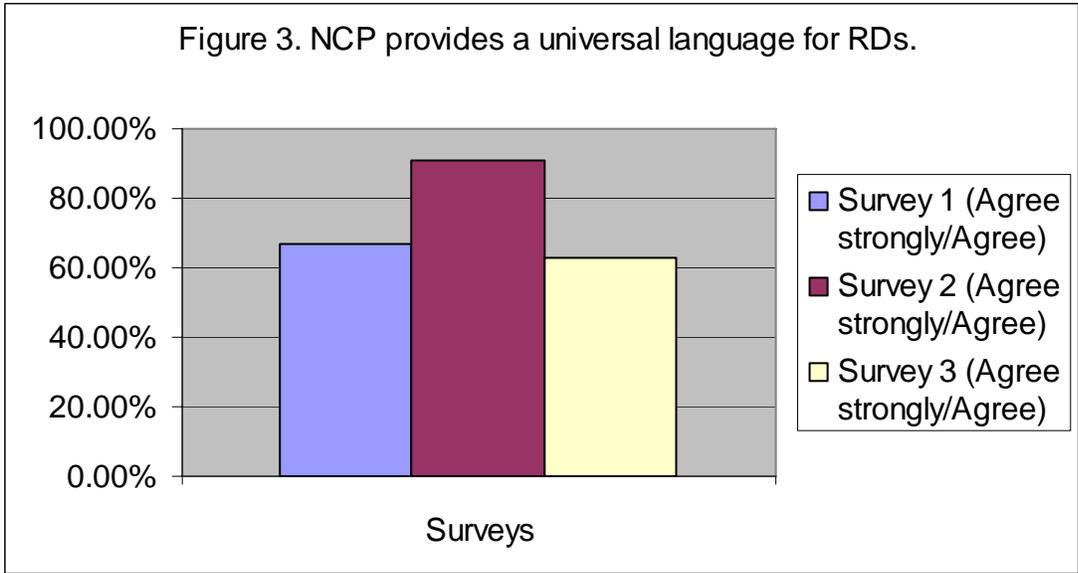


Figure 4 shows how registered dietitians feel about the NCP increasing their overall critical thinking skills.

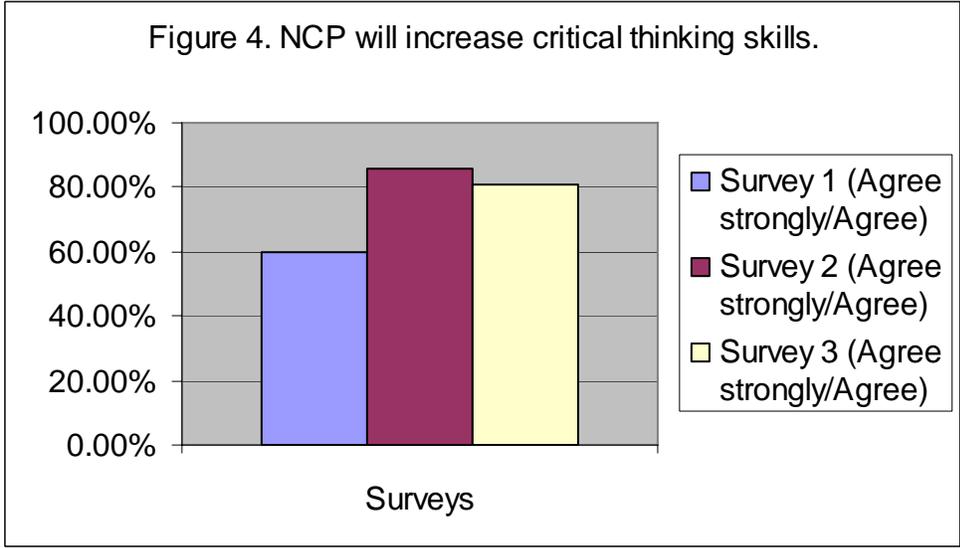
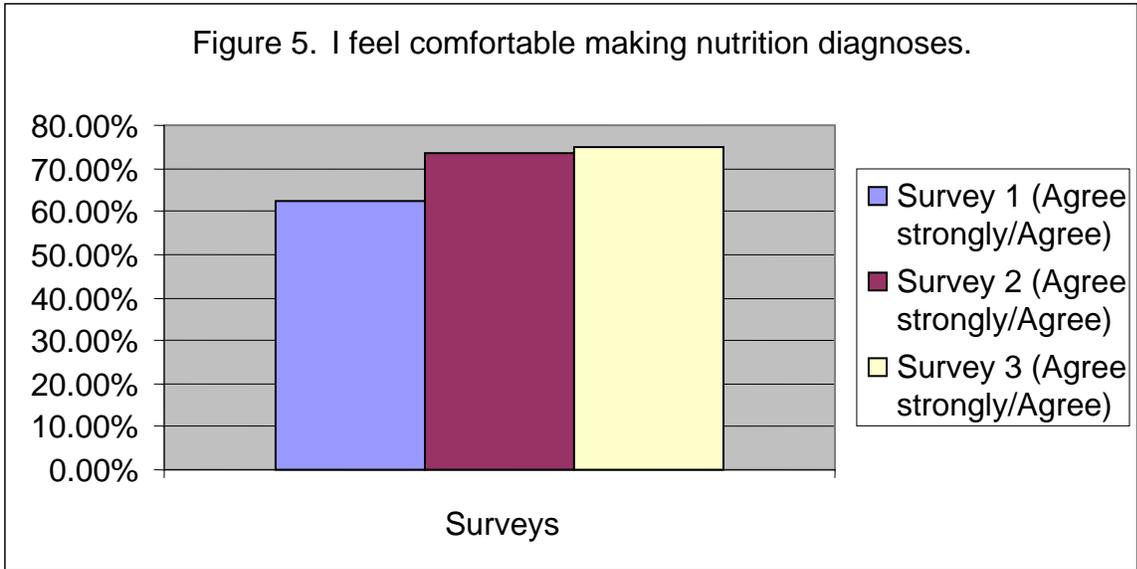


Figure 5 shows how registered dietitians' ability to make nutrition diagnoses comfortable increased after they attended a professional development workshop.



Responses showed that registered dietitians disagreed with the question that the NCP serves no purpose for registered dietitians. Responses also showed that registered dietitians' opinions of whether or not the upcoming dietetic interns should know the nutrition care process rose dramatically after the professional development workshop. Overall results showed a positive movement towards understanding.

Barriers

Fifty-eight percent of the respondents felt there were barriers to implementing the nutrition care process in the first survey. The second survey found that 62.9% felt there were barriers to the nutrition care process and by the third survey 46.9% agreed there were barriers to implementation. Results from survey question number 12 concerning “there is too much to learn to implement the nutrition care process” showed that on the first survey 53.8% disagreed to the third survey where 48.4% disagreed. The improvement of scores showed that perceived barriers varied inversely with knowledge regarding the nutrition care process.

Attitude

The following figures show changes in attitudes toward implementing the nutrition care process in respective healthcare facilities. In a question on attitudes, “I feel comfortable teaching upcoming interns the NCP,” the following figure (Figure 6) shows that there was an improvement in how registered dietitians felt about teaching the nutrition care process to upcoming interns, but there was still some hesitancy with ability to do so effectively. Although these percentages are those who disagreed, it is a positive movement in the survey because attitudes have improved from negative to less negative as shown by the percentages.

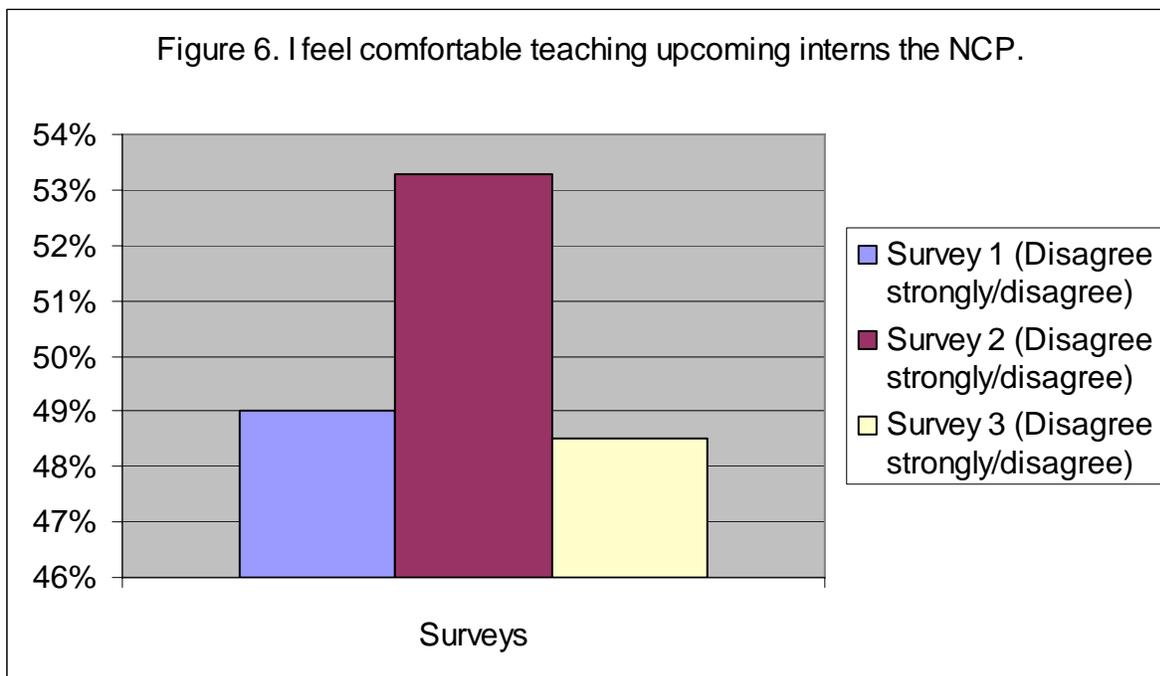


Figure 7 shows how registered dietitians first felt that it would be easy to implement the NCP in their respective healthcare facilities. The registered dietitians then felt that it would not be as easy to implement as originally planned.

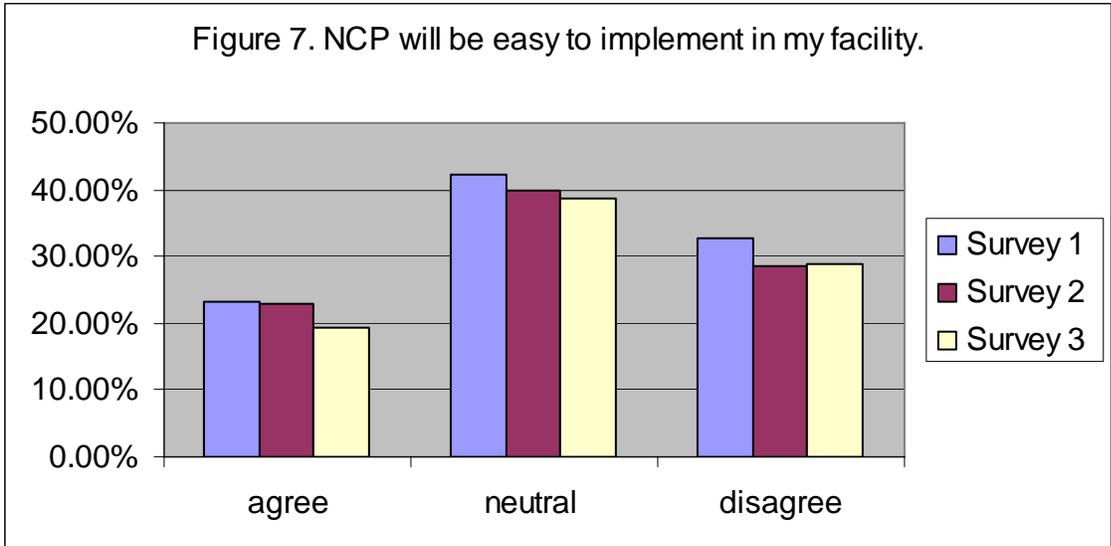
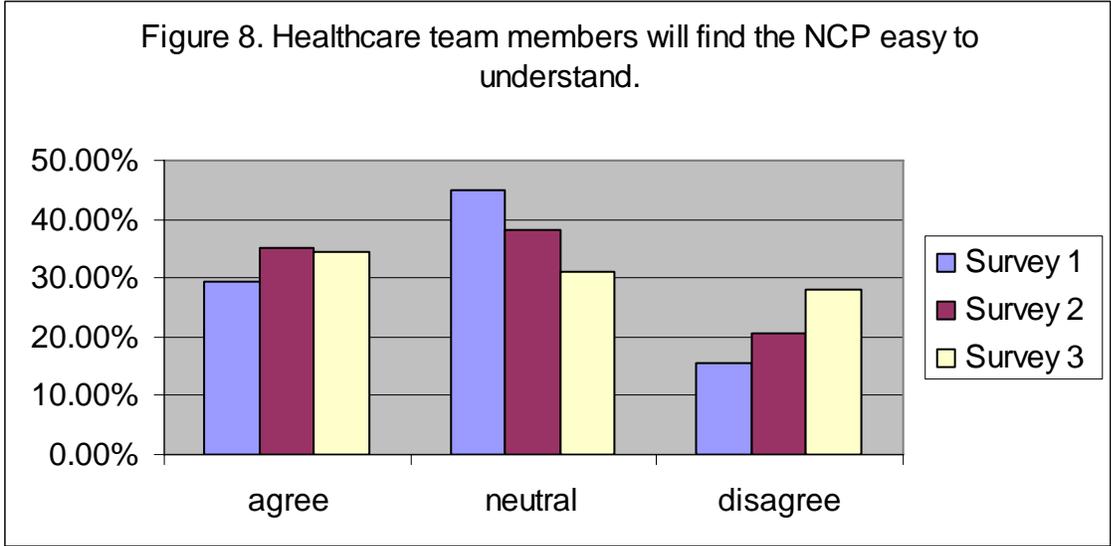


Figure 8 shows how registered dietitians felt other members of the health care team would perceive the NCP.



CHAPTER 5

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Discussion

The data collected from the pretests and posttests, indicates that registered dietitians in the Northeast Tennessee region have increased their understanding of the nutrition care process. Even though some of the responses are negative, they have still changed from a larger number to a smaller number of negative responses, which is a positive movement for the registered dietitians. As time and knowledge increased so did the understanding of the nutrition care process. After the professional development workshop, understanding of the nutrition care process, attitudes, and barriers to implementation were shown to decrease dramatically. The results also revealed that registered dietitians believed the nutrition care process will help improve their critical thinking skills. Even though ADA developed a new standardized language for the profession, there was little guidance for the registered dietitian on how to effectively implement the process in healthcare facilities. Registered dietitians who have an understanding of the nutrition care process may find that their healthcare facility does not understand and embrace this new process. Changing the healthcare system and giving the administration a reason for change may be the registered dietitian's goal. As ADA predicted, implementation of the nutrition care process could very well take more than a decade (3).

Conclusions

The respondents in these survey phases indicated that their attitudes, beliefs, and understanding of the nutrition care process have definitely increased. This shows that the hypothesis was correct as it was determined that when barriers are removed, attitudes improve and there can be proper implementation. However, it was concluded that registered dietitians still did not feel completely comfortable teaching the nutrition care process to dietetic interns. As their use of the nutrition care process increases and as registered dietitians become more comfortable using the nutrition care process, then teaching the dietetic interns may become easier. Many registered dietitians indicated by their survey that they felt there are inherent problems to implementing the nutrition care process within their facilities. The surveys did not provide an opportunity to explore barriers or problems related to implementation in their workplace.

Recommendations

Based upon the findings of this research, further research should be conducted on the barriers and implementation of the nutrition care process within all healthcare facilities where a registered dietitian is employed. Reinforcement and further education should be encouraged so that registered dietitians can become more comfortable with the nutrition care process. A more broad based research project could be conducted to better understand the limitations, barriers, attitudes, and thorough understanding of why the nutrition care process is not better used within healthcare facilities. Interns who are completing a dietetic internship as of May 2007 should be surveyed to gain an understanding of how they feel about the nutrition care process. This has been their

main method of documentation so they may be the leaders in implementation of the nutrition care process. Since registered dietitians do not feel comfortable teaching the nutrition care process to dietetic interns, it would be useful to conduct a community based professional development workshop where local registered dietitians become the trainers. Colleagues could assist fellow dietetics professionals to implement the nutrition care process in their respective healthcare facilities. Tips from registered dietitians who have already implemented the nutrition care process could help their colleagues transition into using the nutrition care process in their own facilities. These recommendations could decrease the length of time required for full implementation of the nutrition care process.

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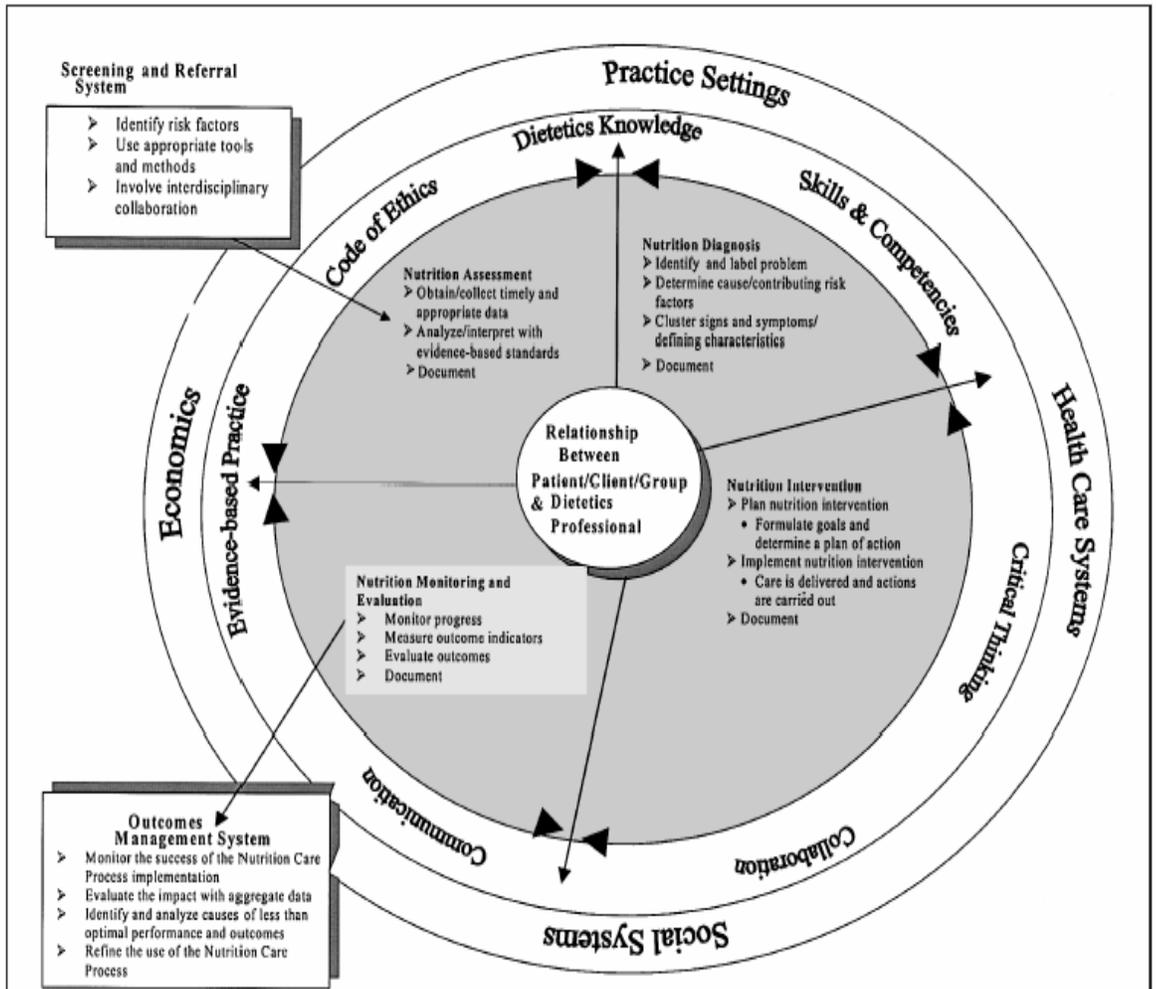
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APPENDICES

APPENDIX A

Nutrition Care Process and Model

Source: Lacey 2002 (1)



Appendix B

Nutrition Care Process Survey

Please answer the following on a scale from 1-5.

1=Agree Strongly 2=Agree 3=Neutral 4=Disagree 5=Disagree Strongly

1. I understand the purpose of the NCP. 1 2 3 4 5
2. I feel that the NCP is an important component of screening and assessing patients. 1 2 3 4 5
3. I feel that there are barriers to implementing the NCP. 1 2 3 4 5
4. I feel that the NCP will take away from my patient contact time. 1 2 3 4 5
5. The NCP will be easy to implement in my healthcare facility. 1 2 3 4 5
6. Healthcare team members will find the NCP easy to understand. 1 2 3 4 5
7. The NCP provides a universal language for all dietitians. 1 2 3 4 5
8. With the NCP, individualized patient care will be diminished. 1 2 3 4 5
9. The NCP will help with my critical thinking skills. 1 2 3 4 5
10. The NCP will assist in helping dietitians become recognized in healthcare settings as more valuable. 1 2 3 4 5
11. The NCP is what we have always done in this healthcare setting. 1 2 3 4 5
12. There is too much to learn to implement the NCP in my healthcare facility. 1 2 3 4 5
13. I feel that a seminar and case studies of NCP will help make me more comfortable with the NCP. 1 2 3 4 5
14. I feel that the NCP serves no purpose for dietitians. 1 2 3 4 5
15. I feel that the standardized language is too much to comprehend. 1 2 3 4 5

16. I feel comfortable making nutrition diagnoses. 1 2 3 4 5
17. I feel that upcoming dietetic interns should know how to use the NCP.
1 2 3 4 5
18. I feel comfortable teaching interns the NCP. 1 2 3 4 5
19. Has your workplace implemented the NCP? Yes or No
20. How long have you been practicing as a dietitian? _____
21. (Posttest only) The seminar and case studies made me feel more comfortable with the NCP. 1 2 3 4 5

APPENDIX C

Mean Results of Surveys

Table 1. Mean Survey Results.			
Question	Pretest ^a	Phase 2 Survey ^a	Posttest ^a
1-I understand the purpose of the NCP.	70.4% Agree Strongly (AS)/Agree (A)	74.3% AS/A	96.9% AS/A
2-I feel that the NCP is an important component of screening and assessing patients.	65.4% AS/A	90.7% AS/A	71.4 AS/A
3-I feel that there are barriers to implementing the NCP.	70% AS/A	75% AS/A	74.3% AS/A
4-I feel that the NCP will take away from my patient contact time.	34.6% Disagree Strongly (DS)/Disagree(D)	41.2% DS/D	31.2% DS/D
5-The NCP will be easy to implement in my healthcare facility	23.1% A 42.3% Neutral (N) 32.7% D	22.9% A 40% N 28.6% D	19.4%A 38.7% N 29.0% D
6-Healthcare team members will find the NCP easy to understand	29.4% A 45.1% N 15.7% D	35.3% A 38.2% N 20.6% D	34.4% A 31.2% N 28.1% D
7-The NCP provides a universal language for all dietitians.	66.6% AS/A	90.6% AS/A	62.9% AS/A
8-With the NCP, individualized patient care will be diminished	57.7% DS/D	75% DS/D	68.5% DS/D
9-The NCP will help with my critical thinking skills.	59.6% AS/A	85.8% AS/A	80.7% AS/A
10-The NCP will assist in helping dietitians become recognized in healthcare settings as more valuable.	42.3% AS/A	81.2% AS/A	55.9%
11-The NCP is what we have always done in the healthcare setting	38.4% DS/D	65.7% DS/D	40% DS/D

Table 1 continued			
Question	Pretest ^a	Phase 2 Survey ^a	Posttest ^a
12-There is too much to learn to implement the NCP in this healthcare setting.	61.5% DS/D	71% DS/D	54.3% DS/D
13-I feel that a seminar and case studies of NCP will help make me more comfortable with the NCP.	86.8% AS/A	90.6% AS/A	88.2% AS/A
14-I feel that the NCP serves no purpose for dietitians	75% DS/D	84.3% DS/D	85.3% DS/D
15-I feel that the standardized language is too much to comprehend	72.6% DS/D	81.3% DS/D	74.2% DS/D
16-I feel comfortable making nutrition diagnoses	62.2% AS/A	73.4% AS/A	75% AS/A
17-I feel that upcoming dietetic interns should know how to use the NCP.	79.2% AS/A	90.6% AS/A	85.3% AS/A
18-I feel comfortable teaching interns the NCP	49% DS/D	53.3% DS/D	48.5% DS/D
19-Has your workplace implemented the NCP?	75.5% No	65.5% No	78.8% No
20-How long have you been practicing as a dietitian?	3 months-30 years	6 months-30 years	2 months-33 years
21-(posttest only) The seminar and case studies made me feel more comfortable with the NCP.			48.5% AS/A 28.6% NA

^aUsing a five point scale with 1 being agree strongly and 5 being disagree strongly.

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