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Registered Dietitians Practicing Advanced Level Skills in the State of Tennessee and Their
Perceived Job Satisfaction

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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December 2004

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Keywords: metabolic support, nutrition support, total parenteral nutrition, enteral nutrition,
enteral tube feeding

ABSTRACT

Registered Dietitians Practicing Advanced Level Skills in the State of Tennessee and Their
Perceived Job Satisfaction

by

Charlotte Norene Cochran

The purpose of this study was to ascertain the number of registered dietitians in Tennessee who perceive they are practicing at advanced levels versus those making recommendations only. Job satisfaction according to order writing privileges was also assessed. A five question survey was sent to hospitals meeting selection criteria. Thirty-three surveys (89%) were returned. Eighty-nine percent of dietitians with order writing privileges considered themselves to be advanced level practitioners compared to 60% in the group of dietitians who did not have order writing privileges. Dietitians with order writing privileges indicated greater job satisfaction compared to dietitians that did not have that privilege. Greater job satisfaction was reported with advanced level skills that included order writing privileges. This study may show the need for dietitians to pursue advanced level skills in order to be challenged by their work, which may improve job satisfaction and advancement in the field of nutritional care.

CONTENTS

	Page
ABSTRACT	2
LIST OF FIGURES	5
Chapter	
1. INTRODUCTION.....	6
Statement of the Problem.....	6
Significance and Background	6
Hypothesis.....	7
Null Hypothesis.....	7
Definitions.....	7
Assumptions.....	8
Limitations	8
Delimitations	9
2. LITERATURE REVIEW	10
History of Nutrition Support.....	10
Parenteral Nutrition.....	10
Enteral Nutrition	11
Evolution of the Nutrition Support Team.....	12
Role of the Registered Dietitian.....	12
Job Satisfaction	13
3. DESIGN AND METHODOLOGY	15
Subjects.....	15
Methodology.....	15
4. RESULTS.....	16
Subjects.....	16
Data Analysis	16
5. DISCUSSION AND CONCLUSIONS.....	20
REFERENCES	22

APPENDIX: Survey.....	24
VITA	25

LIST OF FIGURES

Figure	Page
1. Mechanisms for order writing privileges.....	17
2. Self-reported advanced level of practice	18
3. Perceived job satisfaction by group	19

CHAPTER 1

INTRODUCTION

Historically, hospital physicians wrote all orders pertaining to patient care in a given institution. As medical treatments have become more complex and specialized, allied healthcare professionals have been given the authority to assist the physician by making recommendations in their area of expertise. These recommendations were then accepted or disregarded by the physician who would subsequently write an order. In recent years, some allied health professionals have become specialized to initiate treatments based on approved protocols without physician review. Registered dietitians, pharmacists, and nurse practitioners are examples of those professionals who have been granted order writing privileges.

Registered dietitians (RD) practice and provide medical nutrition therapy at different levels. Traditionally the RD would make recommendations concerning nutritional needs. The recommendations may or may not be implemented by the physician. However, there are now advanced level practitioners who are able to write medical nutrition therapy orders that do not require the physician's signature. The privilege to write these orders is granted via medical staff approved written protocols.¹

Statement of the Problem

The purpose of this study was to ascertain the number of registered dietitians in Tennessee who are practicing at advanced levels as indicated through written protocols granting the ability to write medical nutrition therapy (MNT) orders for metabolic/nutrition support without the physician's signature versus registered dietitians who are only making recommendations to physicians. Dietitian job satisfaction was studied in relation to order writing privileges.

Significance and Background

Registered dietitians have been valuable members of metabolic support teams since inception of the team in the early 1970s. Their particular expertise in nutrition support effectively advanced their profession while increasing the awareness of the need to further define dietetic specializations. In 1981, the American Dietetic Association reported on the need for role

delineation in the field of clinical dietetics, including specialization. Nutrition support certification was first addressed by the American Society for Parenteral and Enteral Nutrition (A.S.P.E.N.) in 1982. In 1984, the National Board of Nutrition Support Certification was established under the auspices of A.S.P.E.N. The first certified nutrition support dietitian (CNSD) examination was held in 1988.²

As the field of nutrition support has developed, the role of the registered dietitian has also developed. There are registered dietitians who are advanced level practitioners in the field of metabolic nutrition support. These practitioners are capable of writing nutrition support orders in some hospitals under the oversight of a medical director. Orders routinely written may include changes in rate or nutrient composition and laboratory tests to monitor the efficacy of the nutrition regimen. This ability to write orders results in more timely administration of nutrition support that can hasten a patient's recovery and decrease length of stay.³

Hypothesis

There will be a 20% or greater difference in job satisfaction between registered dietitians practicing metabolic support with order writing privileges and registered dietitians practicing metabolic/nutrition support without order writing privileges as measured by a job satisfaction survey.

Null Hypothesis

There will be less than 20% difference in job satisfaction between registered dietitians practicing metabolic support with order writing privileges and registered dietitians practicing metabolic/nutrition support without order writing privileges as measured by a job satisfaction survey.

Definitions

The following definitions apply to the terms used in this research:

Metabolic Support: Also referred to as nutrition support; a multidisciplinary group of health care professionals who aid in the provision of specialized nutrition support.⁴

Total parenteral nutrition: The administration of a nutritionally adequate hypertonic solution consisting of glucose, protein hydrolysates, minerals, and vitamins through an indwelling catheter into the superior vena cava or other main vein. It is used in prolonged coma, severe uncontrolled malabsorption, extensive burns, gastrointestinal (GI) fistulas, and other conditions in which feeding by mouth cannot provide adequate amounts of the essential nutrients.⁴

Enteral nutrition: The provision of nutrients through the GI tract when the client cannot ingest, chew, or swallow food but can digest and absorb nutrients.⁴

Enteral tube feeding: The introduction of nutrients directly into the GI tract by feeding tube. Routes include both nonsurgical and surgically placed: nasogastric, nasoduodenal, nasojejunal, esophagostomy, gastrostomy, and jejunostomy.⁴

Assumptions

The assumptions of this research are the following:

1. Registered dietitians practicing advanced level skills of nutrition support are capable of writing orders for medical nutrition therapy to include parenteral and enteral nutrition therapy.
2. The respondents will answer survey questions truthfully.
3. The survey accurately identifies advanced level practitioners and ranks job satisfaction.

Limitations

The limitations of this study are as follows:

1. The study is limited to only those hospitals with 150 beds or greater. This may exclude some advanced level practitioners of metabolic support in smaller facilities.
2. Thirty-three of thirty-seven surveys distributed were completed and returned.
3. Recipients may perceive job satisfaction based on factors other than those related to the advanced level of practice.

Delimitations

The delimitations of this study are as follows:

1. The study is looking at a specialty area of dietetics practice rather than dietetics as a whole.
2. Weakness of survey questions identified post-administration.
3. Data collected is representative of registered dietitians in the state of Tennessee only and may not represent registered dietitians in other geographic areas.
4. Thirty-seven surveys were distributed.

CHAPTER 2 LITERATURE REVIEW

History of Nutrition Support

Parenteral Nutrition

The history of nutrition support began with parenteral nutrition as early as the 1600s when several researchers reported intravenous (IV) feedings and blood transfusions in dogs.⁵ Attempts were made in the 1800s to inject food subcutaneously. Milk, beef extracts, and cod liver oil were used with some degree of success; abscess formation was a complication. The early 1900s gave rise to successful use of IV protein hydrolysates in humans by Elman. Also during the early 1900s, IV-hydrolyzed casein was used to feed a goat, and nitrogen equilibrium was obtained. In the 1940s, limits for safe administration of IV nutrient solutions were defined as follows: infuse less than 3 L volume per day (larger amounts were associated with pulmonary edema) and only glucose concentrations up to 10% are tolerated in peripheral veins (concentrations of 15% caused thrombosis). As a result of these limitations, calorie and nitrogen equilibrium were rarely achieved. Rhoads et al. developed a method for continuous infusion via a central vein in dogs in 1949.⁵

Numerous advances were achieved in parenteral nutrition in the 1960s through the 1970s. Satisfactory fat emulsions were developed and used in the United States. Positive nitrogen balance was achieved with patients receiving larger volumes of peripheral IV feeding accompanied by diuretics to control pulmonary edema. Rhoads et al. successfully fed beagle puppies via the central vein. These experiments with beagle puppies were followed by successful use of central vein parenteral nutrition in hospitalized patients with fistulas and gastrointestinal (GI) disorders.⁵

The 1970s through the 1980s exposed the potential complications of parenteral nutrition. The reversibility of immunosuppression associated with protein-calorie malnutrition with IV feeding was reported. Crystalline amino acids became available and were recognized as the preferred parenteral protein source. During this time, deficiencies in trace elements were identified. Advances in techniques and equipment occurred such as the use of indwelling

catheters and total nutrient admixtures. The feasibility of providing parenteral nutrition outside of the hospital setting was established.⁵

In the past two decades, parenteral nutritional solutions have evolved away from glucose-based systems toward solutions that more routinely contain carbohydrate, protein, and fats. Lipids are now used to provide an energy source as well as to prevent essential fatty acid deficiency. Protein sources have been developed for specific diseases. Guidelines for parenteral vitamin and trace element supplementation have been established. A better understanding of energy requirements and substrate metabolism has resulted in decreases in overfeeding and closer matching of parenteral solutions to physiologic needs.⁵

Enteral Nutrition

Likewise, enteral feeding has had a long history. Early forms of tube feeding date back to the Egyptians who used nutrient enemas to preserve health. Use of the rectum to provide water, saline, glucose and isotonic amino acid solutions was advocated until the end of World War II. Tube feeding into the upper gut was first done in 1598 using a hollow tube with a bladder attached to one end. Later, silver and leather tubes were used to feed patients through the esophagus. In 1790, the first nasogastric feeding was performed with a hollow catheter and a syringe. In the early 19th century, rubber was used for feeding tubes.⁶

Gastrostomies were first suggested in 1837 and first performed in 1845. Duodenal and jejunal alimentation was first introduced in 1910 as a replacement for rectal feedings when oral and gastric feedings were not possible. In the 1930s, jejunal feedings began to be used to maintain nutritional status in surgical patients. These feedings consisted of pepsinized milk, dextrose, and alcohol. Vitamins and minerals were not added until the late 1930s.⁶

Progress continued during the 1950s to the 1980s with jejunostomies becoming routine for feedings, design of the first pump for enteral feedings, increased availability of products and equipment, and feeding containers designed specifically for tube feeding. The history of enteral feeding from the 1980s to the present includes the development of nutrition support teams that are often involved in designing appropriate and safe enteral feeding. The cost of equipment for enteral feeding costs has decreased. There is more interest in enteral feeding that reaches a wider group of health care professionals. The preference is now enteral feeding over parenteral (given

a functioning gut). Enteral feeding is prescribed for a broader group of patients and can also be easily used at home.⁶

Evolution of the Nutrition Support Team

The benefits of nutrition support have become evident, however, with that benefit comes complexity. The evolution of the nutrition support team has occurred due to the unique characteristics in prescribing and compounding parenteral solutions and enteral formulations. Providing effective nutrition support necessitates specific protocols in delivery of these solutions and formulas. In addition to routine patient monitoring, continual follow-up to reassess nutritional benefits and complications of nutrition support must take place. Patients need to be evaluated pre-therapy as to their nutritional history. Patients also need assistance when transitioning from parenteral to enteral to oral nutrition therapy. The need for professionals to have an expanded knowledge and skill base to safely and effectively provide parenteral and enteral nutrition is recognized.⁷

The recognition of the complexity of nutrition support that requires a multidisciplinary approach led to the development of the first nutrition support team. The rationale for nutrition support services consisted of the following issues: documented prevalence of malnutrition in hospitalized patients, increased morbidity and mortality with malnutrition, and acknowledged positive effects of high quality nutrition support. Chernoff in 1979 focused on the dietitian's responsibilities and the team concept.¹ Grant included dietitians in the "Team Approach" in 1980, recognizing the unique skill of the registered dietitian to first assess the patients referred for parenteral nutrition. Prior to this time dietitians were responsible for oral and enteral nutrition therapies.⁷

Role of the Registered Dietitian

As parenteral and enteral nutrition have evolved, so has the role of the registered dietitian. In 1985, Hunter noted that critical care nutrition had been recognized as a specialty area of dietetics focusing on parenteral and enteral nutrition for more than a decade.⁸ This recognition led to the interest and development of a nutrition support certification. In 1984, the National Board of Nutrition Support Certification was established under the auspices of the American Society of Parenteral and Enteral Nutrition. The first examination was held in 1988.

The objectives of certification are to promote enhanced delivery of safe and effective care by formally recognizing dietetics professionals who pass the Certified Nutrition Support Dietitian (CNSD) examination. Health care facilities providing nutrition support should have at least one CNSD responsible for promoting and maintaining safe delivery of nutrition support.²

In some institutions registered dietitians who are involved in nutrition support are able to write nutrition support orders under a medical director's oversight. Others are able only to make recommendations to physicians for changes in metabolic support. Braunschweig et al.⁹ and Weddle et al.¹⁰ demonstrated better patient outcomes when dietitian recommendations were followed. However, nutrition care today often assumes implementation by other health care providers. Skipper et al.¹¹ showed that physicians implemented only 42% of 865 written dietitian recommendations in greater Philadelphia area hospitals. Hagan et al.¹² found even after dietitians wrote recommendations for dietary changes to physician-written nutrition orders in a teaching hospital, physicians revised only 39% of these orders. Efficacious nutrition care is not given and patient care is compromised when RD recommendations are not followed.¹²

Order-writing privileges in acute care facilities result in better outcomes than "recommendations." Moreland et al.¹³ recently showed that after beginning an order-writing system, 75% of patients demonstrated improved nutritional status compared with 55% previously. The University of Massachusetts Medical Center, a 340-bed teaching hospital, facilitates timely, effective delivery of nutrition care through order-writing and clinical privileges that are a permanent part of a dietitian's appointment to the Health Professional Staff.¹³ There is agreement with Moreland et al.¹³ that "conversion of registered dietitian's recommendations to nutrition orders has been the missing link in the patient care process."

Job Satisfaction

Mortensen et al.¹⁴ reported that professional activities provide an opportunity for a professional to stay current with knowledge, improve skills and improve the profession. Participation in professional associations can promote the professional as well as personal growth.¹⁵⁻²⁰ Associations offer many opportunities for networking with colleagues.²¹⁻²² Registered dietitians who practice advanced level nutrition are often members of several professional organizations.

Job satisfaction is described as the sum of the attitudes a person has toward various aspects of his or her job or the extent to which one derives pleasure from work.²³ Registered dietitians who practice advanced level nutrition have generally pursued advanced level education and certifications. Data concerning job satisfaction for dietitians practicing at advanced levels are extremely limited. Other allied health professions, such as nurse practitioners and pharmacists, have collected data indicating that perceived job satisfaction increased directly with perceived autonomy in the workplace.^{24,25,26} Other factors recognized to strongly influence job satisfaction include wages/compensation, job content, and interpersonal support from colleagues.²⁷

CHAPTER 3

DESIGN AND METHODOLOGY

Subjects

The subjects in this study were registered dietitians who were practicing nutrition support in hospitals of 150 beds or greater in the state of Tennessee. The Tennessee Hospital Association membership was used to identify hospitals meeting the above criteria. Thirty-seven registered dietitians were identified for participation and surveyed via electronic mail.

Methodology

A peer-reviewed five question survey was used to poll registered dietitians practicing nutrition support. The survey addressed order writing privileges versus making recommendations only, perceived level of practice, and perceived job satisfaction measured on a Likert scale. (Appendix A)

The Tennessee Hospital Association website was used to identify hospitals for recruitment of subjects. The survey was electronically transmitted to dietitians in facilities that met the criteria for participation. The participants were given two weeks to complete the survey and return it to the principal investigator. Follow up in the form of telephone calls and e-mails was used to ensure a better return rate. An incentive was offered to the participants in the form of a copy of the results.

CHAPTER 4

RESULTS

Subjects

Thirty-seven surveys were sent to registered dietitians meeting the criteria identified previously; thirty-three surveys were returned for an 89% response rate.

Data Analysis

Descriptive statistics were used to analyze the data. Respondents were grouped according to self-reported order writing privileges for data analysis. There were five questions on the survey addressing issues of order writing privileges, perceived level of practice, and perceived job satisfaction. Question number one was to determine that the registered dietitian was in fact practicing metabolic/nutrition support. One dietitian did respond that she did not practice metabolic/nutrition support. Therefore, she did not complete the survey; however, she did pass the survey on to a colleague practicing in that specialty who completed and returned the survey.

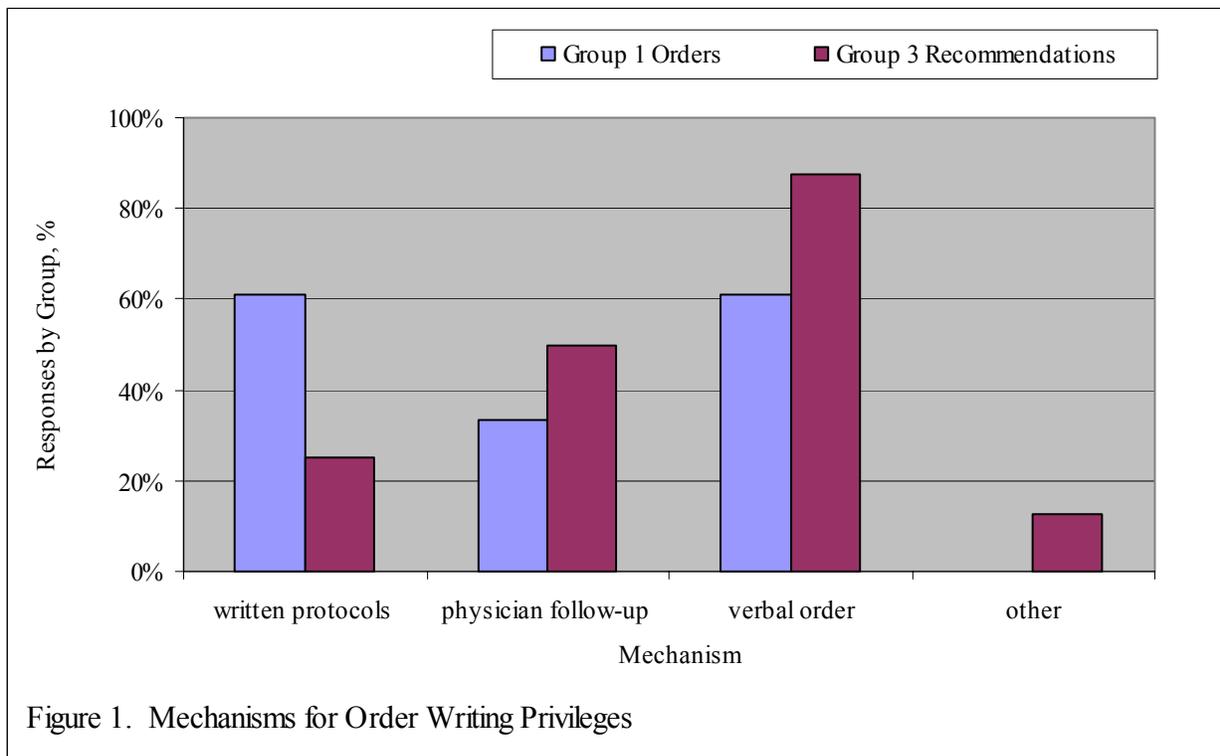
The second question on the survey classified dietitians according to whether they were able to write nutrition orders or only make recommendations. Eighteen respondents (55%) stated they write orders, while seven (21%) stated they make recommendations only. Eight respondents (24%) indicated that they make recommendations and, in some circumstances, write orders. Because of the unexpected number of respondents selecting both answers, one dietitian was randomly selected and asked to clarify why both answers were given. Her response was that the order writing privilege was only permitted with a physician's order for an individual patient. The hospital did not have written protocols granting the dietitian authority to write nutrition orders without the physician's supervision.

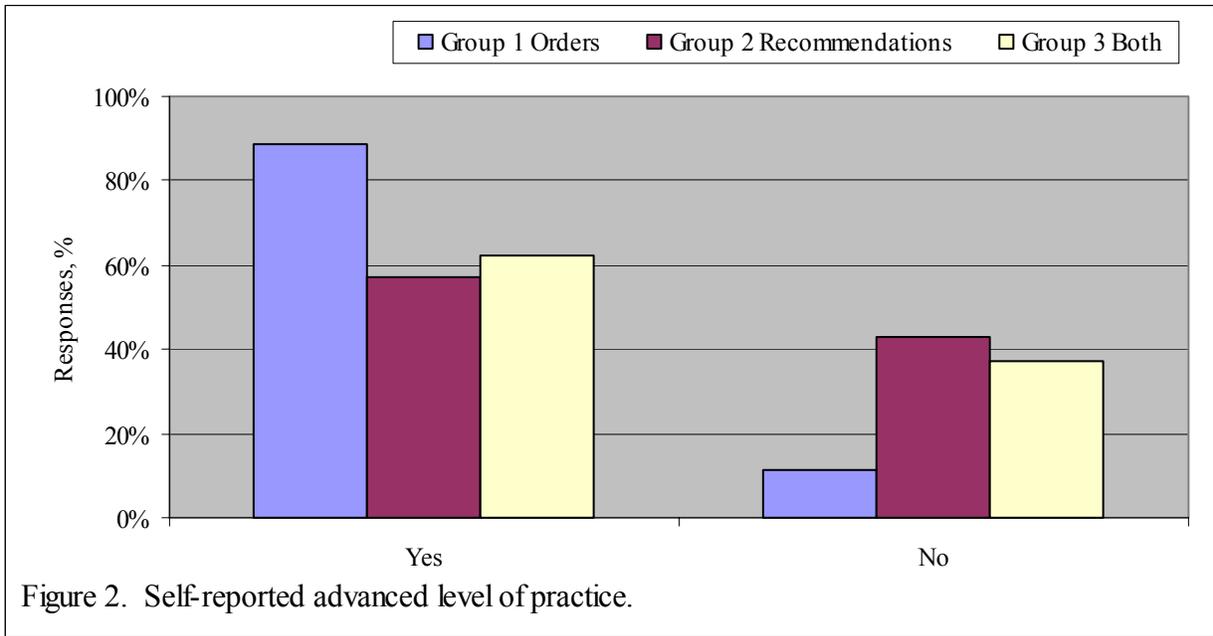
The respondents were divided into three groups: group one included those writing orders only (18), group two included those making recommendations only (7), and group three (8) included those indicating that they make recommendations and write orders. Question three asked the subjects to identify the mechanism authorizing the dietitian to write nutrition orders. Potential mechanisms offered were: written protocols, orders written with a physician follow up

signature, verbal order, and other. No data were collected for question three from group two because making recommendations only excluded them from writing orders.

Of group one, 61% (11 respondents) reported using written protocols, 33% (6 respondents) use physician follow up, and 61% (11 respondents) reported using verbal orders (Figure 1). No respondents in group one reported using other methods to write orders. Of group three, 25% (2 respondents) reported having written protocols in place allowing them to write nutrition orders. Fifty percent (4 respondents) indicated using physician follow up, 88% (7 respondents) responded use of verbal orders, and 13% (1 respondent) reported using other methods. The other method indicated was a physician order for the dietitian to write nutrition orders on an individual patient. Percentages do not total 100% due to respondents selecting multiple answers for this question.

Question four addressed perceived level of practice (Figure 2). It did not ask respondents if they had advanced certifications, only whether they considered themselves to be advanced level practitioners. Eighty-nine percent (16 respondents) of group one indicated they considered themselves advanced level practitioners, while 11% (2 respondents) reported they did not

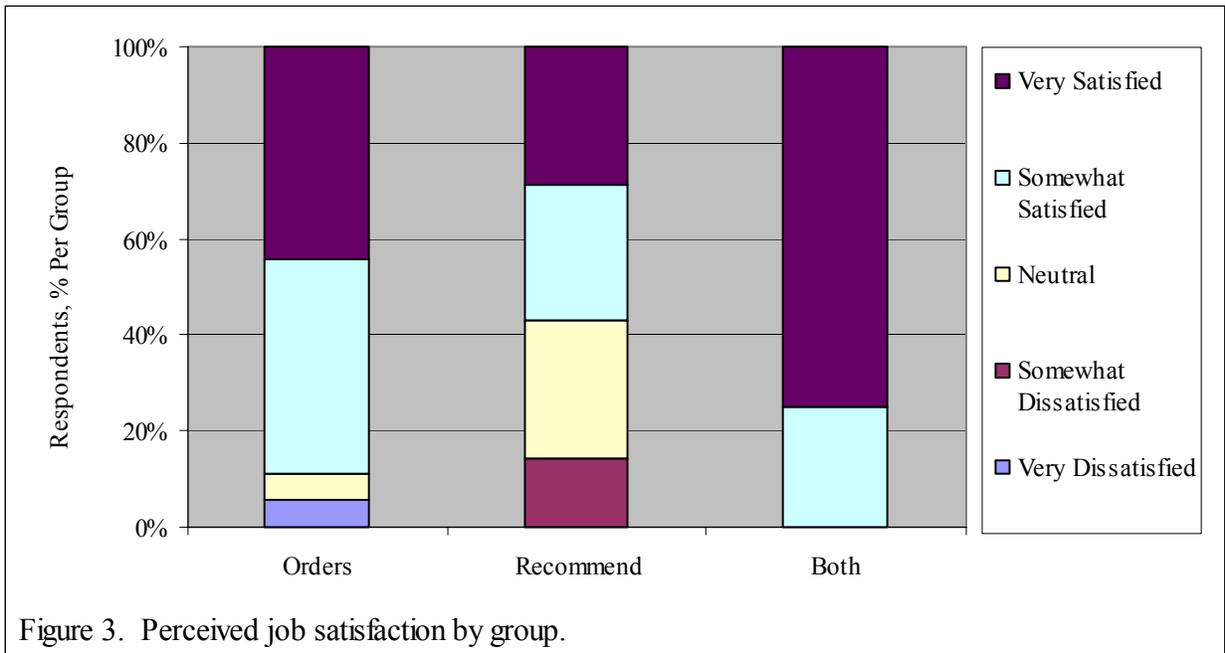




consider themselves to be advanced level practitioners. Of group 2 (recommendations only), 57% (4 respondents) indicated they considered themselves to be advanced level practitioners while 43% (3 respondents) did not. Sixty-three percent (5 respondents) of group three (both make recommendations and write orders) considered themselves advanced level practitioners with 38% (6 respondents) reporting they did not consider themselves to be advanced level practitioners.

Question five asked the dietitians to rank their job satisfaction on a Likert scale of 1-5 with 1 being very dissatisfied and 5 being very satisfied. Figure 3 illustrates data collected for question 5 according to group responses as a percentage. Of group 1 (writes orders), 44% (8 respondents) reported being very satisfied, 44% (8 respondents) reported they were somewhat satisfied, 6% (1 respondent) indicated they were neutral, and 6% (1 respondent) was very dissatisfied. Of group 2 (make recommendations only), 29% (2 respondents) reported being very satisfied, 29% (2 respondents) responded they were somewhat satisfied, 29% (2 respondents) indicated they were neutral, and 14% (1 respondent) reported being somewhat dissatisfied. Of group 3 (write orders and make recommendations), 75% (6 respondents) reported they were very satisfied, 25% (2 respondents) indicated they were somewhat satisfied; no respondents in this group indicated they were neutral, somewhat dissatisfied or very dissatisfied.

Compared to total responses, group one indicated 24% job satisfaction with 24% (8 respondents) of total responses indicating they were very satisfied compared to 6% (2 respondents) in group two and 18% (6 respondents) in group 3. Twenty-four percent (8 respondents) of group one indicated they were somewhat satisfied as compared to 6% (2 respondents) of group two and 6% (2 respondents) of group three. Neutral responses were only indicated in groups one 3% (1 respondent) and two 6% (2 respondents). Three percent (1 respondent) of group two indicated they were somewhat dissatisfied; no respondents in group one or three selected this category. Three percent (1 respondent) of group one indicated they were very dissatisfied; no respondents in group two or three selected this category.



CHAPTER 5

DISCUSSION AND CONCLUSIONS

Data collected failed to support the hypothesis that there would be a 20% or greater difference in job satisfaction between registered dietitians practicing nutrition support with order writing privileges and registered dietitians practicing nutrition support without order writing privileges as measured by a job satisfaction survey. Dietitians expressing job dissatisfaction were limited. One dietitian who indicated order writing privileges via verbal order only also indicated being very dissatisfied. This may be related to under used advanced practice skills or other reasons unrelated to practice. Surprisingly, only 9% of the groups that made recommendations only or reported both write orders/make recommendations indicated they were neutral or dissatisfied with their perceived job satisfaction based on total responses. This may possibly be attributed to lack of desire for increased responsibility or reluctance toward the innovative concept of dietitians writing nutrition support orders. Similarly, the 24% of total responses from group one (write orders) indicating they were somewhat satisfied as opposed to very satisfied may be interpreted as their vision for the future of nutrition support and improvements in the nutrition care process.

Data collection was complicated by respondents indicating that they write orders after making recommendations that resulted in verbal order with physician follow up. The lines between the groups were not always clear and could not be specified based on the data collected on the survey without the researcher making assumptions. Some dietitians surveyed reported that they write orders only as opposed to making recommendations only while using mechanisms such as verbal order and physician follow-up signature. To the researcher this did not indicate independent order writing privileges; however, the researcher did not find it appropriate to reclassify the survey responses that resulted in an unexpected limitation of the survey.

Identification of advanced level practice was strictly a perception of the respondent and did not identify advanced certification. Interestingly enough, 11% of dietitians reporting they write orders did not consider themselves to be advanced level practitioners. This finding may reflect confusion as to the definition of order writing as noted above.

Too often, nutrition care relies on implementation by other health care providers. Skipper et al. demonstrated that dietitian recommendations are not consistently prescribed by the

physician. Hagan et al. also showed poor follow-through from physicians with only 39% of dietitian recommendations being used, thus compromising patient care.¹² Converting dietitian recommendations into nutrition orders has been the missing link in the nutrition care process. The fact that some facilities are now allowing registered dietitians to write orders may improve nutrition outcomes and decrease length of stay in hospitals. Expanding the role of the dietitian means more accountability for meeting the needs of the patient, which would also increase the value of the dietitian and bridge the gap in coordinating care.

Improved job satisfaction of pharmacists has been directly correlated with time spent in clinical functions and indirectly associated with distributive and non-clinical functions.²⁴ Ried and McGhan identified compensation as another influential variable for job satisfaction among pharmacists.²⁷ Nurse practitioners have also indicated autonomy, time in patient care, and sense of accomplishment as key indicators of job satisfaction.²⁶ Increasing the value of the dietitian through order writing privileges and the liability associated with that responsibility may improve dietitian autonomy in the workplace as well as salaries, contributing to improved job satisfaction. While data collected in this study did not support the hypothesis of a 20% or greater difference between the groups, there was increased job satisfaction in the groups with privileges to write orders either some or all of the time.

This study may show the need for registered dietitians to pursue advanced level skills in order to be challenged by their work, which may improve job satisfaction and advancement in the field of nutritional care.

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APPENDIX

Survey

1. Do you practice metabolic/nutrition support (responsible for TPN and/or tube feedings) in your hospital? Yes No
2. If so, do you write the nutrition orders or do you make recommendations only.
 Write order Recommendations only
3. If you do write nutrition orders, what mechanism allows you this privilege (i.e. written protocols, verbal order from physician, physician follow up signature or another method)?
 Written protocols Verbal order from physician
 Physician follow up signature Other (please define)
4. Do you consider yourself an advanced level practitioner? Yes No
5. Please rate your job satisfaction on a scale of 0-5 with 5 being most satisfied and 0 least satisfied.

1	2	3	4	5
Very Dissatisfied	somewhat dissatisfied	neutral	somewhat satisfied	very satisfied

VITA

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