

The structure and performance of two distinct nutrition teams: A comparison of hospital in Türkiye and France

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ABSTRACT

A multidisciplinary approach is necessary for nutrition therapy to be effective. A nutrition teams may have varying duties and obligations according on hospitals, institutions, and nations. The purpose of the review is to present a comparative examination of the organization and structure of these units based on the work of a researcher who collaborated with the nutrition teams of two different nations. At the end of the review, the differences between Türkiye and France nutrition teams were outlined and it was aimed to plan future research that would include examples of good practice in both countries.

Keywords: clinical nutrition unit, nutrition team, structure, performance, comparison

LITERATURE REVIEW

The effectiveness of nutrition therapy depends on an interdisciplinary approach. Consequently, in the 1990s, nutrition teams (NTs) were established with the aim of optimizing the safety and effectiveness of nutrition therapy.¹ A team consisting of physicians, nurses, dietitians, and pharmacists with specialized knowledge in nutrition is optimal. Among an NT's general responsibilities include supervising nutrition therapy, conducting nutrition evaluations, recommending the best enteral or parenteral therapy, and training other staff members.² Research has demonstrated that patients who receive the NT have better patient outcomes, lower expenses, and less mortality.^{3,4} According to Kennedy and Nightingale³, catheter-related sepsis decreased from 71% to 29% and in-hospital mortality for patients receiving PN decreased from 43% to 24% when patients were monitored by the nutrition team. The results of the study on the composition, administration, and responsibilities of

nutrition teams in Europe indicate that the NTs affiliated to specific disciplines and that 71% of the physicians, 40% of the nurses, and 69% of the dietitians in the NT had additional qualifications related to nutrition. Additionally, developing nutritional plans, educating others, and monitoring nutrition therapy were among NTs primary tasks.⁵

Beyond their responsibilities in the hospital, NTs are crucial in the follow-up of patients who have been discharged. Furthermore, a commercial home infusion company's interdisciplinary staff of nurses, pharmacists, physicians, and dietitians collaborate closely with at-home nutrition teams. Patients who receive follow-up care at home from NTs are less likely to be re-admitted to the hospital, which has a substantial cost.¹

Depending on the hospitals, institutions, and countries, NTs may have different tasks and responsibilities. Additionally, the organizational cultures, human resources,

and local demands all influence the various organizational structures and functions that NTs have.^{1,6} In accordance with this data, the review's goal is to provide a comparative analysis of these units' structure and organization through the work of a researcher working with the NTs of two separate countries. The review also intends to outline the distinctions between Turkish and French NTs and to plan future research that will incorporate examples of good practices from both countries.

EVALUATIONS ON THE COMPARISON OF THE TWO NUTRITION TEAMS

The nutrition teams of the two countries were evaluated under 4 headings: "definition of nutrition team", "workflow of nutrition team", "roles of nutrition nurses" and "discharge and home follow-up process".

The characteristics and structure of the nutrition units under the title of *definition of nutrition team*, the performance of the unit under the heading of *workflow of nutrition team*, the roles and responsibilities of each nurse in the team under the title of *roles of nutrition nurses* and the treatment and care processes of patients who received nutritional support and were discharged under the title of *discharge and home follow-up process* were compared. In addition, the differences in structure and performance between the two nutrition units are also included in Table 1.

INTERPRETATION OF THE DIFFERENCES

The differences between the two units are given in Table 1. One of the main differences between the two units is that the hospital in France has a specific unit for artificial nutrition with dedicated hospitalization beds (Unité d'Assistance Nutritionnelle; Nutritional Assistance Unit) and that patients who are discharged with an artificial nutrition are followed up systematically at home by the UTN. In the literature, it is recommended to maintain the follow-up and care of the patients in need of nutrition

on one dedicated ward and to provide the patients to be discharged home by providing their education.⁷ Coordination work is therefore essential. It is important to establish areas where the nutrition teams who follow up with the patients receiving home nutrition support will conduct patient interviews and to establish systems permitting to the nutrition team to follow the blood and microbiology results of the patients at home. And also, the nutrition team must build strong relationships with the home health care providers who will look after the patients who require tube feeding/parenteral nutrition. This will facilitate the discharge of patients home and will enable them to find a solution for any problem. And team should be in touch with home health care providers in any problem about the patients.⁷

The job descriptions are another area where the two units diverge. There is evidence in the literature that nutrition teams have distinct duties. According to this, some teams may be totally responsible for determining the patient's nutritional and fluid needs, establishing a feeding tube, writing the prescription, monitors progress any complications. Some teams can be consultative, visit patients, and offer management advice. However, they must have effective contact with the patient's main medical staff. Or else, one nutrition team on some wards function in an entirely responsible role, and on others, they can be serving just as consultants. In fact, it is impractical for a nutritional support team to be fully responsible for the medical management of all patients who need nutritional support, so the team needs to be clear about which patients they should be fully responsible for.^{6,7} But, every team must be clear about its operational procedures, including how patients will be sent to the team. ESPEN has defined the duties of the professions that should be in the core team as follows.⁸ Physician; diagnosis and clinical management of the underlying condition, which including the responsibility for integrating appropriate nutritional support. Nurse; regarding the intended administration of nutritional support, patient care. Dietitian; evaluation of nutritional requirements and selection of appropriate nutritional options. Pharmacist; provision of and advice regarding the proper handling of nutritional formulas, including co-administration of medication. The educational background, position, and practice setting of each nurse affect how nutrition nurse is practiced.^{6,9} Clinical practice may not be applicable to all nurses due to the variety of nurse roles, as some nurses may not practice in a patient care environment. The range of practice comprise direct patient care, consultation with other healthcare professionals, education of patients/caregivers, students, colleagues, and the public, involvement in research activities and performance improvement, and administrative duties. In addition, Boeykens et al. reviewed and compiled the job

Main Points

- Depending on the hospitals, institutions, and countries, NSTs may have different tasks and responsibilities.
- In this review, a comparative analysis of the structure and organization of the two units is provided through the work of a researcher working with NSTs of two different countries.
- The differences between Turkish and French NSTs are summarized and the examples of good practices in both countries are aimed to serve as examples for NSTs in other countries.

descriptions of nutritional support nurses in the literature and determined the core competencies that nutritional nurses should have. These core competencies are expert coaching and guidance, consultation, clinical and professional leadership, collaboration, ethical decision making and research.⁶

The NST's framework, which incorporates health professionals from several fields, may cause challenges in practical use. To guarantee compliance and uphold the established norms, it is crucial to create standards. The main technique for providing these requirements is the development and execution of accreditation programs. Turkish NSTs are followed by the National Health Quality Standards recommended by the Turkish Ministry of Health, Department of Quality and Accreditation. Also, The Turkish Society of Clinical Enteral & Parenteral Nutrition (KEPAN) intends to create an accreditation program in order to raise the quality of NSTs. Apart from this accreditation program developed by KEPAN, there

is no established accreditation program for NSTs at the national and international levels. When applying for an accreditation application, an entity should electronically complete the form found on the KEPAN website. The number of NST members, the physical setting, and the necessity for patient monitoring, research, and training are among the eligibility criteria for accreditation. Under 13 sections, a total of 22 criteria are covered. There are 61 criteria in these standards. In order to be accredited, every of 22 standards must receive a score of at least 70 and every 13 sections must receive a score of at least 80.¹⁰

One of the key differences is France Healthcare System has Transversal Unit of Therapeutic Education (UTEP). UTEP develops Therapeutic Patient Education (TPE) programs in order to facilitate the treatment and care process of patients with chronic diseases and their relatives, and to improve the quality of life of patients and their families. TPE is defined as a process of reinforcing the ability of patients and/or their families to manage their

Table 1. Comparison of two units

Definition Of Nutrition Team		
France Hospital	Türkiye Hospital	First Difference
<ul style="list-style-type: none"> University of Lorraine Nancy Regional University Hospital Center has 1495 beds. Transverse Nutrition Unit (Unité Transversale de Nutrition-UTN) was established in 2008. UTN is affiliated to the Endocrinology, Diabetology, Nutrition department of the hospital. UTN is an only responsible labeled center in the Grand Est region for the continuation of treatment and care of patients receiving home parenteral nutritional support. Name of the labelled center is Labeled Home Parenteral Nutrition Center, (Centre Labellisé de Nutrition Parentérale à Domicile-CLNPD). UTN is one of the training centers of European Society of Clinical Nutrition and Metabolism (ESPEN). The head of the UTN team is a Professor of nutrition. There are 6 nurses working in the UTN and CLNPD team. One of the nurses is an advanced practice nurse (APN) with a master's degree. There is also a nursing aide working in the team. All of the nurses are experienced nurses who have worked in the Unite Assistance Nutritionnelle (UAN) service before. 2 nutritionist physicians, 1 nutrition, endocrine and diabetes assistant doctor, 2 clinical pharmacists, 2 dietitians and 1 secretary work in the team. This hospital has a unit Transversal Unit of Therapeutic Education (Unité Transversale d'Education Thérapeutique-UTEP) in order to facilitate the treatment and care process of patients with chronic diseases and their relatives, and to improve the quality of life of patients and their families. UTEP develops Therapeutic Patient Education (TPE) programs with relevant units for the care of chronic diseases. 	<ul style="list-style-type: none"> Hacettepe University Hospital has 1200 beds. Hacettepe University Hospitals is the "first public university hospital" accredited by Joint Commission International (JCI) in Türkiye and accredited until 2024. Hacettepe University Hospitals are guided by the National Health Quality Standards recommended by the Turkish Ministry of Health, Department of Quality and Accreditation and are evaluated for compliance with the relevant standards by Turkish Ministry of Health. Clinical Nutrition Unit (CNU) was established in 1994. CNU is affiliated to Adult Hospital Chief Physician. Procedures, instructions and protocols prepared by the nutrition unit are prepared according to JCI standards. CNU is accredited by the Turkish Society of Clinical Enteral & Parenteral Nutrition (KEPAN). CNU is one of the training centers of European Society of Clinical Nutrition and Metabolism (ESPEN). The head of the team is a Professor of Internal Medicine-Geriatrics. One general surgery physician, one intensive care physicians, one dietitian and one clinical pharmacist work in the team. There are 3 nurses, who have a master's degree, working in the team. And also, two of these nurses are doctoral students. 	<ul style="list-style-type: none"> Unlike Türkiye, France hospital has a nutrition service, Unite Assistance Nutritionnelle (UAN). Established in 2012, this service has 13 beds. It is one of the departments in the hospital. It is defined by the Ministry of Health. There are 8 nurses working in the service. Working hours are 07 am-07 pm. Two nurses, one nursing aide work in the morning shift, one nurse and one nursing aide work in the evening shift. In the ward, treatment and care are provided for patients with intestinal problems, patients with short bowel syndrome, and patients who require nutritional support such as anorexia nervosa. In addition, patients with short bowel syndrome, who are treated and cared for in surgical services, are admitted to the UAN service before they are discharged, and discharge training is provided by the UTN team for parenteral nutrition. UTN and UAN are integrated units, and UTN nurses plan the discharge training and home follow-up processes of the patients in this service. Other differences are that there is no definition and specialization for nutritionist physicians, in Türkiye. But, for physicians, there is a clinical nutrition master's program offered by Hacettepe University Faculty of Medicine.

Table 1. Continued

Workflow Of Nutrition Team		
France Hospital	Türkiye Hospital	Second Difference
<ul style="list-style-type: none"> • In UTN, the work flow of nurses is divided into three as Coordination, Consultation in other departments and outpatient's consultation. • The workflow of physicians is divided into two as Consultation of other department and UAN service follow-up. • One of the dietitians works for patients who receive parenteral nutrition and the other enteral nutrition support. The dietitian assigned for parenteral nutrition makes nutritional arrangements for the patients receiving treatment and care at UAN and keeps track of their weight and nutrition by calling the patients when they are discharged. The dietitian assigned for enteral nutrition follows the patients consulted from other services by calling the patients when they are discharged. In addition, when patients are discharged, they follow up by calling them by phone. The frequency of telephone follow-ups depends on each patient, it can be once a week, once a month or quarterly. • Patients in the UAN service are followed daily by interns. • The UAN service is visited every Tuesday by the nutrition team's doctors, dietitian and consultation nurse and by the interns of the UAN. • Every Friday, patient visits are made with the responsible doctor of the service and interns. • The meeting within the team is monthly, the meeting with the UAN service is once every 4 months. Problems and new projects are discussed at these meetings. • The UTN team meets with the hospital pharmacy every Tuesday about problems with the supply of products (or "poche à la carte") for home parenteral nutrition patients. • The preliminary evaluation of the patients consulted from other services is made by the consultation nurse and consultation doctor of that week and the nutrition plan of the patient is decided with the consultation doctor of that week. • Patients who will receive parenteral nutrition support for more than 3 months at home definitely to consult CLNPAD and these patients are followed up by CLNPAD. It is an obligation in France. Parenteral nutrition prescriptions of these patients must be written by centers labeled in parenteral nutrition. All files of patients currently receiving hydration or parenteral nutrition infusions are kept in the UTN office. Also, records of patients receiving temporary parenteral nutrition or hydration are also archived by the secretary serving the UTN. • UTN and CLNPAD follow the Francophone Society of Clinical Nutrition and Metabolism (SFNCM) and ESPEN guidelines. 	<ul style="list-style-type: none"> • Patients who need nutritional support are consulted (via the automation system, written request note) to the clinical nutrition unit by the physician of the clinic where they are being treated. • The team dietitian sees the consultation from the system, the patient is evaluated in the service with the team, and form of nutrition is decided together with the team. The consultation form is closed and the patient, nurse and physician are informed. • Patients whose nutritional support treatment is initiated in consultation on the clinical nutrition unit from the whole hospital are visited daily in their clinics by team and the relevant notes are written into the hospital automation system. • By using the nurse and dietitian follow-up form belonging to the nutrition team, the information of all patients receiving nutritional support from the beginning of the follow-up to the end of the follow-up is recorded in writing. • The files of the patients who are out of follow-up are separated according to the years and kept in a locked cabinet and data are recorded in SPSS and evaluated annually. • All patients under the follow-up of the team are evaluated through the patient files at the weekly team meeting (doctor, nurse, dietitian, clinical pharmacist). • Academic training programs on clinical nutrition are organized by the team throughout the year. • The team follows the KEPAN, ASPEN, ESPEN guidelines. 	<ul style="list-style-type: none"> • Unlike Türkiye, the presence of UAN service also causes differences in the workflow. There are doctors specialized in the field of nutrition. Due to home follow-up systems, discharged patients are followed up continuously and care and treatment services are carried out systematically. • Unlike the French, The Turkish team, is responsible for the follow-up of all patients consulted to the unit from the entire hospital. Patients who are consulted from the entire hospital and receive enteral and parenteral nutrition are followed up by the team and evaluated at weekly meetings. The discharge training of all patients who will go home with enteral or parenteral support is given by the unit.

Table 1. Continued		
Roles Of Nutrition Nurses		
France Hospital	Türkiye Hospital	Third Difference
<ul style="list-style-type: none"> • There are 6 nurses working in the UTN and CLNPAD team. One of the nurses is an advanced practice nurse (APN) with a master's degree. There is also a nursing aide working in the team. All of the nurses are experienced nurses who have worked in the UAN service before. • The roles of the nurse are defined in the unit as coordination, consultation in other departments and outpatient's consultation. Four nurses work actively for these roles in the unit every week and these roles change every week for the nurses. The four nurses have the same diploma and the same training. The responsibilities and duties of nurses are governed by a National Decree of the Nursing Order which brings together all the skills of a nurse in France. <p>The contents of the roles defined as outpatient's consultation, consultation in other departments and coordination are as follows:</p> <p>1. The outpatient's consultation nurse: who attends doctors' consultations (outpatient examination of patients receiving nutritional support), modifies prescriptions according to medical instructions, attend UAN visits on Tuesdays, communicates new information to the home healthcare provider and to the liberal nurse.</p> <p>2. The consultation nurse: The consultation nurse makes a preliminary evaluation (weight change, evaluation of appetite, transit, physical activity, etc.) of the patients who are consulted from other units of the hospital and is giving information to the consultation doctor of that week. Follows these patients up to the discharge process. Gives discharge training. When the patient goes home, he evaluates it with a phone call.</p> <p>3. The Coordination nurse: Coordination nurse follows the patients in the UAN service. Responsible for the education of patients in this service and arranges the home follow-ups of the patients in this service. And also follow discharged patients who call and email the unit during the day. Organizes laboratory results of home patients sent to the unit and informs the patient's doctor. Performs calorimetry and breath tests of patients in need.</p> <p>4. The substitute nurse: Apart from the three nurses, the fourth nurse helps these three nurses in case of need. The substitute nurse also fulfills his role in the absence of one of these three nurses.</p> <p>The advanced practice nurse has other roles according to the other nutrition nurses, in particular advanced practice nurse can prescribe and do consultations on her own.</p> <p>Nursing aider continues the documentation of the unit. (Number of patients followed, number of patients with ongoing infusion, etc.)</p> <ul style="list-style-type: none"> • UTN nurses provide enteral and parenteral nutrition education under the following headings: There are 3 types of similar education on the 3 types of devices (PAC, tunneled catheter, Picc Line) • UTN nurses provide training to patients who will be feeding with a nasogastric tube at home, self-insertion the nasogastric tube, verifying its location (and listening for bubbles with a stethoscope) and initiating and monitoring feeding. • The content of the training is safety education, preparation of infusions, connection/disconnection, dressing. 	<ul style="list-style-type: none"> • There are 3 nurses, who have a master's degree, working in the team. And also, two of these nurses are doctoral students. One of the three nurses work for the oncology unit of the hospital, while the other two nurses work for the services in the adult hospital. • Responsibilities and duties of nurses are determined by Turkish Nursing Law and Regulation. • The nutrition job descriptions of the nurses were made in accordance with the quality standards in the hospital. • Nurses participate in decisions together with the team on issues such as patient evaluation, deciding on the feeding route, ensuring the continuity of the feeding route, and preparing the patient for discharge. • The departments in the hospital are shared among the nurses. According to these shares, each nurse fulfills the following roles for the department they are responsible for. <p>Nurses roles;</p> <ul style="list-style-type: none"> • Daily follow-up of the consulted patients from the nucleus (hospital information system). (Clinical follow-up notes, laboratory findings, etc.) • Recording the notes about the patient in the patient file and computer. • Saving all the data of the patients who come out of the follow-up to the computer. • Retrieval and recording of newly consulted patient information and laboratory findings. • Deciding on the way and form of nutrition together with the nurse / doctor / dietitian (Oral, enteral, PN). • To convey the nutrition plan and recommendations to the service doctor and nurse in writing and orally. • To check whether the patient takes the right product at the right delivery rate and at the right time in enteral nutrition. • If there are problems, to investigate the source and produce solutions together with the nutrition support team. • Maintaining open access routes, preventing and managing complications. • To monitor and record the gastrointestinal, mechanical and metabolic complications of enteral nutrition. • To control whether the right product is given to the right patient in the right way, at the right time and in the desired amount in parenteral nutrition. • Making material and drug orders from the nucleus for patients who will receive PN • Monitoring, recording and management of parenteral nutrition metabolic and access complications. • To contact the patient's doctor when there is a change in laboratory values and to review the treatment plan and make a new nutrition plan inpatient. • Patient and family education • To educate the patient and their relatives who will be discharged with enteral nutrition according to the "enteral nutrition education instruction at home". • To educate the patients and their relatives who will be discharged with parenteral nutrition according to the "home parenteral nutrition education instruction in adult patients" • Evaluation and follow-up of patients coming to the outpatient clinic. 	<ul style="list-style-type: none"> • The roles of nutrition nurses are not separated like the France unit. But the consultation and coordination tasks are similar. In Türkiye, nutrition nurses can decide the type of nutritional support. These are systemic differences. • Unlike Türkiye, in France Patients who will be feeding with a nasogastric tube at home, self-insertion the nasogastric tube, verifying its location (and listening for bubbles with a stethoscope) and initiating and monitoring feeding. • In Türkiye, there is no separate definition and specialization of nurses doing master or doctorate. There is no definition of advanced practice nurse by law.

Table 1. Continued

Discharge and Home Follow-up Process		
France Hospital	Türkiye Hospital	Fourth Difference
<ul style="list-style-type: none"> • UTN-CLNPAD is the region's only labeled center for the treatment, care and follow-up of patients receiving home parenteral nutrition/hydration. • When a patient is discharged, CLNPAD provides a home health care provider and liberal nurse who will be responsible for the link between the patient and the hospital. • CLNPAD schedule appointments with them to review homecare protocols, and explain how to ensure they are implemented by the liberal nurses. • Enteral nutrition is managed by UTN dietitian who are in contact with the home health care dietitians and act as a direct link the hospital when a patient is ill. • All patients are regularly called by CLNPAD nurses and/or dietitian. (variable times depending on the patient once a week to four times a week). And also, patients at home can directly reach the unit by phone or e-mail in case of any problem. • During phone controls, the patient's general health status, weight monitoring, nutritional status, oral hydration, etc. is questioned. In addition, the follow-up of the infusions (do all the prescribed infusions went well, the prescriptions were followed, is there enough material in the patient, is the central line clean, signs of inflammation, any problem during the administration of the infusions...) • The patient followed in CLNPAD is followed by the general practitioner in the city where he/she lives. In case of a problem, the attending physician contacts CLNPAD. • Patient's blood biochemistry and urine diuresis results are faxed to the CLNPAD office and checked by that week's coordinating nurse and the patient's doctor. According to these results, relevant changes are made in the infusion schedules of the patients. Prescriptions signed by doctors are sent by the UTN secretary to the healthcare provider. 	<ul style="list-style-type: none"> • Home follow up is done by industry (company) nurses just for enteral nutrition patients. • After the discharge training is given by the nutrition nurse, the patient is informed that the nurses of the company will be visited if they wish, by giving their contact information. • The company nurse makes first visit face-to-face at the patient's home and repeats the discharge training. Then, calls twice after the first home visit. But the patient can call the nurse whenever wants. • Patients calls the company's call center, not the nurse's direct personal number. The call center forwards it to the relevant nurse. 	<ul style="list-style-type: none"> • In Türkiye, the team does not have a home follow-up system. • Home follow-up is carried out with company nurses only for patients who are fed enterally. • There is home care service in hospitals directly affiliated to the Ministry of Health. • The patient can benefit from the home care services of the Ministry of Health. This process should be organized by the patient himself.

condition. Stages of the TPE program are: establishing the educational diagnosis, defining a personalized TPE program and the learning priorities, determining the educational objectives, developing technical and educational sheets, evaluating and reinforcing skills.¹¹ In this context, the French hospital has two separate TPE programs for the education of patients receiving enteral and parenteral nutrition therapy. TPE plays a role in long-term artificial nutrition not only in terms of the skills to be acquired and the length of treatment, but also, and perhaps most importantly, in improving the patient's quality of life, social interactions, and daily tasks.^{12,13}

CONCLUSION

Both hospital units systematically fulfill their responsibilities. Each unit follows certain protocols. The notable variations

in performance and organization are not attributable to the medical staff in the unit, but rather to the disparities in the national health systems of the countries involved. In this context, it is recommended that studies that will ensure the integration of programs such as ETP, which stand out in the French unit, into the Turkish unit and that will continue the systematic follow-up of the discharged patients, should be planned in cooperation with the Turkish Ministry of Health and the hospital management. It will lead to a more systematic follow-up of these patients, a better quality of life, fewer hospitalizations, and lower expenditures. To increase the standards of NSTs, the Turkish Society of Clinical Enteral & Parenteral Nutrition (KEPAN) developed an accreditation program. This accreditation program is the first accreditation program developed at the national and international levels. For all NSTs, this accrediting program can act as a model.

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