

# Training hypocoagulated users and their families in disease management: a community nursing intervention

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## Abstract

### Introduction

Brain and cardiovascular diseases require regular and specialized follow-up, including pathologies that require oral anticoagulants, in order to reduce hospitalizations due to clinical decompensation, maintain the person active, and reduce their degree of dependence. This requires a professional/patient/family partnership in their management. This project was based on Dorothea Orem's Self-Care Deficit Theory.

### Objective

To train hypocoagulated users and their families in disease management.

### Methods

The health planning methodology was applied. The situation diagnosis was developed using questionnaires applied to the patient to validate their knowledge about disease management and a second one applied to the family to understand their knowledge about their relative's needs. The non-probability convenience sample was composed of 18 patients and five family members in the consultations performed during the internship period.

### Results

The situation diagnosis revealed a deficit of knowledge about disease management: in self-care, therapeutic regimen, and their interaction, as well as a deficit of the family's role in monitoring their family member and perceiving their needs. Health education was used as a strategy to improve the problems identified through the empowerment of users and families. After intervention, there was an increase in knowledge in all the addressed points: self-care (92.85%), therapeutic regimen and its interaction (85.71%). As for the family intervention, we found that participants are family members who live with hypocoagulated patients and have already taken over the role of caregiver.

### Conclusion

This project contributed to the knowledge of hypocoagulated patients and family, through the intervention of community nursing, as well as the reflection on how to develop strategies with families, to empower them in the early detection of intervention in the self-care of their family member and in the management of family roles.

### Keywords

Patients; Family; Oral Anticoagulants; Health education; Community nursing.

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## Introduction

Cardiovascular diseases are the main cause of death in the member states of the European Union, amounting to 36% of deaths in 2010, as reported by the PNDCCV.<sup>1</sup> Brain and cardiovascular diseases require effective, specialized follow-up during their management in order to reduce hospitalizations due to clinical decompensation, maintaining patients alive, and reducing their degree of dependency. The cardiovascular diseases that require oral anticoagulants (OAC) are included, which requires a more regular health vigilance and a professional/user/family partnership during disease management. There has been a decrease in hospitalizations due to circulatory system disease, 8.1% in 2016 in relation to 2011, and an increase in hospitalizations due to cardiac arrest, 20.3% in 2016 in relation to 2011.<sup>1</sup>

Community and public health nursing “Contribute to the process of training groups and communities”<sup>2(p.8667)</sup>, promoting interventions through education-for-health actions (EfH) in the community, doing follow-up with families in their health project. This transforms them into partners and decision-makers in their care with the aim of improving quality of life and making gains in health. EfH, as an intervention strategy, shall devise an interactive process “focused on utilizing strategies that help individuals and the community to either adopt or modify behaviors that allow better health levels”.<sup>3(p.1)</sup> The literature review shows the importance of EfH sessions in order to train users in performing self-care and managing their disease more safely and effectively.

This project was guided by the Ottawa<sup>4(p.3,4)</sup> letter, in the basic condition – Training “is centered on seeking equality in health,” in order to contribute to reducing existing inequalities; there must be “a solid implementation in a favorable environment, access to information, lifestyles, and opportunities that allow healthy options.” The intervention focused on a community action in which “health promotion is developed through concrete, effective intervention in the community, establishing priorities, making decisions, planning strategies, and implementing them in order to achieve better health,” to build up personal skills via access to information, EfH, thus improving their self-care skills. Moreover, in the Dorothea Orem’s Self-Care Deficit Theory, whose premise is that “every person has the potential, in different degrees, to take care of themselves and the others who are under their responsibility”<sup>5(p.614)</sup>.

It must be understood that family is a complex system, with a specific structure that is developed and transformed throughout the life cycle according to one’s life experiences. In this intervention community, it was found that the participating families were in the last stage of the life cycle, as stated by Figueiredo.<sup>6</sup> This is a transformative stage, as it helps understand the fragilities of those who need care, as well as those who provide it. Thus, nursing plays a key role in doing follow-up with families, identifying transformations throughout the life cycle, providing information, supporting them in their decision-making,

collaborating in strategies in order to maintain them trained to perform self-care, managing their familial roles through positive, effective, and efficacious communication.

This article aims to briefly expose a community intervention project developed throughout an internship that was part of the researcher’s master’s degree in nursing, in the Community Nursing specialization area.

## Methods

“Health planning must be adequate to reality, catering to needs and/or problems experienced in the community or any health organization in an assertive and pragmatic way, supposedly in service for this community”.<sup>7(p.67)</sup> It was through the health methodology planning that project intervention was devised. All the formative and interventional route of the community being followed-up was described, analyzed and assessed according to several development stages: situation diagnosis, priority identification, goal setting, strategy selection, project and program creation, execution and assessment preparation. These stages allowed to steer a sustained, systematized path, as this “requires a logical, rational methodology”.<sup>7(p.29)</sup> This is a descriptive, exploratory study, devised after a favorable opinion from the Ethics for Health Commission with reference 6272/CES/2021.

## Target Audience and Sample

This project target audience consisted in the users registered at the FHU, amounting to a total of 52 users, as per the following inclusion criteria: hypocoagulated patients with need for INR, who received follow-up in consultation throughout the internship period and were able to understand, read and write well enough to answer a questionnaire and accepted to participate in this project. Of these, a total of 18 users were included in a nonprobability, convenience sample.

## Data Collection Instrument

To begin the first stage of the health planning methodology – Situation Diagnosis, a questionnaire was devised and validated by experts. A pre-test was carried out in order to understand the hypocoagulated users’ and their families’ knowledge, which consisted in: Part A – sociodemographic variables that enable us to understand the study sample; Part B – motivational variables, which enable us to understand commitment/knowledge of users regarding their disease management, and Part C – socio-relational variables, which enable us to analyze the user/nurse relationship. To understand the family role of the hypocoagulated user, the Dynamic Model of Family Assessment and Intervention (MDAIF), operative matrix, in its functional dimension, was applied on the users’ families who accompanied them in their hypocoagulation nursing consultations in order to identify intervention areas performed by their families as caregivers. The functional dimension assesses the dependency of several types of self

care described by ICN (2002b): dressing, eating, drinking, going to the bathroom, sleep-rest behavior, leisure and physical activities, as well as knowledge about the dependency on management of the therapeutic regimen, self-vigilance, and self-administration of medicines, as stated by Figueiredo.<sup>6(p.92)</sup> This helped assess the needs of both family members and caregivers. Data collection was carried out between October and November 2021 after authorization from the Ethics for Healthcare Commission.

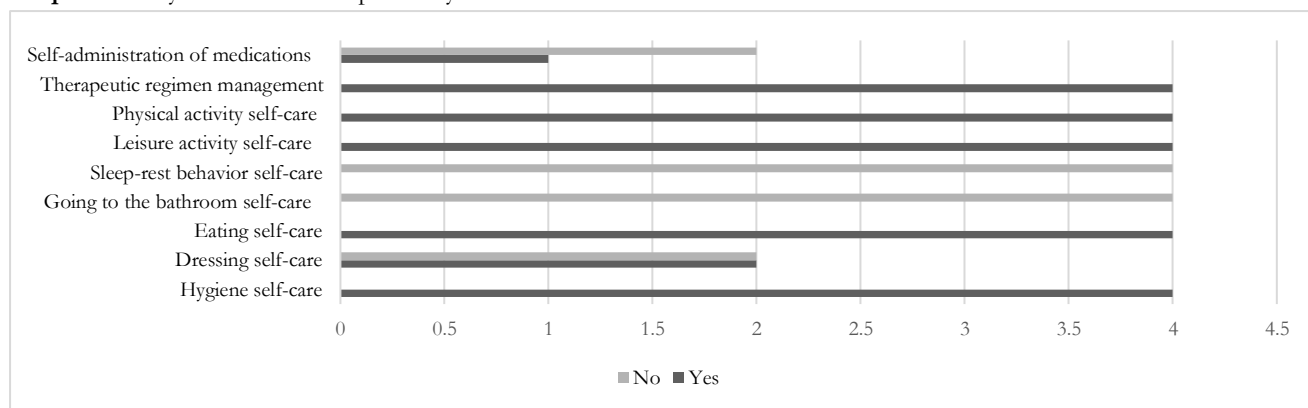
**Results**

The users' ages in the sample vary between 55 and 88 years, with an average of 73.61 years. It was found that 67% of them are males, while 44% of them are females; of these, 67% completed basic education. Regarding family households, it was found that 72% of the interviewees live

with their partners, 22% of them live with a relative, and 6% of them live alone.

Regarding disease knowledge, 100% of the interviewees can identify the name of the prescribed medicine, while 72% can identify the therapeutic interval that is adequate for them. However, 28% of the interviewees do not know why they are taking anticoagulant medication. Regarding medication interactions with OAC, 89% of the subjects cannot identify medicines that may interfere with it, but regarding food and health situations, 50% of them can give some examples that may alter therapeutic value or even foods that they might have to suspend. Finally, there is the importance of the nursing consultation, in which 100% of the interviewees refer that this is an accessible consultation, and it is important for monitoring and surveillance of one's health state.

**Graph 1** - Analysis of self-care dependency areas



Three relatives and a non-family-related caregiver answered the family-focused questionnaire. It was found that the hypocoagulated users present a dependency of several self-care areas: Therapeutic Regimen Management, Self-Care Physical Activity, Self-Care Leisure Activity and Self-Care Hygiene, in which the caregiver, mostly a relative, takes over these functions as their, as shown in graph 1. Regarding use of the MDAIF operative matrix, there was low family adherence to follow-up and supervision of family member's needs.

According to the results obtained in the health diagnosis stage. Identification and preparation of nursing diagnoses according to CIPE taxonomy, 2015 version: Deficit in knowledge about the pathological process and their diet regimen; Compromised self-care ability; Compromised disease self-management; Compromised knowledge about their families' role; and Compromised relative's ability to manage the disease.

**From Situation Diagnosis to Execution**

After identifying the health problems and preparing nursing diagnoses, their hierarchization was carried out. Priority definition, the second phase of the health planning methodology, was carried out by using a group of experts as a resource and it was based on the analysis grid criteria,

which was adapted from Hartz.<sup>8</sup> According to our results and with a view to either minimize or solve the problems we found, the first four priorities were focused: Deficit in knowledge about their diet regimen; Compromised disease management; Compromised relative's ability to manage the disease; and Deficit in knowledge about the pathological process.

Based on the prioritized problems, the general and specific objectives were set; setting objectives is the next stage, which enables us to carry out the project so that "it is possible to devise a path for intervention strategies (...) from the current state of a certain community, what state we intend to achieve, where and until when"<sup>7(p.23)</sup> Thus, the main objective of this study is to train hypocoagulated users and their families in disease management. The following specific objectives were set: Identify foods that interfere with OAC the most; Acknowledging danger situations for users who take OAC; Relating danger situations with actions to be taken in order to reduce risks; Support families in identifying the areas where their family needs support; and Understand the pathological process. Activity, adherence, and quality indicators were set in order to quantify and qualify the activities to be devised.

The fourth stage of the Health Planning Methodology – Strategy Selection, whose function is "a set of specific techniques, organized in order to achieve a certain objective, thus resolving one or more health

problems”<sup>9(p.65)</sup> The following strategies were set according to Dorothea Orem’s Self-Care Deficit Theory: Involving the nursing team; presenting the project to the nursing team; informal meetings with colleagues to maintain them informed about project developments and ask for their opinions. Information and Communication, participation of the masters’ degree candidate in hypocoagulation consultations to establish a relationship with users/family and inform them about the project; Exposing information at a visible location about the activities to be performed; Information about the activities to be developed by reinforcing it with their family nurses; Self-Care Promotion, doing two EfH sessions at the FHU (Family Health Unit); presenting a checklist to help register changes in patients’ daily well-being; presenting a pamphlet with a summary of care measures to be taken so as to have good health; Proximity of Nursing Care, making a manual of good practices in nursing in on-line consultations. These strategies aimed to provide a timely answer to the difficulties pointed out by the users and their families. Maintaining users able to self-care and improve “performance or the practice of activities that individuals

carry out to their own benefit to maintain their lives, health and well-being”<sup>10(p.84)</sup> is to make them autonomous regarding their self-care.

The EfH sessions that were carried out aimed to promote health in the community under intervention, facilitating its development and improving knowledge about the disease. As stated in the Ottawa (1986), “it is a process that aims to increase the capacity of individuals and their communities to control their health in order to improve it, understanding health as (a resource for life and not as a life end.”<sup>8(p.160)</sup>

### Assessment

After intervention execution, the project assessment was carried out based on preset goals. The goals were set based on the situation diagnosis. At the end of each EfH session a checklist was used to assess the addressed themes. Thus, the knowledge of users and families who participated in the sessions regarding the themes addressed in the two sessions, adding to the objectives and result indicators defined for this intervention project, as exposed in Table 1.

**Table 1** – Assessment of Prioritized Nursing Diagnoses applied to 14 participants, of which four are relatives who participated in the two EfH sessions.

<b>Nursing Diagnosis:</b> Deficit in knowledge about their diet regimen		
<b>Result Indicator</b>	<b>Goal</b>	<b>Result</b>
Percentage of users/family who received intervention able to identify five foods that interfere with OAC the most.	80%	85.71%
<b>Nursing Diagnosis:</b> Compromised disease self-management		
<b>Result Indicator</b>	<b>Goal</b>	<b>Result</b>
Percentage of users/ family who received intervention able to identify three danger situations.		
Percentage of users/ family who received intervention able to identify two actions to reduce risk.	90%	92.85%
<b>Nursing Diagnosis:</b> Family’s knowledge about patients’ relatives’ ability to manage the disease is compromised.		
<b>Result Indicator</b>	<b>Goal</b>	<b>Result</b>
Percentage of family who received intervention able to identify three areas where their relative needs support.	50%	100%
<b>Nursing Diagnosis:</b> Deficit in knowledge about their pathological process		
<b>Result Indicator</b>	<b>Goal</b>	<b>Result</b>
Percentage of users/ family who received intervention able to identify the reason for taking the anticoagulant.	70%	92.85%

Table 1 shows that the proposed goals were achieved despite the difficulties perceived in families’ adherence to the project and motivation of all users who responded to the questionnaire to participate in EfH sessions. The two programmed sessions presented more user adherence because the sessions had been carried out on the day of their consultations, thus the number of participants was smaller than that of questionnaire responders. It was found that the users, who were mostly older persons, remain alone during their vigilance and monitoring consultations in order to maintain disease management within their physical and mental abilities.

### Discussion

This project aimed to strengthen mapping carried out via scoping review. As stated by Madrid,<sup>12(p.463)</sup> “The education level and patients’ knowledge have a direct influence on the global management of the anticoagulation.”; Alphonsa<sup>13(p.668)</sup> says that “Patient’s knowledge about OAT was suboptimal.” The findings support the need for educational interventions to improve the knowledge regarding OAT and, thereby, achieve an appropriate and safe secondary prevention of stroke.” Moreover, Viola, Fekete and Csoka<sup>14(p.1265)</sup> say that “The lowest frequency of

correct answers regarded the questions on drug interactions (10.2%) and diet (11.4%).” There is also a need for “(...)developing new strategies for patient education to improve knowledge on the treatment with oral anticoagulants.”. The questionnaires used in this project found an older population (mode equal to 87 years of age), with low education level (67% completed basic education), where 28% of the sample is not able to justify why they take OAC, and 78% of them do not acknowledge the medication interaction; on the other hand, regarding the foods that may interfere with it, 50% of them can identify five foods. After intervention with this group, EfH showed that new knowledge about the disease was acquired, along with alert signals and actions to take in order to minimize risk and promote self-care improvement. These sharing moments, organized by the nurses who take care of this community, create moments of great learning. Not only does the target group participates actively in them, but also raises questions and identifies difficulties to train themselves in disease management. All articles highlight the education factor as a key point for the users’ understanding and participation in disease management, thus demonstrating the importance of the EfH sessions and how pertinent they are regarding user training. This is an intervention area of the nursing community specialist, where they must invest in these actions to improve health literacy in the community and develop and document it through clinical investigation. No articles written by Nursing professionals were found in this intervention area.

### Conclusion

The community intervention nursing specialists play a central role in doing follow-up and guide the community in managing their health project. EfH fostered moments of learning and growth in order to improve the community’s health state. By making use of on the health diagnosis and the Dorothea Orem’s Self-Care Deficit Theory and the support-education system, it was possible to identify the self-care deficiencies of the hypocoagulated users and their families in disease management, as well as outline strategies to train them in order to improve their self-care skills. The EfS sessions made learning moments possible through the users’ sharing knowledge and experiences, and a debate that improved their skills regarding their disease, medication and food interaction, as well as their identifying risk situations and measures to be taken in order to minimize risks and maintain a healthy, balanced life. The community interventions that were carried out during this project were very enriching due to the engagement of the whole multidisciplinary team. This helped divulge information and stimulate the users’ and their families’ participation, thus, all together will improve health literacy in the hypocoagulation area. However, we must focus on families due to a difficulty we noticed in integrating them in participating in the project and the health care intervention. The families’ time availability difficulty was one of the limitations we noticed in the intervention project. The available internship time to make interventions with users

and their families is also minimal because only after a favorable opinion from the ethics commission can we interview and engage them in the project.

Making interventions in this community, improving their self-care skills, engaging a multidisciplinary throughout their route contributed to promote knowledge and develop investigation in Nursing. However, other questions emerged during community intervention. Noticing that this community has a high percentage of older persons who manage their health project on their own, led the team to the following questions: How to make an early detection of cognitive decline and intervene to promote better nursing care? How to alert families to a new reality and intervene in family readaptation in advance? How to support families in rearranging functions or even taking over new roles?

### Authors’ contributions

RR: Study conception and design; Data collection; Data analysis and interpretation; Statistical analysis; Manuscript writing.

ES: Study conception and design; Data analysis and interpretation; Statistical analysis; Critical revision of the manuscript.

FP: Data analysis and interpretation; Critical revision of the manuscript.

### Conflicts of interest and Funding

The authors declared that there is no conflict of interest.

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