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Methods used by students for development of socio-economics barriers in heart failure management

Catalina Liliana Andreia*, Crina Julieta Sinescuà, Bogdan Oanceab, Andreea Iacobc

à University of Medicine and Pharmacy “Carol Davila”, Bucharest, Romania,b “Nicolae Titulescu” University, 040051, Bucharest, Romania, cThe Bucharest Academy of Economic Studies, Piața Romana no 6, sector 1, Bucharest, Romania

Abstract

The paper emphasizes the importance of verbal and nonverbal communication in the development of student license thesis on medical topics. We present the methods that can be used in the learning process of students in medical education. Thus, from theoretical and practical presentations made to them, responses to different questions need to be taken on significant differences that exist between the degree of understanding of the signs and symptoms, medical treatment, complications and causes of the disease in question. All these are discussed in varying degrees of patients’ education, their socio-economic level, the support we have from the entourage, etc. The aim of this study was to detect if there is a socio-economic barriers for heart failure management.

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1. Introduction

Heart failure is a complex syndrome, a result of various pathological conditions and events which has well defined symptoms. Frequently decompensation of heart failure turns into a heart condition that requires regular contact patient - care team. Proper management of the disease can be provided by physicians with different specialties: cardiology, internal medicine, geriatrics and general medicine (Leslie, 2005). Heart failure is also a frequent cause of expensive hospitalization. Repeated decompensated heart failure make its prognosis to be generally reserved, the quality of life to be low and home and hospital expenses acquired, for the maintenance of these patients to be increased. Annual rate of mortality from heart failure is high, it can reach up to 60%; mortality at five years after the first decompensation of the disease is 50-70%. All these factors make patients with heart failure to follow an important category in both hospital and outpatient environment.

The theme of this complex symptom is therefore very interesting to address by the students in the medical university education in developing their license thesis. The tutor role (which is simultaneously a teacher and practitioner in a university clinic) is primarily to explain to students the importance in choosing this theme. At the basis of this theme are the medical and educational complexity of the subject in the future of graduate student.
complexity of care is given by the large number of patients affected by heart failure in the general population, the high frequency of decompensation of the disease, by careful management of chronic disease and its exacerbations, the high rate of mortality caused by this pathology, as well as increased costs imposed by the maintenance and treatment of decompensation.

On the other hand, the complexity of choosing this subject in terms of the educational process is determined by: the usage and integration of knowledge acquired by students in several disciplines during the six years studied (physiology, cardiology, pharmacology, medical ethics, medical statistics, etc.), integrating elements learned during medical practice, editing of a scientific paper that will be presented to the public, in front of the examination commission.

2. Methods

To achieve this theme we included in the study 387 patients with chronic heart failure hospitalized in the Cardiology Clinic of the University Emergency Hospital “Bagdasar-Arseni” Bucharest, Romania. Each student used questionnaires to collect data that included information on medical variables tracked. Questionnaires were used by direct interview method student-patient/person empowered in patient care (special persons who were taking care of the patients) and methods of collecting information from the patients' medical records. Tracking certain variables (level of understanding of the disease, the exact knowledge of diagnosis, degree of recognition of signs and symptoms of disease, ignoring signs of decompensation of the disease, dietary and treatment compliance at decompensation signs) was done by asking the patient (which constitute group 1) and in parallel the person who have under care (which is group 2).

The characteristics observed in the population included in the study were: gender, age, signs and symptoms, risk factors, pathological personal antecedents (personal medical history), the duration of the disease evolution, the number of decompensations, precipitating factors of decompensation, the treatment, the understanding of the disease, the level of patient autonomy, socio-economic status, recognition of disease signs and symptoms of decompensation, the level of knowledge to manage the disease decompensation, pharmacological and nonpharmacological treatment compliance.

Based on the previous experience at the clinic (Calin, 2007), each student has created a database based on the questionnaire. Processing the information stored in it was done in SPSS. Statistical data processing was done using specific methods: descriptive statistics (mean and variance indicators) inferential statistics (statistical tests, correlation analysis between variables, ANOVA analysis, binary models) (Jones, 2008).

3. Results

By processing the database, students have obtained a series of results on supervised medical characteristics. Later they were used by comparison with those in the literature. The following information were obtained for the variables included in questionnaires, for the group of studied patients:

1. The average age of the patients was 68±15 years.
2. Distribution by sex was : 59% women and 41% men.
3. The frequency of heart failure is, for both women and men, higher in patients over 65 years. 72% of women and 70% of men in this age group have heart failure.
4. Signs and symptoms for which patients presented at the hospital were: dyspnea (according to NYHA class: II in 41.4% patients, III - 37.3% patients; IV - from 32.3% patients), edema syndrome (peripheral oedema syndrome) (in 38.7% patients), non-selective loss of appetite (to 16.7% patients).
5. Identified risk factors were: smoking - now (at 34% patients) and in the past (21% patients), dyslipidemia (43.5% in patients), obesity (21.3% in patients).
6. Pathological personal antecedents (personal medical history) identified was: arterial hypertension (57.3% of patients); coronary heart disease (69.4% of patients); atrial fibrilation (34.3% of patients); valvulopthyes (21.4% of patients); diabetes mellitus (30.4% of patients).
7. The number of decompensations of the chronic heart failure that needed hospitalizations was: one – for 32% of patients; two – for 37% patients; minimum three – for 31% of patients.

8. Precipitating factors of decompensation had generally an acute character taking into account that the hospital is a medical emergency one. The most frequent of them were: respiratory infections (32.4% of patients); coronary acute syndrome (21.3% of the patients); tachyarrhythmias (17% of the patients); anemia caused by acute bleeding (3.7% of patients). The risk factors encountered with a high frequency was also: uncompliance of restricted sodium intake (64.3% of patients); uncompliance of drug therapy (31.6% of patients).

9. The treatment of patients before admission into hospital included the following classes of drugs: diuretics (80.4% of patients); ACE – inhibitors (76.4% of patients); aldosterone antagonists (40.7% of patients); beta – blockers (43.1% of patients); digitalis (42.1% of patients); anticoagulant (32.7% of patients); antithrombotic (71.4% of patients). The treatment of the chronic heart failure included: less than 3 drugs in 37.8% patients, more than 4 drugs in 62.2% patients.

10. The social status of the patients showed the following characteristics: 74.1% of patients were living with their family (spouse or children); 25.9% of patients were living alone; 10.2% of patients had a special person for care, who doesn’t belong to their families; 51.4% of patients were independent and 31.4% of them needed help for care but they hadn’t.

11. The economic status of patients in the study group showed that 81.4% of patients were retired with a mean monthly income of 225 euros.

12. Regarding the education level, 6.7% of patients had higher education, 37.4% of patients had high-school study, 47.8% of patients had primary-school study and 8.1% patients were without studies.

13. The differences between group 1 and group 2 regarding the chronic heart failure were:
   - didn’t know what heart failure is: 48.7% patients vs. 29.3% patients;
   - didn’t know to have heart failure: 63.4% patients vs. 5.4% patients;
   - didn’t recognize the signs and symptoms of heart failure: 64.2% patients vs. 57.1% patients;
   - ignored signs of decompensation of heart failure: 67.2% patients vs. 31.8% patients;
   - compliance at salt intake restriction: 74.3% patients vs. 21.4% patients;
   - how to treat water retention: 47.3% patients vs. 50.1% patients.

4. Discussion

Our study highlighted the efficient use by students of the two types of communication for development license thesis:
   - verbal - live interview with the patient or his entourage;
   - nonverbal - medical information retrieval and analysis from the patients' medical records.

Using so far only medical data collection and analysis of the patients' records, lead to the development of scientific papers with a retrospective nature. This does not help enough the future doctors to properly integrate medical information obtained, the data presented in the context of international literature, data contained in a continuous dynamic.

In addition, direct communication student (i.e., future doctor) - patient / environment, develops and strengthens, in the era of the electronic communication, the ability to extract, integrate and transmit valuable information in relation to people with different social, economic, educational and psycho-emotional status. This type of communication is still the basis of the medical practitioner – patient relationship.

The medical team working with patient includes different physicians’ specialties, nurses, pharmacists, psychologists and sociologists. The student's verbal communication development from faculty, will help future physicians to become actively integrated in this of the medical team and even medical opinion maker.

Building a database with many variables helped students to understand better the features obtained by comparing with the data presented in international literature. These features were explained in terms of cultural, geographical,
educational and socio-economic (Andrei, 2009). Statistical data on risk factors, personal history of pathological signs and symptoms that bring patients to hospital, and those of treatment are generally comparable with those published in international literature. There are still some particularities of these variables. These were highlighted and discussed at working sessions between the license thesis tutor and students. They have also been noted and commented in license thesis as features of the degree of training, education and habits of life of patients. Thus, the number of smokers and obese patients highlight an unhealthy lifestyle, but also a poor understanding of the importance of lifestyle on the implications of cardiac pathology. The large number of patients experiencing at least two heart failure decompensation (68%) is explained by noncompliance to medication, sodium diet, but also by ignorance / disregard of the signs and symptoms. All of these elements as those related to risk factors are actually consistent with the data about the level of education of patients and their socio-economic status. Approximately half of patients (55.9%) have a minimum level of education or did not attend any school, while only one third (37.4%) have a medium of education. Associated with the fact that 88.4% are retired and have an average monthly income of 225 EU the data related to medication and dietary noncompliance, such as lifestyle and lack of knowledge about the disease they have can be explained. The monthly income level is consistent with the degree of education of patients (only 6.7% had higher education), but also with the high number (31.4%) of patients who would need professional help, but they cannot pay. Better compliance to medical treatment, diet, better knowledge of the disease and signs of decompensation by people who care for these patients than patients themselves, demonstrate that care staff are generally trained for such activities.

The administration by the doctor of a treatment with a large number of drugs makes patients to have a poor adherence to the regimen. This was observed mostly in patients older than 70 years.

The observations drawn from this study were discussed with students from two perspectives:

- the education that the doctor must give to patient;
- the continuous enhancing of the level of the training of doctors and their teams.

Patient education should begin before hospital discharge (initiated by a specialist: cardiologist, internal medicine or geriatrics) and to continue regular at the cabinet of a general practitioner. Patient's medical education classes can be done individually or in groups by a mixed team: doctor, nurse, a psychologist and sociologist (Stewart, 2002). Transmission of information is through lectures and written materials and in the active debates. It is mandatory the compliance to guidelines of medical practice issued by national and international professional societies.

The patient must receive information regarding:

- general data about the disease (definition, etiologic, risk factors, triggers and precipitating factors, signs and symptoms, evolution and prognosis, importance of regular medical checks and treatment);
- data regarding the treatment (its importance, dose, method of administration, adverse events);
- data related to diet and exercise (the type of diet, the importance of dietary compliance, tracking daily weight, adverse effects of non-compliance with diet, exercise type and level of allowed effort);
- the importance and how to maintain regular contact with medical teams (visits, phone).

Current students, future doctors, have emerged from data processing of this study, the significance of the permanent increase in the level of medical training that they must have. This can be achieved by:

- thorough knowledge of general medicine and medical specialties;
- accurate knowledge of pharmacology (medication, indications and contraindications of medications, doses, side effects);
- participation in continuing medical education hours (round tables, courses and medical conferences, public support for personal work);
- permanent medical study (articles from the literature, international guidelines for management and treatment of different diseases, education and processing of medical databases, etc.).

5. Conclusions

Patient-student discussion contributes to the development of verbal communication method, useful in the future performance of doctors and to develop their capacity to integrate data collected in complex medical cases.
Building and analyzing medical information database helped future doctors in deepening the nonverbal communication that underlies both the elaboration of a definitive diagnosis of the patient's condition, as well as the elaboration of the therapeutic regimen. Equally, this type of communication was the basis for writing the license thesis, but also to develop work experience and scientific medical papers.

By comparing data from individual analysis with the published medical literature on other countries a number of particular features of geographical, cultural and socio-economic development can be emphasized. Exploiting and expanding database analysis identifies differences in the same conditions depending on regional characteristics of the patients.

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References


