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**Przygotowanie pielęgniarek do realizowania
zadań edukacyjnych w opiece nad pacjentem
z niewydolnością serca**

Preparation of nurses to implement educational tasks
in caring for patients with heart failure

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**na stopień doktora w dziedzinie nauk medycznych i nauk o zdrowiu
w dyscyplinie nauki o zdrowiu przedkładana Radzie Dyscypliny
Nauk o Zdrowiu Warszawskiego Uniwersytetu Medycznego**

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Warszawa 2022

Summary

Background: The main role of nurses caring for patients with heart failure (HF) is to optimize the treatment process, coordinate care, monitor symptoms, but also to educate about self-care and self-management of the disease. The effectiveness of education in preparing patients for self-care depends on the patient's potential and attitude, but also on the nurse's competence and experience in performing these tasks. Reports to date indicate that there is limited evidence available regarding reliable assessment of nurses' knowledge, and there are even evident gaps in the literature indicating the need for conducting well-designed research on the subject discussed.

Aims: The primary aim of this research project was to assess the level of preparedness of Polish nurses working in hospitals treating patients with HF to carry out educational tasks in the care of patients with HF in terms of self-care and self-management. Specific aims included: (1) to assess the frequency of patient education and nurses' comfort when educating HF patients about self-care; (2) to assess the nurses' general level of knowledge about HF patient education along with the identification of variables affecting the performance of educational tasks in the care of HF patients; (3) to analyze the literature regarding nurses' resources and level of knowledge about the principles of self-care in HF.

Material and methods: This cross-sectional observational study investigated a group of 304 nursing staff (276 women and 28 men) working in cardiac units where patients with HF were hospitalized. The following tools were used to assess the effects of the study: (1) a survey on "Survey of RNs about Heart Failure Practices Related to Delivery of Patient Education Before Discharge" and (2) a survey examining "Nurses' Knowledge of Heart Failure Education Principles." Sociodemographic and workplace specific data of nurses were also collected.

Results: The average comfort score was 5.43 ± 1.13 pts which means that nurses felt "somewhat comfortable" to "very comfortable" in their role as educators. Nurses felt most comfortable regarding "Daily weight monitoring" (5.81 ± 1.25 pts), "Signs of deteriorating condition" (5.77 ± 1.19 pts) and "Fluid restriction" (5.76 ± 1.23 pts); and least comfortable with issues related to "Medications" (5.06 ± 1.35 pts) and "Low-sodium diet" (5.31 ± 1.42 pts). The average education frequency score obtained by the nurses was 5.21 ± 2.51 , meaning that approximately 52% of patients were educated on all topics. The nurses most frequently educated on the topics: "Daily weight monitoring" (5.82 pts), "Signs of deteriorating condition" (5.9 pts) and "Fluid restriction" (5.92 pts); and the least frequently addressed topics were: "Medications" (4.49 pts) and "Low-sodium diet" (4.87 pts). Correlation analysis showed that the older the nurses, the more comfortable ($r=0.166$) and more frequent ($r=0.123$) the education provided, and the longer the experience, the more comfortable the education provided ($r=0.134$). Analysis of the relationship with gender to comfort and frequency of

education delivery showed statistically significant differences ($p < 0.05$). The highest comfort (5.75 ± 0.82 pts) and frequency (70% of patients) of education was in nurses of cardiac rehabilitation units. It was shown that nurses with a cardiology specialty presented a significantly higher comfort level (6.29 ± 0.62 pts vs. 5.36 ± 1.14 pts; $p < 0.001$) and were more likely to provide education (7.08 ± 12.28 pts vs. 5.06 ± 2.47 pts; $p = 0.001$) than those with other specialties. Analysis of the results showed that 53.55% of the nurses had satisfactory knowledge, 33.33% had good knowledge, 12.57% had insufficient knowledge, and only 0.55% had very good knowledge. The mean number of correct answers in the whole study was 13.94 ± 2.78 pts. The best nurses' knowledge concerned questions about physical activity (77.6%), and the lowest percentage of correct answers was obtained in relation to symptoms indicating deterioration of health condition (67.85%). It was observed that nurses of provincial specialty hospitals (14.98 ± 1.94 pts) and university hospitals (14.35 ± 2.85 pts) showed significantly more knowledge than city hospitals (12.83 ± 2.88 pts) and district hospitals (11.89 ± 3.46 pts). It was noted that staff of cardiac rehabilitation (15 ± 3.1 pts), cardiac surgery (15.43 ± 1.8 pts) and cardiac intensive care (14.68 ± 2.11 pts) units showed significantly more knowledge than same-day (12.53 ± 2.78 pts) and invasive cardiology (13.54 ± 1.9 pts) units. Nurses with a higher level of education had significantly more knowledge (14.24 ± 2.78 pts) than those with a medium level of education (13.3 ± 2.68 pts). Significant differences occurred among nurses with and without specialization (14.7 ± 2.36 pts vs. 13.39 ± 2.94 pts). It should be emphasized that nurses with a cardiology specialization showed significantly more knowledge than those with another specialization (15.52 ± 1.65 pts vs. 13.71 ± 2.84 pts).

Conclusions: (1) Nurses caring for patients with HF were rather comfortable with patient education, and the frequency of education was at an average level. (2) The nurses' level of knowledge regarding the principles of self-care in HF is satisfactory, but it was found to be inadequate for some subjects. (3) Adequate nurses' knowledge of the principles of patient self-management is a key component of the management of chronic diseases to improve the quality and effectiveness of care. (4) There is a need to develop training programs for nurses in HF self-management education, which can have significant effects to improve the quality of patient education and enhance self-care outcomes.

Key words: nursing practice, cardiovascular nursing, heart failure, comprehensive care, hospital care, self-management, self-care, knowledge level, patients' education, educational tasks, work comfort, scientific reports.