

**Age, Arrhythmia Perception, and Knowledge as Predictors of Self-Care Ability in Patients With Permanent Pacemakers**

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**Background:** Cardiac arrhythmias happen when the electrical impulses do not work appropriately with heartbeats. Arrhythmias, such as bradycardia, atrioventricular block, sick sinus syndromes, atrial fibrillation with slow ventricular response, require a permanent pacemaker implantation for keeping heart work properly. Moreover, arrhythmias may become life-threatening emergency, resulting in cardiac arrest or death. However, very little study is conducted to investigate the predictors of self-care ability in patients with permanent pacemakers.

**Purpose:** The study aimed to examine the predictors of self-care ability in patients with permanent pacemakers.

**Methods:** A cross-sectional study was carried out on arrhythmias patients from cardiology units in a 1500-bed hospital in Taiwan. Arrhythmias patients who were diagnosed by cardiologists and admitted to the hospital for receiving a permanent pacemaker were included. A sample of 118 patients completed three valid questionnaires, demographic questionnaire, arrhythmias perception questionnaire, and self-care ability questionnaire, when they followed up their conditions in the cardiology outpatient department at three months after receiving a permanent pacemaker. The arrhythmias perception questionnaire has 31 items evaluating frequency and duration of episodes, symptoms, and impact on daily activities. The self-care ability questionnaire has 27 questions with 2 aspects; self-care knowledge (13 items) and self-care behaviour (14 items). All questionnaires have good reliability and validity. Pearson's correlations, independent t-tests, one-way ANOVAs, and hierarchical regression were used for data analysis.

**Results:** The 118 participants were with 63% being male and with a mean age  $73.10 \pm 10.7$  years. 51% of participants reported low self-care ability and 34.0% perceived arrhythmias. Five variables predicted self-care ability. Age was negatively related to arrhythmias perception ( $r = -0.249$ ,  $p < 0.01$ ), self-care knowledge ( $r = -0.261$ ,  $p < 0.05$ ), and self-care behavior ( $r = -0.220$ ,  $p < 0.05$ ). Self-care knowledge ( $r = 0.953$ ,  $p < 0.01$ ), duration of pacemaker implantation ( $r = 0.211$ ,  $p < .05$ ), arrhythmias perception ( $r = 0.227$ ,  $p < 0.05$ ), and frequency of PPM ( $r = 0.787$ ,  $p < 0.05$ ), were positively related to self-care ability. A hierarchical regression model explained 48.7% of the variance in self-care ability.

**Conclusions:** The older the pacemaker patients, the less self-care ability they had. After receiving a permanent pacemaker, still some patients perceived arrhythmias, especially the elderly. When patients had sufficient knowledge of pacemaker care, they may take care themselves better with right behaviors after discharge. Thus, we suggest that clinical nurses should provide proper teaching of pacemaker care to the patients before they discharge and recheck their outcomes by calling or following them in the outpatient department.

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**Title:**

Age, Arrhythmia Perception, and Knowledge as Predictors of Self-Care Ability in Patients With Permanent Pacemakers

**Keywords:**

arrhythmias, permanent pacemaker and self-care ability

**References:**

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**Abstract Summary:**

1. Five predictors, age, self-care knowledge, arrhythmias perception, duration of pacemaker implantation, and frequency of PPM, explained 48.7% of the variance in self-care ability. 2. The older the pacemaker patients, the less self-care ability they had. We suggest that clinical nurses should provide proper teaching of pacemaker care before patients discharge.

**Content Outline:****I. Introduction**

A. Arrhythmias, such as bradycardia, atrioventricular block, sick sinus syndromes, atrial fibrillation with slow ventricular response, require a permanent pacemaker implantation for keeping heart work properly.

B. Arrhythmias may become life-threatening emergency, resulting in cardiac arrest or death.

**II. Body:**

**A. Main Point#1:** 51% of participants reported low self-care ability and 34.0% perceived arrhythmias. Five variables predicted self-care ability.

**Support point#1:** Pearson's correlations, independent t-tests, one-way ANOVA were used for data analysis.

**B. Main Point#2:** Age was negatively related to arrhythmias perception ( $r = -0.249$ ,  $p < 0.01$ ), self-care knowledge ( $r = -0.261$ ,  $p < 0.05$ ), and self-care behavior ( $r = -0.220$ ,  $p < 0.05$ ). Self-care knowledge ( $r = 0.953$ ,  $p < 0.01$ ), duration of pacemaker implantation ( $r = 0.211$ ,  $p < .05$ ), arrhythmias perception ( $r = 0.227$ ,  $p < 0.05$ ), and frequency of PPM ( $r = 0.787$ ,  $p < 0.05$ ), were positively related to self-care ability.

**Support point#2:** Pearson's correlations, independent t-tests, one-way ANOVAs, and hierarchical regression were used for data analysis.

**C. Main Point#3:** A hierarchical regression model explained 48.7% of the variance in self-care ability.

**Support point#3:** Hierarchical regression were used for data analysis.

### **III. Conclusions:**

**A.** The older the pacemaker patients, the less self-care ability they had. After receiving a permanent pacemaker, still some patients perceived arrhythmias, especially the elderly.

**B.** When patients had sufficient knowledge of pacemaker care, they may take care themselves better with right behaviors after discharge.

**C.** We suggest that clinical nurses should provide proper teaching of pacemaker care to the patients before they discharge and recheck their outcomes by calling or following them in the outpatient department.

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