

Proposal of independent nursing actions for patient care in the Department of Interventional Cardiology

Propuesta de acciones independientes de enfermería para la atención del paciente en el Servicio de Cardiología Intervencionista

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To the Editor:

Nursing, in general, is a constant in history that emerges with its own independent nature¹. According to Amaro Cano², Collière stated that nurses ensure the continuity of life through their care practices in the face of disease and, in the worst case, in the face of death.

The nursing practice goes back to several centuries ago. The rules and procedures that govern it have undergone multiple variations, since the time of Florence Nightingale^{2,3}, who founded the first school of nursing. Her system quickly spread throughout the world because it is indispensable a qualified staff which can carry out the techniques that are needed to restore health. Hence, in 1952, Hildergan described nursing as an interpersonal process². With the use of different theories and nursing models this staff is able to perform procedures and actions that are classified as dependent or independent ones⁴. These actions are intended to alleviate, improve and solve the problem of the patient in the shortest possible time.

Medina Núñez⁴ defined independent nursing actions as those procedures or ways of acting which are performed independently, without a medical order;

and he adds that: "...in the autonomous and scientific actions of nursing (...) its functions take on human values..."

Moreover, Berdayes⁵ posits that theory establishes general principles which guide one or more specific events that have been observed independently, and that are related to a conceptual model. And Cisneros⁶ states that, in the case of nursing, theories are applied to facilitate the practice of this profession in research, education, administration and clinical practice.

Ischemic heart disease is a major cause of morbidity and mortality worldwide; in Cuba it account for 25% of the general mortality rate⁷. Its main cause is coronary atherosclerosis, a multifactorial disease that occurs by the association of various risk factors and causes alterations of the vascular endothelium^{7,8}. Coronary angiography, as a diagnostic test, and percutaneous intervention are excellent options for patients with this type of heart disease⁷.

Diagnostic and therapeutic catheterizations are routinely performed at the Cardiocentro Ernesto Che Guevara in Santa Clara. Patients who require them are admitted to the Hemodynamics Department ward, where they stay before and after these procedures,

until they are discharged. In both phases, the performance of nurses is very important, because by their interventions —any treatment based on clinical knowledge and judgment— they can solve the needs of the patients⁹; but we will focus on the post-procedure period.

Despite the arduous and full of sacrifice work of the professional staff, and its determination to ensure a satisfactory outcome of the patients, no independent actions have been designed to meet their needs; therefore, the aim of this work has been to design a group of independent nursing actions for patient care after performing a diagnostic or therapeutic procedure of interventional cardiology.

In this regard, a nominal technique qualitative study was conducted and the Delphi method was applied to students of the Diploma Course of Nursing in Hemodynamics and Interventional Cardiology during the academic year 2013-2014, at the Cardiocentro Ernesto Che Guevara in Santa Clara. As a result of the investigation, once all the proposals were analyzed and differentiated, the following were selected:

A. Prepare conditions for the patient's arrival

The nurse in charge of receiving the patient from the Hemodynamics and Interventional Cardiology Unit (HICU) shall prepare the room and his/her bed. The monitor/defibrillator and electrocardiograph must be available; the nurse should check them in advance to ensure smooth functioning. The nurse must know if the patient is allergic or not to any medications, especially to iodine.

B. Patient admission

When the patient comes into the ward, the nurse should receive the medical history and the report about the procedure performed, check the personal data of the patient, escort him to the room and show him his bed (if the procedure was performed by radial, ulnar or brachial approach and the patient prefers to sit down) or leave him lying (in case the vascular access was via the femoral artery). Later, the nurse will check the vital signs and inspect the dressing covering the puncture site for bleeding. Then the nurse will read the report to learn more about the procedure performed. The patency of the peripheral venous route must also be ensured, and the time of the patient's arrival should be recorded.

It is important that at least 2 nurses receive the

patient; the one that is directly responsible for the case and another one functioning as circulating nurse, to assist the first one if necessary¹⁰.

C. Clinical Interview

Usually the patient is admitted to the ward before the procedure; but many come from other hospitals, from primary healthcare or undergo an outpatient study, so they go directly to the HICU. In these cases, the nursing clinical interview is vital because it provides much valuable information to the nurse and allows the patients to know the details of their evolution in the coming hours, an information that sometimes, due to the haste, is not properly given.

This interview must include the patient's psychological preparation to face his life and his illness after being discharged from hospital¹¹. In patients who have already been admitted to the ward, this preparation should be carried out before going to the HICU.

D. Observation

All physical examination begins with the inspection. Rather than observe, the nurse must inspect, evaluate and continuously monitor the patient; because the nurse will be the first who acts and gives the alarm at the appearance of any complications.

Special attention deserve the puncture site and the limb selected for it, because it will allow early detection of feared bleeding (local) and thrombotic complications (distant).

E. Mobilization

The forced immobility after the procedure may be more uncomfortable for the patient than the intervention itself; therefore, the nurse must be aware of the necessary waiting times, depending on the type of procedure and the site of puncture, to authorize some sort of motion.

It is also important to master aspects concerning mobility in bed or walking, because they are individualized for each patient depending on all aspects of the procedure performed and its outcome. The situation of a patient who underwent an angioplasty (regardless of the puncture site), a patient with normal coronary arteries or a patient with a severe trunk illness who needs emergency surgery is different.

F. Care of the puncture site

It is essential the immobility of the joint (wrist, elbow

or hip) related to the vascular access site, and the immobilization time depends on the type of access: arterial or venous. Monitoring of bleeding at the level of the puncture site is paramount. If there is a hematoma, the skin should be marked to demarcate its borders and determine whether it increases or not.

G. Arterial sheath removal

When a coronary angioplasty is performed, the arterial sheath remains inserted up to four hours after completion of the procedure. All nurses working in the catheterization laboratory have received training courses and are responsible for removing such devices.

When the procedure is performed by radial or ulnar approach, arterial compression, after withdrawal of the sheath, is performed with the use of an air compressor designed for this purpose. The device is blown and then 2-3 ml of air are withdrawn every 15 minutes until removing the compressor and putting the compression bandage.

If the procedure was carried out by femoral or brachial approach, the compression is then manual, until bleeding stops, due to the formation of coagulum, and the compression bandage is placed. In either case, the bandage will be removed the following morning.

H. Protocol in case of any complication

Regardless of the need for an expeditious means of communication with the doctor, the nurse should be able to detect the side effects of the use of iodine. Late allergic reactions to the dye are not uncommon. They include bronchospasm, hypertension or hypotension, vagal reactions, the occurrence of pruritus, rash and urticarial skin lesions; but they are easy to identify for trained nurses^{12,13}.

In case of chest pain, which is very common, an electrocardiogram should be performed.

One of the biggest challenges is the detection of ST segment elevation (on the monitor or ECG) in a patient with chest pain accompanied by autonomic nervous system manifestations. And the worst is the presence of ventricular fibrillation or asystole; therefore, the crash cart should be available at all times, because the nurse will be the first to witness and treat this serious situation^{13,14}.

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