

# MEASURED NOISE LEVELS IN THE HOSPITAL WITH CORRELATING PATIENT PERCEPTIONS

Mercy Mumba, BSN, CMSRN, GRA, PhD Student, Rachael Lyle, BSN, and Deborah Behan PhD  
University of Texas at Arlington, College of Nursing

## INTRODUCTION

Hospital patient satisfaction surveys often return with poor ratings regarding noise levels in the hospital. Multiple studies have been done measuring noise levels in hospitals and none have revealed noise levels that are in accordance with the World Health Organization (WHO) guidelines. No studies have been found that measured patient's perception of a noise level in the hospital in conjunction with the taking of the specific noise level occurring in decibels.

## PURPOSE

The primary objectives of this study were to (1) determine de-identified patient perceptions of noise and compare with the actual current noise levels within their rooms. Other objectives of this study were to: (2) determine the actual decibels of noise within the hospital, including the nurse's station, hallways, and patient rooms; (3) determine the noise sources occurring within the rooms and hallways at the time of decibel measurement; and (4) identify the most disturbing causes of noise to the de-identified patients

## METHOD AND DATA COLLECTION

This was a quantitative study with a two-part design. It is both a correlational study of patient perceptions of noise levels within their rooms and the actual current noise levels within their rooms. The other part is a descriptive study describing the most disturbing sources of noise to patients. A decibel meter was used to measure sound levels in the hallways, nurse's stations, and patient rooms of different floors of the hospital on different days of the week and at differing times of the day. Two dB measures were taken in each of 187 patient's rooms: (1) in the doorway at the extent of the length of the door with the door open, and (2) in the room at the foot of the patient's bed with the door closed. Two questions were asked of the patient, "Is the noise level right now okay for you?" and "What would you say has been the most disturbing cause of noise during your hospital stay?" Data and responses were recorded in an observation log; no identifying patient data was recorded.

## RESULTS

A significant negative correlation was found between patients' perceptions of noise levels and decibels recorded in patient rooms with the door open. The morning time frame was found to be the noisiest and the time with the lowest patient satisfaction with noise levels, followed by nighttime and then late afternoon. The majority of the disturbing noise sources to patients were those occurring outside the patient rooms. Alarms, beeping noises, and staff talking in the hallway were cited most often, including nurses at the nurses stations.

## RECOMMENDATION FOR

There is a need for staff education involving findings of this study regarding the current noise levels, causes of patient disturbance, and ways to reduce noise levels on the floor. Other recommendations to improve patient satisfaction with quietness of the hospital include keeping doors closed when possible, for staff to keep conversations in the nurse's stations or away from patient rooms, and attend to alarms or other beeping noises as quickly as possible..