



KEY POINT SUMMARY

OBJECTIVES

The purpose of this study was to compare the accuracy of manual blood pressure readings in a quiet environment as opposed to in a hectic acute care setting.

Effects of room environment and nursing experience on clinical blood pressure measurement: an observational study

Zhang, M., Zhang, X., Chen, F., Dong, B., Chen, A., Zheng, D., 2017 | *Blood Pressure Monitoring. Volume 22, Issue 2, Pages 79-85*

Key Concepts/Context

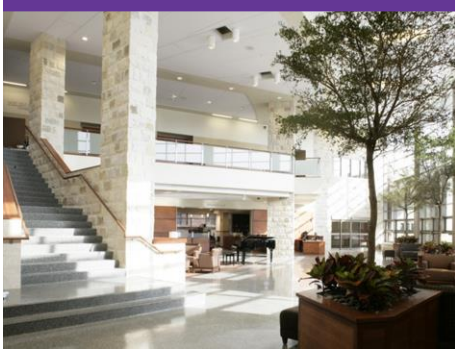
Blood pressure measurement is one of the most basic clinical procedures performed by healthcare professionals. While electronic machines are often used, the gold standard for clinical BP measurement is the manual auscultatory method. Blood pressure readings consist of two measurements: the systolic blood pressure (SBP) and the diastolic blood pressure (DBP). Systolic blood pressure is determined when the Korotkoff sound is initially heard for the first time during blood pressure cuff deflation, and the DBP is noted when the Korotkoff sound can no longer be heard.

Methods

Fifteen nurses of varying levels of experience were asked to watch and listen to 32 video clips that included Korotkoff sound recordings and a corresponding mercury column that could be visualized while a simulated blood pressure measurement was being taken. Participants also included five individuals with no healthcare background. All participants were asked to assess the blood pressure clips in both a quiet environment and a hectic acute care environment on two consecutive days.

Findings

No significant differences were noted between measurements taken in the quiet room and those taken in the acute care setting. While participants with different nursing experience had a notable effect on the accuracy of manual auscultatory blood pressure measurements, the environment did not have such an effect.



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Limitations

The first limitation noted is the use of only nurses as participants. A second limitation is the small number of participants. The third limitation relevant to healthcare design is the fact that this was a single site study in China and may not be generalizable to a global setting.

Design Implications

Results suggested that an environmental noise level of 60-70 dB was acceptable for relatively accurate manual blood pressure measurements provided that the measurements were taken by trained professionals.

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