Healthcare Innovations
How practice has changed

HERSTON HEALTH PRECINCT SYMPOSIUM 2021

DISC-0029

6 - 10 September 2021
Education Centre
RBWH

Electrocardiogram interpretation: How competent are acute care nurses?

Chen YY, Kunst E, Nasrawi D, Massey D, Johnston ANB, Keller K, & Lin FF

@Yingyan_Chen • lisa.chen@scu.edu.au

FLORIDA ATLANTIC UNIVERSITY

THE UNIVERSITY OF QUEENSLAND AUSTRALIA

Southern Cross University

Background

Acute care nurses interpret electrocardiograms (ECG) as one of the vital roles in their routine practice[1]. However, their competency in ECG interpretation remains unknown.

Methods

Study design: A systematic mixed studies review [2].

Search methods: CINAHL, Medline, Scopus, and Cochrane searched in April 2021.

Quality appraisal: The Mixed Methods Appraisal Tool (MMAT)[3] and the Quality Improvement Minimum Quality Criteria Set [4].

Synthesis: A data-based convergent synthesis design[5] with qualitative content analyses[6] adopted.

Aim

To identify and synthesise research evidence on nurses' competency in ECG interpretation in acute care settings.

Results

Papers were included: n=43
- Quantitative research: n=35
- Qualitative research: n=2
- Mixed-methods study: n=1
- Quality improvement projects: n=5

Methodology quality: From low to high

Future Directions

There is an urgent need to explore opportunities to promote and maintain nurses' competency in ECG interpretation to avoid skill decay.

Individual, professional, and organisational factors affected competency in ECG interpretation.

Most studies used paper-based questionnaires and/or tests; The majority conducted twice from day 1 to 6 months apart.

More research is needed to develop a standardised and comprehensive tool to assess nurses' competency in ECG interpretation.

"Competency" was often referred to in the context of knowledge; Attitudes and skills not commonly assessed.

Interventions led to increased competency in interpretation; Various competency levels in cross-sectional studies; Some negative attitudes noted.

Definition of competency

Influencing factors

Competency in ECG interpretation

Competency levels

Competency assessment

References

1. Chen et al. (2020); 2. Pluye et al. (2014); 3. Hong et al. 2018; 4. Hempel et al. (2015); 5. Pluye et al. (2017); 6. Elo et al. 2014

Griffith UNIVERSITY Queensland, Australia

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