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Psychometric properties of the Pittsburgh Sleep Quality Index in people receiving haemodialysis

Ginger Chu (RN, MN, PhD)
Nurse academic/ University of Newcastle
Clinician Academic/ John Hunter Hospital
New South Wales, Australia

Assessing sleep is important in CKD

- Poor sleep affects **up to 70%** of people with kidney failure[1]
- **Poor sleep affects QoL,** people with CKD have poorer QoL compared to most common cancers[2]
- Poor sleep is the **leading cause of fatigue[2]**, the highest priority symptom for people with kidney failure[3]

References:

1. Lyons, O.D. Sleep disorders in chronic kidney disease. Nat Rev Nephrol 20, 690–700 (2024). https://doi.org/10.1038/s41581-024-00848-8

2. Naylor KL et al. Mortality in Incident Maintenance Dialysis Patients Versus Incident Solid Organ Cancer Patients: A Population-Based Cohort. Am J Kidney Dis. 2019.

3. Gonzalez et al. Patient and Caregiver Priorities for Outcomes in CKD: A Multinational Nominal Group Technique Study. . Am J Kidney Dis. 2020.

Pittsburgh Sleep Quality Index (PSQI)

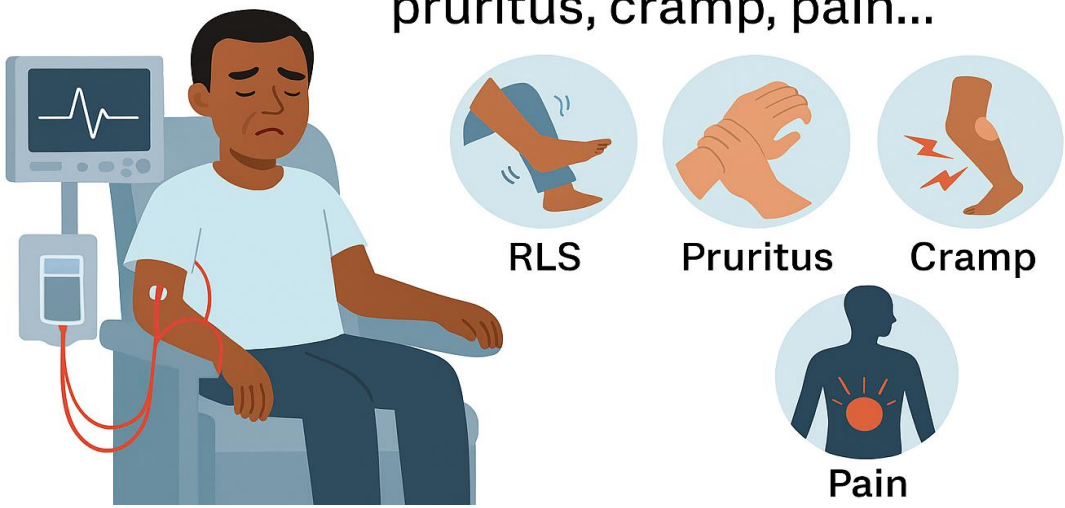
19-item

7 domains: Quality, Latency, Duration, Efficiency, Disturbances, Use of sleep medication, Daytime dysfunctions

scores: 0-21 (higher=poorer sleep)
≥ 5 = poor sleep quality

How do we measure sleep disturbances in haemodialysis patients?

Specific factors influence sleep: RLS, pruritus, cramp, pain...



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Aim

Evaluated the **validity and reliability** of the Pittsburgh Sleep Quality Index (PSQI) in a cohort of haemodialysis patients

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Methods

Design: Cross-sectional study

Participants: Adult (≥ 18) CKD receiving haemodialysis

Settings: 4 health facilities across 3 states in Australia

Reliability	Validity
Cronbach's alpha	Exploratory Factor Analysis (EFA) Confirmatory Factor Analysis (CFA)

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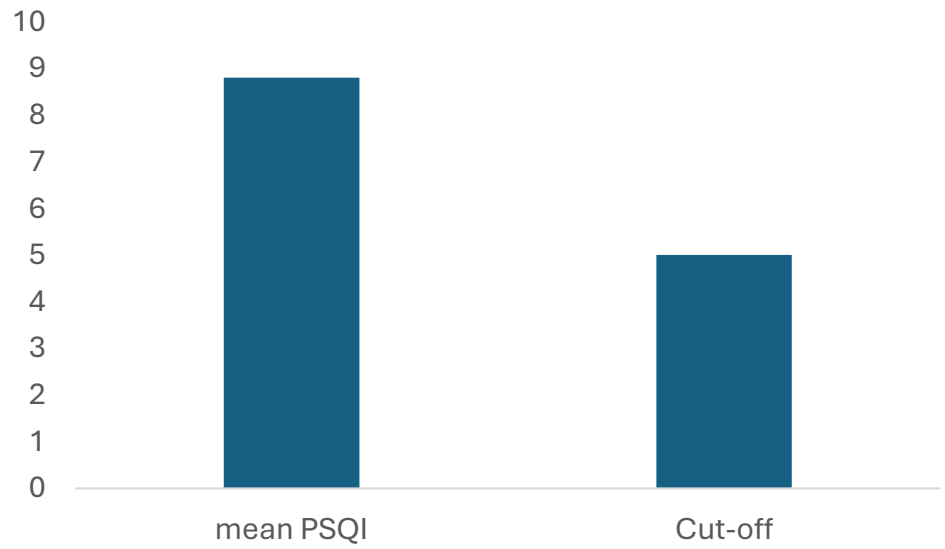
Results

107 adults on haemodialysis (mean age 61, 72% male; 84% thrice/weekly)



Results

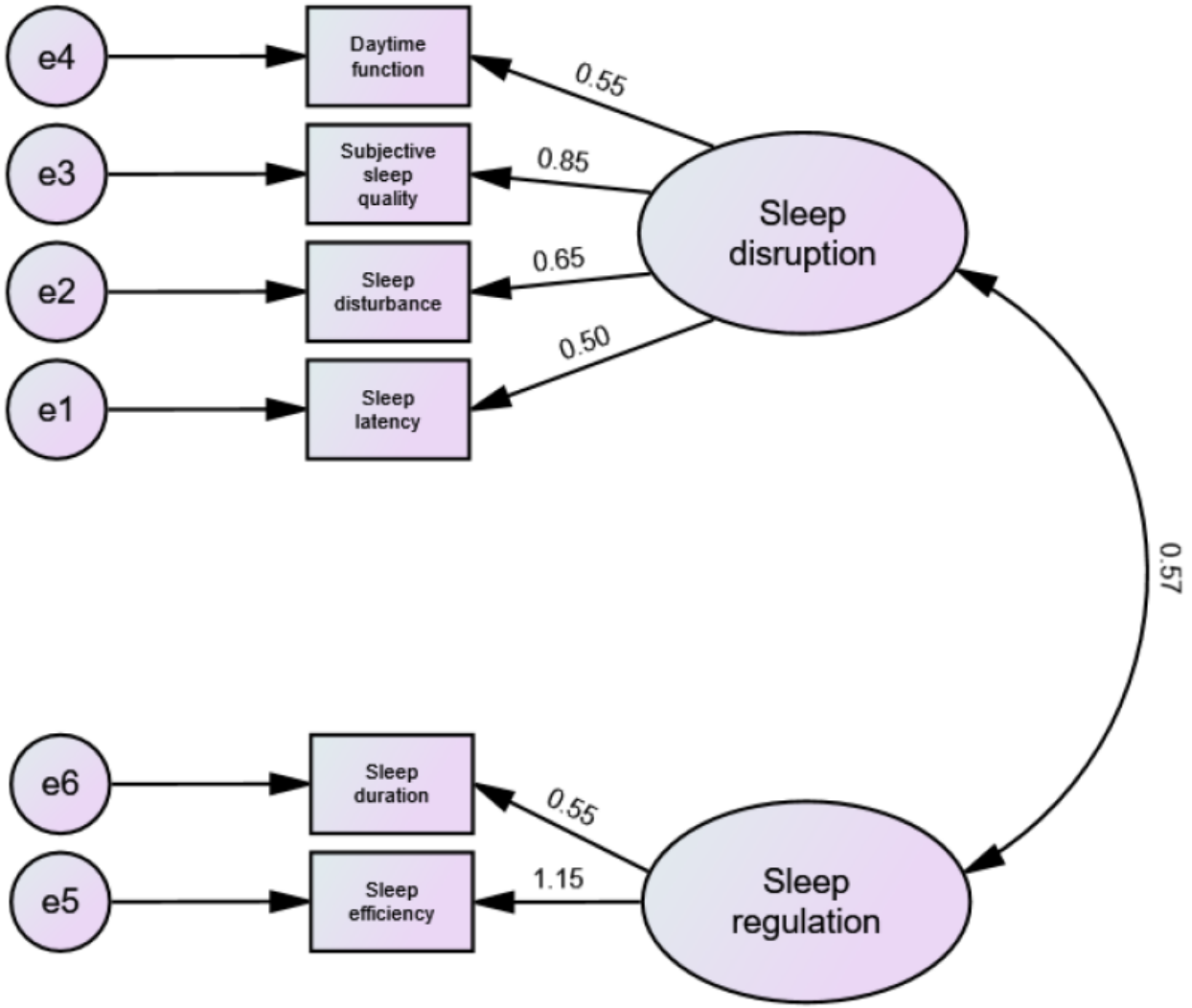
Reliability

Cronbach's alpha: 0.72 = good internal consistency

Validity

EFA (captured 72% of variance); 3-factors

CFA: 2-factors (best fit)



7 domains:

Quality

Latency

Duration

Efficiency

Disturbances

Use of sleep medication

Daytime dysfunctions

Clinical implications

Sleep distruption (F1)

- Sleep hygiene
- CBT
- Anxiety

vs

Sleep regulation (F2)

Unoderlying cause of waking up-

- Itch
- Pain
- Dialysis-associated factors

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Take-home messages

- PSQI is a suitable tool for screening sleep disturbances in people receiving HD
- Understanding the structure of the tool will improve targeted interventions
- Future studies to validate the test-retest reliability and the shorter version of PSQI (removing the medication component)
- Identifying ways to encourage patients to openly discuss sleep issues