

# Streszczenie w języku angielskim

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## **Knowledge of Polish Nurses about Sepsis: occurrence, symptoms, diagnostic and therapeutic procedures and prevention**

**Key words:** sepsis, nurse, knowledge, instrument development, education

**Introduction:** Sepsis remains a major challenge for contemporary healthcare due to high mortality, non-specific clinical presentation, and the need for immediate recognition and treatment. Recent Global Burden of Disease estimates indicate that in 2021 there were 166 million sepsis cases and 21.4 million sepsis-related deaths worldwide, accounting for 31.5% of all global deaths. Within the Sepsis-3 framework and the Surviving Sepsis Campaign recommendations, nurses play a major role in early detection, escalation of care, and infection prevention. However, assessment of nurses' preparedness requires measurement tools aligned with current definitions and standards.

**Aim:** (1) synthesise the nursing role in sepsis prevention, early recognition and management under the Sepsis-3 definition; (2) develop and psychometrically test a standardised instrument assessing nurses' sepsis-related knowledge and attitudes; and (3) evaluate the level of knowledge and attitudes among Polish nurses and analyse factors associated with these competencies.

**Methods:** Instrument development and validation were conducted between 2020 and 2022 using an online survey approach. A seven-step scale-development framework was applied, followed by exploratory factor analysis (EFA; n=265) and confirmatory factor analysis (CFA; n=201) in an independent sample. Reliability was assessed using KR-20 for dichotomous knowledge items and Cronbach's alpha for the attitude subscale. A cross-sectional study using the validated tool included 293 practising nurses to assess knowledge, attitudes and self-rated preparedness, and to explore associations with selected professional and sociodemographic variables.

**Results:** The final Nurses' Attitudes and Knowledge about Sepsis Scale (NAKSeS) contains 23 items with three subscales: knowledge of pathogenesis/treatment/prevention (11 items), knowledge of nursing actions in suspected sepsis (6 items), and attitudes towards sepsis (6 items). Reliability of the knowledge components was acceptable (KR-20: 0.702 and 0.631; total KR-20: 0.735), and the attitude subscale showed high internal consistency ( $\alpha=0.884$ ). In the cross-sectional sample, knowledge was moderate (mean 9.49/17), attitudes were moderately favourable (21.65/30), and self-rated preparedness was average (3.18/5). Higher scores were

associated with postgraduate education, use of professional literature and clinical experience, and employment in high-acuity settings (ICU/emergency care/pediatrics).

**Conclusions:** NAKSeS is a Sepsis-3-consistent instrument with confirmed psychometric properties, suitable for identifying competency gaps and evaluating educational interventions. The findings support the need for systematic sepsis education, standardised nursing assessment and escalation pathways, and broader training implementation beyond intensive care, including emergency intake areas and primary care.