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Nurse Practitioner Diagnostic Reasoning

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Abstract

Introduction: Nurse practitioners were introduced to increase patients' access to healthcare, improve patient outcomes, and provide a sustainable solution to ongoing workforce shortages. They provide a diagnostic role previously delivered by doctors, however, their ability to perform this role has been challenged.

Methodology: The study used a post-positivist mixed methods convergent parallel design to explore nurse practitioner diagnostic reasoning and compare it to that of registrars. Methods included a complex case scenario using think aloud protocol to determine diagnostic abilities, including identifying correct diagnoses, problems and actions; a previously validated intuitive/analytic reasoning instrument to identify diagnostic reasoning style; a maxims questionnaire to identify maxims used to guide diagnostic reasoning; and a demographic data sheet to identify variables influencing the results of the former.

The study included 30 nurse practitioners and 16 registrars. An expert panel determined the correct diagnoses/problems and actions for the case scenario using a Delphi technique. Registrar data provided normative data and norm-referenced testing compared the nurse practitioner data to the normative data.

Results: Nurse practitioners identified a mean of 10.30 (range=4-17, *Mdn*=10, mode=9, *SD*=3.09) correct diagnoses, problem and action items as identified by the expert panel whereas registrars identified a mean of 10.88 (range=6-21, *Mdn*=10, *SD*=3.88); there was no statistically significant difference between the two groups ($U=238.5$, $z=-.04$, $p=.97$). Nurse practitioners' diagnostic reasoning reflected an analytic-intuitive style whereas registrars reflected an analytic style, however, this difference was not statistically significant, $t(44)=1.91$, $p=.06$. Diagnostic

reasoning style was not related to diagnostic reasoning abilities in either the nurse practitioner ($r_s = -.14$, $n = 30$, $p = .46$) or registrar ($r_s = .03$, $n = 16$, $p = .90$) groups. There was no difference in how nurse practitioners and registrars employ maxims to guide their diagnostic reasoning, $t(44) = -.89$, $p = .38$. Maxims used to guide diagnostic reasoning were not related to diagnostic reasoning abilities in either the nurse practitioner ($r = -.17$, $n = 30$, $p = .37$) or registrar ($r_s = -.08$, $n = 16$, $p = .77$) groups.

Conclusion: Nurse practitioners' diagnostic reasoning, although incorporating more System I processes than registrars, does not differ from that of registrars. This supports the nurse practitioner role as a sustainable solution firstly, to effectively meet the health needs of the New Zealand population and secondly, to address workforce shortages.

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