

Genetics-related knowledge, attitudes, and readiness for practice among final-year diploma nursing students in Western Province, Sri Lanka

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Nurses play a vital role in integrating knowledge of genetics in healthcare globally. In Sri Lanka, genetic services show limited expansion, mostly due to limited training in nursing curricula. The objective of this study was to assess the knowledge, attitudes, and readiness to implement practices related to genetics in nursing, and to identify the relationships between knowledge of genetics with attitudes toward practicing genetics in nursing, and knowledge of genetics with readiness to implement genetics in nursing, among final-year diploma nursing students in the Western Province. A descriptive cross-sectional study was conducted among 297 final-year nursing students from three National Schools of Nursing in the Western Province, Sri Lanka, selected through systematic random sampling. Data collection used a validated, self-administered questionnaire, which was pre-tested. Levels of knowledge were categorized as >80% Good, 60-80% Fair, <60% Poor. Descriptive and inferential analyses, including chi-square test, One-way ANOVA and Pearson's correlation were performed using SPSS version 27.0, with significance level at $p < 0.05$. Among a total of 297 nursing students, the majority fell within the age range of 26-28 years (58.2%) and 90.2 % were females. Of the students, 46.5% had a poor level of knowledge in genetics. Majority (65%) had positive attitudes, while 35% of participants had negative attitudes on genetics. Of the participants, 95.3% were ready to practice genetics in nursing. A positive relationship between knowledge and attitudes ($p=0.009$, $r=0.151$) as well as knowledge and readiness ($p<0.001$, $r=0.253$) to practice genetics was detected. Most students had poor knowledge, although they showed both positive attitudes and favourable readiness to implement genetics in nursing practices. Improving genetic education may enhance students' preparedness and confidence in applying genetics in clinical settings. Therefore, integrating genetics-focused training into nursing programmes is vital to prepare nurses for delivering quality, genetics-informed patient care in future.

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