Combined use of the Clinical Reasoning Model by Herdman & Kamitsuru and NANDA-NOC-NIC standardized nursing languages to develop clinical decision making of nursing students: an Italian educational experience.

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Introduction

Three years ago, the Gordon's Models of Functional Health Patterns[1] and the Clinical Reasoning Model developed by Kamitsuru[2] in 2009 and re-proposed by Heather T. Herdman and Shigemi Kamitsuru in 2018 were "rigorously" adopted by the Nursing Bachelor of Perugia University to guide nursing students in nursing assessment, diagnostic reasoning and identification of the relationships between Nursing Diagnoses, Nursing Outcomes and Nursing Interventions according the Standardized Nursing Languages (SNLs): NANDA-I, NOC and NIC.

Instead of providing a long list of nursing diagnoses currently present in the classification of nursing diagnoses NANDA-I 2021-2023 grouped in each functional model, as highlighted in the upper right corner, we have prepared a diagram of the diagnoses divided by each functional model, but also by type of nursing diagnosis.

The left column is dedicated to the problem-focused diagnoses, the one next to any analogous risk diagnosis. In the right columns there are the corresponding diagnosis of health promotion or syndrome. Furthermore, at the beginning of each sheet, the most common tools or scores for the evaluation of the problems of the health pattern considered are reported, to help the student to recognize warning elements of dysfunctionality. In this way the student can focus his attention on human responses related to current problems, risk or desire/motivation to promote well-being.

Study Propose

The aim is to evaluate the coherence of nursing students' care planning with the Gordon's Functional Health Pattern and Herdman & Kamitsuru Clinical Reasoning Model in identifying the NANDA-I Nursing Diagnosis Components, NOC indicators and NIC activities, as well as their relationships.

Methodology

From June to October 2022, 500 nursing students carried out 4 monthly internships at 178 hospital services / departments and territorial and home services of a large local health company of Umbria (Italy) and the Regional University Hospital of Perugia. For each internship period, each student has developed a care plan for a clinical case emblematic of their internship, using Gordon's Functional Health Pattern Framework, and Kamitsuru's Clinical Reasoning Model. Two teachers and faculty members (one Lectures and one Researcher in Nursing Sciences) analyzed 1920 care plans developed by 500 nursing students during their internships. Each student presented 1 clinical case planning form for each of the 4 internship periods carried out in different care settings.

Results

Each student received a rating from 4 to 0 (Excellent, Very Good, Good, Fair, Poor) based on terminological correctness (yes or no) on the use of Nanda-I, NOC and NIC standardized language and on the right link (yes or not) between Nanda-I diagnostics indicators, NOC indicators and NIC activities. The scores assigned to the students are the expression of the average of the evaluation of the four cases they presented.

Only students who completed all 4 internship periods of the second and third year were considered for this study.
Therefore, for this study we considered 249 students, two thirds of whom were women and 140 in the second year and 109 in the third year of the nursing course.

One third of the students described the treatment plan with excellent or very good terminological correctness (such as correct use of standardized terminologies) and consistency between the connections between diagnostic indicators, NOC indicators and NIC activities. But, fair or poor scores collected more than half of the sample.

We didn't expect the differences in scores with respect to gender, but so it was. In fact, this is statistically significant among male versus female students.
Instead, the statistically significant difference in the best scores between third year students compared to second year students was expected and desirable.

Impact

We can conclude that the educational approach based on the division of 267 nursing diagnoses by 4 type (Problem-Focused Nursing Diagnosis, Health Promotion Nursing Diagnosis, Nursing Risk Diagnosis, Syndrome) in 11 Functional Health Pattern of Gordon and the use of the Clinical Reasoning Model of Kamitsuru can be a good teaching strategy to improve nursing students' diagnostic and reasoning skills and to implement the use of standardized nursing terminology.

References
1. Kamitsuru S. Kangoshindankaramichibiku mokuhyoutokainyu model jitsuzaigatashindandenokensyotosyusei [Outmcome and intervention inference model for actual nursing diagnosis: validation and modification]. J Jnp Soc Nurs diagn 2009; 14(2):166-67.
2. Herdman TH, Kamitsuru S. Supplement to NANDA International Nursing Diagnoses: Definitions and Classification 2018-2020 (11th Edition). New York: Thieme, 2018.

Results

Variable	Excellent n.(%)	Very Good n.(%)	Good n.(%)	Fair n.(%)	Poor n.(%)	Total n.(%)	p value
Sex							*0.008*
Male	28(41.2)	4(5.9)	8(11.8)	10(14.7)	18(26.5)	68(100)	
Female	48(26.5)	2(1.1)	19(10.5)	58(32.0)	54(29.8)	181(100)	
Course Year							*0,013*
Second	37(26.4)	5(3.6)	11(7.9)	36(25.7)	51(36.4)	140(100)	
Third	39(35.8)	1(0.9)	16(14.7)	32(29.4)	21(19.3)	109(100)	
Total	76(30.5)	6(2.4)	27(10.8)	68(27.3)	72(28.9)	249(100)	

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