ORIGINAL RESEARCH ARTICLE

FACTORS AFFECTING SELF-DIRECTED LEARNING READINESS OF THE UNDERGRADUATE NURSING STUDENTS FROM PURBANCHAL UNIVERSITY, NEPAL: A CROSS-SECTIONAL STUDY

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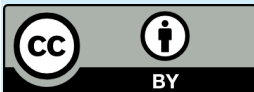
ABSTRACT

Background: Self-directed learning is a higher educational learning paradigm where learners take both learning initiatives and evaluate learning outcomes. Since students have control over their own learning, they can understand their own strengths, interests, limitations and style of receiving new information. The objective of this study was to assess the factors associated with self-directed learning readiness of the undergraduate nursing students from the nursing school of Purbanchal University.

Methods: A descriptive, cross-sectional study was conducted from January 2019 - August 2020 among undergraduate nursing students from Purbanchal University School of Health Sciences where 253 students participated. Census sampling method was adopted. Ethical clearance was taken from Institutional Review Committee of Purbanchal University School of Health Sciences. Self-administered, valid and standard tool i.e. Williamson's Self Rating Scale for Self-directed Learning (SRSSDL) was used. Data was collected using online google forms and analysis was done with SPSS 16.0 version using mean, median, standard deviation, range, chi-square test, and multivariate logistic regression analysis at p<0.05.

Results: Overall Self-directed Learning score was 244.58±31.93. Majority of the respondents (79.1%) had high scores of SRSSDL (221-300) and 20.9% of the respondents had moderate scores of SRSSDL (141-220). On bivariate analysis, the marital status of the students (p= 0.025) and grade/division in the previous academic year (p= 0.013) exerted significant association on the overall level of SRSSDL. On multivariate analysis, the unmarried students had 4.298 times higher odds of having higher scores of SRSSDL (AOR: 4.298; CI: 1.28-14.18).

Conclusions: Overall self-directed learning readiness among the nursing students was moderate to high. Only the marital status was the significant factor affecting the SRSSDL among the nursing students.

INTRODUCTION

Self-directed learning (SDL) is a learning paradigm commonly employed by medical students for obtaining knowledge and keeping updated on the newer advances occurring around the globe.[1] SDL is a lifetime autonomous learning process with self-regulation skills.[2] To fulfill public expectations in an ever-changing healthcare environment, healthcare practitioners must regularly update their knowledge and skills beyond their formal schooling.[3] Nursing combines art and science through theoretical principles, scientific study, and clinical skills to include caring behaviors during each nurse-patient encounter; which is enhanced with self-directed learning.[4]

Following the outbreak of the COVID-19 pandemic, formal teaching in the classroom has moved to virtual classroom forms, becoming a part of the medical curriculum. Online assessments are being held, which necessitates mostly self-directed learning skills.[5] Because of the recent advancements in technology, nursing practitioners must adhere to self-directed learning to boost their knowledge, skill and deliver better patient care. The outcomes of the study can be used to determine the level of self-directed preparation among undergraduate nursing students which could serve as a foundation for delivering feedback on students' learning needs as well as supervision throughout the academic program; a guide for faculty in identifying students who need to be reinforced, or supervised based on their readiness. It can also be implemented into the University's nursing program as a modern approach of teaching-learning activity. Hence, this study was conducted to assess the overall self-directed learning readiness of the undergraduate nursing students and find out its associated factors.

METHODS

A descriptive, quantitative, cross-sectional study was conducted among undergraduate nursing students in Purbanchal University School of Health Sciences (PUSHS), Gothgaon, Morang, Nepal. PUSHS is the only constituent campus under the Faculty of Medical and Allied Sciences of Purbanchal University. It is situated in Sundarharaicha Municipality of Morang district, Province no. 1.

The study was conducted among the nursing students in

the department of nursing, Purbanchal University School of Health Sciences (PUSHS). The study sample consisted of all undergraduate nursing students of PUSHS present during the time of data collection and willing to participate in the study. Those undergraduate nursing students who didn't provide consent and weren't willing to participate in the study were excluded from the study. The census sampling method was adopted for the study. Thus, the total sample size was (257). Ethical clearance was taken from the institutional review committee, Purbanchal University College of Medical and Allied Science (PUCMAS)-IRC (Ref no IRC/006/2020).

For data collection, a demographic information sheet was used to acquire basic information, such as age, academic level, program (BSN/PBNS), marital status, previous high school type(private/ public/vocational) and grade. A self-administered, valid and standard tool (Williamson's Self Rating Scale for Self-directed Learning) was used for assessing the Self-directed learning of the nursing students. SRSSDL is composed of 60 items divided into five subscales: Awareness (12 items), Learning strategies (12 items), Learning activities (12 items), Evaluation (12 items), Interpersonal skills (12 items). A five-point Likert scale: 5 = always, 4 = often, 3 = sometimes, 2 = seldom, 1 = never, is used for rating the responses for each item.[6] All items are positively stated, with higher total score showing a higher level of SDL. SRSSDL is an effective tool for self-assessment of SDL both for nursing students, nurses, and Radiologist technicians.[7] This range is further divided into three levels: students' SRSSDL scores between 60 to 140, 141 to 220 and 221 to 300 as low, moderate and high levels of self-directed learning skills respectively. The SRSSDL is found to be a reliable and valid instrument. The SRSSDL has good reliability with internal consistency (Cronbach's alpha coefficient ranging from 0.74-0.94). Cronbach's alpha for internal consistency of 5 dimensions are 0.79, 0.73, 0.71, 0.71, and 0.71 respectively.[7] Validity of the tool has been maintained by Delphi technique, known groups technique and forward back translation.[6] Permission for the use of the tool was obtained from the developer of the tool via email.

For data collection, formal permission was taken from the concerned campus for the conduction of the study. Then, the class coordinators in each academic level were approached separately via email/ social media. Then they were explained about the purpose of the study and the students were called upon via zoom meeting. The information sheet was given to study participants. Informed verbal consent was taken. Then the students were explained about the questionnaire and it was provided via the internet using google forms. The link for the questionnaire was sent into the zoom chat and asked them to fill up the form and return the questionnaire. The questionnaire in the link also contained consent information. Confidentiality of the subjects was maintained and the participants were assured that information collected would be used only for research purposes. The returned questionnaire was entered in a google spreadsheet and further analysis was done.

Data was entered using EXCEL and analyzed using SPSS 16.0 version. Mean, standard deviation, frequencies, and the minimum and maximum scores were computed. To determine whether the data were normally distributed, Kolmogorov Smirnov and Shapiro Wilk Tests were utilized on the data. Different non-parametric tests were used after calculating the skewness and kurtosis. Since data weren't normally distributed, chi-square test and binary logistic regression analysis were used for analysis.

RESULTS

Although the estimated sample size was 257, 4 students didn't respond to the questionnaire. Hence, the response rate of the participants was 98.4% and the total sample size was 253. The mean age of the respondents was 21.88 ± 2.84 years. The majority of the students (66%) were from BSN program. The highest frequency of the students was present in the third year (33.6%) followed by second-year (27.3%). The majority of the respondents (82.6%) were unmarried. The majority of them (68.4%) had a distinction in the previous academic year (Table 1).

Table 1: Sociodemographic and academic profile of the nursing students **N=253**

Variables	Categories	Frequency (%)
Mean age in years ± SD 21.88 ± 2.84		
Program	BSN	166 (66.0)
	PBNS	87 (34.0)
Academic level	First year	63 (24.9)
	Second year	69 (27.3)
	Third year	85 (33.6)
	Fourth year	36 (14.2)
Marital status	Married	44 (17.4)
	Unmarried	209 (82.6)
Previous high school type	Private/vocational	191 (75.5)
	Public	62 (24.5)
Grade/division (in the previous academic year)	Distinction	173 (68.4)
	First division	76 (30)
	Second division	4 (1.6)

Table 2: Self Rating Scale for Self-Directed Learning score (SRSSDL)   N=253

	Mean ±SD	Range	Categories	Frequency (%)
Final SRSSDL score	244.58±31.93	143-297	Moderate (141-220)	53 (20.9)
			High (221-300)	200 (79.1)

The overall SRSSDL score was 244.58±31.93 with a range from 143-297. The majority of the respondents had a high score for SRSSDL (79.1%) whereas 20.9% had a moderate score (Table 2).

Table 3: Mean, median, minimum, maximum and standard deviation of Self Rating Scale for Self-Directed Learning (SRSSDL) scale and sub-dimensions   N=253

Sub-dimensions	Number of items	Mean ± SD	Inter Quartile Range	Median	Min	Max
Awareness	12	48.7±6.5	45-54	50.0	16	60
Learning strategies	12	49.3±7.1	45-54	51.0	16	60
Learning activities	12	47.5± 7.6	43-53	48.0	17	60
Evaluation	12	49.1± 7.8	44-55	50.0	21	60
Interpersonal skills	12	49.4± 7.3	45-55	51.0	20	60

There were altogether 12 items in every 5 sub-dimensions of SRSSDL. The 5 subdimensions of SRSSDL were awareness (48.7±6.5), learning strategies (49.3±7.1), learning activities (47.5± 7.6), evaluation (49.1± 7.8) and interpersonal skills (49.4± 7.3). The median scores for each of the 5 sub-dimensions were 50.0, 51.0, 48.0, 50.0 and 51.0 (Table 3).

Table 4: Association of Self Rating Scale for Self-Directed Learning score (SRSSDL) with selected variables   N=253

Variables	Categories	Level of SRSSDL			p-value
		Moderate	High	Row percentage (%)	
Program	BSN	17	69	34	0.806
	PBNS	36	131	66	
Academic level	First year	10	53	24.9	0.286
	Second year and above	43	147	75.1	
Marital status	Married	3	41	17.4	0.013*
	Unmarried	50	159	82.6	
Previous high school type	Private	45	146	75.5	0.559
	Public/vocational	8	54	24.5	
Grade/division (in the previous academic year)	Distinction	38	135	68.4	0.025*
	First division/Others	15	65	31.6	

Chi-square test   *Significant at p<0.05

Among the selected variables viz. program, academic level marital status, the previous high school type and grade/division (in the previous academic year), marital status of students (p=0.013) and grade/division in previous academic year (p=0.025) exerted significant association with the SRSSDL levels at p< 0.05 (Table 4).

Table 5: Factors affecting Self Rating Scale for Self-Directed Learning score (SRSSDL)   N=253

Variables	Categories	β coefficient	p-value	Adj. Odd Ratio	95% C.I. for AOR
Marital status	Unmarried	-1.458	0.019	4.298	1.28-14.18
	Married	Ref			

* Significant factors after controlling the other covariates

The results of multivariate analysis to assess the factors affecting Self Rating Scale for Self-Directed Learning score (SRSSDL); which show that only the marital status of the students was the factor that affected the SRSSDL. The unmarried students had 4.298 times higher odds of having higher scores of SRSSDL (Table 5).

DISCUSSION

This study was a part of a research project for assessing the self-directed learning readiness of the undergraduate nursing students of Eastern Nepal, with a part of it published elsewhere.[8] In this study, the total Self-Rating Scale for Self-Directed Learning (SRSSDL) score was found to be 244.58±31.93

with a range of scores from 143-297. High levels of SRSSDL score indicate effective self-directed learning. The majority of the respondents (79.1%) had high scores of SRSSDL (221-300) whereas only 20.9% of the respondents had moderate levels of SRSSDL (141-220). None of the nursing students had a low level of SRSSDL scores (60-140). Only the marital status of the students and grade/division in the previous academic year exerted a significant effect on the overall level of SRSSDL at p<0.05. This is as per the other studies done in Jordan, Iran and other places. They noted that the majority of Jordanian, Italian, and Iranian nursing students showed high SDLR and were good self-directed learners.[9,10,11] This finding is also consistent with the study of female undergraduates in Saudi Arabia, which found that the majority of respondents had a high SRSSDL level.[12] Similar finding was noted among Chinese baccalaureate nursing students, with 62.3 percent reporting high levels of self-directed learning but with considerable gender differences.[1] Similar finding was seen in the study conducted in Turkey and Srilanka[13,14] where the majority of the nurse learners had a high level of self-directed learning scores. However, these results contradicted the study in Indonesia[15] who indicated that 50% of the students had low to moderate scores for self-directed learning readiness. These results also contradicted the study done in India[16]; the majority of Indian medical students who responded had an average level of self-directed learning. These differences can be because of the differences in the curriculum, setup of the library with the availability of e-learning facilities and teachers' motivation for self-directed learning.[12,13,17]

The total Self-Rating Scale for Self-Directed Learning (SRSSDL) score only showed a significant association with grades/performance in the previous academic year and marital status, in bivariate analysis.

The study finding is supported by another study[17] where the achievement level of the students was positively correlated with the high scores of self-directed learning readiness. Similarly, this finding is also congruent to the study done in University of Texas Medical Branch[18], where the relationship between SDL ability and clinical accomplishment level of 3rd-year medical school students were evaluated, and a significant positive association between SDL scores and clinical achievement level of the students was noted.

Findings of this study are also supported by other study; where the achievement levels of 81 students evaluated using SDL methods were compared to 69 students who were trained using traditional methods and it was noted that the achievement level of students using SDL methods was higher than that of the control group. According to these findings, students' achievement levels can be improved by employing SDL ability, and education using SDL ability methods would have a good impact on students' performance also.[19] This finding is also supported by other study[20] where the SDL readiness was significantly related with the Grade Point Average (GPA) scores.

However, a study conducted in Switzerland[13] showed a significant association of self-directed learning with gender, department and educational level. This variation indicates that the demographic factors may have different effects in diverse geographical areas and different socio-cultural backgrounds.

Marital status was found to have a significant negative association with self-directed learning readiness in our study. In our study, unmarried students had higher odds of achieving higher scores of self-directed learning readiness. It might be because unmarried individuals have more free time for learning; there is no disturbance in terms of household chores, the burden of looking after small children so that there will be more focus and concentration in the learning process. However, this is contrary to another study[20] where marital status had no association with self-directed learning readiness.

Facilitating self-directed learning is a difficult process for both faculty and students, but it can be made easier by including it into the nursing curriculum as an inherent aspect of education.

Larger sample size possesses greater generalizability and which has given greater insight into the self-directed learning of nursing students of Purbanchal University. Students from both programs viz. BSN and PBNS were chosen which helped in comparison between those two groups of students. However, the study is not devoid of limitations. Here, only the constituent college from Purbanchal University was selected for the study. Other variables like teaching-learning strategies, learning attitude and interest of the students would have been taken into consideration.

Only Purbanchal University students participated in this study. Students from other universities can participate in a national-level study. This study can also be conducted among students in other health-related fields such as public health, pharmacy, and medicine.

CONCLUSION

Self-directed learning readiness among the majority of undergraduate nursing students of PUSHS is high which implies excellent self-directed learning. Among the various factors evaluated; marital status and academic achievement in the previous academic year were significantly associated with SDL readiness. Only marital status was the predictor or the factor affecting the self-directed learning readiness of the undergraduate nursing students. Students that have a moderate SRSSDL score are halfway there to becoming self-directed learners. When necessary, areas for improvement must be identified, evaluated, and a strategy implemented with the teacher's guidance for improvement on self-directed learning readiness of the students.

CONFLICT OF INTEREST: None

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