Short Communication

Perception of Faculty and Undergraduate Students Regarding the Use of Advanced Technology and Social Media in Nursing Education

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ABSTRACT

The advanced digital technology is a need of the century. The Covid-19 shifted the educational world to e-learning. The closure of institutes has extensive negative implications for healthcare industry. To assess perception of undergraduate nursing students and faculty members regarding the use of advanced and social media in education, a descriptive cross-sectional study was performed at Jinnah College of Nursing, Sohail University Karachi, Pakistan from September to October 2021. A total of 160 male and female nursing students and 20 faculty members were included after ERC approval. Two Questionnaires, one for students and another for faculty members were used. A significant median comparison of student's perception score was found with program of nursing (p=0.011) and qualification (p=0.033).This study describes the positive perception of nursing students and faculty members. However, proper and planned training can create significant outcomes.

KEYWORDS: Advanced Technology, Covid-19, Faculty, Nursing Students, Perception, Social Media.

The advanced digital technology is very important and a need of the century.[1] with the passage of time, the importance of advanced digital is increasing. The Coronavirus disease received administrative personnel's attention towards use of advanced digital and information technology.[2] During the Covid-19 pandemic, educational systems worldwide were affected, which led to closure of schools, colleges and universities.[3] The closing of educational institutions had extensive bad impacts for students' academics. Among the affected countries, mostly were forced to shift the education systems to distance or online learning.[4] The United Nations Internal Children Emergency Fund (UNICEF) also advised to continue learning by way of e-learning, online strategies, television broad casts, social media and internet utilization to deliver academic content to students.[5] It is observed that the medical and nursing education is dealing with the changes to consolidate their career development plan. All nursing educational activities are hurdled by Covid-19 pandemic, and healthcare authorities have positively responded to nursing education and clinical needs of students by transforming from conventional teaching to e-learning or online distance learning.[6]

The mobile apps and advanced technology enhance learning enthusiasm and motivation and academic performance among nursing students.[7] The usage of mobile and advanced technologies bridged the gap which exists between policies, strategies, guidelines and technology used in institutes.[8] The nursing educators are searching for alternative ways to provide assistance in students' learning. Therefore, the nursing students are giving value to e-learning approach and becoming more confident to deal their difficulties.[9] The distance learning has exposed the financial differences of the students. These differences can lead to failure, it also causes anxiety, and depression among the students.[10] Therefore, this study was aimed to assess the perception of nursing students and faculty members on the subject of using advanced digital technology and social media in nursing education. This descriptive cross sectional study with convenience sampling technique was performed at Jinnah College of Nursing, Sohail University Karachi, Pakistan from September 01, 2021 to October 31, 2021. By using Slovin's formula i.e. n = N / (1 + Ne^2) where n is the sample size, N is population (260), and e is the margin of error (0.05) and 95% level of confidence, we estimated 157 as the sample size for students but we took 160 as round

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figure. Willing male and female undergraduate nursing students from Generic BSN and Post RN were included. Unwilling nursing undergraduates, nursing diploma students, aid nurse students were excluded. Same formula was used for estimation of sample size for faculty in which N is population (22), and e is the margin of error (0.05) and 95% level of confidence, we estimated 20 as the sample.[11] Approval was obtained from Ethical Review Committee of Sohail University (ERC # 000128/21). Written informed consent was taken from each participant and demographic information was also taken. To get data from nursing students, a validated tool related to students' perception was adopted from a past Saudi study which consists of two main sections that were demographic information and students' perceptions towards the use of social media in their academics. It has 17 items based on Likert 5-point scale where 1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree and 5: Strongly agree. The sum of score ranges from 17 to 85. The questionnaire reliability is 0.81, through Cronbach's alpha.[12]

Data from faculty members were obtained with the help of Technology Acceptance Model scale (TAM) which was adopted from a former research study.[13] It consists of 20 questions, all are on a 5-point Likert type scale questionnaire where 1: Strongly disagree, 2: Disagree, 3: Neutral, 4: Agree and 5: Strongly agree and the sum of score ranges from 20 to 100. The overall reliability through Cronbach's alpha is 0.958. The four subscale includes perceived usefulness (reliability 0.901), perceived ease of use (reliability 0.924), attitude toward usage (reliability 0.916), behavioral intention to use (reliability 0.801), and job relevance with (reliability of 0.958). High level of reliability measured ranging from 0.90 to 0.92.[13]

Data entry and analysis were done using a Statistical Package for Social Sciences (SPSS) version 20.0. Frequency and percentages were computed for categorical variables like age, gender, marital status. Inferential statistics were explored using independent t-test to compare students' and faculty members' perception score with demographic variables. A P-value of 0.05 or less was considered statistically significant.

Demographic characteristics of the participants including students and faculty members are presented in table 1.

Students' perception: Table 2 shows the responses of students towards the use of social media in their academic activities. Mostly students corresponded positively in this regard.Table.3 shows comparison of students' perception with their demographic characteristics. A significant mean difference of student's perception score was found with program of nursing (p=0.011) and year of education (p=0.033).

Table 1: Demographic Characteristics of Participants

Variables		Frequency	Percentage
Students' Demographic Characteristics			
Gender	Male	95	59.4 %
	Female	65	40.6 %
Marital Status	Married	18	11.2 %
	Single	142	88.8 %
Age Group	16-30 years	153	95.6 %
	31-50 years	07	06.6 %
Academic Qualification	Metric	14	08.0 %
	Intermediate	108	67.5 %
	Graduation	38	23.7 %
Study Program	G. BSN	112	70.0 %
	Post RN BSN	48	30.0 %
Years of Study	Years 1-2	115	71.9 %
	Years 3-4	45	28.1 %
Faculty Members' Demographic Characteristics			
Gender	Male	09	45.0 %
	Female	11	55.0 %
Marital Status	Married	02	10.0 %
	Single	18	90.0 %
Age Group	21-50 years	16	80.0%
	51-70 years	04	20.0%
Study Program	G.BSN	16	80.0%
	Post RN BSN	04	80.0%
Teaching Experience	Less than 10 years	10	50.0%
	11-25 years	08	40.0%
	26-40 years	02	10.0%

Table 2: Students' Perception Towards the use of Social Media in their Academic Activities (n=160)

Important Items	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)
Saves time & effort	1 (0.6)	2 (1.3)	3 (1.9)	79 (49.4)	75 (46.9)
Enhance knowledge & skills	0 (0.0)	6 (3.8)	11 (6.9)	66 (41.3)	77 (48.1)
Helps to carry educational activities	2 (1.3)	6 (3.8)	22 (13.8)	77 (48.1)	53 (33.1)
Implements course activities	1 (0.6)	20 (12.5)	19 (11.9)	78 (48.8)	42 (26.3)
Relate multimedia (texts, graphics, images, videos to course content)	1 (0.6)	4 (2.5)	9 (5.6)	76 (47.5)	70 (43.8)
Encourage collaborative learning with peers	3 (1.9)	8 (5.0)	27 (16.9)	93 (58.1)	29 (18.1)
Provides instant feedback	2 (1.3)	3 (1.9)	18 (11.3)	76 (47.5)	61 (38.1)
Increase motivation towards learning	3 (1.9)	12 (7.5)	20 (12.5)	76 (47.5)	49 (30.6)
Participates in critical reading & dialogues on course's topics in social media & advanced technology	1 (0.6)	8 (5.0)	16 (10.0)	87 (54.4)	48 (30.0)

Table 3: Comparison of Students' Perception Score with Demographic Characteristics (n = 160)

Demographic Characteristics		Frequency (n)	Students' Perception Score		
			Mean ± SD	95% CI for Mean	P value
Program	G.BSN	112	68.13 ± 8.09	66.61-69.64	0.011
	Post RN BSN	48	71.70 ± 8.03	69.37-74.04	
Academic Education	≤ 12 years	122	70.28 ± 7.53	98.93-71.63	0.033
	> 12 years	38	65.73 ± 9.40	62.64-68.82	
Year of Study	Year I, II	115	69.95±8.30	68.42-71.49	0.065
	Year III, IV	45	67.28±7.75	64.95-69.62	

C.I: Confidence interval, SD: Standard deviation, *p-value ≤ 0.05

Teachers' perception: Table 4 shows the response of teachers regarding the use of advanced technology and social media in education. Mostly teachers were strongly agreed to the items. Table 5 shows the comparison of faculty members' perception score with their demographic characteristics. An insignificant mean difference of faculty member perception score was found with age (p=0.198) teaching group (p=0.753) and teaching experience (p=0.801).

Table 4: Teachers' Perception Towards the use of Social Media in Education (n=20)

Important Items	Disagree n(%)	Neutral n(%)	Agree n(%)	Strongly agree n(%)
Using advanced technology & social media is easy for me	0 (0.0)	2 (10.0)	9 (45.0)	9 (45.0)
Clear & understandable	0 (0.0)	4 (20.0)	10 (50.0)	6 (30.0)
Advanced technology & social media is flexible to interact with	1 (5.0)	2 (10.0)	10 (50.0)	7 (35.0)
Ease of use is limited by lack of experience	4 (20.0)	1 (5.0)	11 (55.0)	4 (20.0)
Enables to do task more quickly	0 (0.0)	2 (10.0)	4 (20.0)	14 (70.0)
Improves my job performance	0 (0.0)	2 (10.0)	7 (35.0)	11 (55.0)
Using advanced technology & social media is a good idea	0 (0.0)	0 (0.0)	6 (30.0)	14 (70.0)
Plan to use advanced technology & social media in future	0 (0.0)	1 (5.0)	8 (40.0)	11 (55.0)
In my job usage of social media & advanced technology is relevant	0 (0.0)	0 (0.0)	8 (40.0)	12 (60.0)

Table 5: Comparison of Faculty Member's Perception Score with Demographic Characteristics (n = 20)

Demographic Characteristics		Frequency (n)	Faculty Members' Perception Score		
			Mean ± SD	95% CI for Mean	P value
Age groups	21-50 years	16	88.75± 6.61	85.22-92.27	0.198
	51-70 years	04	82.50± 14.20	59.90-105.1	
Teaching Program	Generic BSN	16	87.18± 9.07	82.35-92.02	0.753
	Post RN BSN	04	88.75± 6.94	77.69-99.80	
Teaching experience	≤ 10 years	16	87.0± 7.65	81.52-92.47	0.801
	> 10 years	04	88.0± 9.74	81.03-94.96	

C.I: Confidence interval, SD: Standard deviation, *p-value ≤ 0.05

In summary, the findings of the current study describe the positive perception of nursing students and faculty members towards the use of advanced technology and social media in nursing education. However, prior proper and planned training to nursing students and faculty members can create significant outcomes. The proper utilization of advanced technology and social media is a challenge that must be tackled by policy makers and university administrators in order to enhance the integration of advanced technology and social media and students learning.

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Author's Contribution	
Khalid Hussain	Study design, acquisition of data and manuscript writing. Revised and approved the articles.
Muhammad Fayyaz Awan	Data acquisition, manuscript writing, Reviewed and approved the manuscript.
Munnaza Perveen	Study design, data analysis and interpretation and write up of results Revising manuscript critically for important intellectual content.
Unaiza Pervaiz Hashmi	Study design, Data collection Contributed to review the article and approved it.
Sultan Muhmmad	Study design, acquisition of data and manuscript writing. Revised and approved the articles.
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