A STUDY TO ASSESS THE EFFECTIVENESS OF DIGITAL DISCIPLINE PROGRAMME (DDP) AMONG DIGI-NURSES AT SELECTED NURSING COLLEGES AT BHOPAL

UNDER THE GUIDANCE OF
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ABSTRACT:
Digital health has been widely adopted within the Indian healthcare system in recent years. Digital discipline involves acquiring the essential skills and knowledge to influence electronic health records, telemedicine platforms, mobile applications, and other digital solutions effectively in the course of practice among healthcare professionals. Thus, pre experimental one group pre-test post-test approach was adopted to assess the effectiveness of DDP among Digi-nurses. The sample comprised of 60 students studying in selected Nursing College. Non-probability convenient sample technique. Structured knowledge questionnaire was used to assess the knowledge. A planned teaching program was given regarding Digital Discipline Programme with the help of PowerPoint presentation and modules. Pre-test was conducted using structured knowledge questionnaire to assess the knowledge. After 7 days post-test was conducted with the same tools, the findings of the study reveals that the pre-test percentage of knowledge of II-year Digi-nurses regarding DDP (78%) of students with inadequate level of knowledge score, (22%) of students with moderate level of knowledge score. The post-test percentage of II-year Digi-nurses regarding DDP (82.23%) have adequate level of knowledge and (17.77%) have moderate level of knowledge where significantly higher than mean pre-test knowledge score. It is also evident by computed't' test value of inadequate knowledge is ($-12.34, p<0.05$), 't' test value of moderate knowledge is ($-1.23, p>0.05$) and 't' test value of adequate knowledge is ($15.67, p<0.05$) that the structured teaching was highly effective in improving the knowledge and practices of Digi-nurses regarding DDP.

KEYWORDS: Digital Discipline Programme (DDP), Digi-Nurses, Online Safety, Online Reputation, Online Learning and Social Media manager.

INTRODUCTION: As healthcare becomes increasingly digitized, it's more important than ever for nurses to practice digital discipline in their daily work. Digital discipline refers to the ability to manage technology and information responsibly and efficiently.

The importance of digital discipline for digital nurses includes what it entails, its benefits and challenges, practical tips for practicing it, training and education opportunities, real-life case studies, best practices, and more. By the end, one will have a better understanding of how digital discipline can help to become a more effective and efficient digital nurse.

Digital technology has become integral to nurses' and nursing students' predispositions toward technology, which will affect their future use of technology in clinical settings Nursing students see digital technologies in clinical practice in a different light. Digital technology opens up new possibilities for teaching and learning. The use of digital tools to support learning is important to support content delivery and technology usage by students. Thus, it is necessary to prepare future generations of nurses to be active participants in information like communications technology, the digital world, digital reputation, and online safety, rather than just teaching them technical skills regarding these tools.

Therefore, digital discipline is essential in navigating the complexities of the digital age, ensuring productive and responsible engagement with technology while minimizing risks and maximizing benefits across different domains, which include healthcare, education, business, and personal life.

DIGITAL DISCIPLINE:

Digital discipline refers to the ability to effectively manage and utilize digital technologies, tools, and resources in a responsible, organized, and efficient manner. It involves adopting structured practices, adhering to established protocols, and exercising self-control when engaging with digital devices and platforms. It encompasses various aspects, including time management, cyber security awareness, data privacy protection, information literacy, and ethical use of technology.

In the context of healthcare, digital discipline among healthcare professionals involves acquiring the necessary skills and knowledge to leverage electronic health records, telemedicine platforms, mobile applications, and other digital solutions effectively in the course of practice.

OBJECTIVES:

- Assess the pre-test &post-test knowledge score of Digi-nurses regarding DDP of Nursing colleges of Bhopal M.P.
- Find out the significant differences between Pre-test and Post-test knowledge score of Digi-Nurses regarding DDP.
- Find the association between knowledge score of Digi -nurses with selected demographic variable.

REVIEW OF LITERATURE:

Nelson & Staggers, 2018, The Electronic Health Record (EHR) and mobile applications have improved the quality, safety, and efficiency of healthcare. EHR is a complete health record under the custodianship of a healthcare provider(s) that holds all relevant health information about a person over their lifetime, which can be used by many approved healthcare providers or healthcare organizations (CHI, 2018). Tele-health, an application of digital health, is defined as "the use of ICT to support long distance clinical healthcare, patient and professional health- related education, public health, and health administration".

Nagle et al., 2020; Although providing safe, compassionate, competent, and ethical care is one of the primary nursing values as per the CNA Code of Ethics, there are no explicit guidelines for nurses to uphold and preserve compassion in the field of digital health (CNA, 2017). In 2012, the Canadian Association of Schools of Nursing (CASN) developed and approved the Nursing Informatics Entry-to-Practice Competencies for Registered Nurses in Canada (Canadian Association of Schools of Nursing [CASN], 2012). These competencies include the following dimensions: information and knowledge management, professional and regulatory accountability in using digital technologies, and the ability to use various digital health technologies in the delivery of patient care (CASN, 2012). While some of these competency indicators do emphasize nurses' clinical judgment when using the technology and the importance of not allowing the technology to interfere with nurse-patient relationships, the concept of compassion is not explicitly stated in these indicators. This suggests that practicing and future nurses may not be fully prepared to provide compassionate care in the context of digital technology.

Jones et al., 2014, Digital health, or the use of digital technologies for health, has become a salient field of practice for employing routine and innovative forms of Information and Communication Technologies (ICT) to address health needs. The term digital health is rooted in eHealth, which is defined as the use of information technology and electronic communication tools within the delivery of healthcare services (Canada Health Info way [CHI], 2018). Mobile health (mHealth) is a subset of eHealth and is defined as the use of mobile wireless technologies for healthcare services (WHO, 2019). Recently, the term digital health was introduced as "a broad umbrella term encompassing eHealth (which includes mHealth), as well as emerging areas, such as the use of advanced computing sciences in big data, genomics, and artificial intelligence

Lee et al., 2016, Digital health represents a transformational shift in the context, process, and delivery of healthcare. Digital technologies can be leveraged to facilitate the transition toward efficiency and accessibility of healthcare. On the other hand, it has been suggested that the shift toward efficiency in healthcare services poses limitations to the requirements of compassionate practice (CMA, 2011). The provision of care through digital means could lack emotional signals and cues to convey compassionate care that may be present in the traditional in-person encounter (Swinglehurst et al., 2011). To address these transitions in the healthcare systems, the Associated Medical Services (AMS), a Canadian based organization, proposed a strategic plan 2018-2021(AMS, 2018). The goal of AMS is to narrow its strategic focus squarely on compassion in a technological world with three interrelated directions: promoting the education and practice of compassionate care, fostering new models of compassionate care delivery, and facilitating the leadership needed to realize the promise of technology while safeguarding humanistic care in fast-evolving sectors (AMS, 2018).

RESEARCH METHODOLOGY- Quantitative research approach is adopted for this study with Pre experimental one group pre-test post-test design.

E- O 1 X O2

Key:

E – Pre experimental group
O1 – Pre assessment (Pre-test)
X – Nursing intervention (Digital Discipline programme)
O2 – Post assessment (post-test)

The study was conducted at the People's College of Nursing & Research Centre, Bhopal M.P and the variables of the study were independent variable was the structured teaching module on knowledge regarding Digital Discipline programme and dependent variable was the knowledge of the students regarding digital discipline programme. The sample comprised of nursing students of selected Nursing colleges who will be termed as Digi-nurses. 60Digi-nurses who met with the inclusion criteria were included in the study. The

knowledge was assessed using a structured questionnaire regarding digital discipline programme among Digi-nurse. The data was analyzed according to the objectives and hypothesis formulated for purpose of the study using descriptive and inferential statistics.

RESULT & DISCUSSION:

SECTION I: Description of Demographic Variables of Study Participants.

1.Distribution of sample age group

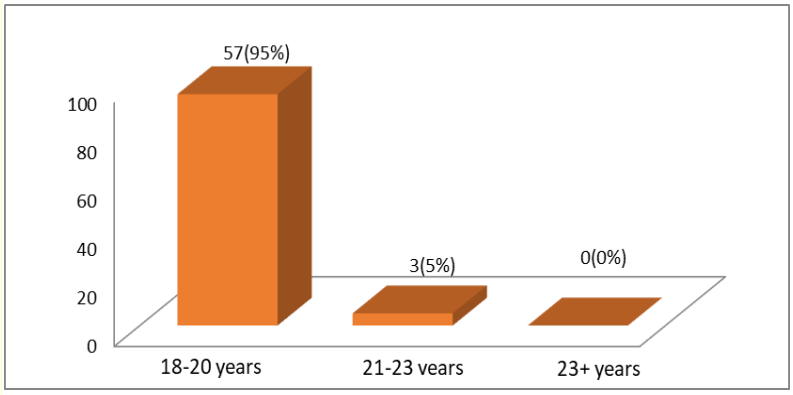

Fig- 4.1: Bar diagram shows distribution of sample age group shows maximum 57 (95%) of the students belongs to age group of 18 – 21 years, 3 (5%) of the students belongs to age group of 21 – 23 years.

2.Distribution of sample according to gender

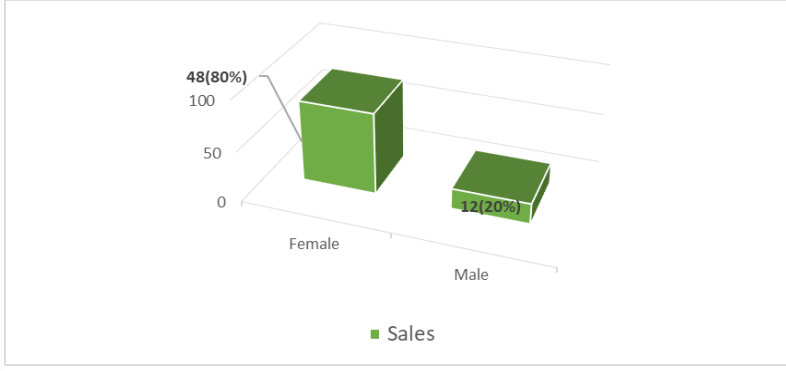

Fig-4.2: Bar diagram shows the distribution of sample according to gender, maximum 48(80%) of student are female and 12(20%) of students are male

3.Distribution of sample according to type of family

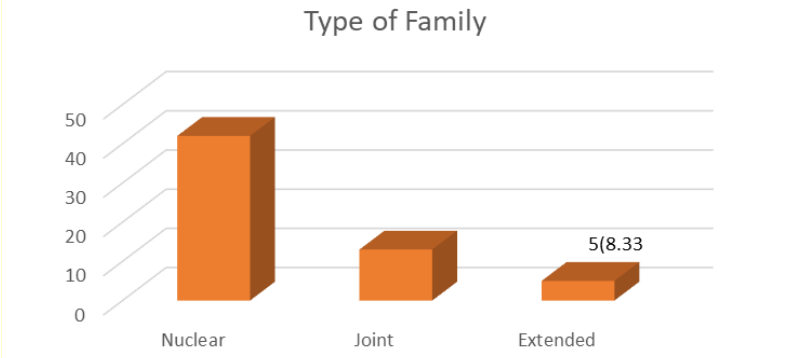

Figure-4.3: Bar diagram shows distribution of sample according to type of family, 42(70%) of student belong from nuclear family, 13(22.22%) of student belong from joint family and 5(8.33%) of student belong from extended family.

SECTION II: ASSESSMENT OF PRE-TEST AND POST-TEST KNOWLEDGE AMONG DIGI-NURSE WITH DIGITAL DISCIPLINE PROGRAMME.

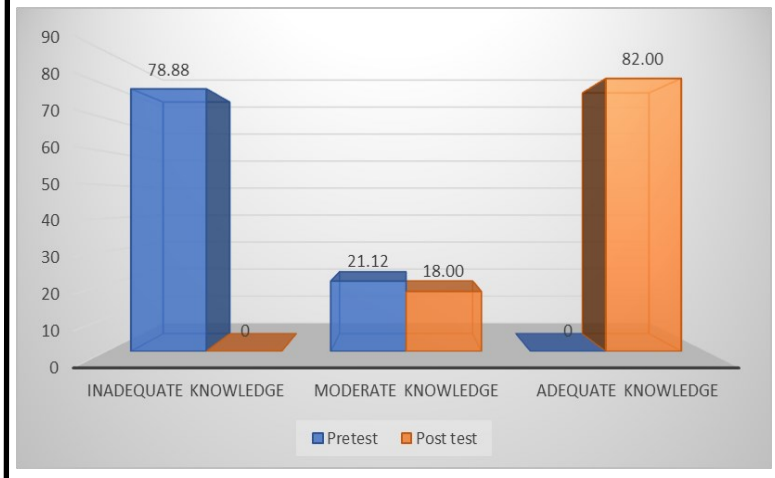

Figure-4.7: Bar Graph showing percentage of Pre-test and post-test level of knowledge

Before STP, 78.88% of the students are having inadequate level of knowledge score, 21.12% of them having moderate level of knowledge score and none of them are having adequate level of knowledge score.

After STP, none of the students are having inadequate level of knowledge score, 18.33% of them having moderate level of knowledge score and 82.23% of them are having adequate level of knowledge score.

SECTION III: COMPARISON OF PRE-TEST AND POST -TEST LEVEL OF KNOWLEDGE SCORE AMONG DIGI -NURSE REGARDING DIGITAL DISCIPLINE PROGRAMME

Table-4.6: Comparison of Pre-test and post-test Level of Knowledge Score

Knowledge Level	Pretest %	Post-test %	Difference	t-Test Value	p-Value
Inadequate	78.88%	0.00%	-78.88%		
Moderate	21.12%	17.77%	-3.35%		
Adequate	0.00%	82.23%	82.23%		
Total	100.00 %	100.00 %		15.67	<0.001

***very high significant at p<0.001 level

Above table shows the pre-test and post-test level of knowledge among students calculated using t test. The t-test value for adequate knowledge is 15.67. The p-value associated with this t-test value is less than 0.05. Therefore, we reject the null hypothesis.

Overall, the paired t-test indicates that the intervention had a significant impact on knowledge levels, particularly for inadequate and adequate knowledge.

*H1- hypothesis is accepted thus there is significant difference in knowledge levels between pre-test and post-test knowledge

SECTION IV: ASSOCIATION BETWEEN STUDENTS KNOWLEDGE AND SELECTED DEMOGRAPHIC VARIABLES

Table 4.8: F-statistic results for each demographic variable N=60

Demographic variables		Knowledge gain score						n	One way ANOVA F-test
		Pretest		Posttest		Gain score=post-pre			
		n	%	n	n %	N	n %		
Age of the students	18-20 years	17.79	3.14	32.73	3.78	14.94	4.78	56	F=1.23 P=0.22 (NS)
	21-23 years	21.00	3.74	33.00	4.55	12.00	2.00	4	
	23+ years	0.00	0.00	0.00	0.00	0.00	0.00	0	
Gender	Male	18.15	3.52	34.84	3.86	16.69	5.59	12	**F=2.04 P=0.05* (S)**
	Female	17.84	3.10	32.32	3.82	14.48	4.46	48	
Type of family	Nuclear	17.70	3.25	34.77	3.83	17.07	4.99	33	**F=3.47 P=0.04* (S)**
	Joint	19.70	2.54	34.25	3.80	14.55	3.99	20	
	Extended	15.00	1.63	27.59	4.15	12.59	4.23	7	
Region	Rural	17.50	3.74	34.31	3.68	16.81	5.21	26	F=0.92 P=0.47 (NS)
	Urban	18.84	3.59	33.48	4.35	14.64	5.11	34	

NS=Non-significant, S=Significant P>0.05 Non-significant *P≤0.05significant
**P≤0.01highlysignificant

The finding from the table indicates that the gender and family type impact knowledge gain scores, while age and region do not. Thus H2- hypothesis is accepted for gender & type of family that is significant between knowledge level of Digi-nurses and selected socio demographic variables at p <- 0.05 whereas H2 is not significant for age & region p >0.05.

DISCUSSION

The findings of the study revealed that the level of knowledge of 2nd year Digi-nurses regarding DDP has increased from 78% of students having inadequate level of knowledge, 22% having moderate level of knowledge to 82.22% having adequate level of knowledge, 18.33% having moderate level of knowledge. Similar findings are reported by

- The findings were supported by study conducted to assess the knowledge regarding DDP among Digi-nurses at Kathmandu by Shrestha (2008), it reported that 56% of nurses are highly knowledgeable and 44% of nurses are with average knowledge.
- Ogunfowora. O (2006) a study to assess the knowledge regarding DDP among community health workers in Nigeria, the researcher reported that (64.5%) community health workers are having adequate knowledge regarding DDP and its management.
- Jahanara Rahman (2015) a study to assess knowledge regarding DDP among staff nurses of a selected hospital, Kolkata, West Bengal. The findings are (66.5%) staff nurses are having adequate knowledge regarding DDP.

To Compare the Pre-Test and Post-Test knowledge of Digi-Nurse regarding Digital Discipline Programme.

Knowledge regarding

General information: In pretest students are having 1.76 score and in posttesttheyarehaving2.72score, so the difference is 0.96. This difference is large and statistically significant difference.

Indications of Digital Discipline programme: In pretest students are having 0.90 score and in post-test they are having 1.67 score, so the difference is 0.77. This difference is large and statistically significant difference.

CONCLUSION:-Implementing a digital program for nurses offers numerous benefits and opportunities for professional growth, community engagement, and knowledge sharing. By leveraging social media platforms, nurses can enhance their visibility, connect with peers, and assess valuable resources to support their practice. However, it's crucial to maintain professionalism, adhere to ethical guidelines, and prioritize patient confidentiality throughout the digital program's implementation. With careful planning, continuous monitoring, and a commitment to excellence, a digital program can empower nurses to thrive in the rapidly evolving landscape of healthcare and contribute positively to their profession.Nursing students positively assess the use of digital technology as a collaborative tool, regardless of their age. The use of digital technology as a collaborative tool is perceived as beneficial as the students find it useful, improves their involvement, and allows them to obtain a better knowledge of their partners. These findings can help develop group projects and tools based on technology to train future nursing professionals for their clinical practice. The questionnaire developed is a valid and reliable tool that can be applied in other colleges or translated into other languages.

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REFERENCES:

1. Saba V.K. Nursing informatics: Yesterday, today and tomorrow. Int. Nurs. Rev. 2001;48:177–187. doi: 10.1046/j.1466-7657.2001.00064.x.
2. Williamson K.M., Muckle J. Students' Perception of Technology Use in Nursing Education. CIN Comput. Inform. Nurs. 2018;36:70–76. doi: 10.1097/CIN.0000000000000396.
3. Maag M.M. Nursing Students' Attitudes Toward Technology. Nurse Educ. 2006;31:112–118. doi: 10.1097/00006223-200605000-00007.
4. O'Connor S., Andrews T. Smartphones and mobile applications (apps) in clinical nursing education: A student perspective. Nurse Educ. Today. 2018;69:172–178. doi: 10.1016/j.nedt.2018.07.013.
5. Meum T.T., Koch T.B., Briseid H.S., Vabo G.L., Rabben J. Perceptions of digital technology in nursing education: A qualitative study. Nurse Educ. Pract. 2021;54:103136. doi: 10.1016/j.nepr.2021.103136.
6. Procter P.M. Introduction to Nursing Informatics. Springer; London, UK: 2015. Nursing Education; pp. 154–196.
7. Kayyali R., Wells J., Rahmtullah N., Tahsin A., Gafoor A., Harrap N., Nabhani-Gebara S. Development and evaluation of a serious game to support learning among pharmacy and nursing students. Curr. Pharm. Teach. Learn. 2021;13:998–1009. doi: 10.1016/j.cptl.2021.06.023.
10. Idrissi W.E.M.E., Chemsi G., EL Kababi K., Radid M. The Impact of Serious Game on the Nursing Students' Learning, Behavioral Engagement, and Motivation. Int. J. Emerg. Technol. Learn. (IJET) 2022;17:18–35. doi: 10.3991/ijet.v17i01.26857.
11. Raman J. Mobile technology in nursing education: Where do we go from here? A review of the literature. Nurse Educ. Today. 2015;35:663–672. doi: 10.1016/j.nedt.2015.01.018.
12. Pimmer C. Mobile learning as boundary crossing: An alternative route to technology-enhanced learning? Interact. Learn. Environ. 2016;24:979–990. doi: 10.1080/10494820.2015.1128211.
13. Griffin-Sobel J.P., Acee A., Sharoff L., Kuo L., Woodstock-Wallace A., Dornbaum M. A transdisciplinary approach to faculty development in nursing education technology. Nurs. Educ. Perspect. 2010;31:41–43. [PubMed]
14. Turale S. Technology and Its Impact on Nursing Education. Nurs. Sci. J. Thail. 2011;29:9–17.
15. Barbagallo M.S., Porter J.E., Lamunu M. Evaluation of a Blended Online and Digital Learning Mode of Anatomy and Physiology for Undergraduate Nursing Students. CIN Comput. Inform. Nurs. 2020;38:633–637. doi: 10.1097/CIN.0000000000000639.
16. Hardie P., Darley A., Carroll L., Redmond C., Campbell A., Jarvis S. Nursing & Midwifery Students' Experience of Im-mersive Virtual Reality Storytelling: An Evaluative Study. BMC Nurs. 2020;19:78. doi: 10.1186/S12912-020-00471-5/TABLES/2.