



EFFECTIVENESS OF ONLINE CLASSES VERSUS OFFLINE CLASSES ON KNOWLEDGE AND PRACTICE REGARDING IV CANNULATION AMONG UNDERGRADUATE STUDENTS IN SRM COLLEGE OF NURSING.

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Abstract

The objectives of the study was to compare the effectiveness of online classes versus offline classes on knowledge and practice regarding IV cannulation among undergraduate students. Ninety-eight undergraduate students were selected using purposive sampling technique. Pre-test level of knowledge was assessed by using self-structured questionnaires and level of practice was assessed by using OSCE checklist for both online and offline groups. Following the pre-test, through zoom online class taken with power point presentation regarding IV cannulation and video on IV cannulation procedure was displayed to the students. For offline group student's investigator taken class by using power point presentation on IV cannulation and demonstration of IV cannulation was carried out by the investigator with the help of IV hand mannequin in the fundamental lab. The analysis reveals that, regarding knowledge on IV Cannulation the online post-test mean scores (16.55) and the offline post-test mean scores (17.08) . This shows that there is no significant difference between the means post-test knowledge scores of online and offline group at p not lesser than 0.05 level, Regarding practice on IV Cannulation the offline post-test mean scores (18.06) has increased from the online post-test mean scores (16.27) . This shows that the mean difference between offline and online post-test level of practice on IV Cannulation, which was significantly difference at $p < 0.01$ level. Therefore, we can conclude that the offline classes are effective in improving practice of the students than the online classes.

Keywords: Online class, Offline class, IV Cannulation.

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1. Introduction

Educational curricula in nursing and in higher education are delivered using several teaching approaches such as traditional classroom lectures, laboratory and practical sessions, small group teaching and tutorials, all of which are increasingly using electronic means for promoting learning^[1]. Online education management system affords various advantages that encourages students for autonomous learning and promote discovery for particular knowledge provided through presentations, videos, live interactive activities, tests that has automatic correction of questions, re-grading system, immediate scoring, and instant feedback, persistent assignments and assessment, training activities that govern the behaviors of students and teachers^[2]. So there is a need to compare the effectiveness of online classes versus offline classes among students.

Statement of the Problem

A comparative study to assess the effectiveness of online classes versus offline classes on knowledge and practice regarding IV cannulation among undergraduate students in SRM College of Nursing.

Objectives of the Study

- To assess the level on knowledge and practice regarding IV cannulation among undergraduate students in online group and offline group.
- To compare the effectiveness of online classes versus offline classes on knowledge and practice regarding IV cannulation among undergraduate students.
- To associate the mean difference score of knowledge and practice regarding IV cannulation among undergraduate students in online and offline groups with their demographic variables.

2. Materials And Methods

Approach: Quantitative approach.

Design: Quasi experimental design.

Independent Variable: Online classes and Offline classes.

Dependent variable: Level of knowledge and practice regarding IV cannulation.

Research setting: SRM College of Nursing, kattankulathur.

Tool: Self-structured knowledge questionnaire regarding IV cannulation, OSCE checklist.

Validity of The Tool/ Ethical Consideration:

Validity was obtained from the medical and nursing experts of SRM General Hospital and SRM College of Nursing. The tool was validated for the appropriateness, relevancy and accuracy of the tool. The formal approval was obtained from the Institutional Ethical Committee.

Data Collection Procedure

Forty-nine students in B.Sc (N) 2ND year "A" section allotted for online group and Forty-nine students from B.Sc (N) 2ND year "B" section allotted for offline group. Pre-test level of knowledge was assessed by using self-structured questionnaires and level of practice was assessed by using OSCE checklist for both online and offline groups. Following the pre-test, through zoom online class taken with power point presentation regarding IV cannulation and video on IV cannulation procedure was displayed to the students. For offline group students investigator taken class by using power point presentation on IV cannulation and demonstration of IV cannulation was carried out by the investigator with the help of IV hand mannequin in the fundamental lab. After 7th day post was assessed by same tools for both online and offline groups.

3. RESULTS

COMPARISON BETWEEN THE ONLINE CLASSES AND OFFLINE CLASSES AT POST-TEST MEAN PRACTICE AND KNOWLEDGE SCORES n=98

S. No.	variable	Group	N	Mean	SD	T value	Df	P value
1.	Knowledge	Online	49	16.55	2.328	-1.144	96	0.255
		Offline	49	17.08	2.262			
2.	Practice	Online	49	16.27	2.767	-3.615	96	0.000**
		Offline	49	18.06	2.106			

**-Significant at 1% level

*-Significant at 5% level

ASSOCIATION OF POST-TEST LEVEL OF KNOWLEDGE ON IV CANNULATION AMONG B.SC NURSING 2ND YEAR STUDENTS WITH THEIR DEMOGRAPHIC VARIABLES IN OFFLINE GROUP n = 100

S. No.	Demographic variables	Class	Level of Knowledge		Chi-Square value	D F	P value
			Moderately Adequate	Adequate			
1	Age in years	18 - 20	11	34	1.261	2	0.532
		20-22	0	3			
		22-24	0	1			
2	Gender	Male	7	13	3.058	1	0.080
		Female	4	25			
3	Religion	Hindu	7	27	0.230	2	0.892
		Christian	3	8			
		Muslim	1	3			
4	Marital status	Married	0	0	Cannot compute		
		Single	11	38			
5	Residency	urban	7	21	0.244	1	0.621
		Rural	4	17			
6	Family members in medical field	yes	0	7	2.364	1	0.124
		No	11	31			
7	Previous knowledge about IV cannulation	Yes	6	10	3.091	1	0.079
		No	5	28			

*-Significant at 5% level **-Significant at 1% level

ASSOCIATION OF POST-TEST LEVEL OF PRACTICE ON IV CANNULATION AMONG B.SC NURSING 2ND YEAR STUDENTS WITH THEIR DEMOGRAPHIC VARIABLES IN OFFLINE GROUP n = 100

S. No.	Demographic variables	Classes	Level of Practice		Chi-Square value	D F	P value
			Moderate Practice	Good Practice			
1	Age in years	18 - 20	8	37	0.850	2	0.654
		20-22	0	3			
		22-24	0	1			
2	Gender	Male	3	17	0.044	1	0.835
		Female	5	24			
3	Religion	Hindu	4	30	3.866	2	0.145
		Christian	2	9			
		Muslim	2	2			
4	Marital status	Marr ied	0	0	Canno compute		
		Singl e	8	41			
5	Residency	urba n	7	21	3.598	1	0.058
		Rural	1	20			
6	Family members in medical field	yes	0	7	1.593	1	0.207
		No	8	34			
7	Previous knowledge about IV cannulation	Yes	2	14	0.255	1	0.614
		No	6	27			

*-Significant at 5% level **-Significant at 1% level

4. Discussion

The study reveals that the p values corresponding to the knowledge is not less than 0. and not significant at 5% level and the p value corresponding to the practice is less than 0.01 and is significant at 1% level and hence there is significant difference between the post test practice scores of online and offline . Hence the study concludes that offline classes are better than

online classes to improve the practice level of students.

5. Conclusion

The study concludes that the both offline and online classes are effective in improve the knowledge level of students, regarding practice offline classes are better than online classes.

Conflicts Of Interest: No conflicts of interest.

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6. References

- Triola MM, Friedman E, Cimino C “Health information technology and the medical school curriculum”, *American Journal of Managed Care* 2010;16(12Suppl HIT):54–56.
- Thompson P “The digital natives as learners: technology use patterns and approaches to learning”, *Computerized Education*, 2013;65(7):12–33.
- Daniel J “Making sense of MOOCs: musings in a maze of myth, paradox and possibility”, *Open Education Research*. 2013;2012(3):18.
- A. Abidah, H. N. Hidayatullaah, R. M. Simamora, D. Fehabutar, and L. Mutakinati “The Impact of Covid-19 to Indonesian Education and Its Relation to the Philosophy of ‘Merdeka Belajar’”, *Studies in Philosophy Science and Education*, vol. 1, no. 1, pp. 38-49,2020,[online].
- Banihashem K, Farokhi-Tirandaz S, Shahalizadeh M & Mashhadi M “Study of the impact of E-learning on university students' creativity”, *Media Electronic Learning Magazine*. 2014; 5(4): 53-61.
- Evans DJR, Bay BH, Wilson TD “Going virtual to support anatomy education: a STOPGAP in the midst of the Covid-19 pandemic”, *Anatomical Sciences Education* 2020;13:279–83.
- Sandhu P, de Wolf M “The impact of COVID-19 on the undergraduate medical curriculum”, *Medical Education Online* 2020;25:1764740
- Kay D, Pasarica M “Using technology to increase student (and faculty satisfaction with) engagement in medical education”, *Advanced Physiological Education* 2019;43:408–13
- Potter PA, Perry AG “Fundamentals of nursing”. 6th edition USA: West line Industrial Drive; 2006.
- Pettit Janet “Assessment of an Infant with a Peripheral Intravenous device”, *Advanced Neonatal Care*. 2003;3(5):230–240.