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A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING CATARACT, ITS PREVENTION AND POST- OPERATIVE SELF-CARE MANAGEMENT AMONG PATIENTS UNDERGOING CATARACT SURGERY IN TERTIARY CARE HOSPITAL, KUPPAM, A.P

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ABSTRACT

Background: Cataract, characterized by the loss of transparency in the lens, results in changes to refractive properties and heightened light scattering, leading to blurred vision or even blindness [1]. Globally, cataract stands as a primary cause of blindness [2, 3]. The occurrence of this condition increases with age, starting at 3.9% among individuals aged 55–64 and reaching 92.6% among those aged 80 and older [4]. In 2010, there were 10.8 million individuals blinded by cataracts, a number projected to surge to 40 million by 2025 due to the aging global population and increased life expectancies [6]. Cataracts, particularly prevalent among the elderly, increase the risk of visual impairment, dementia, falls, road accidents, reduced quality of life, and higher mortality rates. The proposed research seeks to evaluate the efficacy of a structured educational program in improving the understanding of patients undergoing cataract surgery at a tertiary care hospital in Kuppam, Andhra Pradesh (A.P) [7,8,9,10]. Understanding the level of knowledge among patients regarding cataracts, preventive measures, and post-operative self-care is essential for developing targeted educational interventions. ***Methods:*** a Quantative pre-experimental study was conducted in December 2024 among 159 cataract patient who got admitted and undergoing cataract surgery for the first time were selected by using convenient sampling technique, informed consent were taken before the study, patients knowledge were assessed by using structured self-administered questionnaire. ***Results:*** In regards age Majority of them 68 (42.77%) of the cataract patient were belongs to age group between 61-65 years old, In regards Gender Majority 82 (51.58%) of them were Males, In regards Educational Status: The majority, 105 (66.04%), of the participants were illiterate. Concerning occupation, the majority, 84 (52.83%), were moderate workers. Hindu religion was predominant among the cataract patients, with 114 (71.70%) belonging to this group. Most of the participants, 131 (82.39%), resided in rural areas, and a vast majority, about 147 (92.45%), had no history of diabetes. Regarding pre-test knowledge, approximately 104 (65.41%) of the cataract patients exhibited inadequate knowledge, 51 (32.07%) had moderate knowledge, and 4 (2.52%) demonstrated adequate knowledge. Post-test results showed that the majority, 90 (56.6%), had moderate knowledge, 62 (38.99%) had adequate knowledge, and 7 (4.40%) had inadequate knowledge. Comparison of pre-test and post-test mean, standard deviation, "t" values, and p-values of knowledge scores among cataract patients indicated that the pre-test knowledge mean was 9.8 with a standard deviation of 4.11, while the post-test knowledge mean was 18.59. Conclusion: the study conclude that Overall, the structured teaching program on cataract and its related aspects may prove to be a valuable educational tool in empowering patients to make informed decisions about their eye health. By equipping them with essential knowledge, the program contributes to better eye care practices, early detection of potential issues, and improved post-operative outcomes for patients undergoing cataract surgery.

I .INTRODUCTION

Cataract, a prevalent eye ailment affecting millions globally, involves the opacity of the eye's lens, resulting in a gradual deterioration of vision and visual impairment. This condition can substantially disrupt daily tasks and diminish quality of life, underscoring the importance of timely identification and proper treatment. [11]

Cataract has been identified as the leading cause of bilateral blindness in India, where blindness is defined as having vision less than 20/200 in the better eye upon examination. Reports indicate that cataracts contribute to 50-80% of cases of bilateral blindness in the country. To address this issue, global organizations working to eliminate avoidable blindness have committed to implementing strategies outlined in the "Vision 2020: The Right to Sight" initiative. This initiative has been supported by coordinated national efforts, including a cataract blindness control project launched with assistance from the World Bank in seven Indian states in 1994. Over the years, there has been a significant increase in the number of cataract surgeries performed annually, rising from approximately 1.2 million surgeries per year in the 1980s to 3.9 million surgeries per year by 2003. Recent data from the World Health Organization (WHO) indicates a 25% decrease in the prevalence of blindness in India, which may be attributed to the increased availability of cataract surgeries across the country.[12]

Cataract surgery stands as the most efficient remedy for cataracts, entailing the extraction of the cloudy lens and substituting it with an artificial intraocular lens (IOL) to regain clear eyesight. Although regarded as safe and notably effective, appropriate post-operative attention is imperative to promote optimal recovery, reduce risks of complications, and attain optimal visual results. [13]

Effective self-care management following cataract surgery is crucial for the recovery process. [14] Patients need to be aware of and adhere to specific instructions and precautions provided by their healthcare professionals. [15] These instructions typically include the proper use of prescribed eye drops, the importance of avoiding strenuous activities, protection against infection, and managing common post-operative symptoms such as mild discomfort, itching, and sensitivity to light. Knowledge and self-care management can lead to better post-operative outcomes, increased patient satisfaction, and a higher quality of life for individuals undergoing cataract surgery. [16]

The success of cataract surgery not only relies on the surgical intervention but also on patients' knowledge about cataract, its prevention, and post-operative self-care management. Informed patients are better equipped to make decisions about their eye health, adhere to the prescribed post-operative care, and avoid potential complications. [17]

II.METHODS AND MATERIALS

A Quantative pre-experimental study was conducted in December 2024 among 159 cataract patient who got admitted and undergoing cataract surgery for the first time were selected by using convenient sampling technique, informed consent were taken before the study, patients knowledge were assessed by using structured self-administered questionnaire. Which includes demographic variables and Questionnaire on knowledge regarding cataract, its prevention and post-Operative self-care management.

Objectives of the present study includes

1. Evaluate the baseline knowledge concerning cataracts and post-operative self-care management.
2. Assess the comprehension level after the intervention regarding cataracts and post-operative self-care management.
3. Determine the efficacy of the structured teaching program (STP) by comparing knowledge levels before and after the intervention.
4. Examine the relationship between pre-test knowledge levels and demographic characteristics.

The data collected was input into MS Excel 2013 and analyzed using Epi Info 7.0, employing appropriate statistical methodologies to derive results aligned with the research objectives.

III. RESULTS

The study findings were displayed through tables and graphs in accordance with the study objectives.

Section-A: Frequency and percentage distribution of demographic variables.

Table: 1- Frequency and percentage distribution of demographic variables

N=159

S. No	Demographic Variables		Frequency	Percentage
1	Age	a) 45 - 50 Years	18	11.32%
		b) 51 - 55 Years	28	17.61%
		c) 56 - 60 Years	45	28.30%
		d) 61 - 65 Years	68	42.77%
2	Sex	a) Male	82	51.58%
		b) Female	77	48.42%
3	Educational Status	a) Illiterate	105	66.04%
		b) Primary education	44	27.67%
		c) Secondary Education	8	5.03%
		d) Higher Secondary Education	1	0.63%
		e) Under graduation	1	0.63%
		f) Post-Graduation	0	0
4	Occupation	a) Sedentary worker	64	40.25%
		b) Moderate Worker	84	52.83%
		c) Heavy Worker	11	6.92%

5	**Religion**	a) Hindu	114	71.70%
		b) Muslim	32	20.12%
		c) Christian	13	8.18%
6	**Area of Residence**	a) Rural	131	82.39%
		b) Urban	15	9.43%
		c) semi urban	13	8.18%
7	**History of Diabetes**	a) Yes	12	7.55%
		b) No	147	92.45%

Table-1 Demographic Variable shows about 68 (42.77%) of the cataract patient were belongs to age group between 61-65 years old, 45 (28.30%) of the cataract patient were belongs to age group between 56-60 years old, 28 (17.61%) of the cataract patient were belongs to age group between 51-55 years old and 18 (11.32%) of the cataract patient were belongs to age group between 45-50 years old. Majority 82 (51.58%) of them were Males and 77 (48.42%) of them were Females. Majority 105 (66.04%) of them were illiterate, 44(27.67%) of them did their primary education, 8 (5.03%) of them did their secondary education, 1 (0.63%) of them completed their higher secondary education, 1 (0.63%) of them had completed their graduation and none of them were in the post-graduation level. Majority 84 (52.83%) of the cataract patient were Moderate Worker, 64 (40.25%) of them were sedentary workers and 11 (6.92%) of them were Heavy Workers. Majority 114 (71.70%) of the cataract patients were belongs to Hindu, 32 (20.12%) of them were belongs to Muslim, 13 (8.82%) of them were belongs to Christian. Majority 131 (82.39%) of them are living in rural area, 15 (9.43%) of them are living in urban area and 13 (8.18%) of them are living in semi urban area, about 147 (92.45%) of them are not having any history of diabetes and 12 (92.45%) are having the history of diabetes

Section-B: Frequency and percentage distribution of the pre-test level of knowledge among cataract patients
Table: 2- Frequency and percentage distribution of the pre-test level of knowledge among cataract patients

N=159

Level of Knowledge	Frequency	Percentage
Adequate Knowledge	4	2.52%
Moderate Knowledge	51	32.07%
In adequate Knowledge	104	65.41%

Above table-2: Shows that 104 (65.41%) cataract patient were had inadequate knowledge, 51 (32.07%) were had Moderate Knowledge and 4(2.52%) were had Adequate Knowledge.

Section-C: Frequency and percentage distribution of the post-test level of knowledge among cataract patients
Table: 3 - Frequency and percentage distribution of the post-test level of knowledge among cataract patient

N=159

Level of Knowledge	Frequency	Percentage
Adequate Knowledge	62	38.99%
Moderate Knowledge	90	56.6%
In adequate Knowledge	07	4.40%

Above table- 3: Shows that majority 90 (56.6%) cataract patient were had moderate knowledge, 62 (38.99%) were had Adequate Knowledge and 7(4.40%) were had in adequate Knowledge.

Section- D: Comparison of frequency and percentage distribution of pre-test and post-test level of knowledge among of the cataract patients.
Table: 4 - Comparison of frequency and percentage distribution of pre-test and post-test level of knowledge among of the cataract patients.

N=159

Level of Knowledge	Pre-test		Post-test	
	Frequency	%	Frequency	%
Adequate Knowledge	4	2.52%	62	38.99%
Moderate Knowledge	51	32.07%	90	56.6%
In adequate Knowledge	104	65.41%	07	4.4%

Above table-4 shows that comparison between pre-test and post-test knowledge scores in pre-test 104 (65.41%) cataract patient were had inadequate knowledge, 51 (32.07%) were had Moderate Knowledge and 4 (2.52%) were had Adequate Knowledge and in post-test majority 90 (56.6%) cataract patient were had moderate knowledge, 62 (38.99%) were had Adequate Knowledge and 7(4.4%) were had in adequate Knowledge

Section-E: Comparison of pre-test and post- test mean, SD "t" and p-values of knowledge scores among cataract patient.
Table: 5 - Comparison of pre-test and post- test knowledge mean and SD among cataract patient

Knowledge scores on post-operative care among cataract patient within experimental group	Number	Mean	SD	t-value	p-value	Significance
Pre-t-test	159	9.8	4.11	48.083	<0.001	Yes
Post-test	159	18.59	4.25			

Above table-5 shows that comparison between pre-test and post-test knowledge mean, standard deviation and t, p values, the pre-test knowledge mean were 9.8 with a SD of 4.11 and in post-test knowledge mean were 18.59 with a SD 4.25

Section-F: Association of pre-test level of knowledge among cataract patients with their selected demographic variables.
Table: 6 - Association of pre-test level of knowledge among cataract patients with their selected demographic variables.

S. No	Demographic variables		Level of Knowledge			Chi-square Value	p-Value
			In adequate Knowledge	Moderate Knowledge	Adequate knowledge		
1	Age in Years	a) 45-50 years	9	8	1	34.787	0.000 S
		b) 51-55 years	9	19	0		
		c) 55-60 years	27	14	3		
		d) 60-65 years	59	10	0		
2	Sex	a) Male	49	30	3	2.779	0.249 NS
		B) Female	55	21	1		
3	Education	a) Illiterate	88	14	0	117.934	0.000 S
		b) Primary education	15	29	0		
		c) Secondary education	1	6	2		
		d) Higher secondary education	0	1	0		
		e) Under graduate	0	1	2		
		f)Post graduate	0	0	0		

S. No	Demographic variables		Level of Knowledge			Chi-square Value	p-Value
			In adequate Knowledge	Moderate Knowledge	Adequate knowledge		
4	Occupation	a) Sedentary worker	44	19	1	2.669	0.615 NS
		b) Moderate Worker	54	28	2		
		c) Heavy Worker	6	4	1		
5	Religion	a) Hindu	77	35	2	3.627	0.459 NS
		b) Muslim	20	10	2		
		c) Christian	7	6	0		
6	Area of Residence	a) Rural	91	36	3	7.841	0.098 NS
		b) Urban	7	8	1		

		c) Semi urban	6	7	0		
7	**History of diabetes**	a) Yes	9	5	0	0.425	0.798 **NS**
		b) No	95	46	4		

Table 6: Shows that the association of pre-test scores of knowledges on cataract, its prevention and self-care management of cataract surgery among patients undergoing cataract surgery with their selected demographic variables. Age and Education were significant at the level of $p<0.001$ respectively. Other variables such as Sex, Occupation, Religion, Area of Residence and History of Diabetes were not significant.

IV. DISCUSSION

The present study was conducted to explore the knowledge on cataract, its prevention and post-operative self-care management among patient undergoing cataract surgery in selected tertiary care hospital at Kuppam, Chittoor district, A.P The frequency and percentage distribution of cataract patient about 68 (42.77%) of the cataract patient were belongs to age group between 61-65 years old Majority 82 (51.58%) of them were Males Majority 105 (66.04%) of them were illiterate Majority 84 (52.83%) of the cataract patient were Moderate Worker, Majority 114 (71.70%) of the cataract patients were belongs to Hindu, Majority 131 (82.39%) of them are living in rural area, about 147 (92.45%) of them are not having any history of diabetes.

The pretest level of knowledge score among cataract patients on cataract, its prevention and post-operative self-care management results reveals that 104 (65.41%) cataract patient were had inadequate knowledge, 51 (32.07%) were had Moderate Knowledge and 4 (2.52%) were had Adequate Knowledge. In post-test Majority 90 (56.6%) cataract patient were had moderate knowledge, 62 (38.99%) were had Adequate Knowledge and 7(4.40%) were had in adequate Knowledge. Comparison between pre-test and post-test knowledge scores in pre-test 104 (65.41%) cataract patient were had inadequate knowledge, 51 (32.07%) were had Moderate Knowledge and 4 (2.52%) were had Adequate Knowledge and in post-test majority 90 (56.6%) cataract patient were had moderate knowledge, (38.99%) were had Adequate Knowledge and 7(4.4%) were had in adequate Knowledge
The association of pre-test scores of knowledges on cataract, its prevention and self-care management of cataract surgery among patients undergoing cataract surgery with their selected demographic variables. Age and Education were significant at the level of $p<0.001$ respectively. Other variables such as Sex, Occupation, Religion, Area of Residence and History of Diabetes were not significant.

V. CONCLUSION

Overall, the structured teaching program on cataract and its related aspects may prove to be a valuable educational tool in empowering patients to make informed decisions about their eye health. By equipping them with essential knowledge, the program contributes to better eye care practices, early detection of potential issues, and improved post-operative outcomes for patients undergoing cataract surgery.

VI. ACKNOWLEDGMENT

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I.INTRODUCTION

The Coronavirus Disease 2019 (COVID-19) epidemic, which started in China and was only limited to China until February 2020, became a global pandemic disease on March 11, 2020. As a result of the containment efforts adopted to avert the pandemic, it has had an impact on not only physical health but also lifestyle, business, the stock market, and even the educational system around the world[1]. A lockdown engulfed most of the planet, closing educational institutions and affecting more than 70% of the world's student population. At university level, physical classroom teaching was quickly converted to virtual classes, usually within a few days[2].

Online learning is a virtual learning system that combines the teaching and learning processes with the use of the internet. With the support of the internet and online media, the interaction of teaching and learning activities can be carried out at a distance. This strategy, however, may be problematic for teachers who specialise in traditional teaching and are hesitant to employ electronic devices[3]. Furthermore, because teachers have limited control over online instruction, pupils may not take it seriously. During the Covid-19 pandemic in Nepal, online learning has become a way for maintaining the teaching and learning process[1]. Although there are many benefits to online learning, the change to online nursing education, where student nurses need practical knowledge, presents new problems for nurse educators[4].

Previous research has looked into the significance and effectiveness of e-learning implementation. They cite various factors that contribute to its overall appeal, including its ease of use, adaptability, and improved environmental management. However, despite its benefits, e-learning has a number of drawbacks, including social isolation, a lack of student-teacher connection, and technical and connectivity issues. Lack of technological support was recognised as one of the hurdles to e-learning in an Iraqi study[5].

In this regard, assessing students' opinions and perspectives on virtual ways to teaching and learning is critical. During the COVID-19 epidemic, previous studies analysed and identified students' perspectives and attitudes about e-learning[4]. The majority of the research are conducted in an international setting, while those conducted in India focus on students with non-medical backgrounds. E-learning in nursing education is, as far as we know, a novel concept in India. This study was done to determine nursing students' perception toward e-learning at a time when it was the sole choice for continuing their education. In this regard, assessing students' opinions and perspectives on virtual ways to teaching and learning is critical. During the COVID-19 epidemic, previous studies analysed and identified students' perspectives and attitudes about e-learning[6]. The majority of the research are conducted in an international setting, while those conducted in India focus on students with non-medical backgrounds. E-learning in nursing education is, as far as we know, a novel concept in India[5]. This study was done to determine nursing students' attitudes toward e-learning at a time when it was the sole choice for continuing their education.

II.METHODS AND METERIALS

A quantitative online survey conducted among 192 nursing student who are recruited using snow ball method. informed consent was taken before the study through online form. Student's perception was assessed using self-structured questionnaire which includes technical information's, Online class related information's and Perception on online education to achive the objectives of,

1. To describe the technical information's related to online education among nursing students.
2. To describe the online class related information's among nursing students.
3. To find out the perception on online classes among nursing students.

Collected data was entered into MS Excel 2013 and analyzed using Epi Info 7.0. Appropriate statistical methods used to find out the results based on the objectives.

III. RESULTS

The results of the study were presented as Tables and graphs as per the objectives of the study.

Table 1: Frequency and percentage distribution of demographic variables

N=192

Demographic Variable	Frequency	Percentage
Age		
20 and below	104	54.2
21 and above	88	45.8
Course		
B.Sc., (N)	165	85.9
M.Sc., (N)	27	14.1

Year of study		
B.Sc., 1st Year	2	1.0
B.Sc., 2nd Year	114	59.4
B.Sc., 3rd Year	8	4.2
B.Sc., 4th Year	41	21.4
M.Sc., 1st Year	12	6.3
M.Sc., 2nd Year	15	7.8
Father's Education		
Degree	68	35.4
Diploma	7	3.6
Higher secondary	50	26.0
No formal education	3	1.6
Post graduate	40	20.8
Primary education	9	4.7
Secondary education	15	7.8
Mother's Education		
Degree	31	16.1
Diploma	8	4.2
Higher secondary	57	29.7
No formal education	3	1.6
Post graduate	40	20.8
Primary education	14	7.3
Secondary education	39	20.3
Father's occupation		
Government employee	75	39.1
Private employee	47	24.5
Self employed	70	36.5
Mother's occupation		
Government employee	37	19.3
Private employee	8	4.2
Self employed	147	76.6
Last academic Performance		
Distinction	85	44.3
First Class	49	25.5
High Distinction	53	27.6
Second Class	5	2.6

Table 1 Demographic variable shows 54.2 % of the belongs to 20 years and below and 45.8 % of them were belongs to 21 and above, in regards to course 85.9 % of them are Undergraduate students and 14.1 % of them are postgraduate students, majority 59.4% of them studying B.Sc., 2nd Year, 21.4% of them studying B.Sc., 4th Year, 7.8% of them studying M.Sc., 2nd year, 6.3% of them studying M.Sc., 1st Year, 4.2% of them studying B.Sc., 3rd year and 1.0& of them are studying B.Sc., 1st year. In regards to father's education majority 35.4% of them were degree holders. 29.78% of the mothers studied up to higher secondary education, 39.1 % of the fathers were the government employee, 76.6% of mothers were self-employed, and 44.3% of them scored distinction in their last academic performance.

Table 2: Frequency and percentage distribution of Technical Information related to online education among nursing students

N=192

Attributes	Frequency	Percentage
Have you attended online classes		

Yes	192	100.0
What digital Platform been used		
Zoom	112	58.3
Google meet	58	30.2
MS Tams	22	11.5
How did your class schedule been informed (Multiple)		
Email	35	18.2
Social media (Face Book, Instagram)	4	2.1
Text message	5	2.6
WhatsApp	169	88.0
Preferred devices for attend online classes (Multiple)		
Desktop	5	2.6
Laptop	41	21.4
Smart Phone	151	78.6
Tablet	6	3.1
Source of internet (Multiple)		
Broadband / fiber net / Wi-Fi	29	15.1
Mobile Data pack	170	88.5
Mobile Data pack	170	88.5
Average data usage per day		
1 GB	28	14.6
1.5 GB	108	56.3
2 GB	46	24.0
3 GB	10	5.2

Table 2 Technical information shows, all the students attended online class, 58.3% of students has used zoom as their digital platform for attending the online class, 88.0% of students has got the information through WhatsApp regarding the classes scheduled, 78.6% of students preferred smartphones for attending the online cases, 88.5% of students were using the mobile data pack as their source of internet, 56.3% of students were using an average 1.5 GB data per day.

Table 3: Frequency and percentage distribution of Online class related information's among nursing students

N = 192

Attributes	Frequency	Percentage
What type of online classes been taken		
Live classes with discussion	153	79.7
Only live Classes	25	13.0
Pre-recorded classes uploaded in institution website / sent to WhatsApp / YouTube	3	1.6
Sent only Reading material in WhatsApp / Google classroom	11	5.7
How often the classes been conducted		
Daily	179	93.2
Weekly once	7	3.6
Weekly twice	6	3.1
Duration of each session		
60 min	139	72.4
30 min	4	2.1
45 min	49	25.5
Average time spent for online classes per day		

Less than 5 hours	38	19.8
5 and above hours	154	80.2
How are you clarifying your doubts		
Email communication	5	2.6
Live chat during session	54	28.1
Live Discussion	110	57.3
Messages in the digital classroom	12	6.3
WhatsApp chat after the class	11	5.7
How much time you need break in-between the session		
10 min	72	37.5
15 min	52	27.1
30 min	12	6.3
5 min	56	29.2
What is your opinion about online classes		
It's good if conducted as lecture method without discussion	18	9.4
It's good if conducted with interactive session, Provided the notes & periodical assessment	153	79.7
Only study materials can be shared	21	10.9

Table 3 shows that in regards to type of online classes majority of the students(79.9%) attends live classes with discussion, 93.2% of them attended daily classes, Most of the online classes (72.4%) are conducted for 60 minutes, almost 80.2% of them spent more than 5 hours for online classes per day, 57.3% of the students clarified their doubts through live discussion during the online classes, more than 90% of the students wants 5-15 minutes break in-between the classes and 79.7% of them expressed online classes are good if conducted with interactive session, Provided the notes & periodical assessment.

Table 4: Frequency and percentage distribution of perception on online classes among nursing students

Statements	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I prefer my online courses as they are very structured with set due dates similar to face-to-face courses	5.2	10.4	37.0	29.7	17.7
Online classes help me comprehend the course materials compared to Classroom learning	23.4	12.0	17.2	47.4	0.0
Online environment makes it easier for me to communicate with my instructor than classroom environment	1.0	5.2	21.9	49.0	22.9
I am more comfortable responding to questions by email than orally	6.3	7.8	26.6	35.4	24.0
My technical skills (email/internet apps) has increased since attending online classes	17.2	31.3	19.8	15.1	16.7
I spend more time on my homework in comparison with regular classroom learning	9.9	23.4	33.3	23.4	9.9

Table 4 shows Many students 29.7% of them disagreed that online classes are structured similar like face to face classes ,only few students agreed it.47.4&% of students disagreed that the online classes help them to comprehend with the course materials compared to classroom learning,49% of students disagreed that online environment makes it easier for them to communicate with their instructor than the classroom environment,35.4% states that they are more comfortable responding to the questions by email than orally,31.3% of students agreed that their technical skills (email/internet apps) has increased since attending online classes,33.3% are in the mid-stream level that they spend more time on my homework in comparison with regular classroom learning

IV. DISCUSSION

Online education is inevitable in current situation. COVID pandemic taught a lesson to health care profession in many aspects includes clinical services, education, administration and research. Nursing is a noble profession who worked in frontline during pandemic, educating the nursing student in a novel way during pandemic was challenging, this study helps to understand the student's perception on online education and for further evolution of new teaching method.

Technical support is most important to conduct or to attend the online classes, majority 58.3% of students has used zoom as their digital platform for attending the online class, 88.0% of students has got the information through WhatsApp regarding the classes scheduled, 78.6% of students preferred smartphones for attending the online cases, 88.5% of students were using the mobile data pack as their source of internet, 56.3% of students were using an average 1.5 GB data per day.

T. Muthuprasad, et,al, done a study the results are similar to the current study, Smartphone (57.98 percent), laptop (35.83 percent), tablet (4.89 percent), and desktop (0.65%) were among the devices preferred by respondents for attending online classes. This clearly indicates that any organisation developing an application for online learning must ensure that the platform is compatible with smartphones. For 82 percent of the respondents, their internet came through a mobile data pack. WhatsApp was voted the best option to send class updates by the majority of respondents (62 percent)[7].

Online related information's revealed that the students(79.9%) attends live classes with discussion, 93.2% of them attended daily classes, Most of the online classes (72.4%) are conducted for 60 minutes, almost 80.2% of them spent more than 5 hours for online classes per day, 57.3% of the students clarified their doubts through live discussion during the online classes, more than 90% of the students wants 5-15 minutes break in-between the classes and 79.7% of them expressed online classes are good if conducted with interactive session.

T. Muthuprasad, et,al., conducted a similar study, The majority of respondents choose recorded classes and live classes that can be recorded because it allows them to learn at their own pace. The majority of respondents (84 percent) chose video content paired with reading materials when it came to the nature of reading materials. More than half of the respondents (53%) preferred the instructor to use PowerPoint presentations to teach[7].

Perception towards the online class, Many students 29.7% of them disagreed that online classes are structured similar like face to face classes ,only few students agreed it.47.4&% of students disagreed that the online classes help them to comprehend with the course materials compared to classroom learning,49% of students disagreed that online environment makes it easier for them to communicate with their instructor than the classroom environment,35.4% states that they are more comfortable responding to the questions by email than orally,31.3% of students agreed that their technical skills (email/internet apps) has increased since attending online classes,33.3% are in the mid-stream level that they spend more time on my homework in comparison with regular classroom learning.

V.CONCLUSION

The present study was aimed to assess the perception of the nursing students regards to online education. This study concludes that majority of the students disagreed with the comprehension, good communication with instructors and they spent more time for their home works compared to the regular education. They stated that online education improved their technical skills. Since the online education is in the beginning stage it needs more evolution, all the educationalist should explore the technologies available and develop various innovative strategies to improve the new method of teaching and learning.

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