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Impact of integrated teaching program on cognizance regarding sickle cell anaemia among GNM 1st year students in selected college of Indore, Madhya Pradesh

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Abstract
The present study has been undertaken to assess cognizance score regarding sickle cell anemia among GNM 1st year students by integrated teaching program in Index nursing college, Indore, Madhya Pradesh the research design adopted for the study was pre- experimental in nature. 40 GNM 1st year students were selected by non-probability convenient sampling technique. The tool for the study was self-structured cognizance questionnaire which consists of two parts-PART- I consisted questions related to Socio-demographic data; PART-II consisted of self -structured cognizance questionnaire to assess the cognizance score regarding sickle cell anemia among GNM 1st year students. The data was analyzed by using descriptive and inferential statistical methods. The most significant finding was that 10.0% of GNM 1st year students were having average cognizance regarding sickle cell anemia whereas 90.0% had good cognizance after post-test.

Keywords: Impact, integrated teaching program, cognizance and sickle cell anemia

Introduction

One of the inherited illnesses collectively referred to as sickle cell disease is sickle cell anaemia. Red blood cells, which supply oxygen to every part of the body, are impacted in terms of shape. Because red blood cells are often spherical and pliable, blood vessels can accommodate them with ease. Certain red blood cells with sickle cell anaemia have a sickle or crescent moon shape. Additionally, these sickle cells harden and cling, which can hinder or slow blood flow. The sickle-shaped cells are rigid and difficult to reshape. A large number of them disintegrate while passing through your blood vessels. Rather than the typical 90–120 days, sickle cell disease typically only lasts 10–20 days. It might be difficult for your body to produce enough new cells to replenish the ones you lost. You might not have enough red blood cells as a result. Anaemia is the name of this condition, which can cause fatigue. The sickle-shaped cells may also adhere to the walls of blood vessels, creating a blockage that reduces or completely stops blood flow. This prevents oxygen from getting to surrounding tissues. Pain crises, or sudden, intense episodes of pain, can be brought on by low oxygen levels. These assaults might happen at any time. You may need to visit the hospital for treatment if you get one. The goal of the current treatment strategy is to reduce pain and assist in avoiding further complications from the illness. Newer therapies, though, might be able to heal patients of the illness.

Need for study

A patient with sickle cell disease has the genetic blood disease for the rest of their life. Although it happens to non-tribals as well, it is more prevalent among India's tribal population. National sickle cell disease incidence rates remained relatively stable between 2000 and 2021, but the number of sickle cell disease-affected births worldwide increased by 13·7% (95% uncertainty interval 11·1–16·5) to 515 000 (425 000–614,000 000), mostly as a result of population growth in the Caribbean and western and central sub-Saharan Africa. Globally, the number of sickle cell disease patients climbed by 41·4% (38·3–44·9) between 2000 and 2021, going from 5·46 million (4·62–6·45) to 7·74 million (6·51–9·2). Globally, we projected 34 400 (25 000–45 200) cause-specific all-age deaths in 2021; however, the overall mortality burden from sickle cell disease was almost 11 times higher, at 376 000 (303 000–467 000). There were 81,100 (58,800–108,000) deaths in children under the age of five, placing the overall sickle cell disease mortality ranking 12th among all causes estimated by the GBD in 2021 (compared to 40th for cause-specific sickle cell disease mortality).

Objective of the study

1. To assess the pre-test and post-test Cognizance score regarding sickle cell anaemia among GNM 1st year students.
2. To assess the Impact of integrated teaching program on cognizance regarding sickle cell anaemia among GNM 1st year students.
3. To find out the association between the pre-test cognizance score regarding sickle cell anaemia among GNM 1st year students with their selected demographic variables.

Hypotheses

RH_0: There will be no significant difference between pretest and post-test cognizance score on sickle cell anemia among GNM 1st year students.

RH_1: There will be significant difference between pretest and post-test cognizance score on sickle cell anemia among GNM 1st year students.

RH_2: There will be significant association between the pre-test score on sickle cell anemia among GNM 1st year students with their selected demographic variables.

Assumption

1. GNM 1st year students may have deficit cognizance regarding sickle cell anemia.
2. Integrated teaching program will improve cognizance of GNM 1st year students regarding sickle cell anemia.

Methodology

A quantitative evaluative approach was used and research design pre experimental one group pre-test post-test research design was used for the study. The samples consisted of 40 GNM 1st year students selected by Non probability convenient sampling technique. The setting for the study was Index nursing college, Indore, Madhya Pradesh Data was collected with the help of demographic variables and administering a self-structured cognizance questionnaire by the investigator before and after integrated teaching program. Post-test was conducted after 7 days of pretest. Data were analysis using descriptive & inferential statistics.

Analysis and interpretation

Section 1

Table 1: Frequency and percentage distribution of samples according to their demographic variables. n = 40

S. No	Demographic Variables	Frequency	Percentage
1	**Age in Years**	14	35.0
a.	18	16	40.0
b.	19	10	25.0
c.	20	0	0.0
d.	≥21	14	35.0
2	**Gender**		
a.	Male	18	45.0
b.	Female	22	55.0
c.	Transgender	0	0.0
4	**Types of family**		
a.	Nuclear	26	65.0
b.	Joint	11	27.5
c.	Extended	3	7.5
5	**Sources of information regarding RTI's**		
a.	Internet	11	27.5
b	Journal	0	0.0
c	Books	24	60.0
d.	Workshop/Conference	5	12.5

Section 2

Table 2: Frequency and percentage distribution of Pre-test scores of studied subjects:

Category and test Score	Frequency (N=40)	Frequency Percentage (%)
Poor (01-06)	34	85
Average (7-12)	6	15
Good (13-18)	0	0.0
Total	40	100.0

The present table 2 concerned with the existing cognizance regarding sickle cell anemia among GNM 1st year students was shown by pre-test score and it is observed that most of the 34 (85%) GNM 1st year students were poor (01-06) cognizance and some 7 (15%) GNM 1st year students have average category (7-12).

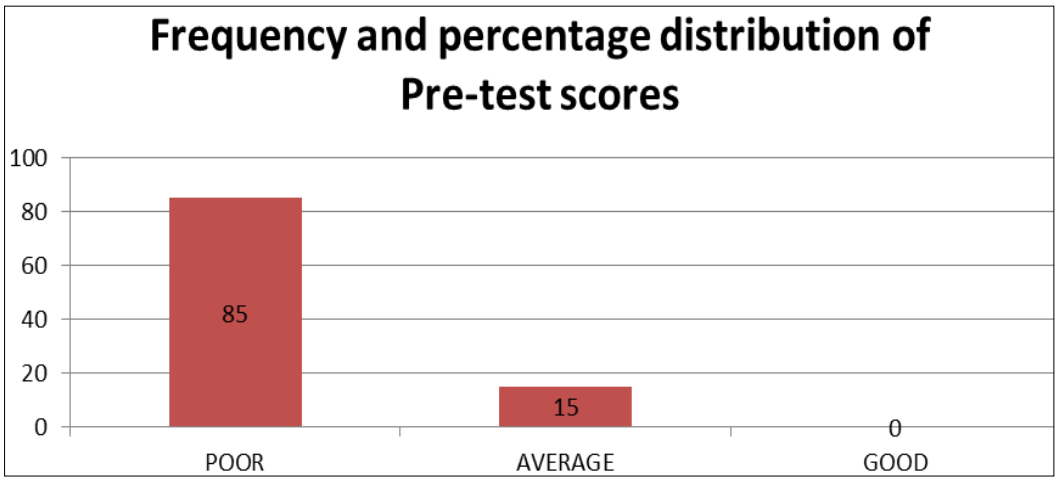

Fig 1: Frequency and percentage distribution of Pre-test scores of studied subject

Table 3: Frequency and percentage distribution of Post test scores of studied subjects:

Category and post-test Score	Frequency (N=40)	Frequency Percentage (%)
Poor (01-06)	0	0.0
Average (7-12)	4	10.0
Good (13-18)	36	90.0
Total	40	100.0

The present table 3 concerned with the existing cognizance regarding sickle cell anemia among GNM 1st year students was shown by post test score and it is observed that most of the 36(90.0%) GNM 1st year students were GOOD (13-18) cognizance and other 4 (10.0%) GNM 1st year students have category which are Average (07-12) posttest cognizance score in the present study.

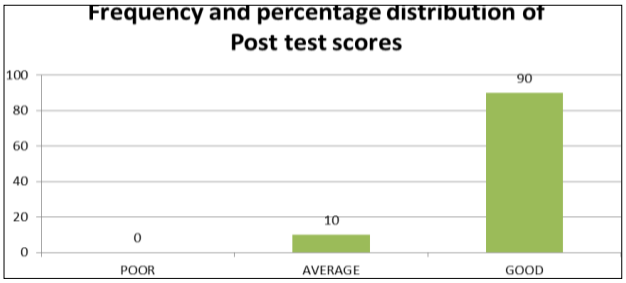

Fig 2: Frequency and percentage distribution of Post test scores of studied subjects

Table 4: Effectiveness of integrated teaching program by calculating Mean, SD, Mean Difference and't' Value of Pre-test and Post-test cognizance.

Cognizance Score of GNM 1st year students	Mean ($\bar{X}$)	S. D. (s)	Std. Error of Mean	D. F.	t-value	Significance
Pre-test	1.17	0.38	0.07	39	-24.12	P<0.0001*
Post-test	2.90	0.30				

When the mean and SD of pre-test and post-test were compared and't' test was applied. It can be clearly seen that the't' value was -24.12 and p value was 0.0001 which clearly show that integrated teaching program was very effective in increasing the cognizance of GNM 1st year students.

Section 3

Association of cognizance scores between test and selected demographic variables:

Table 5: Association of age with pre-test scores:

Age	Test scores			Total
(in years)	Poor (1-6)	Average (7-12)	Good (13-18)	
18-24	12	2	0	14
25-31	12	4	0	16
32-38	9	1	0	10
39-45	0	0	0	0
Total	33	7	0	40
X^2=1.13			p>0.05(Insignificant)	

The association of age test scores is shown in present table 5. The probability value for Chi-Square test is 1.13 for 2 degrees of freedom which indicated insignificant valve (p>0.05). Hence, it is identified that there is a insignificant association between age and test scores.

Table 6: Association of gender with pre-test scores:

Gender	Test scores			Total
	Poor (1-6)	Average (7-12)	Good (13-18)	
Male	14	4	0	18
Female				
Trans-	19	3	0	22
Gender	0	0	0	0
Total	33	7	0	40
	X^2=0.50		p>0.05 (Insignificant)	

The association of gender and test scores is shown in present table 6. The probability value for Chi-Square test is 0.50 for 1 degrees of freedom which indicated insignificant value (p>0.05). Hence, it is identified that there is a insignificant association between gender and test scores.

Table 7: Association of types of family with pre-test scores:

Clinical experience	Test scores			Total
Class	Poor (1-6)	Average (7-12)	Good (13-18)	
Nuclear	21	5	0	26
Joint	9	2	0	11
Extended	3	0	0	3
Total	33	7	0	40
	X^2 =0.69 p>0.05 (Insignificant)			

The association of types of family test scores is shown in present table 7. The probability value for Chi-Square test is 0.69 for 2 degrees of freedom which indicated types of family and test scores. Hence, it is identified that there is a insignificant association between types of family and test scores.

Table 8: Association of source of information regarding sickle cell anemia with pre-test scores:

Source of Information	Test scores			Total
	Poor(1-6)	Average (7-12)	Good(1318)	
Internet	9	2	0	11
Journal	0	0	0	0
Books	20	4	0	24
Workshop/ Conference	4	1	0	5
Total	**33**	**7**	**0**	40
X^2=0.03		p>0.05 (Insignificant)		

The association of source of information test scores is shown in present table 8. The probability value for Chi-Square test is 0.03 for 2 degrees of freedom which indicated source of information and test scores. Hence, it is identified that there is insignificant association between sources of information and test scores.

Results

The result of this study indicates that there was a significant increase in the post-test cognizance scores compared to pre-test scores of cares of dialysis patients. The mean percentage cognizance score was observed 1.19 ± 0.37 in

the pre-test and after implementation of integrated teaching program post-test mean percentage was observed with 2.90 ± 0.30.

Conclusion

Thus, after the analysis and interpretation of data we can conclude that the hypothesis RH1 that, there will be significance difference between the pre-test cognizance score with post-test cognizance score at the ($P<0.05$) is being accepted.

Furthermore, integrated teaching program regarding sickle cell anemia among GNM 1st year students may consider as an effective tool when there is a need in lacking, bridging and modifying the cognizance.

Limitations-

- The study was limited to Index nursing college, Indore, Madhya Pradesh.
- The study was limited to 40 GNM 1st year students.

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