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A descriptive study among GNM 2nd year students on knowledge regarding transcutaneous electrical nerve stimulation application on pain

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Abstract
The current study has been undertaken to assess the Knowledge score regarding transcutaneous electrical nerve stimulation application on pain among GNM 2nd year students in selected nursing college, Indore. The research design used for study was descriptive in nature. The tool for study was self-structured knowledge questionnaire which consists of 2 parts-PART- I consisted questions related to Socio-demographic data; PART-II consisted of self -structured knowledge questionnaire to assess the knowledge score regarding transcutaneous electrical nerve stimulation application on pain among GNM 2nd year students. The data was analyzed by using descriptive & inferential statistical methods. The most significant finding was that 30.0% subjects have poor knowledge, 50.0% have average knowledge score while 20.0% GNM 2nd year students were having good knowledge score.

Keywords: Transcutaneous electrical nerve stimulation, pain, GNM 2nd year students, knowledge score, descriptive study

Introduction

Transcutaneous electrical nerve stimulation (TENS) currently is one of the most commonly used forms of electroanalgesia. Hundreds of clinical reports exist concerning the use of TENS for various types of conditions, such as low back pain (LBP), myofascial and arthritic pain, sympathetically mediated pain, bladder incontinence, neurogenic pain, visceral pain, and postsurgical pain. Because many of these studies were uncontrolled, there has been ongoing debate about the degree to which TENS is more effective than placebo in reducing pain.

Transcutaneous electrical nerve stimulation is a commonly used treatment approach to alleviate acute and chronic pain by reducing the sensitization of dorsal horn neurons, elevating levels of gamma-aminobutyric acid and glycine, and inhibiting glial activation. However, many systematic reviews and meta-analyses assessing clinical trials looking at the effectiveness of using TENS to reduce different sources of pain have been inconclusive due to a lack of high quality and unbiased evidence. Potential benefits of TENS treatment include the safety, relative low cost, the ability to self-administer, and availability over the counter without a prescription. In principle, an adequate intensity of stimulation is necessary to achieve pain relief with TENS. An analysis of treatment fidelity (meaning that the delivery of TENS in a trial was in accordance with current clinical advice, such as using "a strong but comfortable sensation" and suitable, frequent treatment durations) showed that higher fidelity trials tended to have a positive outcome.

Objective of the study

1. To assess the knowledge scores regarding transcutaneous electrical nerve stimulation application on pain among GNM 2nd year students.
2. To find out association between knowledge score regarding transcutaneous electrical nerve stimulation application on pain among GNM 2nd year students with their selected demographic variables.

Hypotheses

RH_0: There will be no significant association between knowledge score on transcutaneous electrical nerve stimulation application on pain among GNM 2nd year students with their selected demographic variables.

RH_1: There will be significant association between knowledge score on transcutaneous electrical nerve stimulation application on pain among GNM 2nd year students with their selected demographic variables.

Methodology

A descriptive research design was used to assess the knowledge score regarding transcutaneous electrical nerve stimulation application on pain among GNM 2nd year students residing in selected Nursing college, Indore. The study was carried out on 40 GNM 2nd year students selected by purposive sampling technique. Demographical variable and self-structured 30 knowledge questionnaire were used to assess the Knowledge score regarding transcutaneous electrical nerve stimulation application on pain in children by survey method.

Analysis and interpretation

Section-I

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

S. No	Demographic Variables	Frequency	Percentage
1	Age in Years		
a.	Less than 20	16	40.0
b	Greater than 20	24	60.0
2	**Gender**		
a.	Male	21	52.5
b	Female	19	47.5
3	**Previous knowledge regarding dehydration**		
a.	Yes	28	70.0
b	No	12	30.0
4	**Sources of information regarding transcutaneous electrical nerve stimulation application on pain**		
a.	Internet	1	2.5
b	TV	29	72.5
c	News paper	7	17.5
d	Conference / workshop	3	7.5

Section-II

Table 2: Frequency and percentage distribution of knowledge scores of studied subjects:

Category and test Score	Frequency (N=40)	Frequency Percentage (%)
Poor (1-10)	12	30.
Average (11-20)	20	50.0
Good (21-30)	8	20.0
Total	40	100.0

The present table 2 concerned with the existing knowledge regarding transcutaneous electrical nerve stimulation application on pain in children among GNM 2nd year students were shown by knowledge score and it is observed that most of the GNM 2nd year students 12 (30.0%) were poor (01-10) knowledge, 20 (50.0%) were have average (11-20) knowledge score and rest of the GNM 2nd year students have 8 (20.0%) were from good (21-30) category.

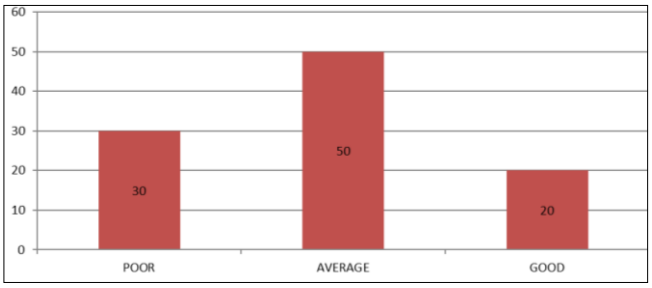

Fig 1: Frequency and percentage distribution of knowledge scores of studied subjects

Table 3: Mean ($\bar{X}$) and standard Deviation (s) of knowledge scores:

Knowledge Pre –test	Mean ($\bar{X}$)	Std Dev (S)
Pre-Knowledge score	14.21	5.58

The information regarding mean, percentage of mean and standard deviation of Knowledge scores in shown in table 2.1.2 knowledge in mean knowledge score was 14.21 ± 5.58 while in knowledge regarding transcutaneous electrical nerve stimulation application on pain among GNM 2nd year students residing in selected nursing college.

Section-III

Association of knowledge scores between test and selected demographic variables:

Table 4: Association of age of GNM 2nd year students with knowledge scores:

Age	knowledge score			total
(In years)	Poor (1-10)	Average (11-20)	Fair (21-30)	
less than 20	4	8	4	16
greater than 20	8	12	4	24
total	12	20	8	40
x^2= 0.55		p>0.05 (insignificant)		

The association of age & Knowledge scores is shown in present table 4. The probability value for Chi-Square test is 0.55 for 2 DF which indicated insignificant value (p>0.05). Hence, it is identified that there is insignificant association between age & Knowledge scores. Moreover, it is reflected that age isn't influenced with current problem.

Table 5: Association of gender with knowledge scores:

Gender	Knowledge scores			Total
	Poor (1-10)	Average (11-20)	Fair (21-30)	
Male	8	10	3	**21**
Female	4	10	5	**19**
Total	**12**	**20**	**8**	**40**
X^2= 1.73		p>0.05 (Insignificant)		

The association of gender & Knowledge scores is shown in present table 5. The probability value for Chi-Square test is 1.73 for 2 df which indicated gender & Knowledge scores. Moreover, it is reflected that gender isn't influenced with current problem.

Table 6: Association of previous knowledge with knowledge scores:

Previous knowledge	Knowledge scores			Total
	Poor (1-10)	Average (11-20)	Fair (21-30)	
Yes	9	13	6	28
No	3	7	2	12
Total	12	20	8	40
X^2= 0.47		p>0.05 (Insignificant)		

The association of previous knowledge & Knowledge score is shown in present table 6. The probability value for Chi-Square test is 0.47 for 4 degrees of freedom which indicated previous knowledge and Knowledge scores. Moreover, it is reflected that previous knowledge isn't influenced with present problem.

Table 7: Association of sources of knowledge with knowledge scores:

Sources of knowledge	Knowledge scores			Total
	POOR (1-10)	AVERAGE (11-20)	FAIR (21-30)	
Internet	0	01	0	1
TV	9	12	8	29
News paper	1	6	0	7
Conference/workshop	2	1	0	3
Total	12	20	8	40
X^2= 8.14		p>0.05 (Insignificant)		

The association of sources of knowledge & Knowledge scores is shown in present table 7. The probability value for Chi-Square test is 8.14 for 6 degrees of freedom which indicated sources of knowledge & Knowledge scores. Moreover, it is reflected that source of knowledge isn't influenced with current problem.

Results

The findings of the study revealed that 30.0% subjects have poor knowledge, 50.0% have average knowledge score while 20.0% GNM 2nd year students were having good knowledge score towards transcutaneous electrical nerve stimulation application on pain in children. The mean knowledge score of subjects was 14.21 ± 5.58. The association of knowledge score of GNM 2nd year students was found to be statistically insignificant with demographic variables ($p>0.05$).

Conclusion

It was concluded that majority of GNM 2nd year students had average knowledge score regarding transcutaneous electrical nerve stimulation application on pain in children. GNM 2nd year students should also educate regarding transcutaneous electrical nerve stimulation application on pain to control disease.

Limitations

- This was limited to selected Nursing college, Indore.
- This was limited to 40 GNM 2nd year students.

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