



Evaluate the Effectiveness of a Self Instructional Module Regarding Knowledge on Total Parenteral Nutrition for Staff Nurses

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Background and Purpose of The Study:

Total parenteral nutrition (TPN), a form of central venous nutrition therapy, used when the patient needs intensive nutritional support for an extended period. Is an exciting therapeutic intervention for the critically ill patient, as well as for the patient with permanent small bowel dysfunction requiring long-term nutrition support. Nurses must play a vital role in supporting optimal response to parenteral nutrition therapy, minimizing complications.

Keywords: self instruction module, total parenteral nutrition, staff nurse, purposive sampling

OBJECTIVE:

- Assess the knowledge of staff nurses regarding total parenteral nutrition.
- Prepare a self instructional module on total parenteral nutrition.
- Evaluate the effectiveness of the self instructional module regarding knowledge on total parenteral nutrition.
- Determine association between the knowledge of staff nurses and selected socio-demographic variables.

DESIGN:

One group pre test post test quasi experimental design was selected for the study. SUBJECTS :60

staff nurses from selected hospitals at Bangalore selected as samples.

METHOD

A purposive sampling technique was used to select the samples for study.

DATA COLLECTION TOOL

A structured questionnaire was used to collect data from the subjects.

DATA ANALYSIS

The obtained data was analyzed using descriptive and inferential statistics and interpreted in terms of objectives and hypothesis of the study. The level of significance was set at 0.05 levels.

RESULT

In the pre test the subjects had inadequate knowledge with a mean of $37.7\% \pm 11.5$ where as in post test there was a significant mean knowledge gain of $68.6\% \pm 10.5$. Demographic variables have shown a significant association ($P < 0.05$) with the mean pre test knowledge score, such as age ($\chi^2 14.46$), gender ($\chi^2 3.85$), total years of experience ($\chi^2 20.19$) and association between years of experience in areas of work ($\chi^2 7.23$).

VARIABLES

Independent variables: In the present study the independent variable is the self instructional module regarding TPN therapy.

Dependent variable: In this study, the dependent variable is knowledge of staff nurses regarding TPN therapy.

Attribute variables: Attribute variables are those uncontrolled variables (i.e., variable that cannot be manipulated by the experimenter) that may have a significant influence upon the results of a study.

Sampling Technique: Sampling is the process of selecting a portion of population to represent the entire population.

CRITERIA FOR SAMPLE SELECTION

Inclusion Criteria

- Working in medical, surgical units and intensive care units in the selected hospitals.
- Able to communicate in English.
- Willing to participate in the study.
- Available at the time of data collection.
- In the age group of 21-50 years
- Having 1 to 15 years experience.

Exclusion Criteria.

- Have attended workshops or seminar on Total parenteral nutrition.
- Have ANM qualification.
- Are not available at the time of data collection.
- Have participated in pilot study.

DESCRIPTION OF THE TOOL:

A structured knowledge questionnaire was developed after review of literature and discussion with experts.

Structured knowledge questionnaire

Part I: It comprised of socio-demographic variables such as age, gender, professional education, total years of experience, area of work and year of experience in the area of work.

Part II: It consists of 50 multiple choice questions regarding the knowledge of staff nurses on TPN therapy which is divided into four sections.

Section-A: - Deals with General information of TPN therapy

Section-B: - Deals with Characteristics of solution used in TPN therapy

Section-C: - Deals with Method of Administering TPN therapy

Section-D: - Deals with Nurse's role TPN therapy.

SCORING AND INTERPRETATION:

The questions were phrased in a multiple choice form with 4 options as distracters and 1 correct response. The correct response is given one mark and the wrong response is given zero. The total knowledge score ranged as

Inadequate 1-25 <50% , **Moderate** 26-37 51-75% , **Adequate** 38-5 >75% .

SELF INSTRUCTIONAL MODULE

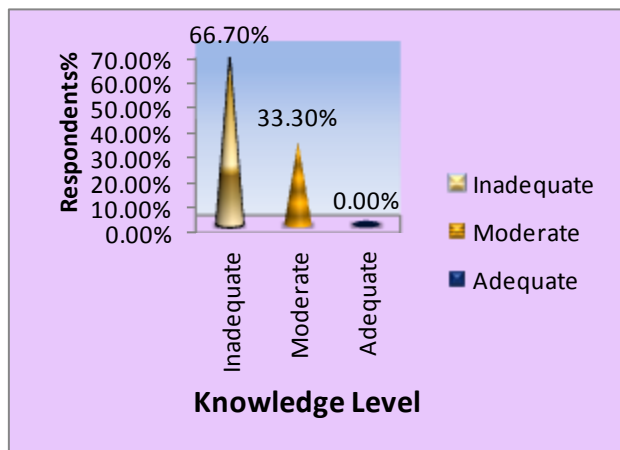
A self instructional module which covers major content areas such as general information, characteristics of solution used, Methods of TPN administration and Nurses role in TPN therapy.

Development of SIM: The following steps were adopted to develop a self-instructional module.

- Preparation and Organization of the content of SIM.
- Content validity of SIM.
- Preparation of final draft of SIM.
- Description of SIM.

TABLE: I Pre-Test Knowledge Level of Staff Nurses Regarding Total Parenteral Nutrition (TPN)

Therapy

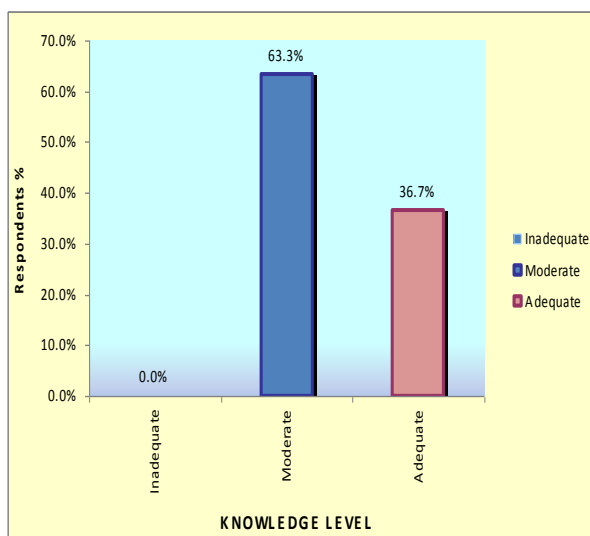


Knowledge Level	Category	Respondents	
		Number	%
Inadequate	< 50 % Score	40	66.7
Moderate	51-75 % Score	20	33.3
Adequate	> 75 % Score	0	0.0

Above table it is observed that majority of the staff nurses (40) 66.7% had inadequate knowledge, followed by (20) 33.3% of staff nurses had moderate knowledge.

TABLE: II Post Test Knowledge Level Of Staff Nurses Regarding TPN Therapy

Knowledge Level	Category	Respondents	
		Number	%
Inadequate	< 50% Score	0	0.0
Moderate	51-75 % Score	38	63.3
Adequate	> 75 % Score	22	36.7

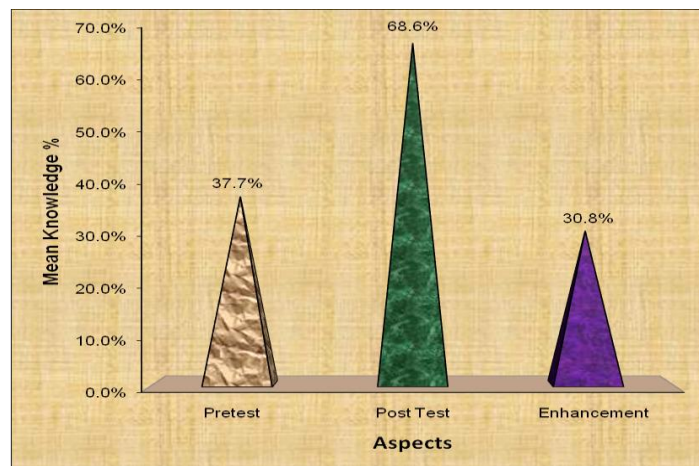


Above table shows that majority of the staff nurses in the post test (38) 63.3% had moderate knowledge followed by (22) 36.7% of staff nurses had adequate knowledge..

TABLE: III Comparison Of Over All Pre Test And Post Test Mean Knowledge Of Staff Nurses Regarding TPN Therapy

N=60

Aspects	Max. Score	Respondents Knowledge			Paired 't' Test
		Mean	Mean (%)	SD (%)	
Pre test	50	18.87	37.7	11.5	41.86*
Post test	50	34.28	68.6	10.5	
Enhancement	50	15.42	30.8	5.7	



* Significant at 5% level, $t(0.05, 59df) = 1.96$

It shows that the mean post-test knowledge scores (68.6 ± 10.5) were significantly higher than the mean pre test knowledge scores (37.7 ± 11.5) at $P=0.05$ levels of significance. When a paired 't' test was done the obtained value (41.86) is found to be significant at 0.05 level.

Association between mean of the pre test knowledge scores and selected socio-demographic variables

Among these a statistically significant association was found between age and knowledge ($\chi^2 14.46$) with 2df at 0.05 level of significant ($p < 0.05$) and significant association between gender and knowledge ($\chi^2 3.85$) with 1 df at 0.05 level of significant ($p < 0.05$) and association between total years of experience and knowledge ($\chi^2 20.19$) with 2df at 0.05 level of significant ($p < 0.05$) and significant association between years of experience in the areas of work and knowledge ($\chi^2 7.23$) with 2df at 0.05 level of significant ($p < 0.05$).

In the present study all the other demographic characteristics like professional qualification ($\chi^2 0.00$) and area of work ($\chi^2 0.96$) at 0.05 level of significance, indicated a non-significant association.

Limitation:

- The study has sampling constraint.
- Randomization was not done. So the sample may not be the true representation of the population.
- The study has design constraints in the form of threats to internal validity such as

effect of history, maturation and instrumentation.

Recommendations

- Similar study can be replicated on a large number of samples to generalize the findings.
- A similar study can be undertaken with control group design.
- A similar study can be conducted with randomization of the samples..

CONCLUSION:

In the pre test, the sample (40 out of 60, 66.7%) had inadequate Knowledge and the remaining (20 out of 60, 33.3%) moderate Knowledge, where as in the post test (22 out of 60, 36.7%) has obtained adequate knowledge and remaining (38 out of 60, 63.3%) obtained moderate knowledge. These findings indicate that the SIM was effective in enhancing the knowledge of the staff nurses regarding TPN therapy.

REFERENCE:

1. Joshi.Y.K. Basics of clinical Nutrition. Jaypee publication : 2003 ; p-3-4.
2. Hebuterne. X, Frere. A.M, Bayle. J and.Rampal.P. Priapism in a Patient treats with total parenteral nutrition, Journal of parenteral and Enteral Nutrition vol.16 no.2 2001 p171-174.

3. Potter.P.A, Perry.A.G. Fundamentals of nursing. 6th edition. Mosby publication; 2006 p 1160-1161.
4. Guptha.K, Chopra.S.C. Journal of Total parenteral Nutrition. Anesthesia and clinical pharmacology 2008; 24(2): 137-146.
5. Suzanne.C.S, Brenda.G.B.Brunner and suddarth Text book of medical surgical nursing. 10th edition. Lippincot publication ; p 1001-1002.
6. Lewis.S.M, Heitkemper.M.M,Dirksen.S.R. Medical surgical Nursing. 6th edition. Mosby publication; 2000 p 987-989.
7. Helen Smith. Nurses must be involved in the nutritional care of patients. British Journal of Nursing, Vol.11, Iss. 14,25Jul 2004, pp928.
8. Galica LA. Parenteral Nutrition Support Services, University of Pennsylvania Health System, 19104, USA.
9. Patel. M.Total parentrel nutrition in the newborn using peripheral veins role of I.V.nursing team. Indian journal of nursing student.2005 Oct; 06.
10. Guptha.K, Chopra.S.C. The effectiveness of an educational intervention in changing nursing practice and preventing catheter-related infection for patients receiving Total Parenteral Nutrition. National Medical Journal of India. 2004 apr-oct; 37(5):371-9.
11. Lyons JM, Falkenbach L, Cerra FB. Total Parental Nutrition with full time home care nurses. Journal of parenteral Enteral Nutrition. Turkey .2004Nov-Dec; 5(6):528-30.
12. Fox VJ, Miller J, McCiung M. Nutritional support in the critically injured. Trinity Mother Frances Health System, USA. vjfoxnp@cox-internet.com.
13. Griffiths RD, Bongers T. Nutrition support for patient in the intensive care unit. University of Liverpool, Whiston Hospital, UK, may-oct; 37(5):361-9.
14. Collins E, Lawson L, Lau MT, et all. Care of central Venous Catheters for total parenteral nutrition. Nutrition clinical practice, Omaha, 2003 Jun; 11 (3): 87-8.
15. Helen Arrowsmith. A critical evaluation of the use of nutrition screening tools by nurses. British Journal of Nursing, Vol. 8, Iss. 22, 09 Dec 2006, pp 1483-1490.
16. Rao PSS. Richard J. Introduction to biostatistics & Research methods. 4th ed.New Delhi. Prenlice-Hall of India;2000.
17. Nair.K.K. A diagnostic study of the error in the usage of tenses in English committed by seventh standard students.2008.
18. Sen.D, Prakash.J. Nutrition in dialysis patient. Journal of Association Physicians, Varanasi, India . 2006 Jul; 48(7): 724-30.