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A Study to Assess the Effectiveness of Structured Teaching Programme on Nurses Knowledge and Practice Regarding Complications of Hemodialysis and its Preventions in Selected Hospital of Raipur Chhattisgarh

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Abstract: ***Hemodialysis (HD) is one of the important modalities of renal replacement therapy in acute renal failure (ARF) as well as chronic renal failure (CRF). This study was performed to evaluate the various intradialytic complications that occur during HD and their management. This is a retrospective study performed in patients who underwent conventional HD during the period of 1 January 2000 to 31 December 2011 at our center. Clinical details, various complications faced and their management were retrieved from dialysis case sheets. A total of 2325 patients of renal failure (790 ARF and 1535 CRF patients) were assessed for the intradialytic complications of HD. During the study period, there were 12,785 bicarbonate dialyses performed on these patients. In the ARF patients, the common intradialytic complications were: Hypotension, seen in 1296 sessions (30.4%), nausea and vomiting seen in 1125 sessions (26.4%), fever and chills seen in 818 sessions (19.2%), headache seen in 665 sessions (15.6%), cramps seen in 85 sessions (2.0%), chest pain and back pain seen in 82 sessions (1.92%), hypoglycemia seen in 77 sessions (1.8%), first-use syndrome seen in 72 sessions (1.7%) and femoral hematoma seen in 31 sessions (0.73%). In the CRF group, common complications were hypotension in 2230 sessions (26.1%), nausea and vomiting in 1211 sessions (14.2%), fever and chills in 1228 sessions (14.4%), chest pain and back pain in 1108 cases (13.0%), hypertension in 886 sessions (10.4%), headache in 886 sessions (10.4%), cramps in 256 sessions (3.0%), hematoma in 55 sessions (0.64%), intracerebral hemorrhage in three sessions (0.03%) and catheter tip migration in three sessions (0.03%)***

Keywords: Knowledge, Practice, Hemodialysis, complications, preventions, effectiveness.

1. Introduction

Need of the Study

Chronic kidney disease (CKD) is a common public health problem, which occurs in an increasing prevalence. Over 50 million people throughout the world are known to have CKD and more than 1 million require renal replacement therapies such as dialysis and renal transplantation. According to World Health Organization (WHO), Chronic Kidney Disease. (CKD) is the 12th leading causes of death in the world. In India, approximate total burden of CKD is 800 per million population. Hemodialysis, which is one of the renal replacement therapies, is a life- saving treatment. Population undergoing kidney dialysis in India 1,065,070,607.

So, Nurses working with dialysis patients in the medical/surgical settings must have a basic general knowledge of chronic kidney disease along with knowing when to get specialized assistance. In other words, nurses need to know what it is that they don't know. Being mindful of these indicators can save a patients life.

Statement of the Problem

A Study to assess the effectiveness of Structured Teaching Programme on Nurses' knowledge and practice regarding complications of hemodialysis and its prevention in a selected hospitals of Raipur chhattisgarh.

Objectives

1) To assess the pretest knowledge and practices score of nursing staff regarding complications of hemodialysis and its preventions.
2) To assess the post test knowledge and practices score of nursing staff regarding complications of hemodialysis and its prevention.
3) To determine the effectiveness of structured teaching programme interms of gain in knowledge and practice score.
4) To find out the association between pre test knowledge and practices scores with selected demographic variables.

Hypothesis

H1: The mean post test knowledge and practice score of the staff nurses will be significantly higher than their mean pretest knowledge and practice score.
H2: There will be a significant association with the pre test knowledge and practice scores of nurses and their selected demographic variables

Research Approach

A evaluative approach was adopted for the study as it enables the investigator to evaluate the effectiveness of structured teaching programme on nurses knowledge and practice regarding complications of hemodialysis and its preventions.

Setting

The setting for the present study was ram krishana care Hospital Raipur, Chhattisgarh and Shri Balaji Institute of Medical Science Raipur Chhattisgarh.

Populations
In this study the target population consists of all staff nurses working in hemodialysis unit.

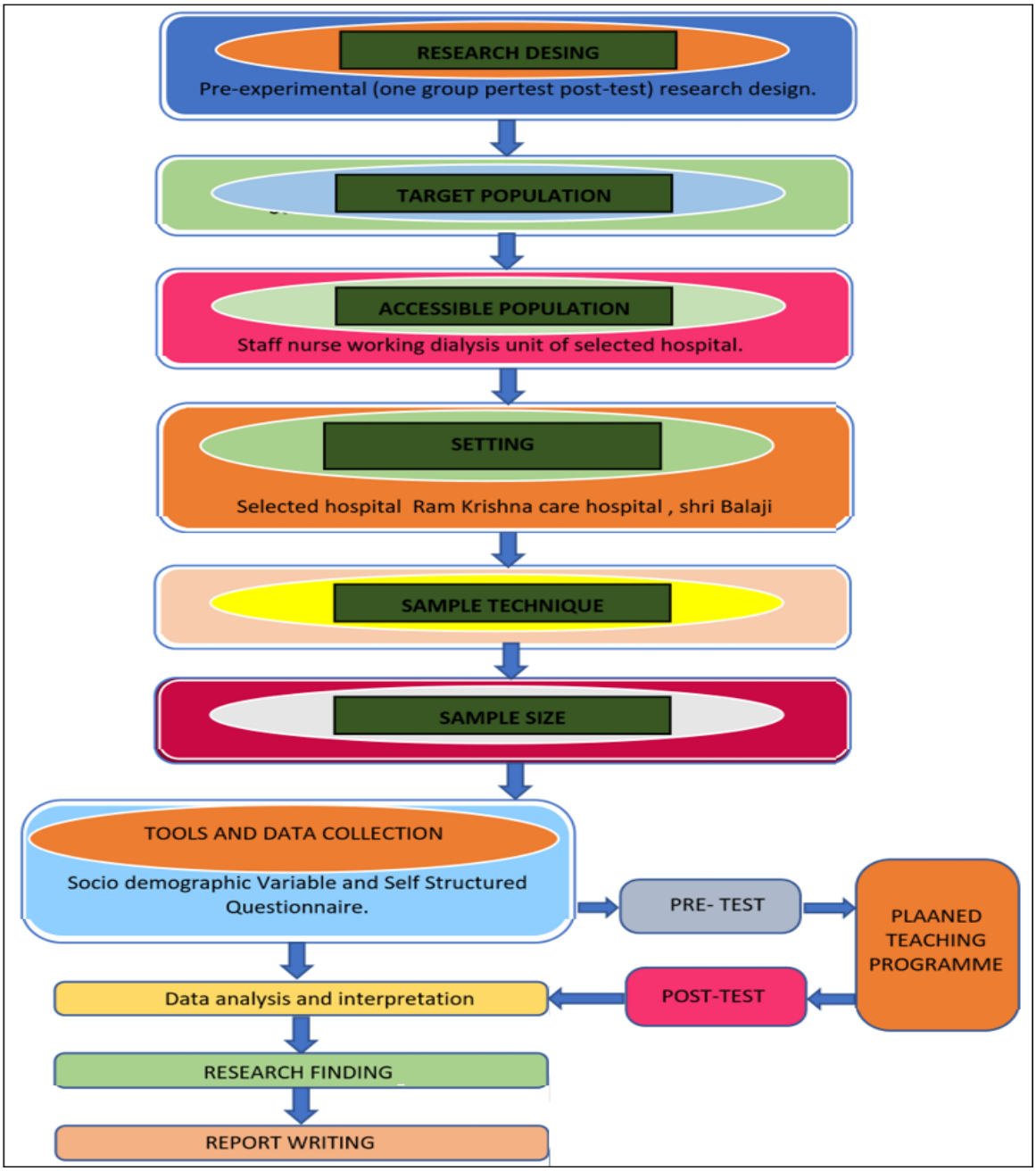
Sample Size
The sample size consists of 40 staff nurses working in hemodialysis unit of selected hospital of Raipur, Chhattisgarh.

Sample and Sampling Technique
In the present study selection of samples was done by using purposive sampling technique. The sample consists of 40 staff nurses working in hemodialysis unit of selected hospital of Raipur, Chhattisgarh

Description of the Tools

Tools or Instrument
a) It consists of sociodemographic variables
b) Questionnaire
c) It consists of structured observational checklist for assessment of practice

Pilot Study
After obtaining formal administrative approval the pilot study was conducted from 21 may 2018 to 26 may 2018 at Dr. Bhim Rao Ambedkar memorial hospital Raipur, chhattisgarh. 6 staff nurse were selected by purposive sampling technique purpose of the study was explained to the staff nurse working in dialysis unit and assured for confidentiality. On day one the pre-test of knowledge and practice regarding complications of hemodialysis and its preventions was also administered. Post-test on knowledge and practice was conducted on seventh day after the planned teaching on complications of hemodialysis and its preventions. Findings of the pilot study revealed that it was feasible to conduct the study and criterion measures were found to be effective. No problems were faced during pilot study.



2. Research Design

Summary

(A) Frequency and percentage distributions of the staff nurses working in dialysis unit according to the sociodemographic variables .

[N=40]

S. No	Characteristics	Frequency (N)	Percentage (%)
1	**Age in years**		
	a. 20-25	7	17.5
	b.26 -30	25	62.5
	c.31 – 35	6	15
	d. > 36	2	5
2	**Gender**		
	a. Male	11	27.5
	b. Female	29	72.5
3	**Professional qualifications**		
	GNM	7	17.5
	B.Sc nursing	29	72.5
	Post basic B.Sc nursing	40	10
	M.Sc nursing	0	0
4	**Year of experience**		
	0– 5 years	16	40
	6– 10 years	18	45
	11– 15 years	4	10
	>15 years	2	5
5	**Source of information**		
	Curriculum	19	47.7
	Journals	6	15
	Mass media	4	10
	Newspaper	0	0
	Through practices	11	27.5
6	**Marriatal status**		
	Married	18	45
	Unmarried	22	55
	Widow	0	0
7	**Monthly income**		
	10,000 -15000	27	67
	16000 - 20000	10	25
	21000 -25000	3	7.5
	26000 – 30000	0	0

Above table depict out of 40 subjects 25(62.5%) were in the group of 26-30 year, majority of subjects 29(72.5%) were females, majority of subjects 29(72.5%) were BSc nursing, majority of subjects 18(45%) were having 6-10 year of experience, majority of subjects 19(47.5%) having information through curriculum, majority of subjects 22(55%) are unmarried, majority of subjects 27(67.5%) having monthly income of 10k to 15k.

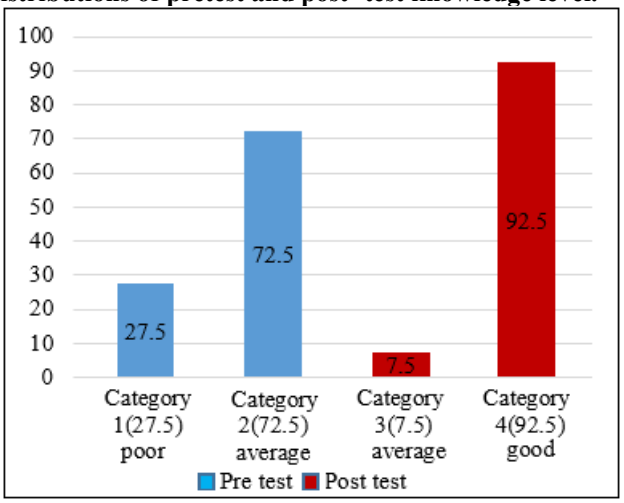
(B) Analysis of knowledge score regarding complications of hemodialysis and its preventions on the basis of criterion.

Level of Knowledge	Knowledge Score	Pre test		Post test	
		Frequency	%	Frequency	%
Poor	0-10	11	27.5	0	0
Average	Nov-20	29	72.5	3	7.5
Good	21-30	0	0	37	92.5

Above table depicts that analysis of pretest and post test knowledge level on the basis of criterion maximum staff nurses 29(72.5%) had average knowledge and 11 (27.5%) had poor knowledge regarding complications of hemodialysis and its preventions.

The analysis of post- test knowledge score on the basis of criterion maximum 37 (92.5%) had good knowledge and 3(7.5%) had average knowledge regarding complications of hemodialysis and its preventions

Bar diagram showing that frequency and percentage distributions of pretest and post- test knowledge level.

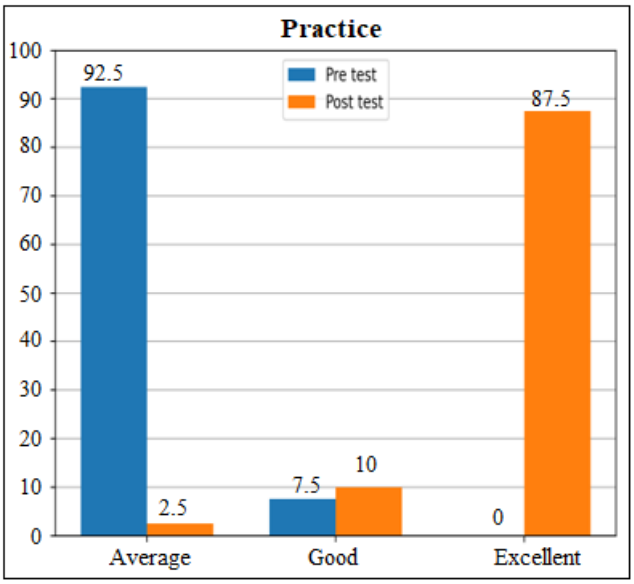


(C) Analysis of Overall Practice Score on the Basis of Criterion

Analysis of overall practice score on the basis of criterion.

Level of Knowledge	Practice Score	Pre test		Post test	
		Frequency	%	Frequency	%
Poor	0-10	11	27.5	0	0
Average	11-20	29	72.5	3	7.5
Good	21-30	0	0	37	92.5

Above table depicts that analysis of pretest and post- test practice level on the basis of criterion, maximum staff nurses 37(92.5%) had average practice level and 3(7.5%) had poor practice level regarding complications of hemodialysis and its preventions. The analysis of post- test practice level on the basis of criterion, maximum 35(8.5%) had excellent practice level and 4 (10%) had good practice level and 1 (2.5%) had average practice level.



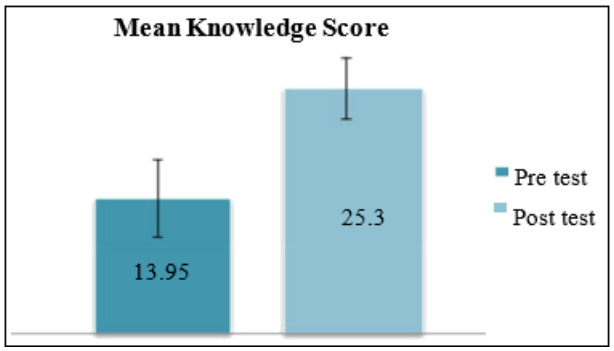
Bar diagram showing that frequency and percentage distributions of pretest and posttest practice level.

(D) Mean, Mean Percentage and Standard Deviations of Pretest and Post Test Knowledge Score of the Staff Nurse Regarding Complications of Hemodialysis and its Preventions

Knowledge	Mean	SD	Mean Percentage	Gain in Percentage
Pre test	13.95	3.99	69.75%	14.58%
Post test	25.3	3.16	84.33%	

The analysis of mean pretest knowledge score of staff nurses regarding complications of hemodialysis and its prevention was 13.95, mean percentage was 69.75% , standard deviations was found to be 3.99

Mean post test knowledge score was 25.30, mean percentage was 84.33%, and standard deviations was 3.16 and knowledge gain in percentage was 14.58%. thus there is striking difference between mean pretest and post- test knowledge score of staff nurse.



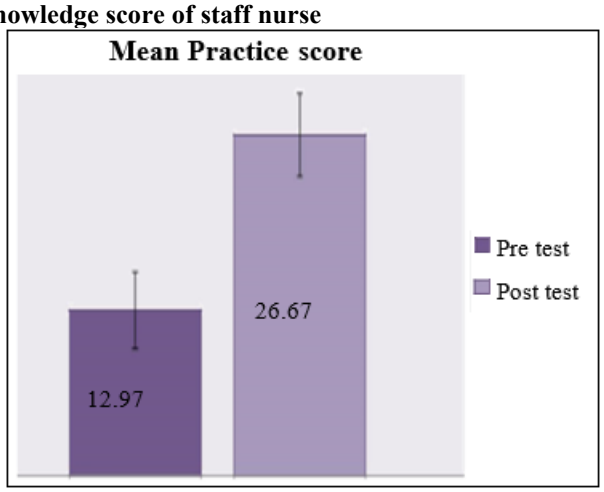
Bar diagram representing mean pretest and Post- test knowledge score of staff nurse

(E) Mean, Mean Percentage and Standard Deviations of Pretest and Post Test Practice Score of the Staff Nurse Working in Hemodialysis Unit

Practice score	Mean	S.D	Mean Percentage	Gain in Percentage
Pre test	12.97	2.99	56.39%	26.95%
Post test	26.67	3.21	83.34%	

Above table Depicts the analysis of mean pretest practice score of staff nurses regarding complications of hemodialysis and its prevention was 12.97, mean percentage was 56.36%, standard deviations was found to be 2.99 And mean post- test practice score was 25.67, mean percentage was 83.34%, and standard deviations was 3.21 and gain in mean percentage was 26.95%. thus there is striking difference between mean pretest and post- test practice score of staff nurse

Bar diagram representing mean pretest and post- test knowledge score of staff nurse



(F) Effectiveness of Structured Teaching Programme regarding Complications of Hemodialysis and its Preventions

Effectiveness	Pre Test			Post Test			Gain in%	Paired t value	P value
	Mean	Mean%	SD	Mean	Mean%	SD			
Knowledge	13.95	69.75%	3.99	25.3	84.33%	3.16	14.58%	14.49	<0.001**
Practice	12.97	56.39%	2.99	26.67	83.34%	3.21	26.95%	22.38	<0.001**

Above table depicts there is gain in knowledge level in percentage was 14.58% and t value 14.49 was found to be

significant at 0.001 level of significance. There is gain in practice level in percentage was 26.95% and t value 22.38 was found to be significant at 0.001 level of significance.

(G) Association Between Selected Demographic Variables with Level of Knowledge and Practice

Demographic variables	Poor	Average	df	χ^2	p Value	inference
1.**Age in years knowledge**						
a. 20-25	7	0	3	3.519	0.318	Not Significant
b.26 -30	17	8				
c.31 – 35	4	2				
d. > 36	1	1				
Practice						
a. 20-25	1	6	3	8.426	0.038	Not significant
b.26 -30	0	25				
c.31 – 35	2	4				
d. > 36	1	1				
2.**Professional**						
Qualification						
Knowledge						
GNM	6	1	2	1.62	0.443	Not significant
B.Sc nursing	21	8				
P.BB.Sc nursing	2	2				
M.Sc nursing	0	0				
Practice						
GNM	0	7	2	1.23	0.541	Not significant
B.Sc nursing	3	26				
P.BB.Sc nursing	0	4				
M.Sc nursing	0	0				
3 Experience						
Knowledge						
0– 5 years	13	3	3	2.696	0.441	Not significant
6– 10 years	12	6				
11– 15 years	2	2				
>15 years	2	0				
Practice						
0– 5 years	1	15	2	0.861	0.835	Not significant
6– 10 years	2	16				
11– 15 years	0	2				
>15 years	0	0				
4.Source of information						
Knowledge						
Curriculum	13	6	3	1.778	0.62	Not significant
Journals	4	2				
Mass media	4	0				
Through practice	8	3				
Practice						
Curriculum	2	17	3	2.194	0.533	Not significant
Journals	1	5				
Mass media	0	4				
Through practice	0	11				
5.Marriatal status						
Knowledge						
Married	12	6	1	0.559	0.455	Not significant
Unmarried	17	5				
widow	0	0				
Practice						
Married	1	17	1	0.178	0.673	Not significant
Unmarried	2	20				
widow	0	0				
6.Monthly income						
Knowledge						
10,000 -15000	19	8	2	0.359	0.821	Not significant
16000 - 20000	8	2				
21000 -25000	2	1				
26000 – 30000	0	0				
Practice						
10,000 -15000	1	26	2	3.05	0.217	Not significant
16000 - 20000	2	8				

21000 -25000	0	3				
26000 – 30000	0	0				
7.Gender						
Knowledge						
Male	6	5	1	2.453	0.117	Not significant
Female	23	6				
Practice						
Male	1	10	1	0.005	0.814	Not significant
Female	2	27				

Above table depicts - To associate the level of knowledge and practice with selected demographic variables and found no significant association between level of knowledge and practice with regards to age, gender , marital status, monthly income, professional qualifications, experience, source of information.

3. Result

There will be significant difference between pre and post test knowledge score of staff nurses working in hemodialysis unit to find out the effectiveness of structured teaching programme regarding complications of hemodialysis and its preventions the mean post test knowledge score 25.30 was higher than the mean pretest knowledge score 13.95, gain in knowledge in percentage was 14.58% and t value 14.49 was found to be significant at 0.001 level of significance. This indicate that there is significant increase in the knowledge of nurses regarding complications of hemodialysis and its preventions. Chi-square test was used to find out the association between the pre test knowledge with the selected demographic variables.

The Chi-square test showed that there is no association between the demographic variables like age, gender, marital status, monthly income, professional qualifications, experience, source of information.

4. Summary

The study includes discussion, objective, conclusion, recommendation and nursing implication, etc. Research has adopted various strategies to improve the survey method. The present study was conducted to evaluate the level of knowledge and practice regarding hemodialysis sand its complications among staff nurses lymphatic. In order to achieve the objective of the study, a survey study was adopted. Convenience sampling technique was used. The sample size of the study is 40 staff nurses in various hospitals of Raipur (C.G)

5. Recommendations

A similar study can be replicated for larger sample, in different settings for making broad generalizations

Evaluative study can be carried out to evaluate the effectiveness of structured teaching programme on knowledge and practices regarding complications of hemodialysis and its preventions.

A comparative study can be conducted among nurses working in government and private hospital.

References

Books

[1] Abdellah, F.G. and Levine, E. Text Book of Patient care through nursing research. 2nd ed. New York: Mac million publishers; 1979.
[2] Barbara C. Long, Text book of essential medical – surgical nursing. 8th ed. Philadephia: Mosy Publications; 1985.
[3] Basavanthappa B.T., Text book of nursing research 1st ed. New Delhi: Jaypee Brother Medical Publishers (P) Ltd.; 1998.
[4] Basavanthappa B.T., Text book of medical – surgical nursing. 2nd ed. New Delhi: Jaypee Brother Medical Publishers (p) Ltd.; 2009.
[5] Basavanthappa B.T., Text book of nursing theorist. 1st ed. New Delhi: published by Jaypee brother medical publishers; 2007.

Journals

[6] Longo D., Fauci A., Kasper D., Hauser S., Jameson J., Loscalzo J. Harrison's
[7] Principles of Internal Medicine. Vol 1, 18thed.New York: McGraw hill companies,
[8] Abraham S, Venu A, Ramachandran A, Chandran PM, Raman S. Assessment of quality of life in patients on hemodialysis and the impact of counseling. Saudi J Kidney Dis Transpl2012;23(5):953-7
[9] Jablonski A. The multidimensional characteristics of symptoms reported by patients on hemodialysis. NephrolNurs J.2007; 34 (1): 29- 37
[10] Sajadi A, Farmahini Farahani B, Esmaeilpoor Zanjani S, Durmanesh, Zare M. Effective factors on fatigue in patients with chronic renal failure undergoing hemodialysis. Critical care nursing journal, 2010,3(1):33-38[text in Persian]
[11] Joshi VD. Quality of life in end stage renal disease patients. World J Nephrol.2014; 3(4): 308-316