ASSESSMENT OF PATIENT MEDICATION KNOWLEDGE AND STRATEGIES TO IMPROVEKNOWLEDGE AND ADHERENCE.

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   Abstract: *AIM*: The purpose of this study is to find the health literacy or medication knowledge among local population and also find the medication adherence. The objective of this study was to assess the knowledge of patient and to test different methods to enhance medication adherence .*METHOD*:121 patients presenting at the inpatient department were included (mean age 52.014 ± 7.927, 62% men) in the study. only patients with chronic disease were taken into the study Patients' medication knowledge was assessed during individual interviews at baseline, course of hospitalization, and 3 months after discharge .only about Forty one patients reported after discharge from the hospital .*RESULTS* :At the completion of study at baseline medication knowledge was poor, especially among patients from rural areas, illiterates, old age and alcoholics .by positive intervention there was significant improvement in medication knowledge. 41 patients out of 121 reported back.

Key words: medication knowledge ,health literacy ,adherence.

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I. INTRODUCTION :

Medication adherence usually refers to whether patients take their medications as prescribed (eg, twice daily), as well as whether they continue to take a prescribed medication. Medication nonadherence is a growing concern to clinicians, healthcare systems, and other stakeholders, because of mounting evidence that it is prevalent and associated with adverse outcomes and higher costs of care. To date, measurement of patient medication adherence and use of interventions to improve adherence are rare in routine clinical practice.

Adherence has been defined as the "active, voluntary, and collaborative involvement of the patient in a mutually acceptable course of behavior to produce a therapeutic result." This definition implies that the patient has a choice and that both patients and providers mutually establish treatment goals and the medical regimen. Medication adherence usually refers to whether patients take their medications as prescribed (eg, twice daily), as well as whether they continue to take a prescribed medication. Medication adherence behavior has thus been divided into 2 main concepts, namely, adherence and persistence. Although conceptually similar, adherence refers to the intensity of drug use during the duration of therapy, whereas persistence refers to the overall duration of drug therapy.

Medication knowledge encompasses patient's ability to fully understand the detailed information of safe and effective medication use, including knowledge of the drug indication, dose, frequency, and for certain medications and special instructions. Improving medication knowledge is vitally important because it has been associated with better medication adherence, fewer drug-related problems as well as fewer hospital visits, which reflects successful disease control and clinical outcomes. Patients with poor knowledge of their medication regimen are mainly caused by ineffective counseling, low health literacy, impaired cognition, or a higher number of medications.

Ineffective counseling is directly related to pharmacist's role in providing appropriate, understandable, and relevant information to patients about their medication. This may be due to incomplete counseling tools to counsel patient, short counseling time, lack of counseling follow-up, lack of counseling skills, and unsystematic appointment system. In addition, time constraint during medication dispensing, inexperience pharmacists in detecting patient with poor medication knowledge, patient's education level, and language barrier that exists between pharmacist and patient can also be associated with poor medication knowledge.

Choosing a healthy lifestyle, knowing how to seek medical care, and taking advantage of preventive measures require that people understand and use health information appropriately. Health literacy (HL) is defined as "The degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" The level of HL in India has not been studied in detail These issues include increasing prevalence of no communicable diseases, adoption of unhealthy lifestyles, and emergence of new public health emergencies such as Avian Influenza. Low HL is associated with poor communication between patients and health care providers, and poor health outcomes. It leads to increased rates of hospitalization, improper management of chronic conditions, higher morbidity and mortality rates.

Knowledge about prescribed medications is one important area of study in the field of health literacy. Studies have shown that poor health literacy is barrier limiting patient's knowledge on prescribed medications. Inadequate knowledge on prescribed medications among patients is also known to be associated with poor compliance. There is evidence suggesting that improved knowledge of the disease condition also improves patient adherence to lifestyle changes and medication. However, most studies on patient's knowledge about prescribed medications are from western developed countries, while there is a relative lack of research from India

LITERATURE REVIEW:

1. *A STUDY OF PATIENTS WITH HYPERTENSION AND DIABETES*

Mark V. Williams, MD; David W. Baker, et al conducted a cross-sectional survey of patients with hypertension and diabetes presenting to the general medicine clinics at 2 urban public hospitals. Knowledge of their illness was assessed in patients with diabetes or hypertension using 21 hypertension and 10 diabetes questions.

RESULTS: A total of 402 patients with hypertension and 114 patients with diabetes were enrolled. Mean (±SD) knowledge scores for patients with hypertension with inadequate (n=189), marginal (n=49), or adequate (n=155) literacy were 13.2±3.1, 15.3±2.2, and 16.5±2.3, respectively (range, 4-20; P<.001). Mean (±SD) knowledge scores for patients with complications inadequate (n=50), marginal (n=13), or adequate (n=51) literacy were 5.8±2.1, 6.8±1.9, and 8.1±1.6, respectively (range, 1-10; P<.001). A total of 94% of patients with diabetes and adequate functional health literacy knew the symptoms of hypoglycemia compared with 50% of people with inadequate literacy (P<.001).A total of 92% of patients with hypertension and adequate literacy levels knew that a blood pressure reading of 160/100 mmHg was high compared with 55% of those in the lowest reading level (P<.001).

CONCLUSION: Inadequate functional health literacy poses a major barrier to educating patients with

chronic diseases, and current efforts to overcome this appear unsuccessful. CHRONIC DISEASES such as hypertension and diabetes require patient education to achieve adequate control and prevent adverse health outcomes. Patients with hypertension may need to understand how to properly take multiple medications and modify their lifestyle (example: low salt diet, weight loss, or exercise) to achieve adequate blood pressure control.

2. ASSESSMENT OF IMPACT OF MEDICATION COUNSELING ON PATIENTS' MEDICATION KNOWLEDGE AND COMPLIANCE IN AN OUTPATIENT CLINIC IN SOUTH INDIA.

The primary aim of this study was to assess the impact of patient medication counseling by comparing the levels of patient's medication knowledge and adherence achieved by medication counseling in an outpatient clinic. Ninety patients were randomized in the ratio of 1:2 into either counseled or usual care group. Their medication knowledge was assessed by a questionnaire and adherence was assessed by pill count method and self-assessment by the patients. Their medication knowledge was assessed at baseline and during their subsequent appointments. The average medication knowledge score of the counseled group versus usual care group was 13.82±1.8064 and 11.78±3.5037. Compliance score of the patients during their follow-up period was 92.29±4.5 and 84.71±11.80 for the counseled and control group, respectively. Statistical analysis of medication knowledge was carried out and all the demographic characters and number of medication were individually correlated with medication knowledge score and the difference observed was statistically significant. Compliance score of the patients was 92.29±4.5 and 84.71±11.8% for the counseled and usual care group, respectively.

3. INTERVENTIONS TO ENHANCE PATIENT ADHERENCE TO MEDICATION PRESCRIPTIONS

HEATHER P. MCDONALD, BSc; AMIT X. GARG, MD, MA; R. BRIAN HAYNES, MD, PhD

To systematically review published randomized controlled trials (RCTs) of interventions to assist patients' adherence to prescribed medications.

CONCLUSIONS: Current methods of improving medication adherence for chronic health problems are mostly complex, labor-intensive, and not predictably effective. The full benefits of medications cannot be realized at currently achievable levels of adherence; therefore, more studies of innovative approaches to assist patients to follow prescriptions for medications are needed.

4. PATIENTS' BELIEFS ABOUT PRESCRIBED MEDICINES AND THEIR ROLE IN ADHERENCE TO TREATMENT IN CHRONIC PHYSICAL ILLNESS

Darren A. DeWalt MD, MPH, Nancy D. Berkman PhD, Stacey Sheridan MD, MPH,6 December 2004

They reviewed 3,015 titles and abstracts and pulled 684 articles for full review; 73 articles met inclusion criteria and, of those, 44 addressed the questions of this report. Patients with low literacy had poorer health outcomes, including knowledge, intermediate disease markers, and measures of morbidity, general health status, and use of health resources. Patients with low literacy were generally 1.5 to 3 times more likely to experience a given poor outcome. The average quality of the articles was fair to good. Most studies were cross-sectional in design; many failed to address adequately confounding and the use of multiple comparisons.

CONCLUSIONS: Low literacy is associated with several adverse health outcomes. Future research, using more rigorous methods, will better define these relationships and guide developers of new interventions.5.HEALTH LITERACY AND KNOWLEDGE OF CHRONIC DISEASE

5. HEALTH LITERACY AND KNOWLEDGE OF CHRONIC DISEASE

Julie A Gazmararian, Mark V Williams, Jennifer Peel David, W Baker; November 2013

This study examined the relationship between health literacy and knowledge of disease among patients with a chronic disease. A total of 653 new Medicare enrollees aged 65 years or older who had at least one chronic disease (115 asthma, 266 diabetes, 166 congestive heart failure, 214 hypertension), completed both the in-person and telephone survey. Health literacy measured by the short test of functional health literacy in adults (S-TOFHLA) and demographic information were collected during the in-person survey. Knowledge of disease was assessed by questions based on key elements in educational materials during a telephone survey. Overall, 24% of patients had inadequate and 12% had marginal health literacy skills. Respondents with inadequate health literacy knew significantly less about their disease than those with adequate literacy.

CONCLUSION: There are many opportunities to improve patients' knowledge of their chronic disease(s), and efforts need to consider their health literacy skills.

Methodology:

Study population and sampling:

This descriptive cross-sectional study involving 121 patients was conducted over a period of 6 months at the Institute of Narayana Hrudayalaya hospital from September - February 2016-17. Data were gathered from inpatients Patients with either hypertension or diabetes or both were taken into consideration. All the other category patients were excluded from the study. Informed oral consent was taken prior to data collection. The patients who were too ill to answer the questionnaire and those who did not give consent were excluded from the study. on each day of study the first patient was chosen randomly from patient number 1 to 10 and then every third patient thereafter was invited for the study. Ethical clearance for the study was obtained from the Ethics Review Committee ,Malla reddy Institute of Pharmaceutical Sciences

Study instrument:

A structured questionnaire was prepared and points were allotted to each question based on patient's response to question the overall score reflects patients knowledge. More the score more is the knowledge less the score less is the knowledge .all the patients were evaluated for their medication knowledge score and data was recorded. After evaluation we counselled the patients and detailed explanation about their medication was given to the patients in the language patient comfortable with. Written leaflets were given in local language describing about medication like name of medication, use, dose, frequency of administration, impact of food on medication, timing of medication and side effects. Special attention was given to patients who are old, illiterate and chronic alcoholics, family members of these patients were counselled. We requested the patients to report after 2 months to follow gave our contact information. We evaluated the followed up patients. Same medication knowledge questionnaire was asked. Only about 41 patients of 121 reported back. The total score and data from 41 patients was noted.

Statistical analysis:

In the knowledge assessment section, each of the 6 components i.e. name, dose, indication, frequency, side effects and action taken when patient missed the dose, was given a score out of 21. For the patients who reported back the new score was alongside the old score i.e., before counselling. All data were double-entered and cross checked for consistency. Data were analyzed using SPSS version 15 statistical software package (SPSS Inc., Chicago, IL, USA) The significance of the differences between means was tested using chi square method and nonparametric Wilcoxon signed ranked test was used . In all analyses a P values < 0.05 was considered statistically significant

RESULTS AND DISCUSSION:

Sociodemographic

There were 121 participants in the study. The participation rate was 92% of those individuals eligible. The mean age of participants was 52.014 ($\pm$ 7.927) years. 62% of respondents were male and 38% were female. Only Smokers accounted for 5 % of the respondents, smoking and alcoholic accounted for 24.8%, only alcoholic accounted for 16.5% 78.5% of respondents take coffee. 10.7% of respondents are illiterate, 49.6 % of respondents studied up to or below 10 % 22.3% of respondents studied up to or below intermediate and 17.4 % of respondents were graduates. Out of 121 participants 10.7 % of patients were diabetic, 41.3% of patients were hypertensive, and 47.9% of patients were suffering from both diabetes and hypertension. Most commonly prescribed drugs among diabetic and hypertensive patients are calcium channel blockers 30.6%, metformin 24.8%, beta blocker 8.3%, sulfonylureas 4.1%, ACE inhibitors 2.5%, and insulin 2.5%.

Medication Knowledge:

Patients was interviewed on single medication which was prescribed to control diabetes or hypertension and only those patients who were taking medication for more than 3 months were interviewed. A total of 6 questions with total score of 21. Question 1, 2, 3 carrying 4 marks and question 4, 5, 6 carrying 3 marks. The questionnaire form is depicted in appendix. At the baseline the mean total score of 11.28 ($\pm$2.42) the lowest score with 6 and highest with 17 was observed. Out of all the 6 questions the question related to name of the medication and side effects of the medication have lowest means of 1.85$\pm$0.90 (maximum 4) and 1.11$\pm$0.32 (maximum 3) respectively was observed. Detailed analysis of all questions was depicted in **table no**. Correlation analysis performed between level of education and total score showed that there is a strong positive correlation (0.711) was observed, and correlation is significant at 0.001 level(2 tailed}.

All the patients were counselled about the disease and medication, leaflets were given in local language and the patients were requested to revisit after 2 months. Out of 121 patients 41 patients revisited after 1-2 months. Patients were asked with same questionnaire and total score was noted. The mean total score of 15.6 $\pm$ 1.93 was observed. Detailed analysis of all questions was depicted .A non-parametric Wilcoxon signed ranked test was performed using spss software between total scores at baseline and total scores after counselling. It is statistically significant at 99% confidence interval .P value < 0.01. This shows that intervention showed through patient counselling has considerably increased patient knowledge about medication thus score.

DISCUSSION AND CONCLUSION

Medication knowledge is very essential and pivotal for better adherence of patients. Many studies have shown that there is a strong link between medication knowledge and medication adherence better adherence results in better patient care and less hospitalization This study showed that majority of respondents are not well educated and considerable number of patients are illiterate, total scores were less for illiterate and for patients with education below 10th standard compared with graduates. Counselling these patients with special attention resulted in increased scores and better understanding about the disease. Many respondents at baseline don't have any idea about name of the drug and side effects of the medication .any change in packing of medication will definitely confuse the patient. As many respondents have no idea about side effects they certainly will not report the ADRS. This study also showed a link between coffee and hypertension, considering the small sample size and restricted study this can be ignored. This study also showed that patients with both hypertension and diabetes were not prescribed with ACE inhibitors which was recommended by JNC 8 guidelines. This study suggest that counselling patients and leaflets in local language based on their sociodemographic factors specific to the particular patient will result in better patients understanding and thus medication adherence . However due to limitations like small sample size and restricted inpatient study further study will result in better understanding.

Tables and charts :

Frequency Table

Table no -01   Alcoholic or Tobacco

	Frequency	Percent	Valid Percent	Cumulative Percent
Alcoholic	20	16.5	16.5	16.5
Tobacco	6	5.0	5.0	21.5
Both Alcoholic And Smoker	30	24.8	24.8	46.3
Non	65	53.7	53.7	100.0
Total	121	100.0	100.0	

Table no - 02 sex

	Frequency	Percent	Valid Percent	Cumulative Percent
Female	46	38.0	38.0	38.0
Male	75	62.0	62.0	100.0
Total	121	100.0	100.0	

table no -03   Total score

	Frequency	Percent	Valid Percent	Cumulative Percent
6.00	1	.8	.8	.8

7.00	1	.8	.8	1.7
8.00	6	5.0	5.0	6.6
9.00	25	20.7	20.7	27.3
10.00	14	11.6	11.6	38.8
11.00	32	26.4	26.4	65.3
12.00	11	9.1	9.1	74.4
13.00	10	8.3	8.3	82.6
14.00	5	4.1	4.1	86.8
15.00	4	3.3	3.3	90.1
16.00	8	6.6	6.6	96.7
17.00	4	3.3	3.3	100.0
Total	121	100.0	100.0	

Table no - 04   education levels

	Frequency	*Percent*	*Valid Percent*	*Cumulative Percent*
Illiterate	13	10.7	10.7	10.7
Below Tenth	60	49.6	49.6	60.3
Intermediate	27	22.3	22.3	82.6
Graduate	21	17.4	17.4	100.0
Total	121	100.0	100.0	

Table no - 05   coffee

	Frequency	Percent	*Valid Percent*	*Cumulative Percent*
Yes	95	78.5	78.5	78.5

No	26	21.5	21.5	100.0
Total	121	100.0	100.0	

Table no 06 history

	Frequency	*Percent*	*Valid Percent*	*Cumulative Percent*
Diabetes	13	10.7	10.7	10.7
Hypertension	50	41.3	41.3	52.1
Both Hypertension And Diabetes	58	47.9	47.9	100.0
Total	121	100.0	100.0	

Table no - 07   diagnosis

	Frequency	*Percent*	*Valid Percent*	*Cumulative Percent*
Dengue	6	5.0	5.0	5.0
Lrti	20	16.5	16.5	21.5
Foot Ulcer	11	9.1	9.1	30.6
Cva	12	9.9	9.9	40.5
Others	61	50.4	50.4	90.9
Ckd	10	8.3	8.3	99.2
Gout	1	.8	.8	100.0
Total	121	100.0	100.0	

Table no - 08 Descriptive Statistics

	Mean	*Std. Deviation*	*N*
Total Score	11.2893	2.42019	121
Education	2.4628	.90408	121

Table no - 09 Correlations

	total_score	education
Pearson Correlation	1	.711**
Sig. (2-Tailed)		.000
N	121	121
Pearson Correlation	.711**	1
Sig. (2-Tailed)	.000	
N	121	121

**. Correlation is significant at the 0.01 level (2-tailed).

Table no - 10 Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Education	121	3.00	1.00	4.00	2.4628	.90408
Name Of The Medication	121	3.00	1.00	4.00	1.8512	.90057
What Dose Do You Take	121	3.00	1.00	4.00	2.2562	.72490
What Is This Medication Used For?	121	3.00	1.00	4.00	2.3388	.75888
How Long Do You Take This Medication For?	121	2.00	1.00	3.00	1.8595	.60972
What Would You Do If You Forgot To Take A Dose Of This Medication	121	2.00	1.00	3.00	1.8843	.50316
Do You Know About Any Possible Side Effects Of This Drug	121	1.00	1.00	2.00	1.1157	.32120
Total Score	121	11.00	6.00	17.00	11.2893	2.42019
Valid N (List wise)	121					

Table no - 11 alcohol/smoking and total score

	Total score			
	6.00	7.00	8.00	9.00
	Count	Count	Count	Count
Alcoholic	0	0	2	4
Tobacco	1	0	0	3

	Both Alcoholic And Smoker	0	1	3	6
	Non	0	0	1	12

		total score			
		10.00	11.00	12.00	13.00
		Count	Count	Count	Count
Alcholicortobbaco	Alcoholic	2	6	5	0
	Tobacco	0	1	0	0
	Both Alcoholic And Smoker	6	6	5	1
	Non	6	19	1	9

		total score			
		14.00	15.00	16.00	17.00
		Count	Count	Count	Count
Alcholicortobbaco	Alcoholic	0	0	1	0
	Tobacco	0	1	0	0
	Both Alcoholic And Smoker	2	0	0	0
	Non	3	3	7	4

		sex	
		female	male
		Count	Count
Alcholicortobbaco	Alcoholic	3	17
	Tobacco	0	6
	Both Alcoholic And Smoker	5	25
	Non	38	27

Table no 12 patients who take coffee

		history		
		diabetes	*hypertension*	*both hypertension and diabetes*
		Count	Count	Count
Coffee	Yes	7	36	52
	No	6	14	6

Frequency Table
Table no - 13 name of the medication

	Frequency	*Percent*	*Valid Percent*	*Cumulative Percent*
Does Not Have Any Idea	52	43.0	43.0	43.0
Unsure Of Name,Pronucation Would Not Understood	42	34.7	34.7	77.7
Fairly Confident Pronunciation Would Be Understood	20	16.5	16.5	94.2
Confident About Name Pronunciation	7	5.8	5.8	100.0
Total	121	100.0	100.0	

Table no - 14 what dose do you take

	Frequency	Percent	Valid Percent	Cumulative Percent
Does Not Know How Much To Take Or Frequency Of Administration	15	12.4	12.4	12.4
Knows How Much To Take, Unsure Of Frequency	65	53.7	53.7	66.1
Does Not Know Strength But Knows How Much To Take	36	29.8	29.8	95.9
Is Confident, Knows Strength, How Much And When To Take	5	4.1	4.1	100.0
Total	121	100.0	100.0	

Table no - 15 what is this medication used for?

	Frequency	Percent	Valid Percent	Cumulative Percent
Has No Idea What The Medication Used For	13	10.7	10.7	10.7
Not Confident But Has Some Knowledge With Prompting	62	51.2	51.2	62.0
Knows Lay Terms	38	31.4	31.4	93.4
Knows What The Medication Is Used For	8	6.6	6.6	100.0
Total	121	100.0	100.0	

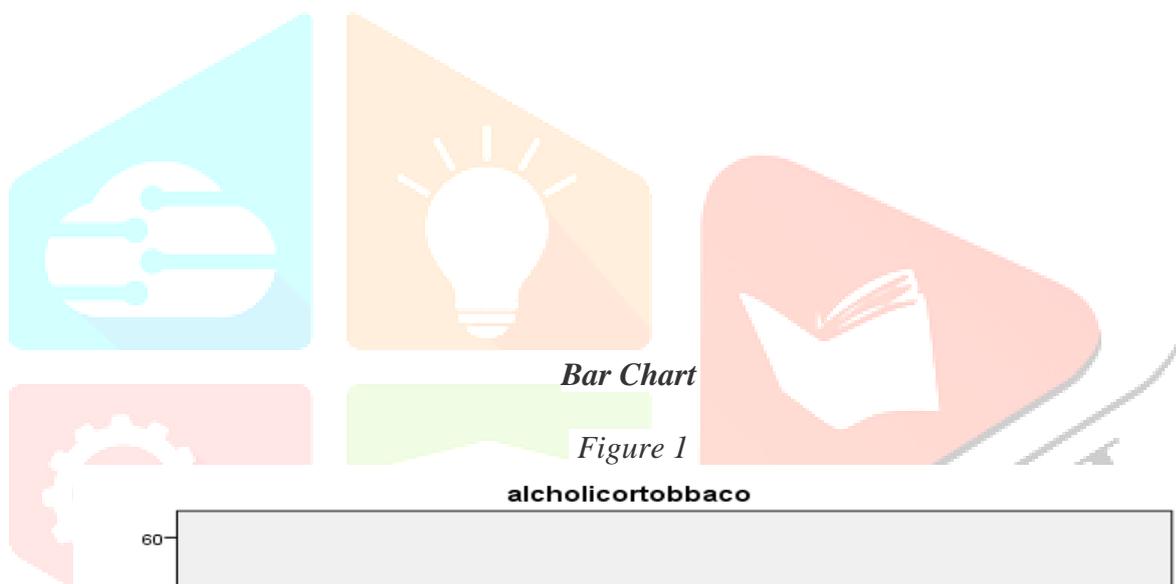*Table no - 16 how long do you take this medication for?*

	Frequency	Percent	Valid Percent	Cumulative Percent
Has No Idea If It Is Long Or Short Term Therapy	32	26.4	26.4	26.4
Unsure But Would Seek Advice Before Running Out	74	61.2	61.2	87.6
Knows If It Is Long Term Or Short Term Therapy	15	12.4	12.4	100.0
Total	121	100.0	100.0	

Table no - 17 what would you do if you forgot to take a dose of this medication

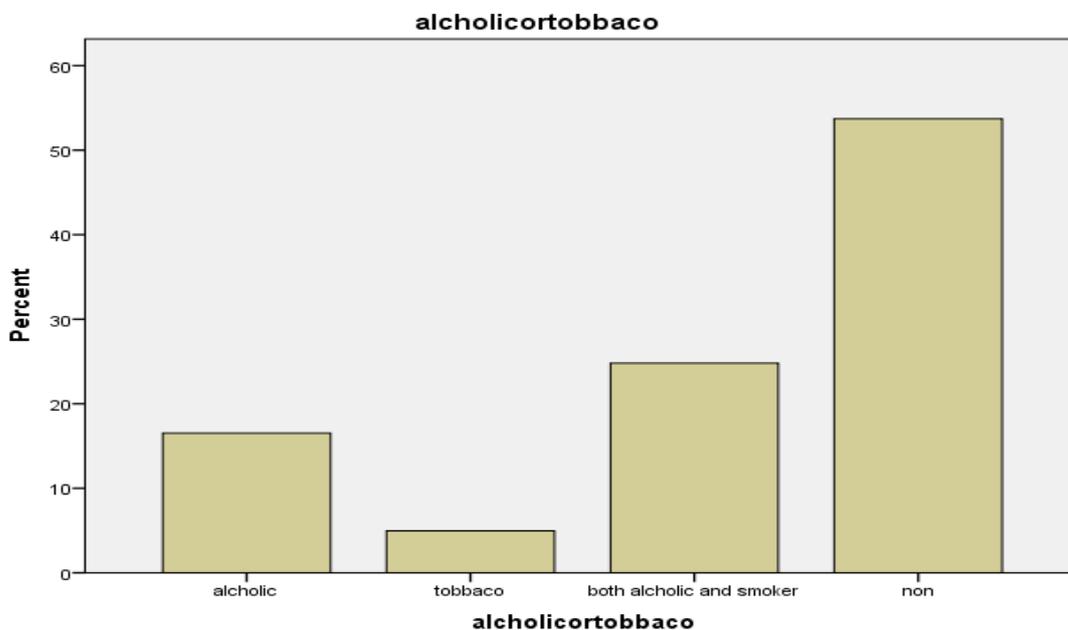|	Frequency	Percent	Valid Percent	Cumulative Percent
Would Ask Inappropriately	23	19.0	19.0	19.0
Would Seek Advice From Pharmacist,Nurse,Carer	89	73.6	73.6	92.6
Would Take Appropriate Action	9	7.4	7.4	100.0
Total	121	100.0	100.0	

Table no - 18   do you know about any possible side effects of this drug

	Frequency	Percent	Valid Percent	Cumulative Percent
No Idea Of The Side Effects Or Incorrect	107	88.4	88.4	88.4
Knows Some Of Side Effects	14	11.6	11.6	100.0
Total	121	100.0	100.0	

Bar Chart

Figure 1

Figure 2
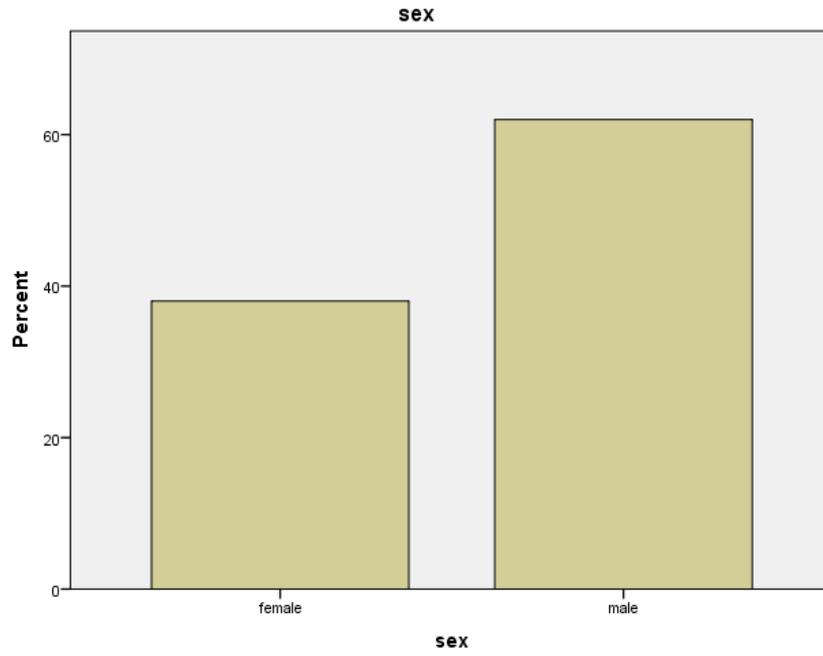
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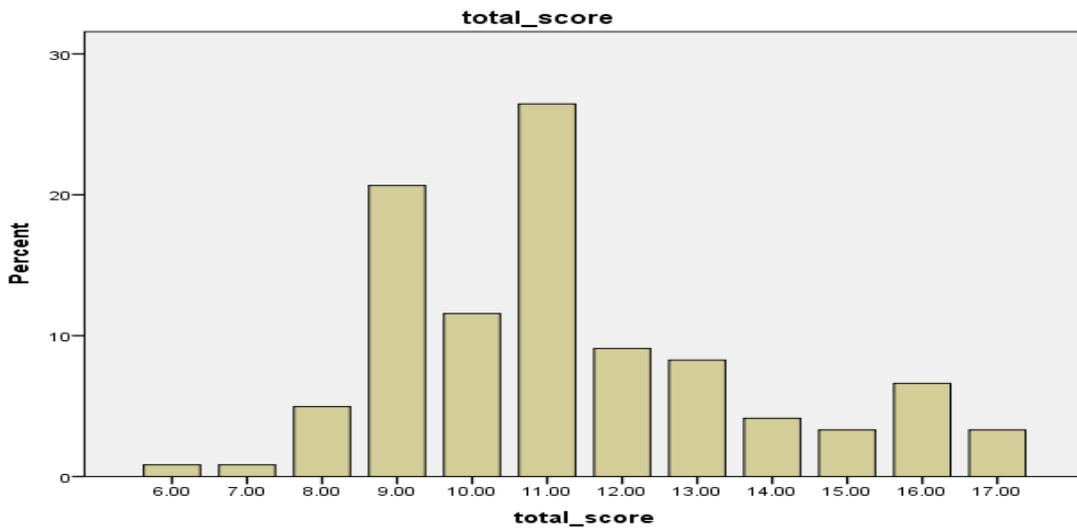
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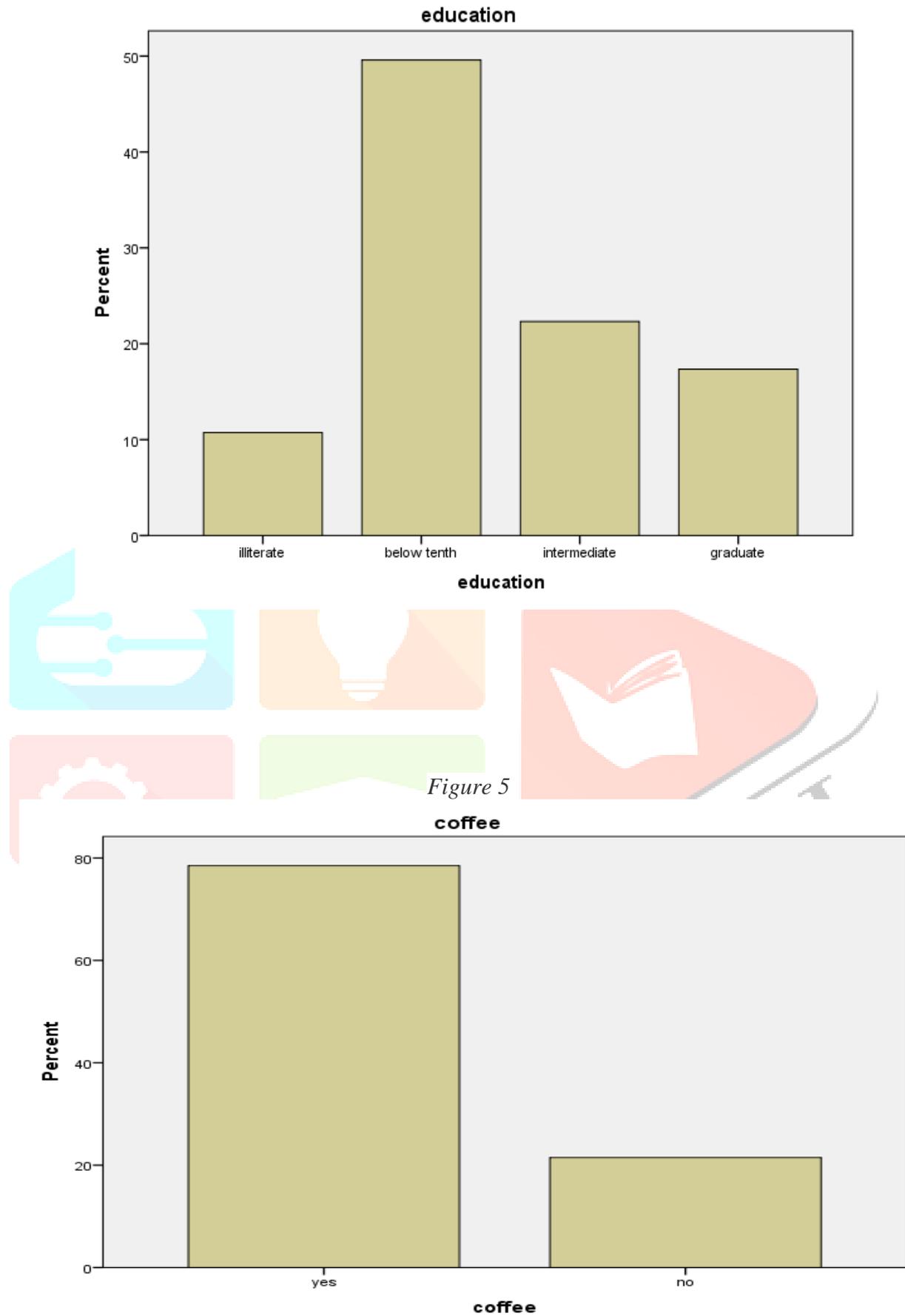
Figure 5
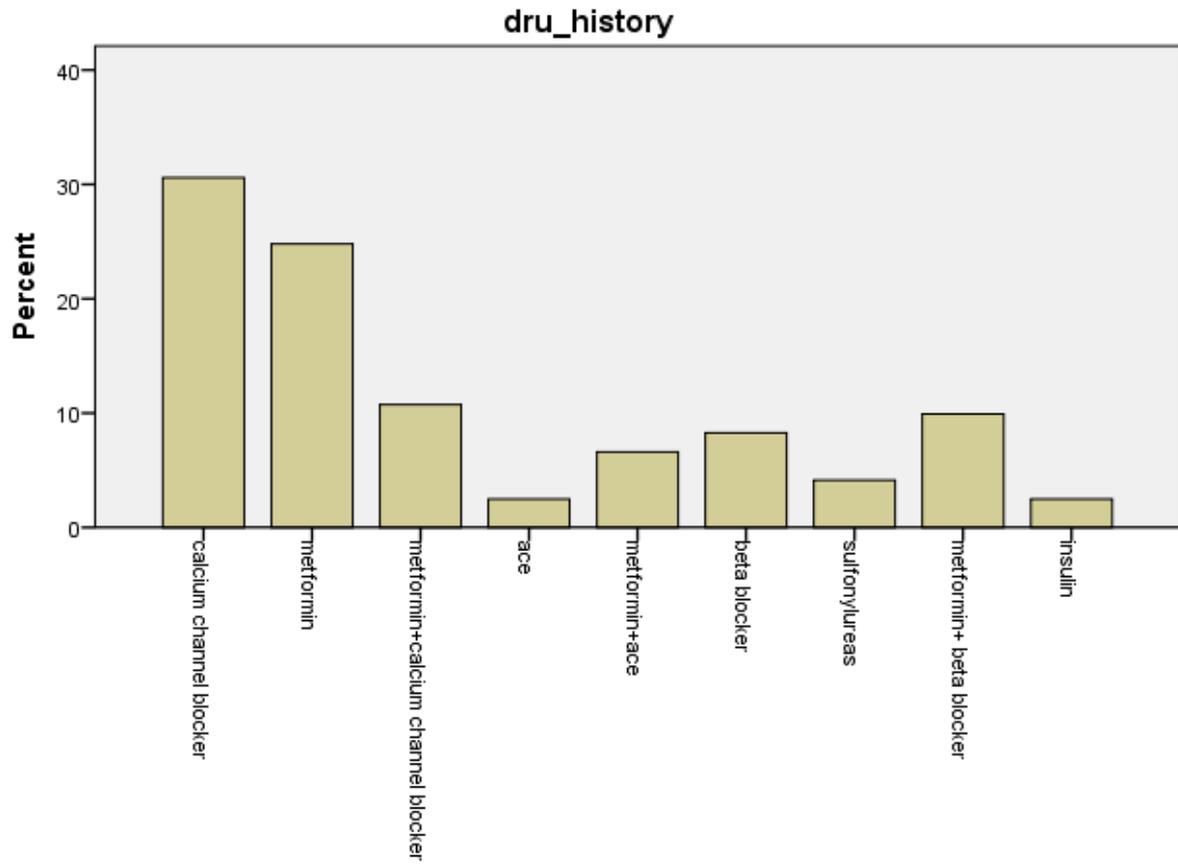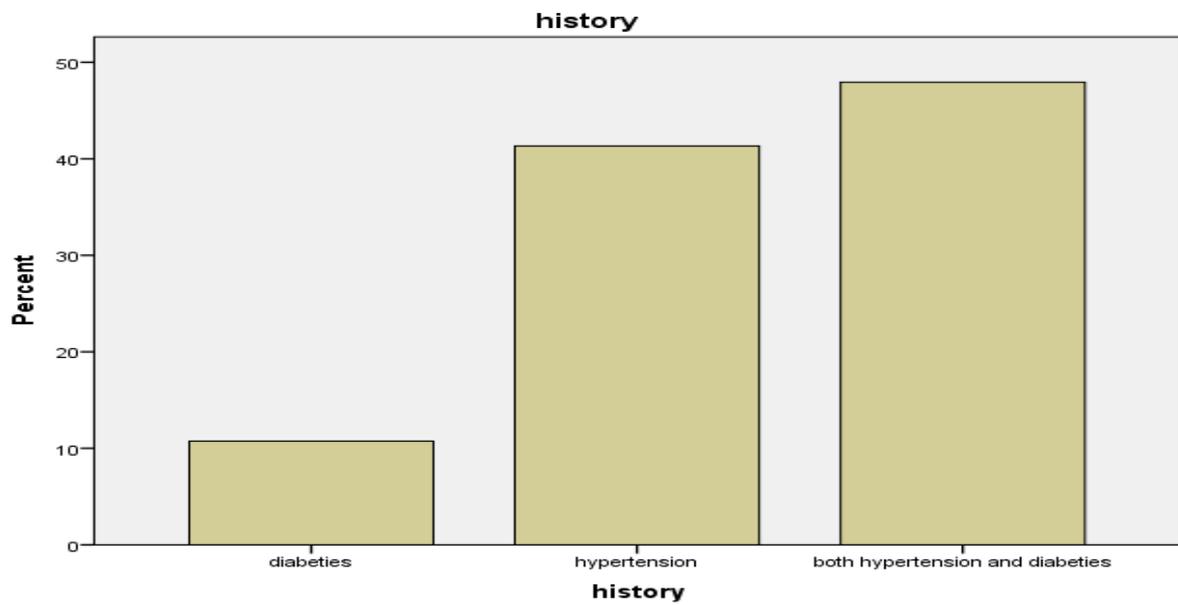
Figure 6

Figure 7

Figure no 8
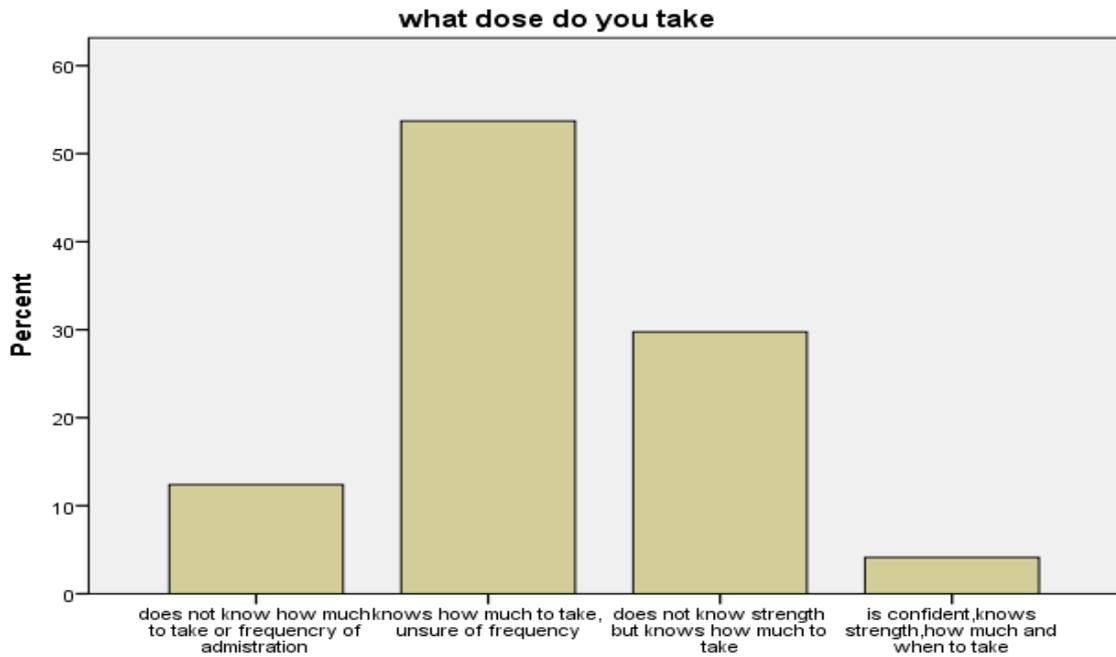
Figure no 9

Figure no 10

how long do you take this medication for?

Figure no 11

do you know about any possible side effects of this drug
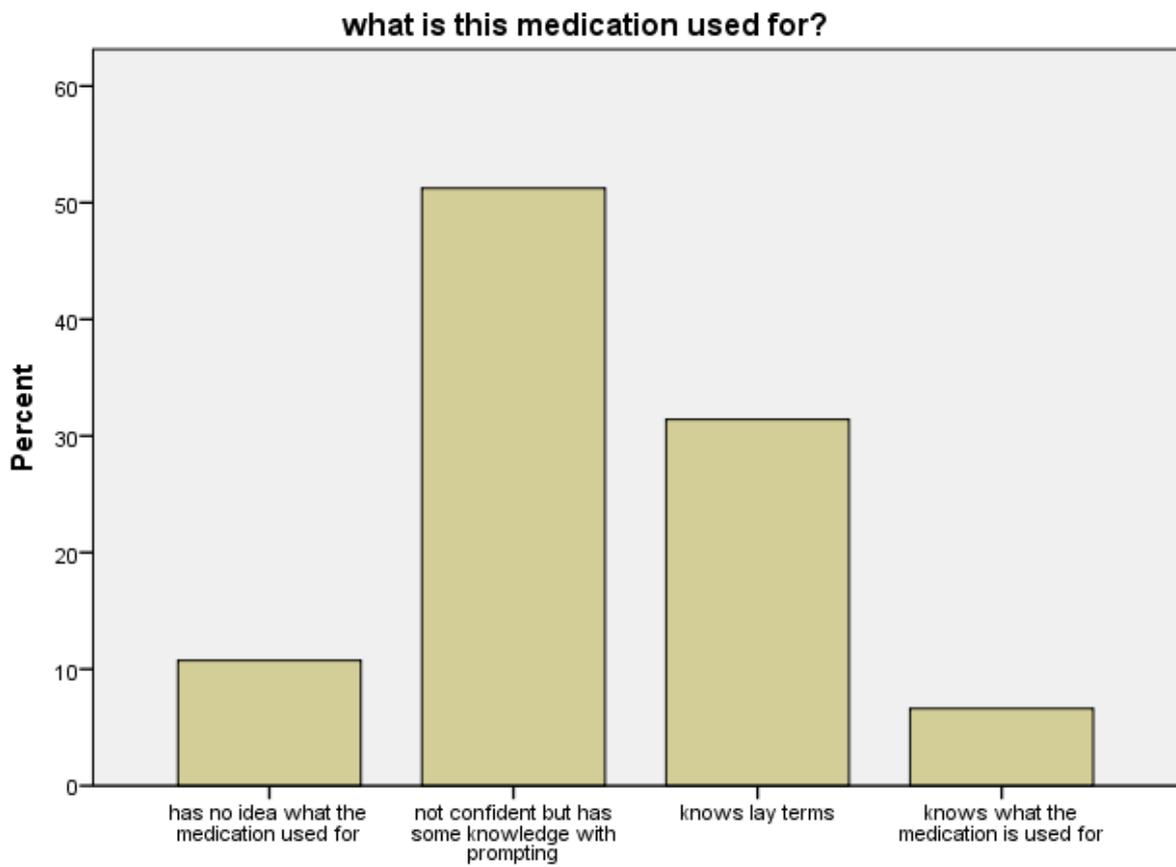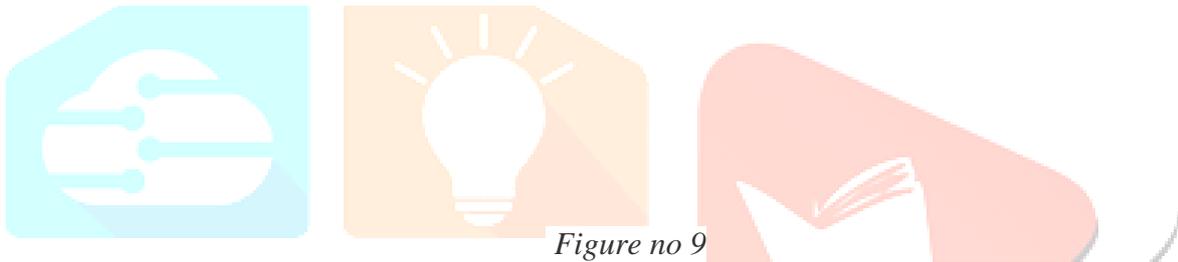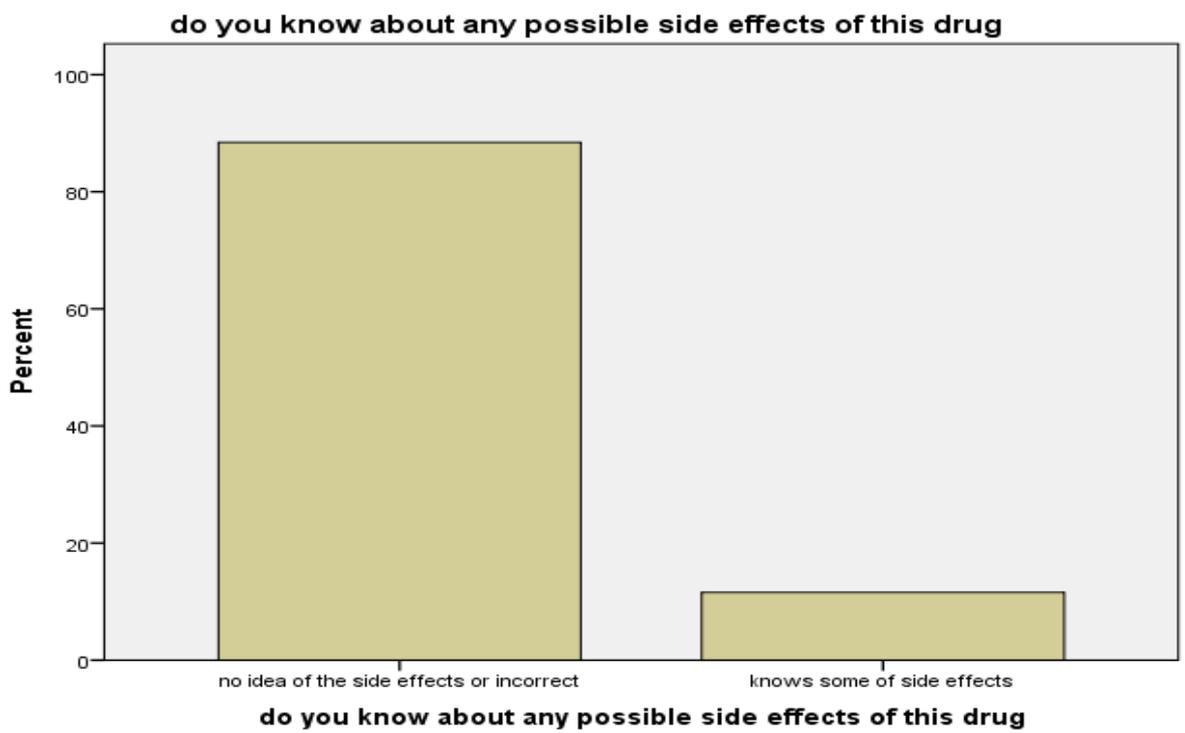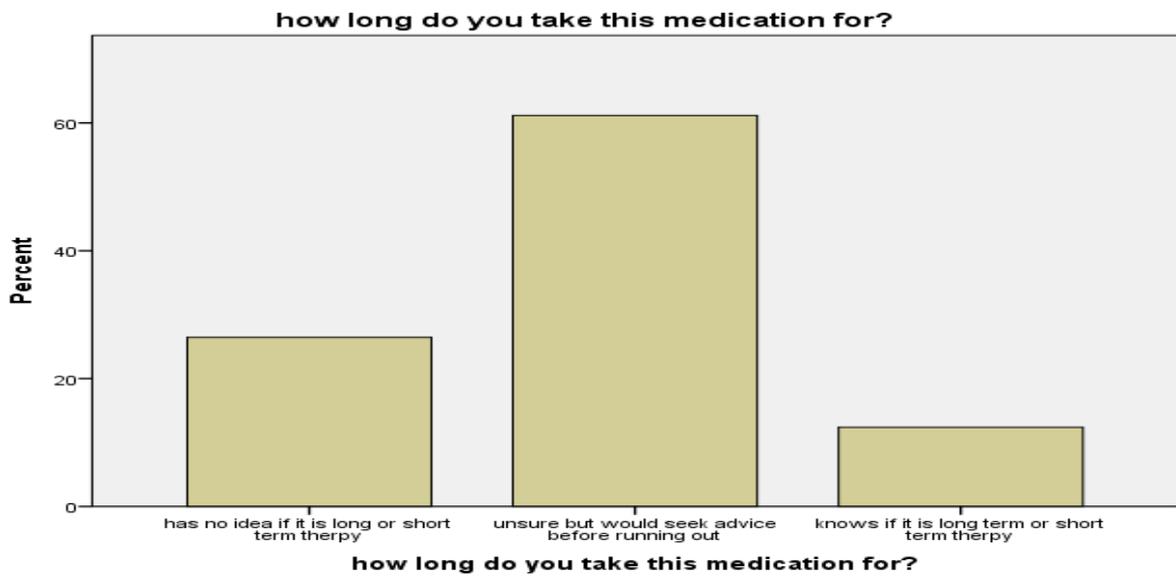
Frequency Table

Table no - 19   name of the medication

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	Unsure Of Name,Pronucation Would Not Understood	6	5.0	14.6	14.6
	Fairly Confident Pronunciation Would Be Understood	31	25.6	75.6	90.2
	Confident About Name Pronunciation	4	3.3	9.8	100.0
	Total	41	33.9	100.0	
Missing	System	80	66.1		
	Total	121	100.0		

Table no - 20 what dose do you take

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Knows How Much To Take,Unsure Of Frequency	3	2.5	7.3	7.3
	Does Not Know Strength But Knows How Much To Take	35	28.9	85.4	92.7
	Is Confident,Knows Strength,How Much And When To Take	3	2.5	7.3	100.0
	Total	41	33.9	100.0	
Missing	System	80	66.1		
	Total	121	100.0		

Table no - 21   what is this medication used for?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Confident But Has Some Knowledge With Prompting	9	7.4	22.0	22.0
	Knows Lay Terms	27	22.3	65.9	87.8
	Knows What The Medication Is Used For	5	4.1	12.2	100.0
	Total	41	33.9	100.0	
Missing	System	80	66.1		
Total		121	100.0		

Table no - 22 how long do you take this medication for?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Has No Idea If It Is Long Or Short Term Therpy	4	3.3	9.8	9.8
	Unsure But Would Seek Advice Before Running Out	17	14.0	41.5	51.2
	Knows If It Is Long	20	16.5	48.8	100.0

	Term Or Short Term Therpy				
	Total	41	33.9	100.0	
Missing	System	80	66.1		
Total		121	100.0		

Table no 23 what would you do if you forgot to take a dose of this medication

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Would Ask Inappropriately	3	2.5	7.3	7.3
	Would Seek Advice From Pharmacist,Nurse,Carer	21	17.4	51.2	58.5
	Would Take Appropriate Action	17	14.0	41.5	100.0
	Total	41	33.9	100.0	
Missing	System	80	66.1		
Total		121	100.0		

Table no 24 do you know about any possible side effects of this drug

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No Idea Of The Side Effects Or Incorrect	5	4.1	12.2	12.2
	Knows Some Of Side Effects	30	24.8	73.2	85.4

	Knows All The Important Side Effects	6	5.0	14.6	100.0
	Total	41	33.9	100.0	
Missing	System	80	66.1		
Total		121	100.0		

Table no 25 total score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	12.00	2	1.7	4.9	4.9
	13.00	5	4.1	12.2	17.1
	14.00	8	6.6	19.5	36.6
	15.00	4	3.3	9.8	46.3
	16.00	6	5.0	14.6	61.0
	17.00	8	6.6	19.5	80.5
	18.00	7	5.8	17.1	97.6
	19.00	1	.8	2.4	100.0
	Total	41	33.9	100.0	
Missing	System	80	66.1		
Total		121	100.0		

Bar Chart

Figure no - 12
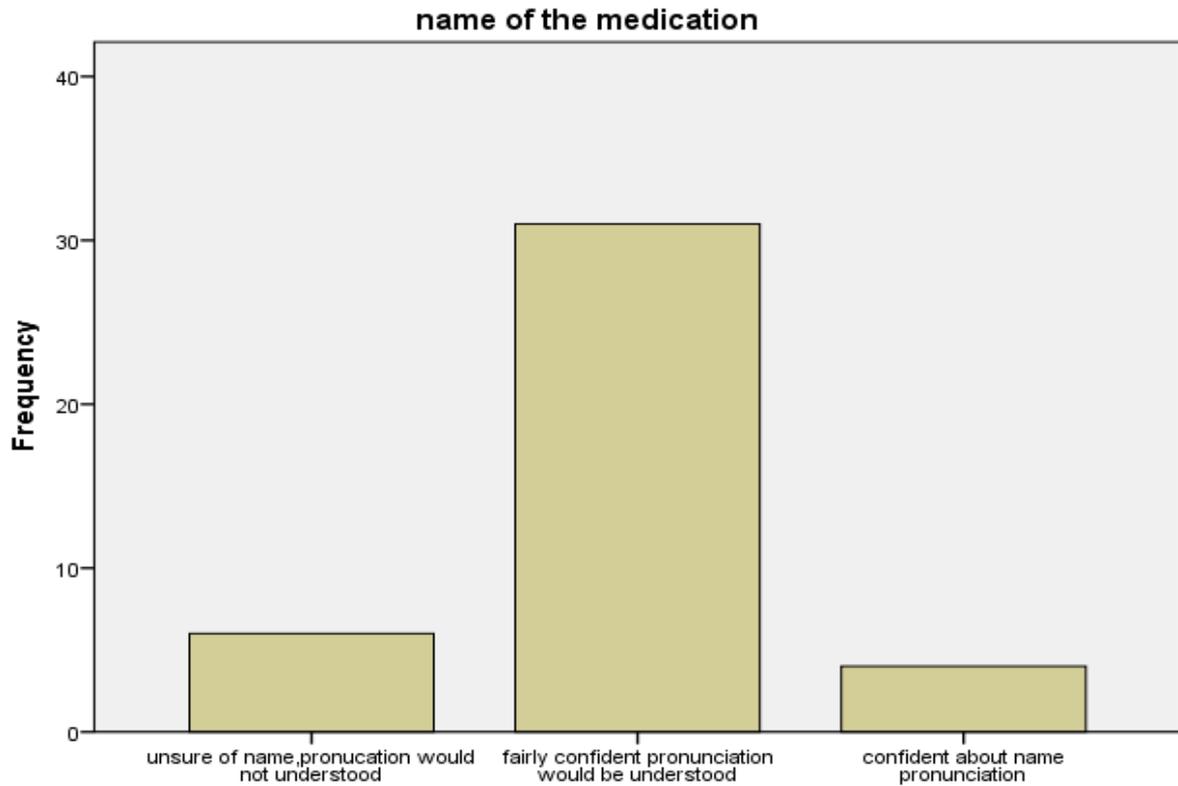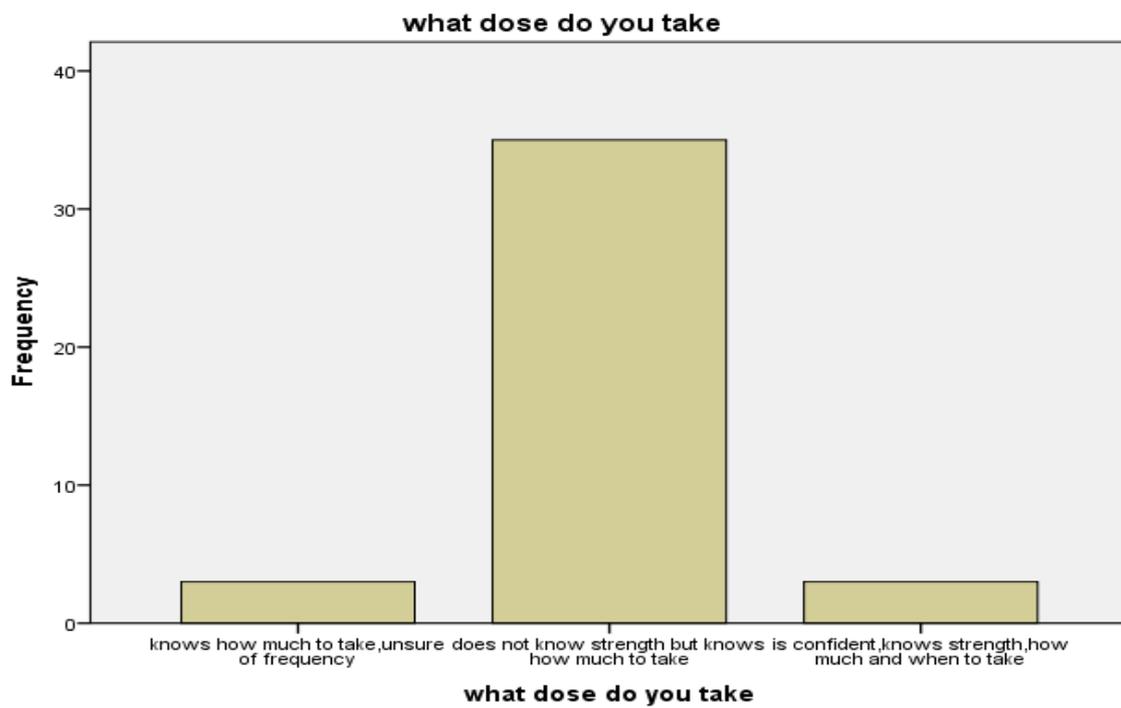
Figure no - 13

Figure no - 14
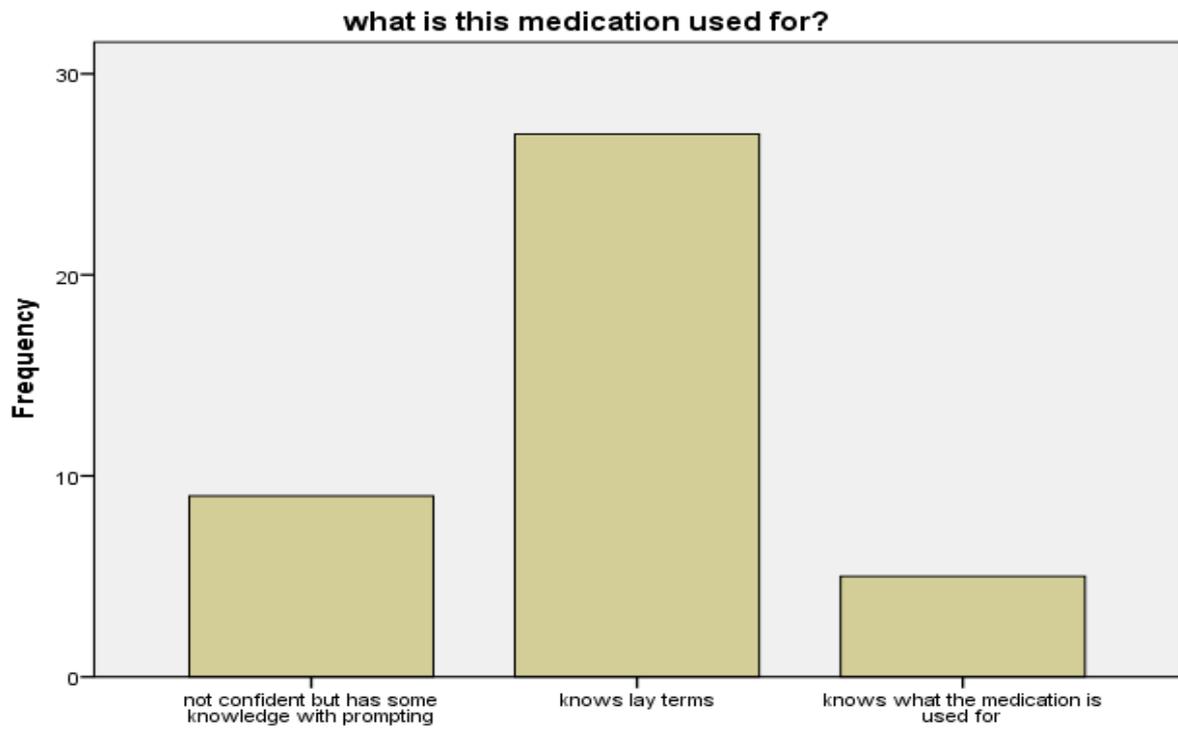
what is this medication used for?

Figure no 15
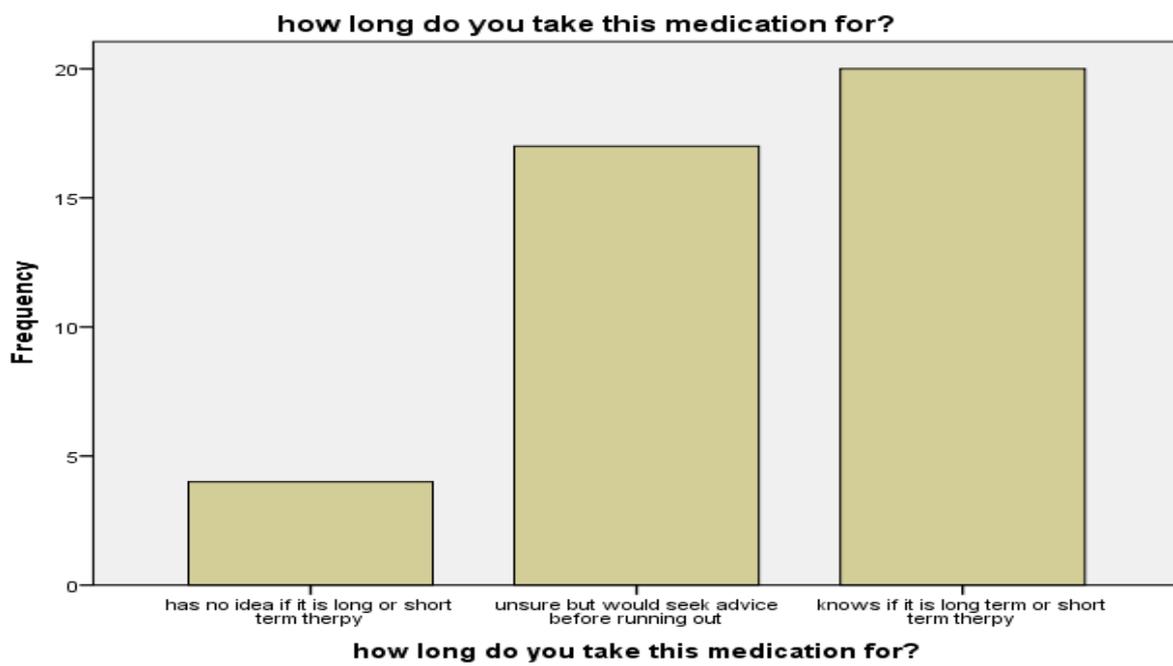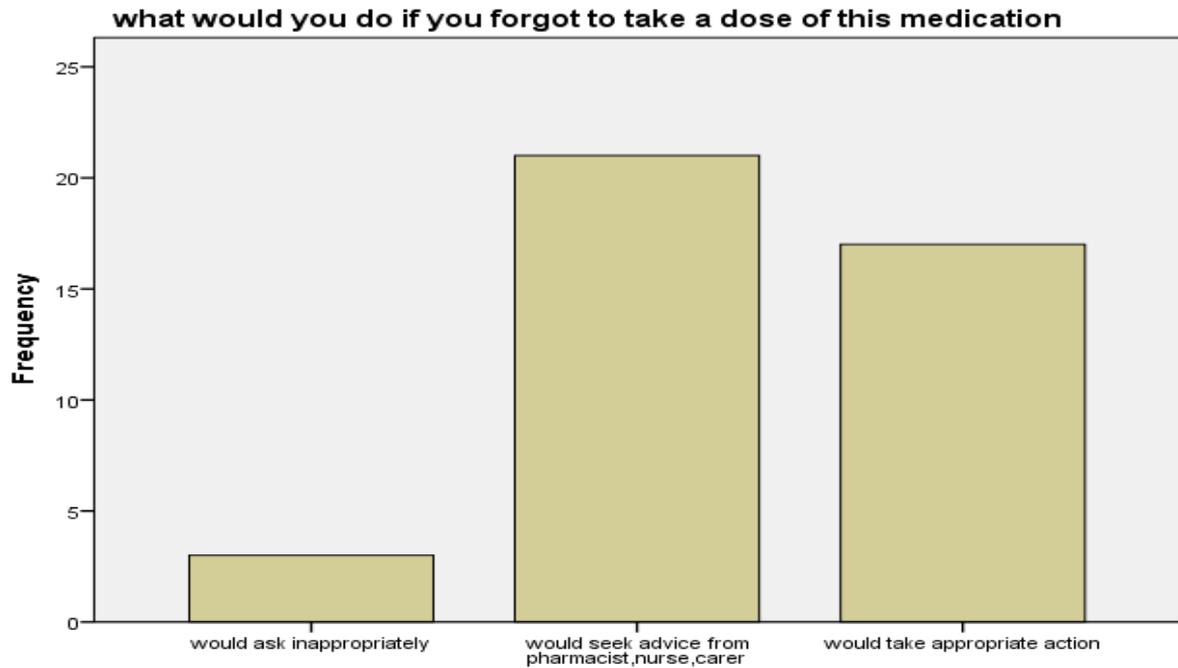
how long do you take this medication for?

Figure no - 16

Figure no - 17

Figure no - 18

total_score
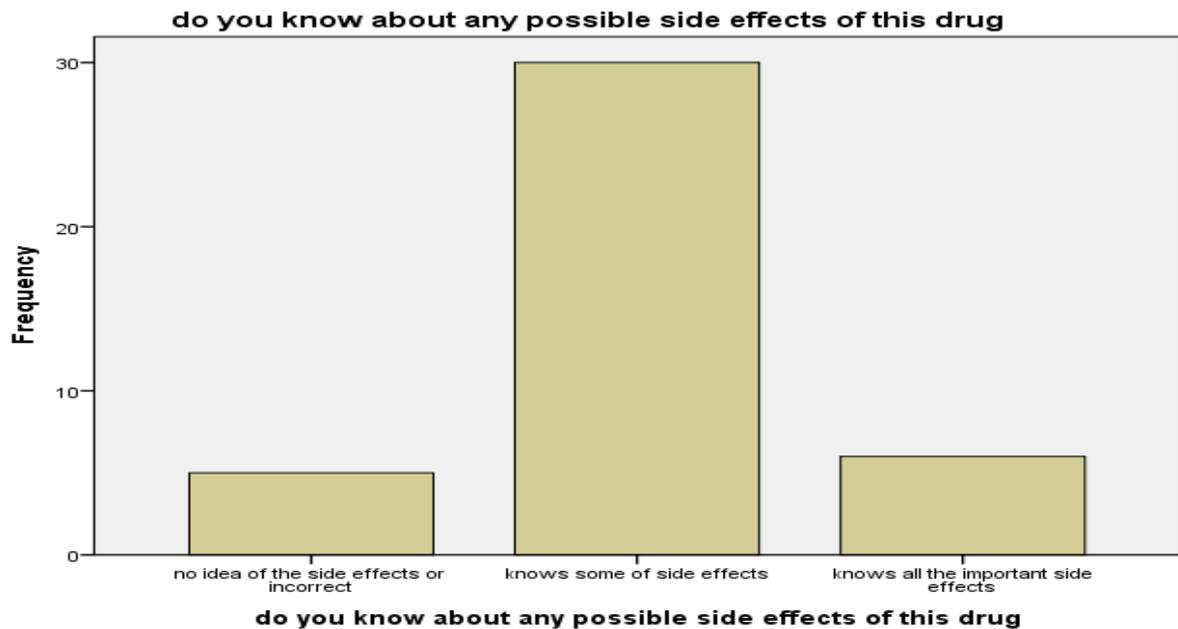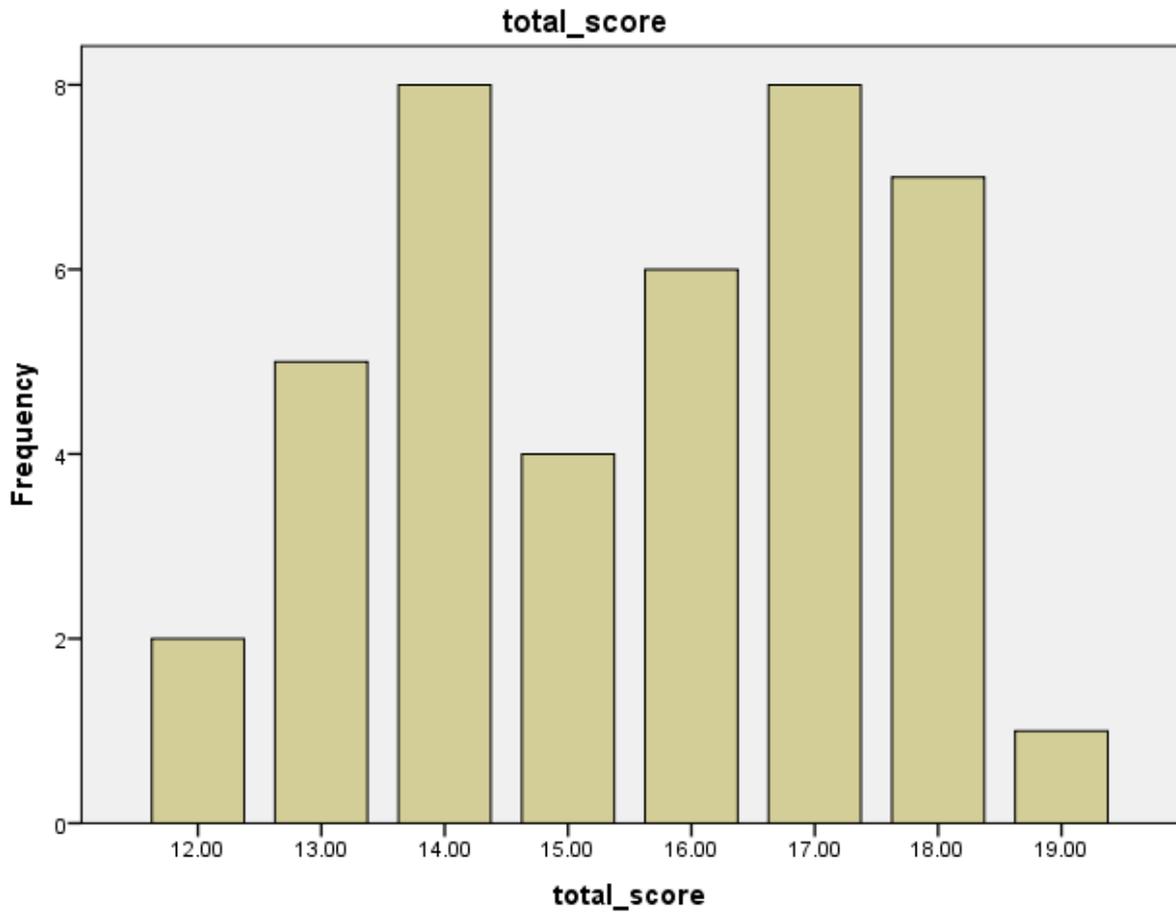
Wilcoxon Signed Ranks Test

Ranks				
		N	Mean Rank	Sum Of Ranks
Score After Counselling - Score At Baseline	Negative Ranks	0[a]	.00	.00
	Positive Ranks	39[b]	20.00	780.00
	Ties	2[c]		
	Total	41		

A. Score After Counselling < Score At Baseline
B. Score After Counselling > Score At Baseline
C. Score After Counselling = Score At Baseline

Test Statistics

	Score After Counselling - Score At Baseline
Z	-5.460[b]
Asymp. Sig. (2-Tailed)	.000

A. Wilcoxon Signed Ranks Test
B. Based On Negative Ranks.

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Appendix

Medication knowledge assessment questionnaire

Ask the patient the following questions about each prescribed medication and score

Name :   sex: age :

Ip no :

Diagnosis :   past history:

Medications :

:A. What is the name of your medicine? (Point to/show each item and ask patient to name it)

Does not have any idea of the name of the medication   1

Unsure of name, pronunciation would not be understood   2

Fairly confident – pronunciation would be understood   3

Confident about name – pronunciation correct   4

B. What dose do you take (including 'prn' medication)?

Does not know how many/how much to take or frequency of administration   1

Knows how many/how much to take, unsure of frequency of administration   2

Does not know strength but knows how many/how much to take and frequency of administration
3

Is confident, knows strength, how many/how much and when to take it   4

C. What is this medication used for?

Has no idea what the medication is used for   1

Not confident, but has some knowledge with prompting   2

Knows lay terms (e.g. water tablet)   3

Knows what the medication is and why to take it   4

D. How long do you have to take this medication for?

Has no idea if it is long or short term therapy   1

Unsure, but would seek advice before running out   2

Knows if it is long or short term therapy   3

E. What would you do if you forgot to take a dose of this medication?

Would act inappropriately (e.g. take double the quantity next time)   1

Would seek advice from pharmacist, nurse, carer, or GP   2

Would take appropriate action (e.g. take correct dose next time)   3

F. Do you know about any possible side effects of this medication?

No idea of the side effects or is incorrect about the side effects   1

Knows some of the side effects   2

Knows all of the important side effects   3

Signature of patient   signature of pharmacist