

The Effectiveness of Structured Teaching Program on Medication Compliance among Elderly People with Chronic Diseases

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Abstract: Introduction: Medication compliance, also known as adherence, is the degree to which a patient complies with the provider's advice regarding the schedule, dosage, and frequency of their daily treatments. India, a rural nation, has particular issues with treatment compliance that carries a significant risk of both morbidity and death.

Objectives: The objectives of the study were to assess the medication compliance among elderly people with chronic diseases and to assess the effectiveness of Structured teaching program on medication compliance among elderly people with chronic diseases.

Materials and Methods: This study utilized a quantitative research approach with a one-group pre-test post-test design to evaluate the effectiveness of structured teaching program on medication compliance among elderly people with chronic. Non-probability convenience sampling was employed to select 100 elderly people with chronic diseases (Hypertension, diabetes mellitus, arthritis or thyroid disorder) from Waghodia Taluka Gujarat. Sociodemographic data and medication compliance were assessed using a self-structured questionnaire.

Results: The pre-test and post-test level of medication compliance among elderly people with chronic diseases Results revealed that in pretest majority (52%) had moderate compliance and (48%) had poor compliance where as in post-test maximum (83%) had good medication compliance and (17%) had moderate compliance among elderly people with chronic diseases. the effectiveness of Structured teaching program on medication compliance among elderly people with chronic diseases which was tested by using paired t test. Mean post-test score was 18.13 ± 1.983 was higher than pretest mean score 8.53 ± 3.013 with mean difference of 9.59 and obtained (t value=27.36, df=99, p=0.001) was found statistically highly significant at p<0.05 level. Findings indicate that Structured teaching program was effective in improving the medication compliance among elderly people with chronic diseases.

Additionally, no significant association was observed between demographic variables at p<0.05 level with pre-test level of medication compliance among elderly people with chronic diseases.

Conclusion: The study's findings led to the conclusion that elderly people had various degrees of ignorance in all areas related to medication compliance. The STP was successful in improving elderly people's understanding of medication compliance. There is no significant association between pre-test knowledge scores and demographic variables.

Ethical approval: The research was completed with appropriate research guidelines, the study was proposed and submitted to the ethical committee, Parul University Institutional Ethical Committee for Human Research (PUIECHR/PIMSR/00/081734/6104), Limda, Vadodara, and expert of the committee approved the study.

Keywords: Structured Teaching Program, Medication Compliance, Elderly People, Chronic Diseases.

1. Introduction

Medication compliance, also known as adherence, is the degree to which a patient complies with the provider's advice regarding the schedule, dosage, and frequency of their daily treatments.¹

The reasons for noncompliance are numerous and intricately linked. There are four primary reasons why older individuals don't follow their prescription regimens:

- Physiological factors
- Behavioural factors
- Treatment factors
- Health care provider/patient interaction.⁶

"Take two of these and call me in the morning" is a thing of the past. The drugs of today are both far more sophisticated and potent. Yet they are only effective if people take them as prescribed. Regretfully, according to the World Health Organization, up to half of all patients in affluent nations do not take their drugs as prescribed (WHO) In fact, it's possible that drug noncompliance accounts for up to 125,000 fatalities every year from heart attacks and strokes, among other cardiovascular disorders. Ten percent of hospital admissions and up to 23 percent of nursing home admissions.²

2. Material And Method

A Quantitative research approach design was implied to conduct this study. The study was conducted at Waghodia taluka Vadodara (Gujarat), Elderly people with chronic diseases (Hypertension, diabetes mellitus, arthritis or thyroid disorder) from Waghodia Taluka Gujarat are the sample for the study and sample size was 100. Non-probability convenience Sampling Technique was used for sample selection. Criteria for the sample, inclusion criteria Elderly people which aged 60 years or above, Elderly people have to diagnose at least one out of four chronic disease of interest that is hypertension, diabetes mellitus, arthritis, thyroid disorder, Elderly people receiving long term medication for more than 6 months or above, Willing to participate in the study, Present the time of data collection. and in exclusion criteria include Elderly people who had attended educational programme on similar topic. Sociodemographic data and medication compliance were assessed using a self-structured questionnaire. The data collection tool was sent to 8 experts for validation out of whom 6 received back with their valuable suggestions and comments on the study tool. 10 Sample were taken for the pilot study. The reliability was determined by Cronbach's Alpha test method administering tool section II – self-structured questioners containing 25 items The tool was administered to 10 selected Elderly People with chronic diseases. The reliability for medication compliance was calculated using the split-half method. Reliability for medication compliance calculated $r=0.753$ which is significant. Hence tool was found reliable.

3. Result

Data was Arranged, Organized and Presented as follows:

Section I:

Frequency and Percentage Distribution of Demographic Variables

Section II:

Pre-test and post-test level of medication compliance among elderly people with chronic diseases

Section III:

Effectiveness of structured teaching program on medication compliance among elderly people with chronic diseases.

Section IV:

Association between pre-test medication compliance among elderly people with chronic diseases with selected socio-demographic variable.

SECTION - I

Table 1: Frequency and Percentage Distribution of Demographic Variables
n= 100

S. No	Demographic Variables	Frequency	Percentage
1	Age in years		
	a. 60-64	28	28
	b. 65-69	30	30
	c. 70-74	28	28
	d. 75 and above	14	14
2	Gender		

	a. Male	60	60
	b. Female	40	40
3	Level of education		
	a. Illiterate	54	54
	b. Primary	44	44
	c. Secondary	1	1
	d. High secondary	1	1
	e. Degree and above	0	0
4	Occupation		
	a. Unemployed	63	63
	b. Private job	10	10
	c. Government job	0	0
	d. Farmer	27	27
5	Religion		
	a. Hindu	91	91
	b. Muslim	7	7
	c. Christian	2	2
	d. Others	0	0
6	Marital status		
	a. Married	55	55
	b. Unmarried	6	6
	c. Divorced	6	6
	d. Widow	33	33
7	Which of following you have		
	a. Hypertension	24	24
	b. Diabetes	25	25
	c. Arthritis	19	19
	d. Thyroid	3	3
	e. HT and DM	15	15
	f. HT and arthritis	4	4
	g. DM and arthritis	8	8
h. Arthritis and thyroid	2	2	
8	Duration of disease		
	a. 6 months	1	1
	b. 6 months to 2 years	50	50
	c. 2 - 5 years	30	30
	d. > 5 years	19	19
9	Family income		
	a. < 10,000	58	58
	b. 10,001 – 20,000	39	39
	c. 20,001 – 30,000	3	3
	d. 30,001 and above	0	0

Table 1 depicts the frequency and percentage distribution of demographic variables of elderly. According to their age majority 30% were in 65-69 years, followed by 28% were in 40-64 years of age, 28% were in 70-74 years of age and 14% were in 75 years of age and above.

Regarding gender of elderly, more than half 60% were male and remaining 40% were female.

As per level of education of elderly, maximum 54% were illiterate, 44% had primary education, 1% had secondary education and 1% had higher secondary.

With regard to occupation of elderly, majority 63% were unemployed, 27% were farmer, and 10% were in private job.

As per religion of elderly, majority 91% belongs to Hindu, 7% belongs to Muslim and 2% belongs to Christian.

Regarding marital status of elderly, maximum 55% were married, 33% were widower, 6% were divorced and 6% were unmarried.

With regard to which of following do you have among elderly, majority 25% had diabetes, 24% had hypertension, 19% had arthritis, 15% had hypertension and diabetes, 8% had diabetes and arthritis, 4% had hypertension and arthritis, 3% had thyroid and 2% had arthritis and thyroid,

As per duration of disease of elderly, half 50% had for 6 months to 2 years, 30% had 2-5 years, 19% for above 5 years and 1% had disease for 6 months.

According to family income of elderly, maximum 58% had income of less than Rs 10,000 per month, 39% had Rs 10,001-20000 per month and 3% had Rs 20,001-30,000 per month.

SECTION - II

Table 2: Distribution of pre-test and post-test level of medication compliance among elderly people with chronic diseases
n=100

Medication compliance	Pre-Test		Post-Test	
	f	%	F	%
Poor compliance	48	48	0	0
Moderate compliance	52	52	17	17
Good compliance	0	0	83	83

Table 2 depicts the pre-test and post-test level of medication compliance among elderly people with chronic diseases Results revealed that in pretest majority (52%) had moderate compliance and (48%) had poor compliance where as in post-test maximum (83%) had good medication compliance and (17%) had moderate compliance among elderly people with chronic diseases.

SECTION - III

Table 3: Effectiveness of Structured teaching program on medication compliance among elderly people with chronic diseases.

Medication compliance	Mean	SD	Mean D	t value	df	P value
Pre-test	8.53	3.013	9.59	27.36	99	0.001*
Post-test	18.13	1.983				

*p<0.05 level of significance

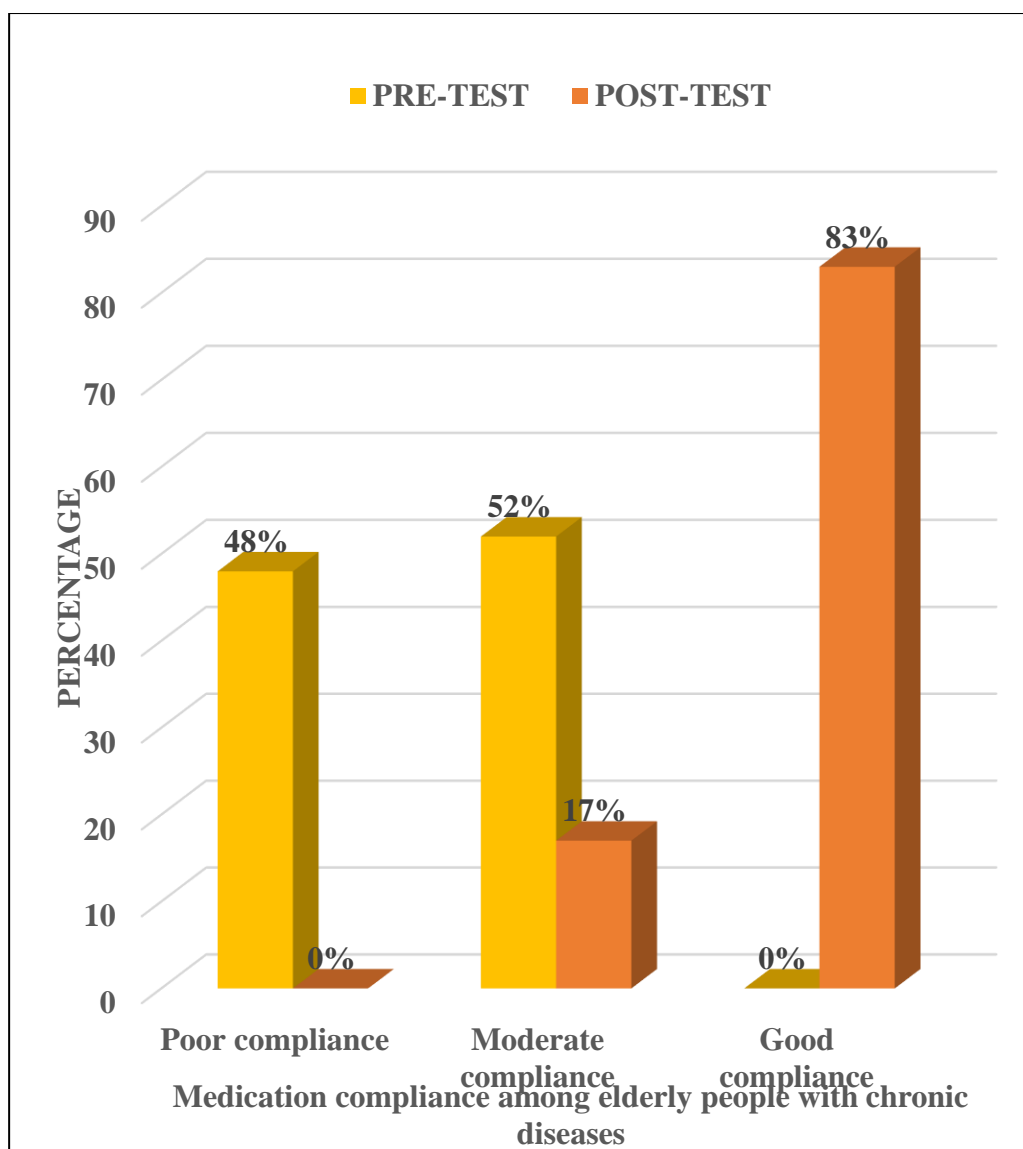


Table 3 depicts the effectiveness of Structured teaching program on medication compliance among elderly people with chronic diseases which was tested by using paired t test. Mean post-test score was 18.13 ± 1.983 was higher than pretest mean score 8.53 ± 3.013 with mean difference of 9.59 and obtained (t value=27.36, df=99, p=0.001) was found statistically highly significant at $p < 0.05$ level. Findings indicate that Structured teaching program was effective in improving the medication compliance among elderly people with chronic diseases.

SECTION - IV

Table 4. Association between pre-test medication compliance among elderly people with chronic diseases with selected socio-demographic variables.
n=100

S.No	Demographic Variables	Medication compliance		χ^2 value	df	p value
		Poor	Moderate			
1	Age in years			2.549	3	0.467 ^{NS}
	a. 60-64	14	14			
	b. 65-69	16	14			
	c. 70-74	10	18			

	d. 75 and above	8	6			
2	Gender a. Male b. Female	28 20	32 20	0.107	1	0.744 ^{NS}
3	Level of education a. Illiterate b. Primary c. Secondary d. High secondary e. Degree and above	25 23 0 0 --	29 21 1 1 --	2.231	3	0.526 ^{NS}
4	Occupation a. Unemployed b. Private job c. Government job d. Farmer	34 2 -- 12	29 8 -- 15	4.177	2	0.124 ^{NS}
5	Religion a. Hindu b. Muslim c. Christian d. Others	43 5 0 --	48 2 2 --	3.406	2	0.182 ^{NS}
6	Marital status a. Married b. Unmarried c. Divorced d. Widow	22 3 0 23	33 3 6 10	3.18	3	0.624 ^{NS}
7	Which of following you have a. Hypertension b. Diabetes c. Arthritis d. Thyroid e. HT and DM f. HT and arthritis g. DM and arthritis h. Arthritis and thyroid	13 12 7 1 6 1 6 2	11 13 12 2 9 3 2 0	7.307	7	0.398 ^{NS}
8	Duration of disease a. 6 months b. 6 months to 2 years c. 2 - 5 years d. > 5 years	0 21 15 12	1 29 15 7	3.441	3	0.328 ^{NS}
9	Family income a. < 10,000 b. 10,001 – 20,000 c. 20,001 – 30,000 d. 30,001 and above	32 16 0 --	26 23 3 --	4.725	2	0.094 ^{NS}

*p value < 0.05 level of significance NS-Non-Significant

Table 4 depicts the association between pre-test level of medication compliance among elderly people with chronic diseases with their selected demographic variables which was tested by using chi-square test. Result revealed that demographic variables such as age in years, gender, level of education, occupation, religion, marital status, which of following you have, duration of disease and family income were not found any significant association at $p < 0.05$ level with pre-test level of medication compliance among elderly people with chronic diseases.

4. Discussion

This chapter discusses the study's findings and their interpretation, including statistical analysis, literature review, and comparison with similar studies. It addresses medication noncompliance among elderly individuals, which is a common issue influenced by various factors such as regimen complexity, memory problems, physical limitations, medication side effects, cost, lack of family support, beliefs, health literacy, and routine changes.

Objective 1

“The first objectives was to assess the medication compliance among elderly people with chronic diseases.”

The study found that among 100 elderly people with chronic illness, there was a significant improvement in medication compliance. Before the intervention, 52% had moderate compliance and 48% had poor compliance. After the intervention, 83% showed good compliance, while 17% still had moderate compliance.

In a study by R. Shruthi et al. (2016), they conducted a prospective observational study to assess medication compliance in elderly individuals with chronic illnesses. They evaluated 251 geriatric subjects receiving long-term medications, averaging 2.96 ± 1.42 medications per person, mostly fixed-dose combinations (FDCs). Compliance was assessed through interviews using a modified MMAS questionnaire, revealing that 45.41% had good compliance, 35.45% had moderate compliance, and 19.12% had poor compliance.³

Objective 2

“The second objectives was to assess the effectiveness of Structured teaching program on medication among elderly people with chronic diseases.”

The effectiveness of a Structured Teaching Program on medication compliance among elderly people with chronic diseases was tested using a paired t-test. The mean post-test score (18.13 ± 1.983) was significantly higher than the pre-test score (8.53 ± 3.013), with a mean difference of 9.59 ($t=27.36$, $df=99$, $p=0.001$), indicating a statistically significant improvement.

Similarly, Jenifer, D (2014) conducted a quasi-experimental study on anticoagulant drug compliance among patients with mechanical heart valves. The study showed a significant difference in pre-test and post-test knowledge levels (mean difference = 7.37, combined SD = 3.41, $t=11.84$), suggesting the effectiveness of the structured teaching program in improving knowledge.⁴

Objective 3

“The third objectives was to find out the association between pretest score of medication compliance with selected demographic variables among elderly people with chronic diseases.”

The study investigated the association between demographic variables and pre-test medication compliance among elderly people with chronic diseases using chi-square test, finding no significant associations ($p < 0.05$) with age, gender, education level, occupation, religion, marital status, disease duration, or family income.

Similarly, Gokhan Ocakoglu et al. conducted a cross-sectional study on health literacy and medication adherence in older people with chronic disease. They found that medication adherence varied based on dyspnea status and diagnosis but was not associated with health literacy. Instead, adherence correlated with disability and disease progression. They suggest that improving health literacy may enhance medication adherence and urge interventions for older patients with chronic conditions to improve outcomes.⁵

5. Conclusion

The study's findings led to the conclusion that elderly people had various degrees of ignorance in all areas related to medication compliance. The STP was successful in improving elderly people's understanding of medication compliance. There is no significant association between pre-test knowledge scores and demographic variables

6. References

1. Cramer JA, Roy A, Burrell A, Fairchild CJ, Fuldeore MJ, Ollendorf DA, Wong PK. Medication compliance and persistence: terminology and definitions. *Value in health*. 2008 Jan 1;11(1):44-7.
2. Samuel S, Samuel L. Licensed Under Creative Commons Attribution CC BY Quasi Experimental Study to Assess the Effectiveness of Structured Teaching Programme regarding non-Compliance of Drug among Middle Adulthood at Rajpuramafi of Bareilly U.P. *International Journal of Science and Research [Internet]*. 2022 [cited 2024 Apr 24]; Available from: <https://www.ijsr.net/archive/v11i8/SR22804133545.pdf>

3. Shruthi R, Jyothi R, Pundarikaksha HP, Nagesh GN, Tushar TJ. A study of medication compliance in geriatric patients with chronic illnesses at a tertiary care hospital. *Journal of clinical and diagnostic research: JCDR*. 2016 Dec;10(12):FC40.
4. Jenifer D. *A Study to assess the effectiveness of structured teaching programme on anticoagulant drug compliance among patients with mechanical heart valve in GKNM Hospital, Coimbatore* (Doctoral dissertation, G. Kuppusawamy Naidu Memorial Hospital, Coimbatore).
5. Ocakoglu G, Demirci H, GUCLU OA, Guclu Y. Association between health literacy and medication adherence in the elderly population with chronic disease. *Ethiopian Journal of Health Development*. 2020 Jun 21;34(2).
6. Bhusal A, Jadhav PR, Deshmukh YA. Assessment of medication adherence among hypertensive patients: a cross-sectional study. *Int J Basic Clin Pharmacol*. 2016 Jul;5(4):1606.