

A STUDY TO ASSESS THE EFFECTIVENESS OF INFORMATION BOOKLET ON ENHANCING KNOWLEDGE OF ELDERLY PATIENTS WITH CARDIAC DISORDER REGARDING THE STRATEGIES TO MANAGE POLYPHARMACY IN SELECTED HOSPITALS AT INDORE (M.P)

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ABSTRACT

Polypharmacy, the concurrent use of multiple medications, is a common and critical concern among elderly patients, especially those with chronic conditions like cardiac disorders. Inadequate knowledge regarding medication management can lead to adverse drug reactions, reduced treatment adherence, and poor health outcomes. This study aims to assess the effectiveness of an information booklet in improving the knowledge of elderly patients with cardiac disorders regarding strategies to manage polypharmacy. A quasi-experimental one-group pre-test and post-test design was employed. The study was conducted among elderly cardiac patients admitted to a selected hospital. A total of [insert sample size] participants were selected using purposive Sampling. A structured knowledge questionnaire was administered before and after the intervention. The intervention included the distribution and explanation of an information booklet covering safe medication practices, adherence strategies, side effects management, and the importance of regular follow-up. The findings revealed a significant improvement in the post-test knowledge scores compared to the pre-test scores. The mean post-test score was notably higher, indicating enhanced understanding among the participants. Statistical analysis using paired t-test showed that the difference was significant At $P < 0.05$. The study concluded that the information booklet was effective in enhancing the knowledge of elderly cardiac patients regarding the management of polypharmacy. Such educational interventions are vital in promoting safe medication practices and improving the overall quality of care in the geriatric population.

Keywords: Polypharmacy, Elderly Patients, Cardiac Disorder, Information Booklet, Medication Management, Patient Education.

INTRODUCTION

Ageing, an inevitable process, is commonly measured by chronological age and, as a convention, a person aged 65 years or more is often referred to as 'elderly'. However, the ageing process is not uniform across the population due to differences in genetics, lifestyle, and overall health. Thus, chronological age fails to address the heterogeneity observed among the 'elderly', particularly in regard to their pharmacotherapy needs where pharmacokinetic and pharmacodynamic factors necessitate individualization of regimens. The most important behavioural risk factors of heart disease and stroke are unhealthy diet, physical inactivity, tobacco use and harmful use of alcohol. Amongst environmental risk factors, air pollution is an important factor. The effects of behavioural risk factors may show up in individuals as raised blood pressure, raised blood glucose, raised blood lipids, and overweight and obesity. These "intermediate risks factors" can be measured in primary care facilities and indicate an increased risk of heart attack, stroke, heart failure and other complications. Polypharmacy, defined as the regular use of 5 or more medications at the same time, is common in older adults and at-risk younger individuals. As aging individuals often contend with multiple chronic health conditions, the use of 5 or more medications becomes common, posing risks of adverse outcomes such as falls, frailty, disability, and mortality.

REVIEW LITERATURE

Ovid, Magiran (2023) This review study was conducted by systematically searching databases such as PubMed, ScienceDirect, Scopus, Google Scholar, Ovid, Magiran, and SID for literature published between 2005 and 2023 using the keywords polypharmacy, elderly, and prevalence. Findings revealed that polypharmacy was most prevalent among individuals aged 70–74 and 80–84 years. The occurrence of polypharmacy was influenced by various factors, including the individual's demographic profile, health status, and healthcare facility characteristics. Additionally, several studies highlighted a link between the source of drug-related information and patterns of polypharmacy use. To mitigate the risk of adverse drug reactions, many articles emphasized the importance of ongoing monitoring of medications in older adults. Effective management strategies identified in the literature included improved collaboration between physicians and pharmacists, educating elderly individuals on the risks of self-medication, raising awareness about the cautious use of herbal remedies, implementing electronic tools for medication tracking, and adhering to prescribing protocols and clinical guidelines. These interventions can significantly reduce unnecessary polypharmacy and simplify medication regimens for the elderly, thereby enhancing medication safety and adherence.

Kim H C (2021) Korea remains among the countries with the lowest cardiovascular disease (CVD) mortality rates, and age-adjusted CVD mortality continues to decline. However, trends differ depending on the specific type of CVD. Without age-standardization, cerebrovascular disease mortality reached its peak in 1994 at 82.1 per 100,000 population, then steadily declined to 44.7 per 100,000 in 2018. Heart disease mortality, on the other hand, was lowest in 2001 at 44.9 per 100,000 but rose again to 74.5 per 100,000 by 2018. When age-standardized, both cerebrovascular and heart disease mortality rates have shown a downward trend over the past decades, though the pace of decline varies between the two. Data from the National Health Insurance claims database indicate that the absolute number of hospitalizations for cerebrovascular disease and ischemic heart disease is rising, yet age-standardized hospitalization rates are falling. In contrast, heart failure shows a marked increase in both mortality and hospitalization rates, regardless of age-adjustment. Regarding risk factors, 70% of Korean adults have at least one CVD risk factor, 41% present with two or more, and 19% have three or more. Common risk factors include hypertension, diabetes, hypercholesterolemia, obesity, and smoking. The burden of multiple risk factors grows with age—among adults aged 70 years and older, 65% have at least two risk factors and 34% have three or more. With the proportion of elderly individuals, particularly those with multiple risk factors and chronic conditions, continuing to rise, targeted management of this high-risk group will be essential for effective CVD prevention in Korea.

McAloon C J et al (2016) Global epidemiology and incidence of cardiovascular disease. In this study they described the pattern and global burden of disease has evolved considerably over the last two decades from primarily communicable, maternal, and perinatal causes to noncommunicable disease (NCD). Cardiovascular disease (CVD) has become the single most important and largest cause of NCD deaths worldwide, at over 50%. The World Health Organization (WHO) estimates that 17.6 million people died of CVD worldwide in 2012. Proportionally this accounts for an estimated 31.3% of global mortality, with ischemic heart disease (IHD) accounting for 7.4 million deaths, 13.2%. IHD was also the greatest single cause of death in 2000, accounting for an estimated 6.0 million deaths. The global burden of CVD falls, principally, on the lower- and middle-income countries, accounting for over 80% of CVD deaths. Individual populations face differing health challenges, and each specific

population has unique health burdens, however, CVD continues to remain one of the greatest health challenges worldwide.

METHODOLOGY

Pre experimental design is further categorized into one shot case study design, one group pre-test post-test design. One group pre-test post-test design combines both post-test and pre-test study by carrying out test on single group prior treatment is administered & after treatment is administered. **TARGET POPULATION:** Patients with cardiac disorder, **ACCESSIBLE POPULATION:** Patients with cardiac disorder in selected hospitals of Indore. **SAMPLE TECHNIQUES:** Non probability convenient Sampling Techniques, **SAMPLE SIZE** 60 Patients with cardiac disorder, **TOOLS AND DATA COLLECTION** Self-Structured Knowledge Questionnaire

Inclusion Criteria

In this study-

- Patients with cardiac disorder who are present at the time of data collection.
- Patients with cardiac disorder who are willing to participate in the study
- Patients with cardiac disorder who know Hindi and local language.

Exclusive criteria

In this study-

- Patients with cardiac disorder who are serious ill during the data collection period.
- Patients with cardiac disorder who are not willing to participate.
- Patients with cardiac disorder are not present at time of the data collection

Description of the Tool

Demographic data: This part composed of items pertaining to socio demographic information of nurses including: age, sex, education, religion, occupation, types of family, family income and source of information

Structured questionnaire: Consisted of 30 knowledge items questionnaire, score of one (1) was allotted to exact reply & zero assigned to each incorrect response. Total score of knowledge was 30. Level of knowledge was measured in terms of knowledge scores. Level of knowledge was measured namely poor, average, good, & excellent. Average time given to answer one question was 30 minutes.

Data Analysis and interpretation

This analysis is divided as follows: -

Section A: Frequency and percentage distribution of studied samples according to demographic variables.

Section B: comparison between the test score and knowledge score among the patients with cardiac disorders.

Section C: Find out the association between the pre-test knowledge score with the selected demographic variable.

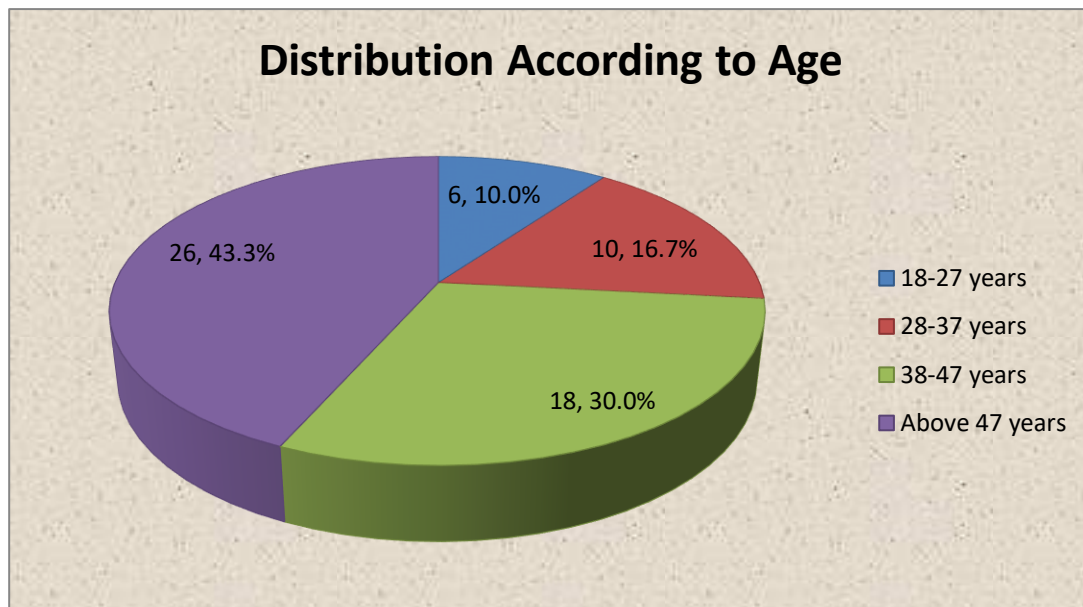


Figure 1: Distribution According to Age

There were 6 (10.0%) patients with cardiac disorders in the age group 18-27 years, 10 (16.7%) patients with cardiac disorders were in the age group 28-37 years, while 18 (30.0%) patients with cardiac disorders were in the age group above 38-47 years, 26 (43.3%) patients with cardiac disorders were in the age group above 47 years.

Table 1: Frequency and percentage distribution of general assessment of patients with cardiac disorders regarding the strategies to manage polypharmacy

S. No.	Questions	Always /Yes	Never/No	Sometimes	Not Sure
1.	Do you understand why are you taking each of your medications?	5.0%	30.0%	23.3%	41.7%
2.	Do you take all your medications as prescribed by your doctor?	68.3%	1.7%	28.3%	1.7%
3.	Do you ever forget to take your medications?	41.7%	1.7%	53.3%	3.3%
4.	Do you experience any difficulties in remembering to take all your medication on time?	31.7%	5.0%	61.7%	1.7%
5.	Have you experienced any side effects or adverse effects from taking multiple medications?	53.3%	1.7%	43.3%	1.7%
6.	Do you discuss the need for all your medications with	41.7%	11.7%	41.66	5.0

	your healthcare provider?				
7.	Do you feel anxious about taking too many medications?	40.0%	20.0%	33.33%	6.66%
8.	Are you satisfied with the number of medications you are currently taking?	11.7%	18.3%	11.7%	58.3%
9.	Do you buy your meds from particular pharmacy or from government scheme medical shop like Janaushadhi Kendra?	66.7%	3.3%	26.7%	3.3%
10.	Does your doctor inform you about your combination pills and its work	43.3%	1.7%	25.0%	30.0%
11.	Do you face any burden taking multiple medications and want to change it in single combination pill?	68.3%	1.7%	26.7%	3.3%

Comparison of pretest and posttest knowledge score among the patients with cardiac disorders.

The knowledge questionnaire consisted of 20 questions. For each correct answer 1 mark was given, for each wrong answer 0 mark was given. The score was further graded as Poor (0-5), Average (6-10), Good (11-15) and Excellent (16-20). In the pretest, 38 (63.3%) patients with cardiac disorders got poor knowledge Grade, 16 (26.7%) patients with cardiac disorders got average knowledge Grade, 6 (10.0%) patients with cardiac disorders got good knowledge Grade, none of them patients with cardiac disorders got excellent Grade. In the posttest, 5 (8.3%) patients with cardiac disorders got average knowledge Grade, 13 (21.7%) patients with cardiac disorders got good knowledge Grade, 42 (70.0%) patients with cardiac disorders got excellent knowledge Grade, none of them patients with cardiac disorders got poor knowledge Grade.

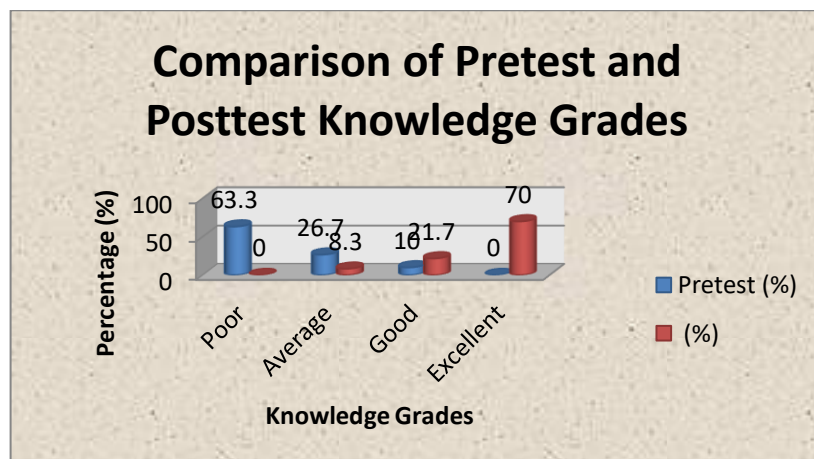


Figure 2: Comparison of Pretest and Posttest Knowledge Grades

The pretest knowledge score was 6.15 ± 2.06 , while the posttest knowledge score was 15.80 ± 2.14 . The difference was found to be statistically significant ('t' value = -27.19, df=59, p value=<0.05, Significant), showing a higher posttest knowledge score.

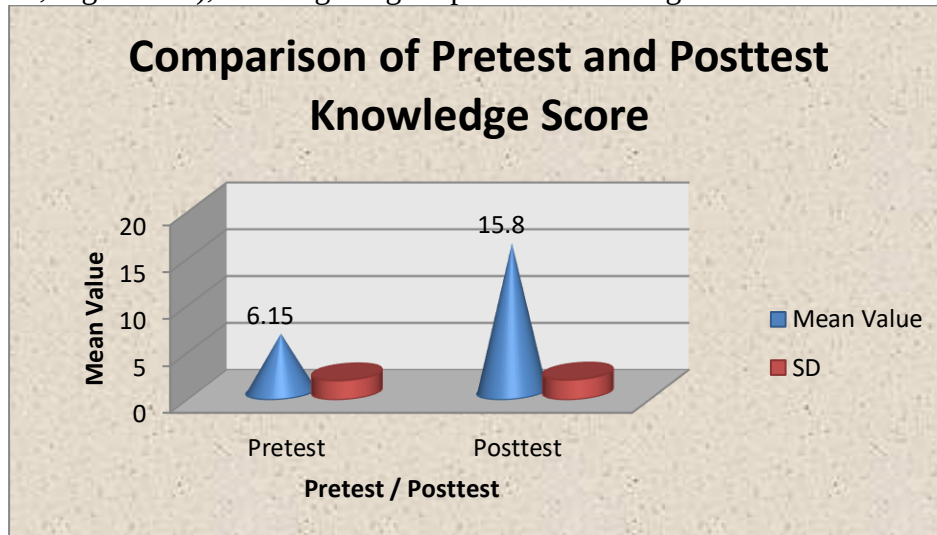


Figure 3: Comparison of Pretest and Posttest Knowledge Score

Table 2: Association of pretest knowledge grade with educational qualification

S. No.	Educational qualification	Pretest Knowledge grade				χ^2	P value
		Poor (0-5)	Average (6-10)	Good (11-15)	Excellent (16-20)		
3.	Educational qualification						
	a. uneducated	0	2	0	0	8.58, df=6	>0.05, NS
	b. Primary and middle	4	0	1	0		
	c. Secondary and higher secondary	19	8	4	0		
	d. Graduate and above	15	6	1	0		
	Total	38	16	6	0		60

$\chi^2=8.58$, df-6, P value = >0.05, Not Significant

The above table shows the association between pretest knowledge grade and educational qualification. There is a statistically no significant association seen between pretest knowledge grade and the educational qualification ($\chi^2=8.58$, df=6, P value = >0.05, Not Significant), showing that pretest knowledge grade is independent of the educational qualification of the patients with cardiac disorders.

CONCLUSION

Thus, after the analysis and interpretation of the data, we can conclude that the hypothesis **H₁** that, “There will be significant difference between pretest and posttest knowledge score of patients with cardiac disorder is **being accepted**. And the hypothesis **H₂** There will be a significant association between the pre-test knowledge score on strategies to manage polypharmacy and the selected demographic variables among patients with cardiac disorder is being rejected. From the above results, we can conclude that there was a statistically significant effectiveness seen in knowledge of patients with cardiac disorders. Thus, the intervention “information booklet” was effective in improving the knowledge of patients with cardiac disorders.

Recommendations:

- The similar study may be replicated on large sample there by findings can be generalized for patients with cardiac disorder.
- A similar study may be repeated with experimental and control group for more generalization of finding.
- Similar kind of study can be undertaken in different setting.
- Studies may be conducted to evaluate the effectiveness of STP.

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