Adverse Drug Reaction and Pharmacovigilance in Elder Patient's Health

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Health, Drugs, Pharmacist, Pharmaceutical Care

ABSTRACT

A pharmacist is a medical expert who is dedicated to helping patients take medications in a safe and efficient manner. Many Indian hospitals do not consider a pharmacist's responsibility for medication use or their role as a health care provider in clinical practice. The study's first goal is to comprehend how healthcare professionals view and interact with the clinical role of the Pharmacist. According to the study, general practitioners were only made aware of the role of the clinical Pharmacist following an intervention. The study makes the strong recommendation that other hospital-affiliated health care providers be allowed to take part in educational programs on drug-related topics and be open to collaborating with the clinical Pharmacist to improve patient care. According to the current study, pharmacovigilance program implementation in hospitals is crucial for ensuring safe medication use, preventing adverse drug reactions, and, ultimately, improving patient care quality.

1. Introduction

According to the World Organisation Initiative, every country should set up its economic, community, and health care systems to accommodate the ageing of its population both now and in the future. [1] The number of elderly people is rising globally, and in both industrialised and emerging nations, the frequency of many chronic and degenerative illnesses is likewise rising quickly within this age group. As elderly individuals age, health issues, social support issues, and economic uncertainty can get worse. Due to the growing number of senior persons and associated comorbidities, information regarding the prescribing in elderly patients, clinical knowledge in pharmacology and therapeutics, and clinical pharmacy are vital in contemporary clinical practice. The procedure of administering medication to elderly patients is intricate, and doctors must always spend a great deal of time to overseeing the medications, appropriate dosage forms, and length of therapy [2].

It is challenging to generalise prescription recommendations due to the wide variances in people's health and sickness, as well as changes in age, disability, polymorbidity, and related polypharmacy among the elderly. The therapeutic qualities of medications in elderly patients can be greatly impacted by a number of factors, including patient, provider, and health system issues, as well as the difficulties associated with prescribing medication. These factors also lead to inappropriate and incorrect medication use in older patients. The purpose of medication therapy for older adults is to minimise patient risk and generate positive therapeutic results, both of which improve the patients' overall quality of life and state of health [3].

Even when used at adequate therapeutic levels and with appropriate supervision, all drugs, prescription and over-the-counter, have an inherent risk of triggering adverse drug events or adverse drug reactions, which are frequently unanticipated and unpreventable. It can be extremely difficult to administer proper pharmacological therapy to older patients due to the increased risk of new drug adverse responses and side effects resulting from continuous and ongoing drug use, which can cause potentially serious interactions with the body or with other medications. For elderly patients receiving pharmacological treatment, improving their quality of life is equally as important as living longer. In order to attain the goal of improved quality of life, it is imperative that elderly people receive adequate medication [4].

2. Literature Review

The number of elderly people is predicted to rise three times faster than average globally, meaning that by 2050, there will be 1.9 billion older people than there were in 2007 (when there were only 850 million). By 2050, the percentage of this population in developing countries was predicted to increase to roughly 12%, or from 8% in 2005 to 20% [5]. Elderly individuals frequently have several chronic illnesses, impairments, and other issues for which they need more than five medications to treat them. Changes in pharmacokinetic and pharmacodynamic characteristics may transpire as one ages. Elderly patients have trouble taking their prescribed drugs because of cognitive dysfunctions, poor vision, bad

hearing, hand arthritis, memory loss, difficulty following doctor's directions, etc. Among the elderly, pharmaceutical mishaps, which mostly consist of medication errors and adverse patient events connected to medicine, continue to be a major public health concern [6]. By using a descriptive and retrospective study, [7] examined and evaluated the drug prescription patterns and errors in elderly outpatients. They came to the conclusion that increasing the likelihood of prescription errors and the improper drug prescription pattern which was primarily made up of 12 drugs may be caused by changing the dosage of the drug, the drug itself, or other therapeutic indices. Their study's findings suggest that a prescription's quality is influenced by the number of medications it contains. They carried out a medication review in [8] on the services provided by clinical Pharmacists to overcome DPRs and the categorisation of treatment-related issues at a Swedish hospital. In order to ascertain the impact of patient counselling on the quality of life and successful therapeutic result in hypertension patients at a hospital in East Nusa Tenggara, a prospective study was conducted in [9]. On the subject of "Drug related problems and their clinical interventions in a Ghanaian teaching hospital," they carried out a retrospective assessment of clinical intervention reports in [10]. A study was carried out in [11] to evaluate the duties of a clinical Pharmacist in terms of reviewing medications and educating patients on how to identify, stop, and manage drug treatment problems, or DRPs, in hospitals.

3. Methodology

Prior to the study's start, health care professionals' knowledge and attitudes towards the clinical Pharmacist's actions were evaluated. This was primarily done to find out what healthcare professionals thought about the clinical role of pharmacists and to persuade doctors and other healthcare professionals to use clinical pharmacists' expertise in managing elderly patients' medication regimens in order to enhance patient care. The clinical Pharmacist evaluated 153 questionnaires that were completed by various medical specialists. Thirteen other medical professionals, 105 nurses from various wards and nursing stations, 35 doctors from various departments, including general medicine, nephrology, cardiology, neurology, gastroenterology, and gynaecology, among others, returned the questionnaire. The primary focus of the current investigation was elderly patients. In a multispecialty hospital, patients were chosen from inpatient departments such as neurology, general medicine, pulmonology, nephrology, cardiology, and gastroenterology in order to evaluate the effects of pharmaceutical care activities on patient management and the drug therapy behaviour of older patients. During the study period, information on 770 patients was gathered [12]. All information gleaned from patient case files was imported into Microsoft Excel 2010. The statistical package of social science (SPSS-USA, IL, CHICAGO) software was then linked to this by supplying keys. Windows SPSS version 20 software was utilised on PCs, and relevant statistical techniques were applied. When assessing statistical reports, a descriptive 95% confidence interval was employed. To analyse continuous variables, one may use the standard deviation, mean, and percentage. By employing proportions, an analysis of discrete variables was obtained. The student's t-test was used to compare the mean data collected during the pre- and post-interventional periods. A value <0.05 was found to indicate statistical significance based on the collected data.

4. Results and discussion

50.4% of the study subjects are patients in the 60–70 age range. This is the largest group of patients. The group of patients with the lowest percentage (1.6%) was found to be greater than 100. The survey results showed that 29.6% of the patients were in the 70–80 range, 30 patients (3.9%) were in the 90–100 range, and the remaining patients (14.5%) were in the 80–90 range.

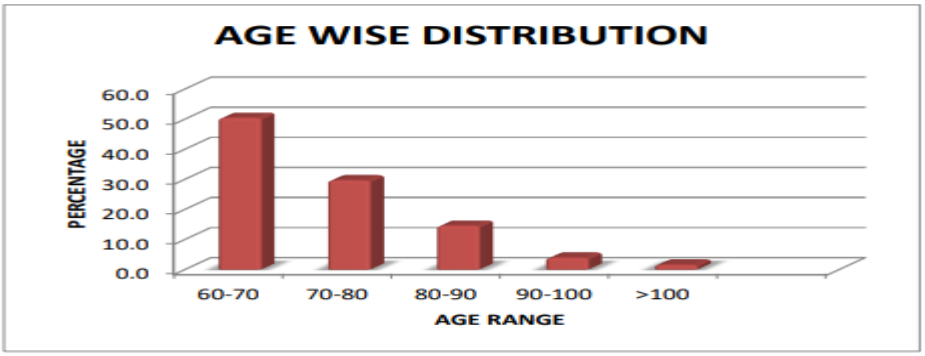

Figure 1: Age Wise Distribution

The study included patients who were both male and female. There were 444 male patients (57.7%), compared to 326 female patients (42.3%). This outcome may have occurred because male patients may have made up the majority of those admitted throughout the study period. Since the study is being done in a part of India, another explanation for this outcome could be that the female patients stop coming to the hospital after reaching a certain age.

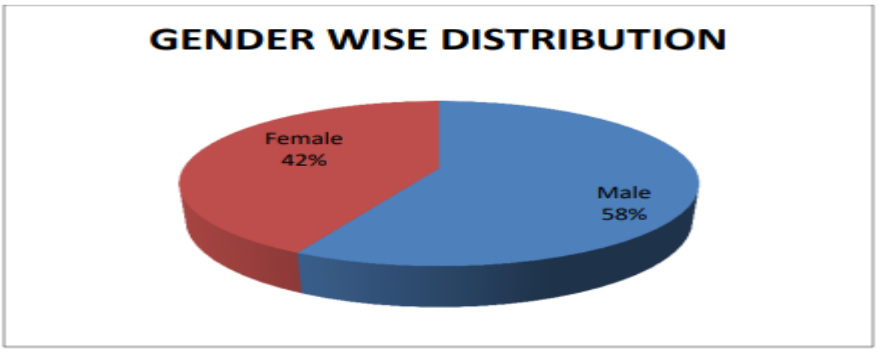

Figure 2: Gender Wise Distribution

The short form health survey questionnaire, which consists of 36 items grouped under eight areas, was used to evaluate the quality of life of elderly patients.

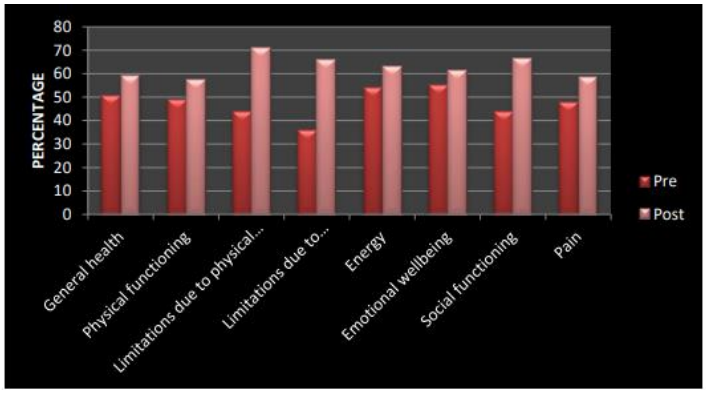

Figure 3: Quality of life of patients

Patients' quality of life was evaluated both before and after the intervention through the use of the SF-36 questionnaire. According to this result, the patients' quality of life was assessed at 50.80% for general health, 48.92% for physical functioning, 43.57% for physical health problems and limitations, 35.71% for emotional problems limiting health, 53.79% for energy or emotional wellbeing, 43.49% for social functioning, and 47.66% for pain during the study period. When comparing all parameters between the two periods, the postintervention phase showed statistically significant improvement.

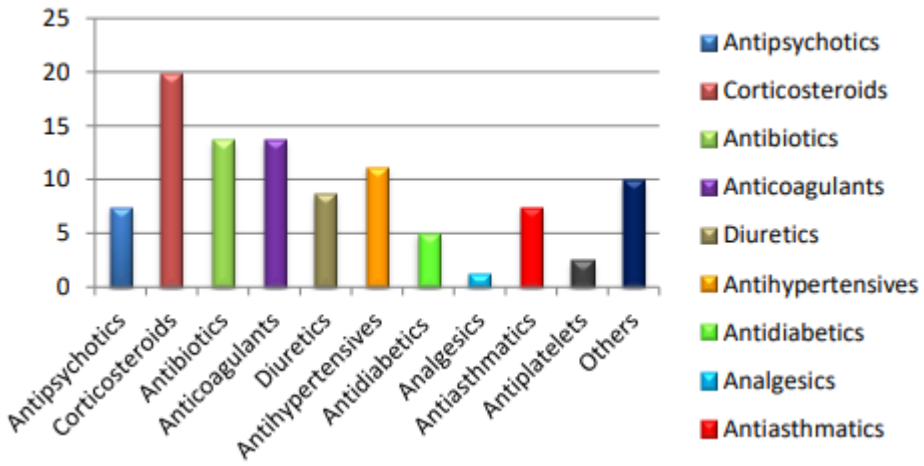

Figure 4: ADVERSE DRUG REACTION

According to the study, the main class of medications linked to ADRs was corticosteroids (19.75%), which was followed by antibiotics (13.58%), anticoagulants (13.58%), and antihypertensive medications (11.11%). Physicians' degree of acceptability of clinical Pharmacist intervention was observed. The majority of the time, the doctors adjusted the course of treatment because the patient's advantages outweighed the risks after considering the clinical Pharmacist's recommendation. Because the patient was benefiting from the current therapy, in certain cases the clinical Pharmacist's suggestions were accepted but the therapy was not changed. In a small number of patient reports, however, the physicians were unwilling to alter the course of treatment because they were disregarding the clinical Pharmacist's recommendations.

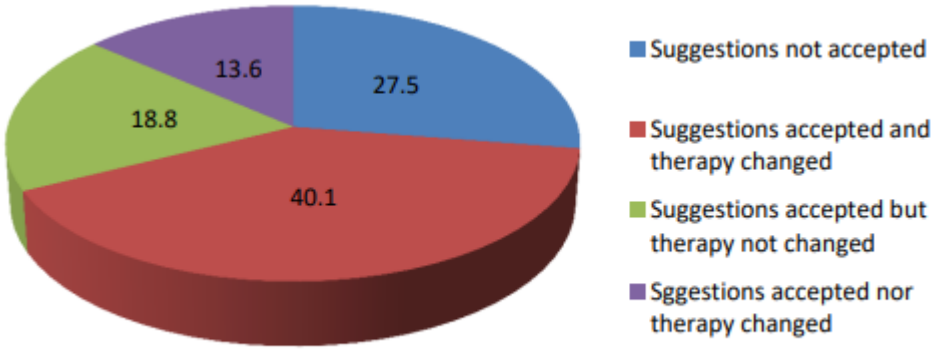

Figure 5: Acceptance level of patients

The provision of pharmacological treatment is a crucial component of geriatric care, with the goal of achieving evidence-based, logical pharmacotherapy that benefits both the patient and the community. A patient with better mental and physical health, free from all forms of stress, is said to have a high quality of life. The study's findings were mostly analysed using statistical analytic approaches such as descriptive analysis, chi-square testing, and student t-tests for comparison. P-value was used to interpret the results. One reaches statistical significance when the value The entire study demonstrated the important role that clinical Pharmacists play in reducing the incidence of drug-related issues and offering solutions through counselling. Interventions by Pharmacists can greatly improve the patient's health outcome.

5. Conclusion and future scope

It is well acknowledged that patient safety is one of the most crucial elements of the healthcare system. When taken improperly or unsafely, medications can hurt patients more than help them recover from illnesses. Numerous studies have shown that medications can have negative effects on individuals. The

word "DRPs" is frequently used in the context of pharmacological care. Potential or real issues are included in drug-related difficulties. In a case of actual DRP, the patient's signs and symptoms continue, leading to treatment failure; in a potential DRP, the disease's signs and symptoms are absent, but if they persist untreated, they could cause harm to the patient through unfavourable circumstances. This study demonstrated that pharmacodynamic and pharmacokinetic changes in the elderly population, comorbid conditions, polypharmacy, patients' ignorance of their medications and medical conditions, improper medication use, and the hoarding of outdated medications all increased the risk of drug-related problems for these patients.

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