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Prescription Auditing in Outpatient Departments of Associated Hospitals of Government Medical College Anantnag

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ABSTRACT

Background: A prescription audit is a quality improvement tool for ensuring the rational use of drugs and is based on documented evidence of diagnosis, treatment, and instructions to achieve the same. A periodic prescription audit is required to identify common deficiencies in prescriptions and to undertake corrective measures to improve prescribing practices. In this study, we aim to understand the prescription practices and identify the bottlenecks and opportunities for improvement and prescribing behavior of physicians using the WHO-recommended core prescribing indicators and the National Health Mission proposed additional indicators at a teaching hospital. **Methods:** A Prospective, Observational study is going on in outpatient departments of a tertiary care hospital of GMC Anantnag and we present the data in this study of the initial two years of the audit. A total 1125 prescriptions were audited on the checklist formulated by NHM as per standard auditing parameters. 17 parameters were evaluated. Prescriptions collected from OPDs of various clinical departments were analyzed in the department of pharmacology. **RESULTS:** The audit revealed that the average number of antibiotics prescribed was 26.8%in 2021& 7.5% in 2022and only 19.67% in 2021&0.3%in 2022 of the drugs were prescribed by generic name. Whereas, the percentage of prescriptions duly signed was 15.5%&12%in 2021and 2022 respectively and the prescription of injectables was 27% in 2021&12.6%in 2022 which was less than the ideal recommendations as per WHO, and 1265 (88%) of the drugs were prescribed from the National List of Essential Medicines Prescription auditing gives a current scenario of prescribing practices in a tertiary care hospital setting. **Conclusion:** This prospective observational study points towards the great need for improvement in prescribing patterns in areas of antibiotic prescribing, generic names, dose, and dosage forms, thus reducing the practice of polypharmacy. Through a comprehensive review of relevant literature, coupled with empirical data collection and analysis, this endeavors to shed light on the role of prescription auditing as a proactive measure in promoting rational prescribing habits and mitigating potential risks associated with medication use. **Key Words**: prescription audit, rational prescribing. generic drugs, prescribing indicators, and prescribing patterns.

I. INTRODUCTION:

To improve the quality of life, there is a need to enhance the standards of medical treatment at all levels of the health care system. These standards are overseen by the medical audit and prescription audit offers the most comprehensive overview of performance by monitoring, evaluating, and suggesting recommendations in the prescribing practices of medical practitioners to make proper use of resources and improve patient care[1]. It is a continuous tool required for improving health care [2]. It helps to avoid misuse of drugs and thereby maintain the rational therapeutics[3]. Rational drug use will ensure patients access to appropriate medication relevant to their clinical diagnosis, in doses and durations meeting individual requirements which will also be easily affordable by them and the community as a whole[4]. Prescription auditing ensures good practices among doctors, improving overall patient care by minimizing errors of prescription with the implementation of rational use of drugs.

Worldwide reports suggest that over half of all medicines are over-prescribed, dispensed, or sold inappropriately and half of all patients fail to take their medicine correctly. Various studies have reported prescription errors as common medical errors in hospitals responsible for several documented mortalities[5]. The importance of prescription auditing has led to the laying of guidelines to be adopted by practitioners while writing prescriptions but unfortunately, they are not always being followed.

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In developing countries like India, polypharmacy, increased prescription of drugs of improved efficacy, and irrational antibiotic usage are some of the known drug prescription issues[6]. There is a need for improvement in the quality of prescribing patterns and this requires an action plan. Recommendations for change are set either by providing the STGs (Standard treatment guidelines), EDL (Essential drug list), and antibiotic policy to the prescribers or by following IEC interventions[7].

Aims and Objectives: To investigate the scope for educational intervention and improvement in prescribing patterns. To understand the prescription practices, identify the bottlenecks and opportunities for improvement.

II. MATERIAL METHOD:

The study was carried out prospectively in the OPD of the associated hospital of GMC Anantnag from March 2020 in pursuance of an order issued by the concerned authority after receiving approval from the IEC of GMC, till date. However, it was withheld for some time due to the closing of OPD services during the peak of COVID times, and then it was resumed as a continuous ongoing activity. During this period an audit committee with members comprising of the heads of departments of various clinical branches was created to review the audit periodically for overall improvement of prescription writing. To introduce and create awareness amongst the clinicians in a newly created GMC, the following recommendations were put forward by the nodal officer of prescription audit to the administration of the hospital: a) generation of correct prescription format as recommended by NHM, preferably typed or electronic prescriptions are most recommended. b) Essential medical list for different levels of facilities and provisioning of the medicine as per EML to be reviewed biennially involving all stakeholders. c)Requisition slips for medicine duly signed by the prescribing doctor with name and registration number mentioned on it. d) Framing of standard treatment guidelines for common clinical conditions and management as per current protocol which can be further strengthened by developing an appropriate antibiotic policy involving concerning departments. e) Provision of stamps to all doctors with their names, designation, department, and registration at the earliest.

Prescriptions collected from OPD of various clinical departments were analyzed in the department of pharmacology as per the prescription parameters guidelines issued by WHO CORE PRESCRIBING INDICATORS. However, these core prescribing indicators do not provide information on recording patients' demographic details, legibility, and clinical details. To cover all dimensions of prescription writing in terms of patients and prescribers details and indicators related to the legibility and rationality of prescription have been added to the final audit template as recommended by NHM from the Ministry of Health and Family Welfare.

III. RESULTS:

In this study, a total of 1125 prescriptions were audited on the checklist formulated by NHM as per standard auditing parameters. 17 parameters were evaluated. Prescriptions collected in 2021 &2022 were audited separately and then compared for any improvement that was expected after the sensitization &awareness of the practitioners of associated hospitals of GMC Anantnag. The results observed are given below in tables and figures. Identification parameters of OPD registration no & date of consultation were mentioned in almost all prescriptions (OPD registration no (98.21% 2021& 99.10% 2022) date of consultation:98.2%2021 100%2022) and complete name in more than half of the prescriptions (61.9% 2021 51.5%2022). Between the years 2021 and 2022, the parameters of age and gender mentioned improved from 0.6% to 25.25% and 19.42% to 31% respectively. However, the weight mentioned in the prescriptions witnessed no considerable improvement (0% in 2020 &3.6% in 2022). (Table 1, fig 1).

Furthermore, it was observed that only 32% of the prescriptions were legible in 2021 whereas 63% of the prescriptions collected in 2022 were legible. A definite improvement was also noted in recording salient features of clinical examination (18.2% in 2021 and 73.3% in 2022) and mentioning of presumptive diagnosis (58.76%2021&80.8% 2022).Other prescribing profiles parameters recorded were brief mention of previous history(26.4% 2021 &37.6% 2022) and allergy status mentioned(2.8% 2021&2.5%2022) (Table 2,fig 2).

Between 2021 and 2022, it was observed that although the use of vitamins, tonics or enzymes prescribed has declined from 32.40% to 9.6%, a substantial decrease in medicines prescribed by generic names(19.67%2021 0.3%2022)and antibiotics prescribed as per facility's antibiotic policy(26.8%2021 7.5%2022) was noted. Other drug profile parameters were

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medicine schedule/doses clearly written(88.3520221 85.9%2022), injections prescribed(27%2022 12.16%2022) and investigations prescribed(39.8%2021 51.86%2022.) (Table 3,fig 3).

It was observed that there was no significant improvement in the mention of doctors' names (12.3%2021,14.6 2022), prescriptions were duly signed in,(15.5%2021,12%2022), and registration no. of doctors (8.3%2021,11.6% 2022) were written on the prescriptions. (Table 4,fig4).Improvement was observed in mentioning the date of next visit from 3.676% in 2021 to 17% in 2022, duration of treatment written (30.18%2021&24%2022), and follow-up advice mentioned (2.6%2021&8%2022) didn't show any considerable improvement. (Table 5, fig 5)

Table 1: Prescription Identification Parameters

	Parameters	Number of prescription % 2021	Number of prescription % 2022
1	OPD Registration no	98.21 %	99.10%
2	Complete Name	61.9%	51.5%
3	Age Mentioned	0.6%	25.25%
4	Weight Mentioned	0%	3.6%
5	Date of Consultation	98.2%	100%
6	Gender	19.42%	31%

Table1: Prescription Identification Parameters revealthatregistration and date of consultation was mentioned almost in all audited prescription**(opd registration no:98.21% 2021&99.10% 2022 ; date of consultation:98.2%2021 100%2022)**withonly few prescriptions mentioning weight**(0% in 2020&3.6% in 2022).**

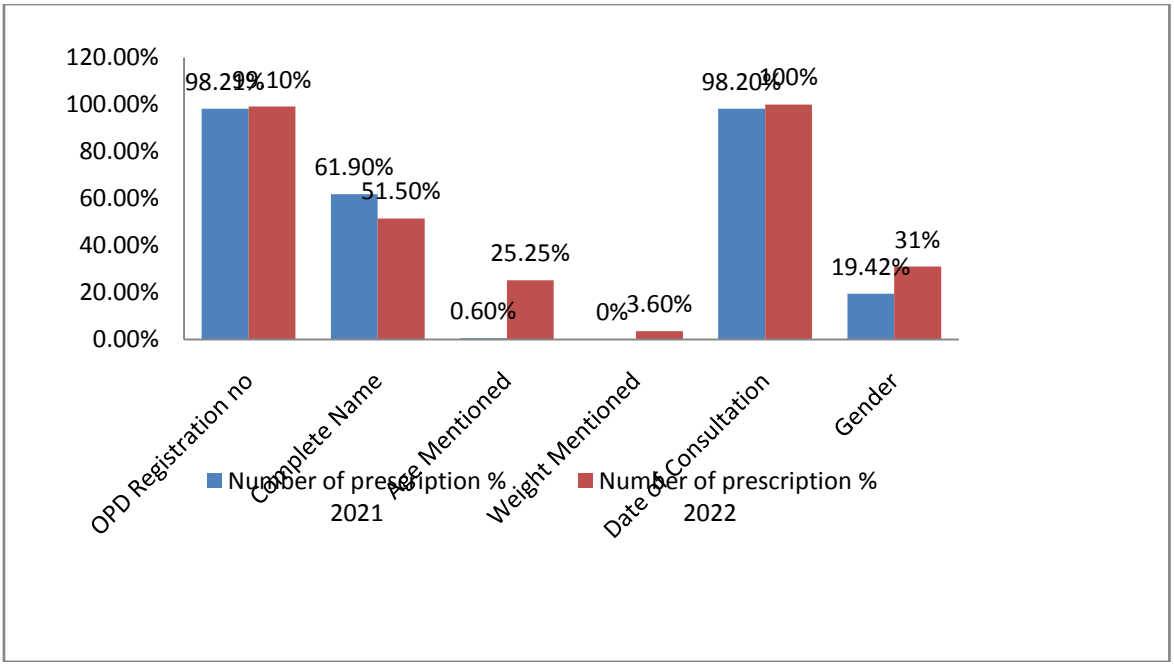

Fig 1: Prescription Identification Parameters

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Table 2: Prescribing Profile

Parameters		No of prescription % 2021	No of prescription %2022
1	Legible Handwriting	32%	63%
2	Brief history written	26.4%	37.6%
3	Allergy status mentioned	2.8%	2.5%
4	Salient features of clinical examination recorded	18.2%	73.3%
5	Presumptive/definitive diagnosis written	58.76%	80.8%

Table 2 Prescribing Profile:allergy status is written in very less **(2.8%)** prescriptions with significant improvementseen in recording of salient features of clinical examination **(18.2%in 2021&73.3% 2022)** and mentioning of presumptive diagnosis**(58.76%2021&80.8% 2022).**

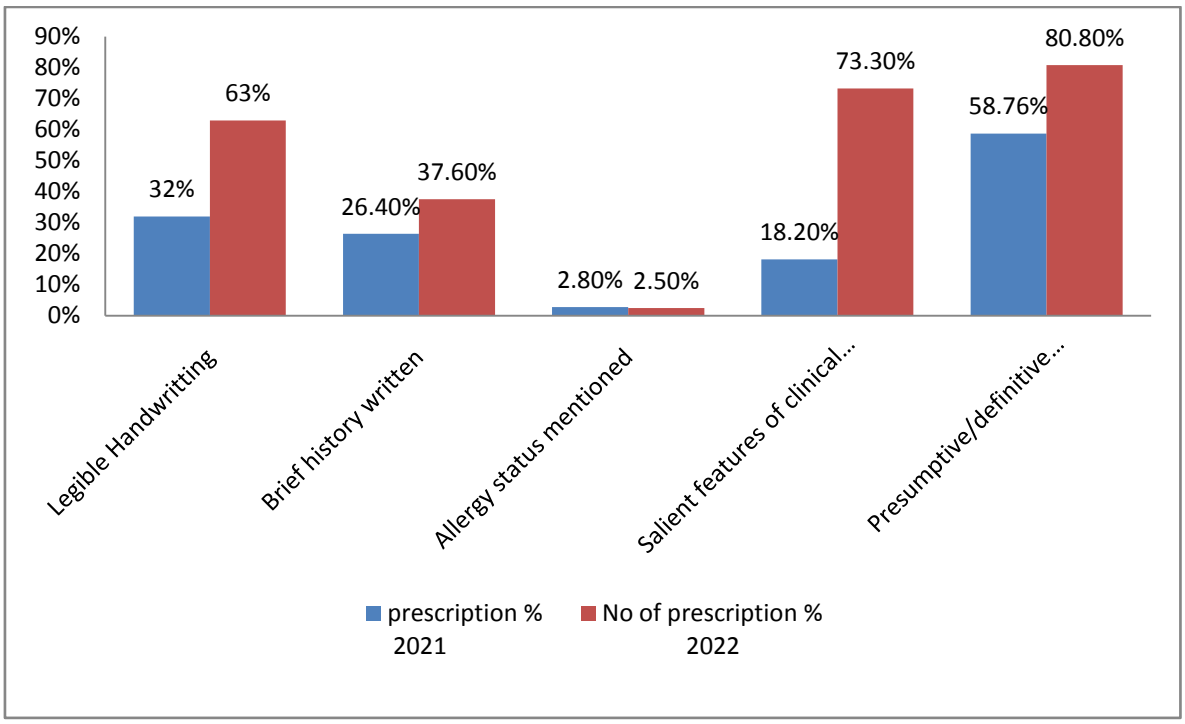

Fig 2: Prescribing Profile

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Table 3: Drug Profile

Parameters		No of prescription % 2021	No of prescription % 2022
1	Medicines are prescribed by generic names	19.67 %	0.3%
2	Medicines schedule/doses clearly written	88.3 %	85.9%
3	Vitamins,tonics or enzymes prescribed	32.4 %	9.6%
4	Antibiotics are prescribed as per facility`s antibiotic policy	26.8%	7.5%
5	Injections prescribed	27%	12.16%
6	Investigations prescribed	39.8%	51.86%

Table 3 of drug profile depicts less percentage of generic prescribing with substantial decrease in medicines prescribed by generic names**(19.67%2021 0.3%2022)**between twoyears howeversignificantdecline was observed in use of vitamins, tonics or enzymes from **(32.40% to 9.6%)**,

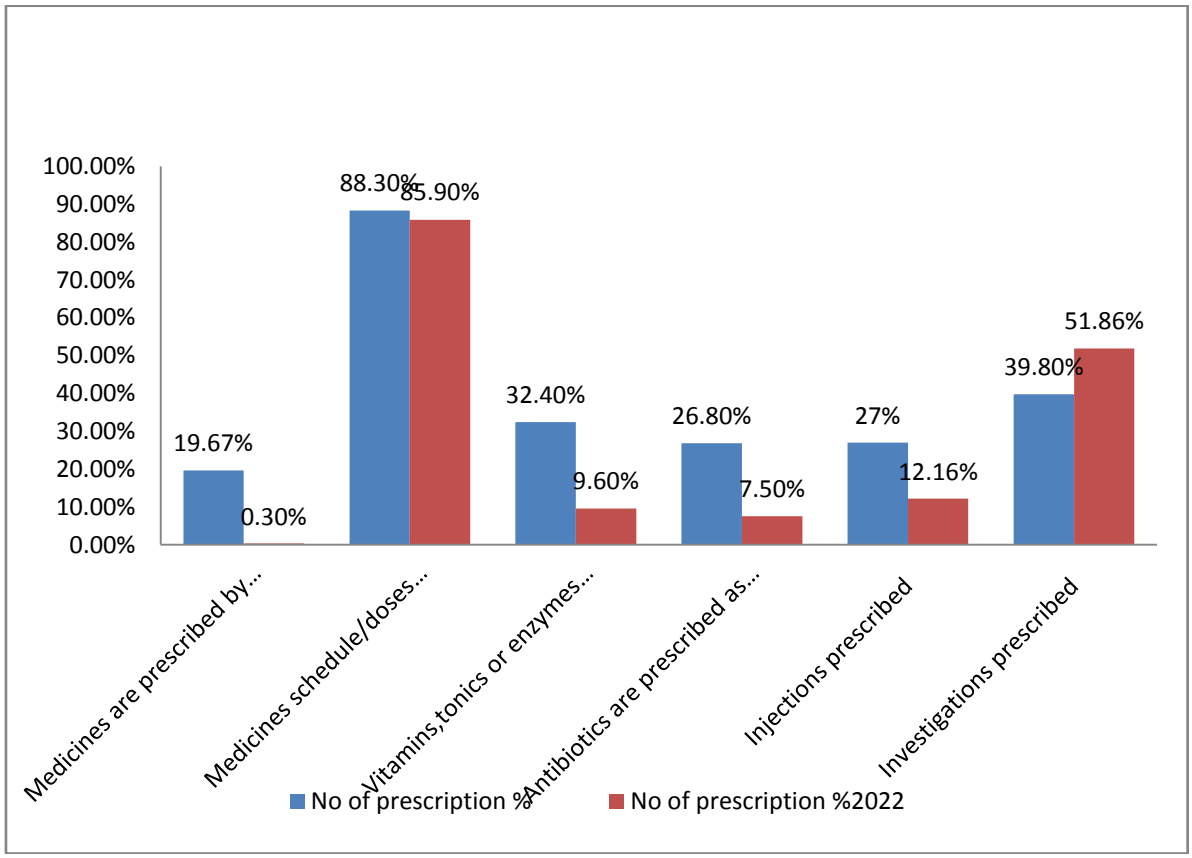

Fig 3:Drug Profile

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Table 4: Complete Prescription in terms of duration, next visit ad follow up

	Parameters	No of prescription % 2021	No of prescription %2022
1	Duration of treatment written	30.18%	24%
2	Date of next visit written	3.676%	17%
3	Follow up advise and precautions{do`s and don'ts} are recorded	2.6%	8%

Table 4: Complete prescription in terms of Duration, Next visit and mention of follow up advice **(2.6%2021&8%2022)**with no considerable improvement

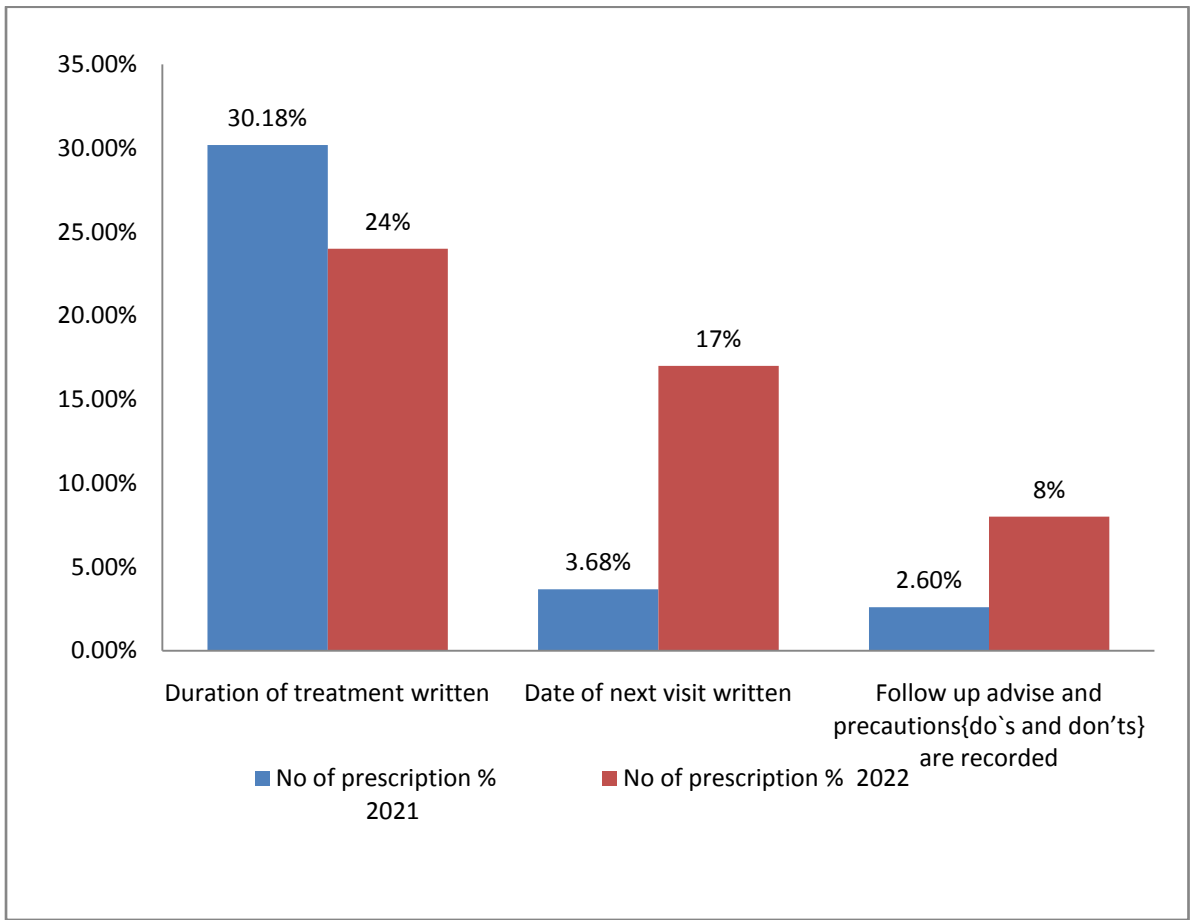

Fig 4: Complete prescription in terms of Duration, next visit and follow up

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Table 5: Doctors Profile

Parameters		No of prescription % 2021	No of prescription % 2022
1	Doctors name and designation written	12.3%	14.6 %
2	Prescription duly signed	15.5%	12 %
3	Registration no and stamped prescription	8.3%	11.6%

Table 5: Doctors Profile show most of the prescriptions with incomplete data regarding doctors profile like prescriber's name,designation**(12.3%2021,14.6 2022),**registration no,**(8.3%2021,11.6% 2022)**. and signature**(15.5%2021,12%2022)**.

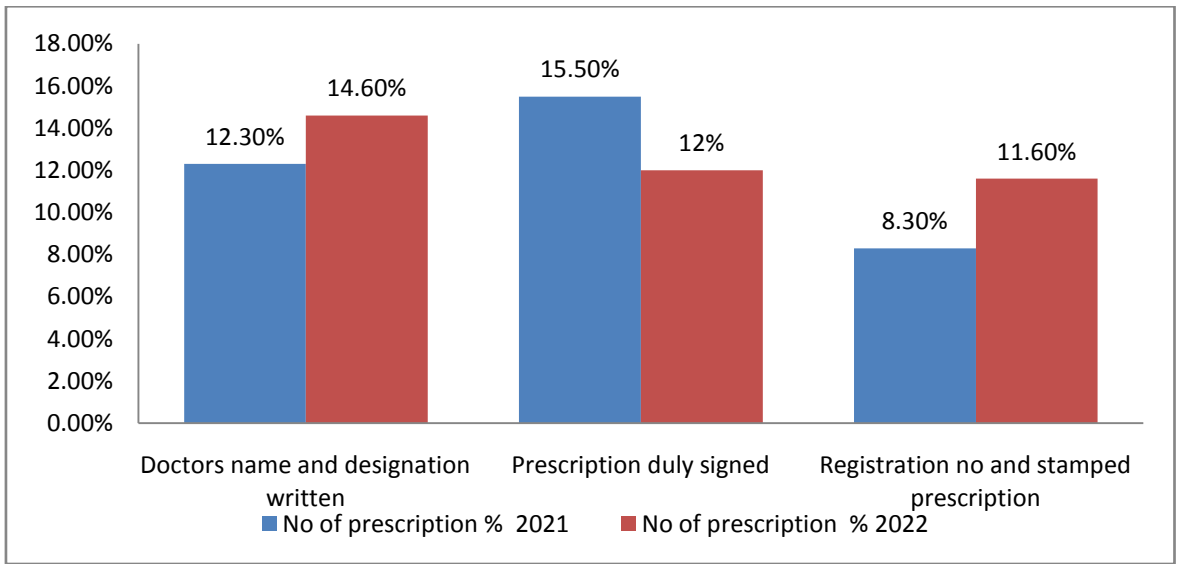

Fig 5: Doctors Profile

IV. DISCUSSION:

Prescription auditing, a systematic process of reviewing prescription practices, has emerged as a vital tool in optimizing patient outcomes, enhancing medication safety, and controlling healthcare costs. Within the context of outpatient care, where a significant volume of prescriptions is dispensed daily, the need for rigorous auditing practices becomes particularly pronounced This ongoing study was conducted in the outpatient departments of the associated hospitals of government Medical college Anantnag which is a newly created college. The study is the first of this kind in this hospital since the inception of college. A total of 1125 prescriptions were evaluated over a period of 2years under the supervision of nodal officer and auditors. Since the tool for improving the health care system was new to the hospitals, awareness among the clinicians about the concept and implementation of prescription audit was conducted before starting the study.

The Outpatient Department (OPD) serves as a primary interface between patients and healthcare providers in many healthcare settings, as are the associated hospitals of GMC Anantnag. These OPDs witness a diverse spectrum of patient cases and consequently generate a substantial volume of prescriptions. In this context, effective prescription auditing holds the potential to identify patterns of inappropriate prescribing, minimize medication errors, and ultimately improve the quality of care delivered to patient

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Auditing has pointed towards a very low practice of generic drug prescription,0.3% of total drugs prescribed in 2022 and 19.67% in 2021.Low usage of generic drugs and less use of drugs from essential drug list have also been reported in other parts of this region in India[8].

Similarly prescription of antibiotics has been observed to be 26.8% (table 3 & fig3)though huge variationin antibiotic prescription has been found across different cities In India, as high as 63.33% in Jaipur, and 20.6% in Lucknow[9].In our setup It is almost at par with the standards set by WHO standards less than 30% [9].Despite the central computerized registration services present in hospitals , demographic characters like age weight gender were mentioned in less number of prescription(0.6%,0% and 19.42% respectively.(Table1& fig 1) however percentage of mentioning theseparameters increased to some extent in 2022 (25.25%, 3.6% 31%) which can be attributed to awareness created amongst clinicians .However OPDregistrations no. complete name and date of consultation were mentioned in most of theprescriptions (Table1 & fig 1).

Dose of drug was mentioned virtually in all prescriptions(tab3&fig 3). Allergy history of the patients was mentioned in few prescriptions. low selection of generic name were similar to other study .The results are in agreement with the number of previously reports studies[10]. Similar to the results of our study the provisional diagnosis was written in 30% prescriptions. Though WHO does not insist much on writing the diagnosis always, but it is desirable to write [11]. Present study reported that 99.80% of the prescriptions with incomplete data regarding doctors profile like prescriber's name,designation,registration no,. and signature. Absence of doctor"s signature was found in 7.6% of the prescriptions in some studies and no prescription contained registration number of the prescriber(table5& fig 5)[12].

The present study strongly points towards the need of bringing modifications in prescription writing practices and aims to explore the landscape of prescription auditing specifically within the outpatient departments of associated hospitals affiliated with GovtMedicalCollegeAnantnag. By examining current practices, challenges, and opportunities related to prescription auditing, this study seeks to contribute to the body of knowledge surrounding medication management in outpatient settings. Additionally, insights garnered from this research endeavour may inform the development of targeted interventions aimed at optimizing prescription practices and enhancing patient safety within the OPD environment. Education curriculum can help endeavors of generic medicine prescription. Root causes analysis of this system can be considered as integral part or tool of Prescription audit[13]. The result suggested that methodology selected for data collection was appropriate supported by literature.Besides to cover all dimensions of prescription writing in terms of patients and prescribers detailsand indictorsrelated o helegibility and rationality of prescriptions as proposed by national healthmission this stud has recorded all theseindicators in addition to core prescribing indicators for the firsttime.To ensure quality healthcare becomes a reality , it is imperative to conduct prescription audit periodically so that appropriate measures can be taken .

V. CONCLUSION:

Prescription auditing gives a current scenario of prescribing practices in a tertiary care hospital setting. This prospective observational study shows that there is a great need for improvement in prescribing patterns in areas of antibiotic prescribing, generic names, dose, and dosage forms, thus reducing the practice of polypharmacy. Through a comprehensive review of relevant literature, coupled with empirical data collection and analysis, this paper endeavors to shed light on the role of prescription auditing as a proactive measure in promoting rational prescribing habits and mitigating potential risks associated with medication use. Ultimately, it is hoped that the findings of this research will catalyze fostering continuous improvement in outpatient prescription practices, thereby advancing the overarching goals of quality healthcare delivery and patient-centered care. There is a great need for the generic name of drugs in each prescription with a signature and doctor registration number. The prescription audit is an important tool in improving patient care.

Acknowledgement

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Ethical approval

The study was approved by Ethical committee of GMC ANANTNAG (Approval Number :IEC/GMCA/21/023), and subsequent permission was obtained from related Departments.

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