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A Study on Compliance of Drug Prescription Error, with Special Reference to Four Clinic (UVEA, Glaucoma, Orbit and Paediatric) at One of the Opthalmic Eye Hospital in South Zone of Tamilnadu

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Abstract: ***Pharmacy plays a vital role in handling patients for medications in which doctors prescribe. Incidence of prescribing drug errors is quiet common in single specialty ophthalmic hospital. Knowing where and when prescription compliance is most likely to occur is generally felt to be the first step in trying to prevent these errors. There are different types of clinics in ophthalmic eye hospital orbit, retina, uvea, cornea, glaucoma, paediatric and retinopathy of prematurity (ROP)units. In this study particularly focus on specific reference to four Clinics (orbit, glaucoma. uvea and paediatric). Proper educational training programmes on medication and drug therapy are required for medical, paramedical students and also for nurses, administrators to reduce drug compliance and to improve patient safety. This paper focus the compliance of prescription errors occurs in pharmacy. A checklist was framed and data was collected from the Pharmacy in order to find out the root causes of Prescription errors with special reference to four Clinics. The expected outcome of this paper is the improvement in already existing prescription errors and implementing new software technology to reduce the errors and increase patient safety. The findings are also expected to pave the way for future research work and helps to streamline the errors particularly in four clinics.***
Keywords: Pharmacy, Prescription errors, Compliance, Reduce the errors, Patient Safety.

I. INTRODUCTION

A. Definition

Pharmacy is a place where quality of medicine is supplied to the patients and practice of producing, dispensing, reviewing a drugs safely to the patients.

B. About the Study

In pharmacy prescription compliance and drug errors occurs commonly due to illegible handwriting of doctors and careless of other paramedical staff working in hospital. Clear hand written instructions include patient name, MR. No, age, date, doctor seal, signature, frequency, duration and also they should mention the eye left/right in the prescription sheet. Drug cards, memos, medication charts or any written material in a laminated sheet helps to reduce the errors and follow especially for elderly patients who find it difficult to comprehend much of the information which is provided during medication counselling. Patient involvement in decision making is essential in improving medication compliance. Electronic monitors capable of recording and stamping the time of opening bottles, dispensing drops (eye drops) can also give a measure of adherence and helpful for reducing drug compliance and error. In this study all the health care professionals should identify practically possible strategies to improve medication compliance within the limits of their practice eventually enhancing therapeutic outcome. Finally, the study concludes prescription of medicines is an integral part of the provision of health and represents a relatively safe, effective and inexpensive mode of treatment. Written Prescription errors and compliance can be streamlined by using efficient electronic prescription system.

The objectives of the study include,

1) To study the compliance of drug prescription of Special reference to 4 departments (Uvea, Peadiatric, Glaucoma &Orbit) at pharmacy
2) To identify the reasons for compliance of drug prescription in pharmacy
3) To Suggest measures to reduce the compliance of medical prescription in pharmacy

II. LITERATURE REVIEW

According to Dr. Mandal and SG Fraser (2005), this study was conducted in UK one of the single speciality ophthalmic hospital. One of major problem in this study was about the incidence of prescribing error, how it occurs and trying to prevent these medication errors. The duration of the study is 4-week period at an eye hospital UK and prescription medication error was recorded by the Pharmacists. They Categorised into error of prescription writing or drug error. They divided into OPD, Accident and Emergency, Day care centres and Inpatient ward. Overall Observation found 144 out of 1952, 8%prescription sheets had errors. The study reveals 7%of the total errors were of prescription writing and only 1% drug errors. Most of drug errors are made by junior doctors compared to the senior doctors. Outpatient department had highest prevalence of error occurrence. Finally, this study suggests how to reduce the prescription errors by implementing the new systems.

According to Saqib A.K. Utman, MBBS, MRCOphth, FRCS; Peter L. Atkinson, MBChB, MRCOphth, FRCS; Hanna M. Baig, MBBS (2013), In Saudi Ophthalmological society, King Saud University the main aim of the study was to determine the medication related prescription errors in ophthalmic eye hospital and evaluate preventable measures to reduce the errors. Mostly error occurs during the stage of writing prescription and to reduce the errors they implemented to counter check the prescription one or two times to reduce the rate of errors significantly. According to Louis A. Morris, PhD, And Jerome A. Halpern Mph (1979), In this study it focused more attention on the effectiveness of written information for the patients and evaluated the effects of drug information in the prescription sheet. Most of the studies indicate that written information in the prescription are effective by improving compliance for antibiotic therapy. Patient have only sufficient knowledge about precautions, side effects, special directions it is improved by written information. In this patients may be more willing to report side effects to the health professionals if they are listed in the prescription sheet. The study focused to improve the quality by better communication to the patients to avoid the compliance over the prescription sheet.

According to Tsegaye Melaku *et al* (2014), In this study to assess the standards of prescription writing at Jimma university They are totally 384 prescriptions during the study using random sampling technique. It is mainly based on the prescriber follows correct and complete prescription writing. The prescription has error like patient name, age, sex, card no, address and weight of the patient were not recorded and also prescriber name, signature, qualification were not recorded. And also prescribed drugs were not written generic names and strength, duration and frequency of the drugs. Frequency of drugs, route of administration, and total quality of drugs were omitted. Finally, the study suggested to reduce the poor adherence to the basic standard of prescription writing.

III. METHODOLOGY

The method used to collect the data was simple random sampling technique. About 750 prescription sheets the errors were collected mainly focus on special reference to four clinics in ophthalmic eye hospital. According to Morgan's table 350 data were taken and randomly analysed. The method of data collection used was checklist and in that prescription sheet Patient name, MR.NO, Date, Doctor signature and seal, duration, frequency, whether eye was mentioned correctly left/right were checked using the Prescription sheet especially on four particular clinics . Other data were also collected as dispensing error like Wrong entry of billing, Batch No error and system error. Simple percentage method and also quality tools like cause and effect diagram, Pareto diagrams were used to improve and reduce the prescription drug errors. This tools may help to identify the root causes of the problem and reduce the errors in the ophthalmic hospitals.

IV. ANALYSIS

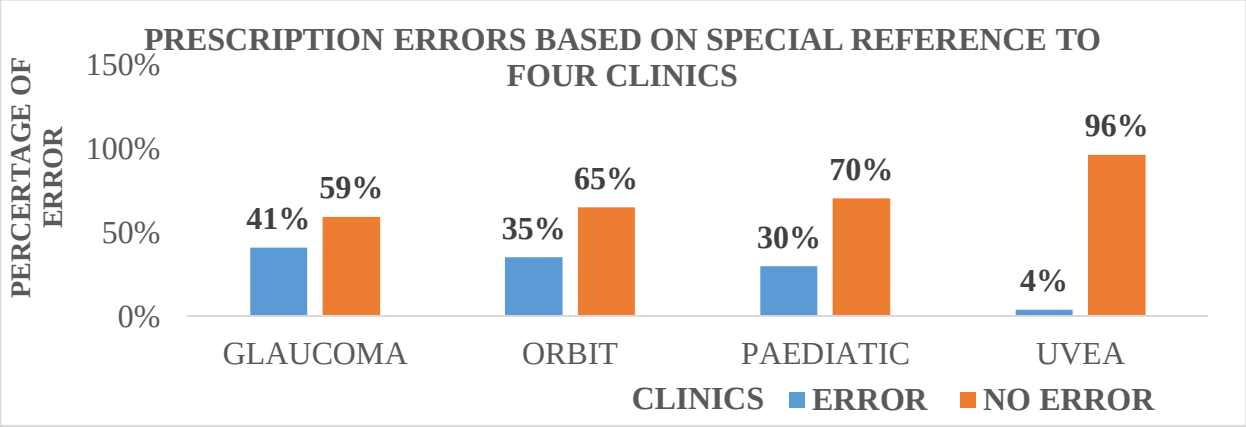


CHART 1.1 -CHART SHOWING THE PARAMETERS OF PRESCRIPTION ERRORS:

The above chart shows the Parameters of Prescription errors at particular four Clinics. In that chart it is inferred that the Prescription errors is 41% which is highest in Glaucoma clinic and it is lowest in Uvea clinic (4%).

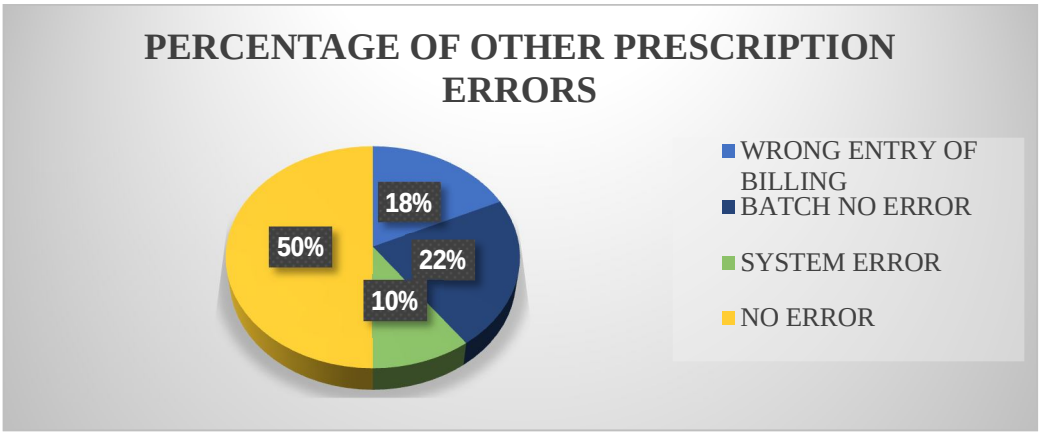


Chart 1.2-CHART SHOWING THE COMPLIANCE OF OTHER PRESCRIPTION ERRORS IN PERCENTAGE

The above chart shows the Compliance of other Prescription errors at Pharmacy. In that chart it is inferred that the Prescription Sheet at 50% has No errors and System error is 10% which has lowest error.

1) Findings: (From Chart 1.1 AND 1.2)

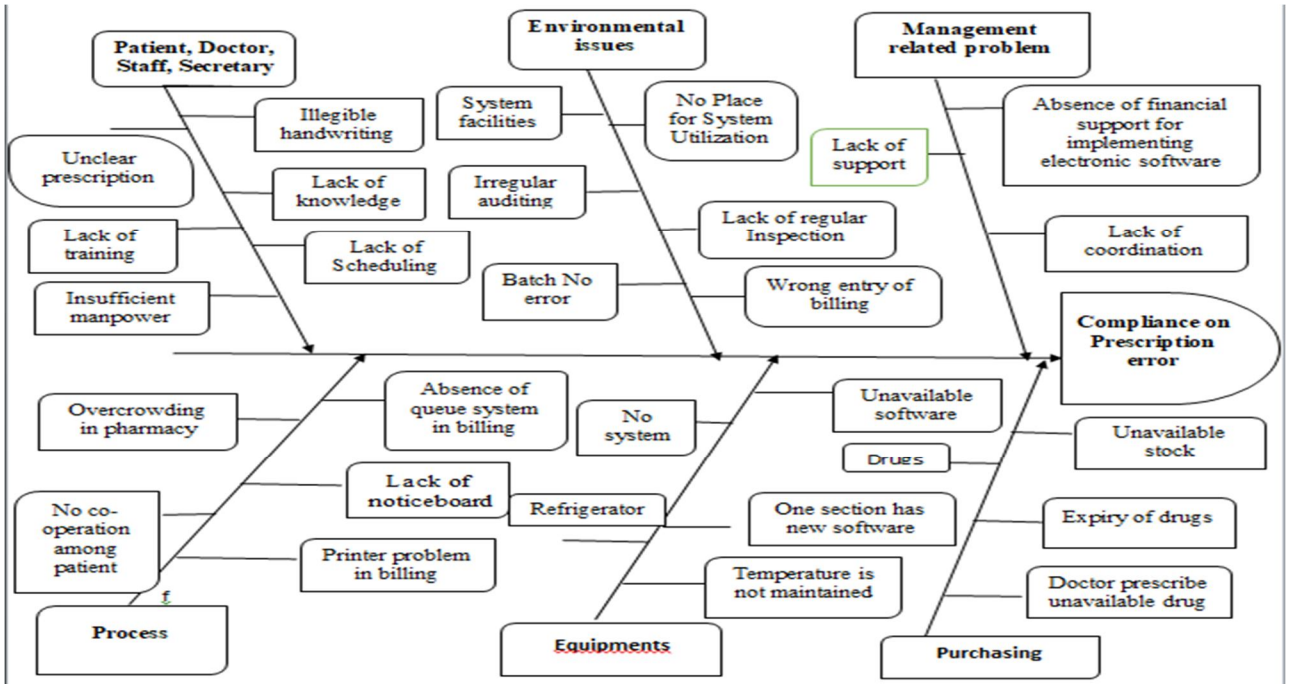
a) If MR.NO or Name of the patient is missing in the prescription sheet before taking the medicine to the patient, it will be checked once and verified by staff members using OPD card.

b) Doctor signature or seal is missing in the Prescription sheet it is also checked by staff members by using OPD card.

c) If Wrong entry of billing is made by staff members and it is corrected by another new billing process, then batch no error also corrected before dispensing the medicine to the patient.

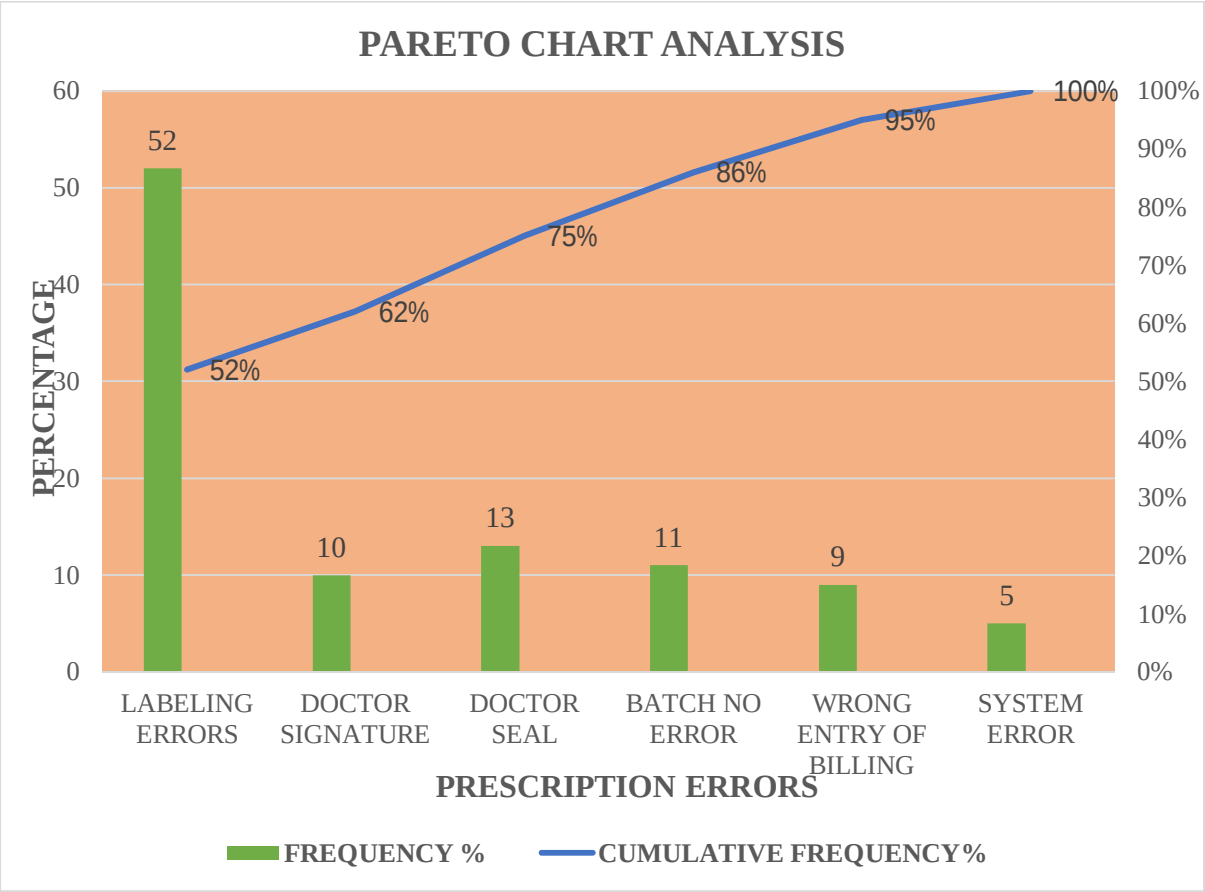
Chart 1.3-Cause And Effect Diagram With Additional Charts Shows That Compliance On Prescription Errors

Fishborne Diagram



The above fishbone diagram shows briefly that major and minor causes that leads to compliance on prescription errors. This quality tools helps to reduce the compliance on prescription sheet in pharmacy.

Chart 1.4-in Pareto Diagram it Shows the Prescription Compliance at Pharmacy



The above Pareto diagram chart indicates 20% of labelling errors leads to 80% of Prescription compliance and errors.

V. MAJOR FINDINGS & RECOMMENDATIONS

A. Only few medical prescriptions are not clear because of illegible handwriting and some information regarding patient were missing.
B. Lack of manpower during the lunch time and making the patient wait longer during billing process.
C. Wrong entry of billing is made by staff members sometimes at rare occasions.
D. Sometimes staff members are forgetting to write the batch number in coversheet and notice the drug expiry date before delivering the medicine to the patient.
E. Patient should aware about previous prescriptions or carry the sheet to avoid repeating the drug and notice any change in prescription
F. Lack of communication skills and languages in staff members.

The recommendations include,

1) Care should be taken by the doctors while writing prescriptions in clear manner and check whether all the information regarding patient were written in prescription sheet
2) Need of adequate manpower during lunch time to avoid waiting time of patient in billing process
3) Electronic prescription is on the process it can be implemented as soon as possible in OP Pharmacy also to reduce the errors.
4) Proper awareness for the staff members to notice the batch number, expiry date and concentrate during billing process (wrong entry of bill) to avoid the dispensing error
5) Overcrowding can be avoided by the queue system in billing section
6) Notice board can be displayed in patient waiting area on awareness on prescription sheet.

VI. CONCLUSION

However, it should be emphasized that prescriptions should be easily read by anyone involved in the dispensing activities since the prescriptions could be filled by any pharmacy outside the hospital. This is especially important since many drugs tend to have similar names such as Daonil and Anoxic, Fluoxetine, or paroxetine. This type of error may be reduced if the indication of the drug prescribed or the medical problem of the patient is also written in the prescription. Therefore, all prescriptions should be clearly and adequately written and if possible printed to prevent such medication errors. It is reported that computerized physician order entry and computerized physician decision support, in fact, significantly reduce prescription errors improving drug safety. This study helps for the future references to reduce the prescription compliance in the pharmacy.

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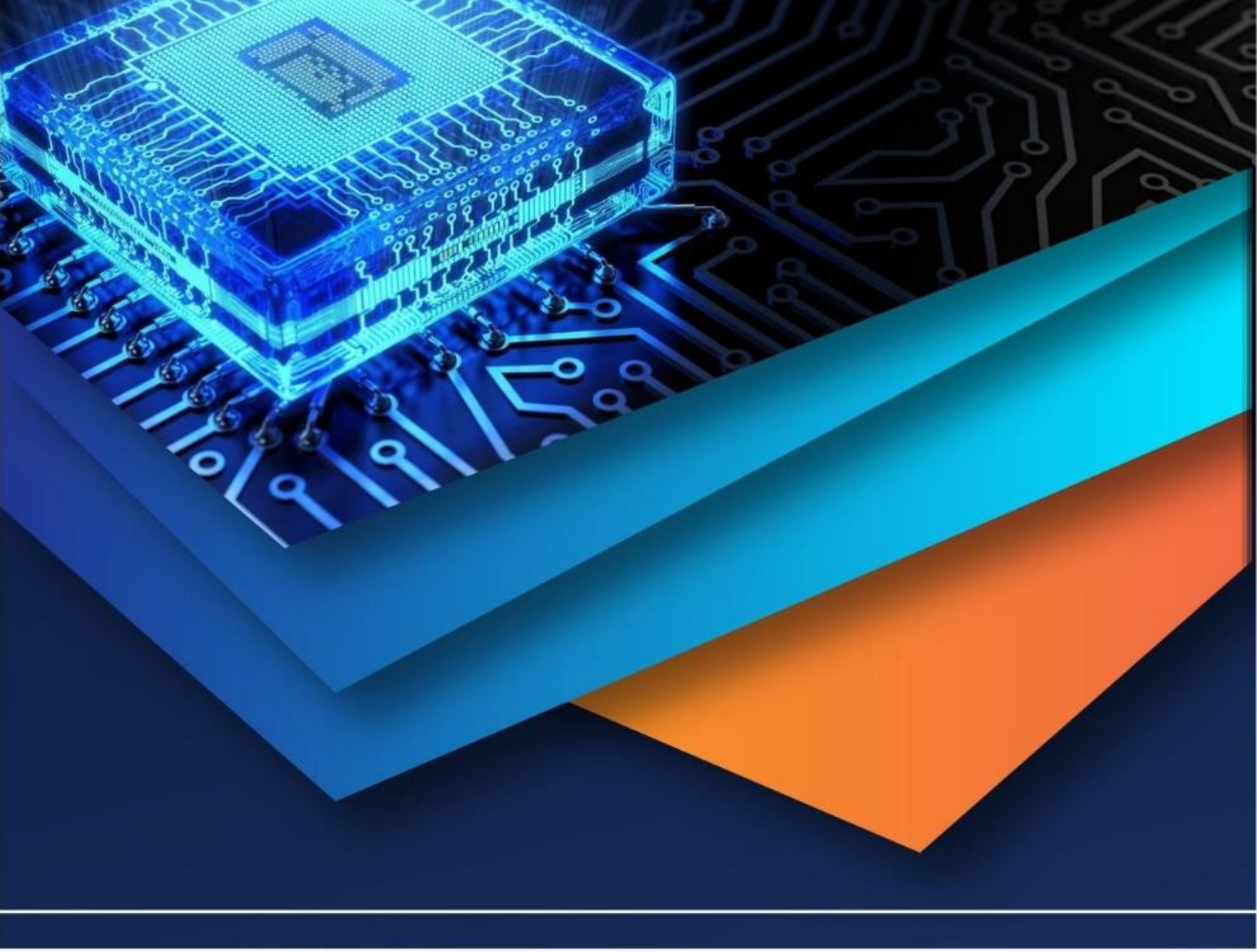

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