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Review Article
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RATIONAL USE OF DRUGS ACCORDING TO WHO GUIDELINES FOR HEALTH CARE PROFESSIONAL IN DIFFERENT HOSPITALS OF KARACHI, PAKISTAN

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ABSTRACT

In simple words rational use means, "prescribing right drug, in adequate dose for sufficient duration and appropriate to the clinical needs of the patients at lowest cost". The main purpose of study was to describe the quality of prescription which included lay out, type and number of medicines prescribed by practitioners and to prevent irrational use of drugs in different private and public hospitals. Data was collected from public and private hospitals and different clinics of Karachi, Pakistan. This cross sectional and survey based study comprises of 200 patient prescription. The layout of the prescription's quality was not satisfactory according to World Health Organization. Out of 200 selected prescriptions, 67.5% contained unclear diagnosis, 57.5% were with missed dose and dosing frequency, 47.5% prescriptions were with medicines which had drug-drug interaction and 57% contained contra-indicated medicines. 62% prescriptions contained two or more than two antibiotics. 64.3% prescriptions contained only branded medicines which were costly as compared to other brands available in the market. Such practices were observed in private hospitals and 82% prescriptions were found with unsatisfactory instructions for both, pharmacist and patients. 74% prescriptions were without doctor's name, address of clinic and contact information which can leads to irrational drug use in hospitals and private clinics. It is concluded that the prescription quality and layout is unsatisfactory which directly leads to irrational drug use. There is need to implement the WHO guide lines to prevent irrational drug use in Karachi. Irrational prescribing is a habit that is difficult to cure.

KEYWORDS

Irrational drug use, prescription layout, efforts to improve quality of prescription and quality of prescription.

INTRODUCTION

According to World Health Organization (WHO) rational use of medicine means "patients receiving medications appropriate to their clinical needs, in doses that meet their individual requisite for an adequate period of time and at lowest cost[1]" Irrational drug use might be in different forms such as unavailability of prescribed drugs, failure of proper drug prescription. For the maintenance of health or to improve it, access to medicine is also a problem. It also increased rate of morbidity & mortality and the use of unsterile injections that leads to broaden a variety of blood borne infections like hepatitis[2, 3]. To minimize these problems, we have to improve the proper use of drugs within limited resources available. Also we have to improve rational use of drugs by improving the formal health care services at the basic level [4]. In 1970, WHO introduced the "Essential drug" concept, that a limited number of drugs would lead to better supply of drugs, better prescribing & lower costs for health care[5] The main emphasis should be on the use of proper diagnosis based medicines & proper management and the low cost of the drugs[6]. Common examples of irrational use of drugs includes; large number of medicines or

polypharmacy[7], use of injections instead of oral medication where orally given medicine is sufficient, prescription of antibiotics including inappropriate dosages &duration of treatment [8], non compliance of proper clinical guidelines during prescription writing and patient's ignorance to take full prescribed treatment or self medication. In the poor & developing country like Pakistan, socioeconomic condition is not satisfactory and also there is need to educate paramedical staff and people about the proper use of drugs[9]. The effect of irrational drug use is, inappropriate drug prescription that either causes drug resistance or can increase morbidity or mortality rate, improper attention leading to wastage of resources as well as of essential drugs, there may be increased availability or prescription of drugs that have comparatively increased number of side effects and there may be an impact of patient's behavior that there must be a medicine for every problem that may lead to irrational use of drugs. If drugs used in perfect way like its dose, route of administration selection of drug etc., it is widely proved that important drugs cannot be avoid or neglected to prevent irrational drug use [10, 11]. The prescription layout must follow the WHO standard which is most important way to control the irrational drug use. Plan a program of patient education; the prescriber and other members of the health team should be prepared to repeat, extend, and reinforce the information transmitted to the patient as often as necessary. The importance of the information and involving the patient in each of the above steps must be recognized[12-14]. Rational use of medications makes sense, save lives, save money, adverse events and limits undesired toxicity and maximized on the advantages get from optimal use of medications. To improve the clinical care and outcome for chronic conditions, it depends upon the reviewing innovative to introduced changes, best practice and affordable health care models. The main purpose of the study was to point out certain factors which cause irrational drug use. There is some evidence that interventions such as short problem-based training course in pharmacotherapy and rational use focused workshops can improve prescription behavior and skills to prevent irrational drug use.

MATERIAL AND METHOD

It was a descriptive and survey based study which was conducted in different public and private hospitals and clinics of Karachi, Pakistan. This study was carried out by collecting data of 200 patients who were admitted in public and private hospitals of Karachi, Pakistan. Prescriptions, for data collection, were only selected where any one or more components were missed or the layout of prescriptions was not according to the WHO guidelines. This observational and Cross sectional survey based study was conducted in different public, and private hospitals as, civil hospital, Jinnah Postgraduate medical Centre (JPMC), Aga khan University hospital and kharadar general hospital and also from different clinics of Karachi, Pakistan. Data was collected from April 2011 to May 2012. The layout of the prescription (prescriber's information as; doctor's name, address of clinic/hospital, contact information, qualifications, registration number and signature) and contents of prescription was assessed. Data was collected by using specified questionnaire (a Consent form) was introduced which contained the following information; patient name, Age, Sex, Address, Diagnosis, Prescribed medicines with doses, low or costly drugs are prescribed and socioeconomic factor of medicines. The data of selected patients were collected from the prescriptions. Following missed different components of the prescription were strictly observed: patient's name, age, sex,

diagnosis of disease, drug dose, double drug (if both have same indications and not needed for the patient), and Drug-Drug interaction and also drug contraindication. We also observed about cost of drugs and generic names of drugs. After data collection, all data was maintained in single file and coded to enter it in IBM-SPSS STATISTICS -Version-19 (a social sciences software) for its analysis. After coding the data, it was entered in SPSS software for the analysis and to get the frequencies. After that results were obtained.

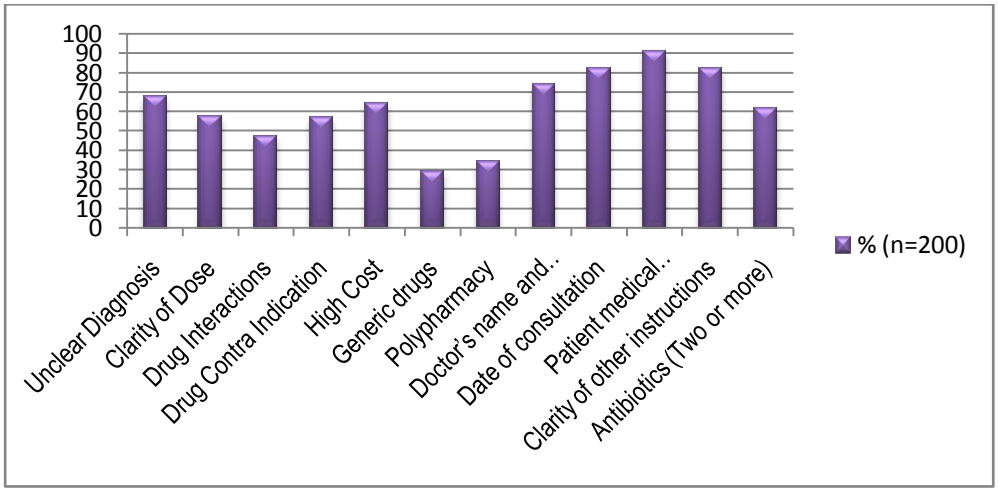
RESULT AND DISCUSSION

Data was collected from public and private hospitals of Karachi, Pakistan. 200 patient's prescriptions were selected out of 280 prescriptions and then we find out the factors of irrational drug use in those hospitals setups. We found that about 67.5 % prescriptions were devoid of clear diagnosis which may be hinder the rational drug use. Besides that, 57.5 % prescriptions were without clarity of drug dose that may leads towards irrational use of drugs. 47.5 % prescriptions contained drugs which have interactions with other drugs and 57 % prescriptions had contra indicated drugs that may cause misuse of drugs. On 64.3 % prescription consisted of only generic drugs and 29% prescriptions contained polypharmacy that may cause irrational drug use. About 34 percent prescriptions were devoid of doctor's name, contact number and signature and 74 % were without date of consultation which is most important factor for rational drug use. 82 % prescriptions did not contain patient medical registration number, 91 % were without clarity of other instructions and 62 % prescriptions contained two or more than two antibiotics as shown in **Table 1**.

Table 1: Irrational drug use and prescription layout

S.No	Item	Percentage (n=200)
	Unclear Diagnosis	67.5
	Clarity of Dose	57.5
	Drug Interactions	47.5
	Drug Contra Indication	57
	High Cost	64.3
	Generic drugs	29
	Polypharmacy	34
	Doctor's name, contact Number and signature	74
	Date of consultation	82
	Patient medical registration number	91
	Clarity of other instructions	82
	Antibiotics (Two or more)	62

Graph 1 Irrational Drug use found in selected prescriptions



The presented lead review serve since a baseline condition investigation study to recognize health care professional follow and awareness towards diverse characteristic of rational use of medicines. It helps in identify the ordinary troubles and reason of irrational use of medicine which is a requirement meant for arrangement the desired involvement to advance rational use of medicines [15]. Practioners should resolute the major cause of drug use irrationally were mostly Polypharmacy and in excess of make use of antibiotics. On other way, support of physician-patient and pharmacist-patient communications is especially significant to decrease the event of undesirable reaction and medication mistakes. Physicians arranged so as to utilize of fine computerized arrangement to provide notice for every drug-drug interaction. It must be accessible and to be realize in all health care services to physicians reduce medication fault occur through prescribing. The use of online medicals verification for patient motivation creates physician data about the medicines to their patient, which will facilitate decrease poly-pharmacy [16]. These outcomes are in regulation with like studies completed in various Arab countries Middle East, Syria and Jordan. Someplace in excess of use of antibiotics was the majority ordinary drug use difficulty in these two countries. Proportion of prescription contains antibiotics in Syria and Jordan was 45% and 55% correspondingly. As well it was reported that more use of antibiotics was practical in 45% of the prescription that were assessed from main health care centers in Sharjah UAE [17]. A complete study of reason influence prescribe of antibiotics by physicians is wanted and patient learning about abuse of antibiotics must be careful as intercession to guide for further rational utilize of antibiotics. The consultation time curved to be as little to allow physicians to speak with their patient about their therapy and sickness. Through this discussion, the physician has to create an absolute patient assessment and choose the suitable medication and facilitate for patient-physician interaction. Perfect approximation for the talk time is left open for physician to resolute base on patient situation and be relevant good prescribe practice. It is evident that the pharmacist's role quite than dispensing be supposed to be finished to further patient pharmaceutical care. The health care services be supposed to supply adequate staff and gap in pharmacy to provide extra time and space in favor of pharmacist to talk about with the patient concerning their medication

treatment likely side effect of administer drug and sufficient time meant for patient discussion to get better patient care through falling probable side effects to can be expressed via patients.

Standard figure of drugs per prescription is twisted to be elevated approximation than to report preceding studies complete in UAE which was 2.2 in study in Dubai and 2.7 in a study in Sharjah. Percentage of drugs given by generic name was a little elevated than the past approximation information in Dubai (4.4%)and elevated than so as to reported in Lebanon (2.9%) to go towards rational use of medicines [18]. It delivers low-cost choice used for the patient and allows pharmacists to uphold an incomplete store of medicines. Percentage of prescription containing antibiotics estimate (31.1%) which is elevated than so as to reported earlier in Dubai (21.4%) but a smaller amount than reported for Sharjah (35%). Percentage of prescriptions contain injections bowed to be low (2.9%) evaluate to predictable details for Syria and Jordan (25%and 15%) correspondingly. Our consequences express they require to get better prescriptions inscription to physician due to lost in sequence to be full in the prescriptions exposed that patient name is frequently write in every one prescription (97%) which are like so as to details in Dubai Patient age was on paper in only (36%) of the prescription match up to 90.3% in Dubai 32% prescription show patient sex which is extremely small compare to that details in Dubai study (88%). Patient make contact with in order was on paper in 30% of the prescription which is similar to that details in Dubai study. The guess of patient contact in sequence (30%) and patient age (36%) were little as this in sequence might be recognized in patients confirmation other than that does not assist the pharmacists but they require to directly speak with the patients in case of dispensing fault.

This will ease the process of evaluating prescription by pharmacists to avoid any suspected adverse reaction or over dosing written by physicians that may reach to the patients. Review drug in sequence printed in the prescription demonstrate good estimate which point out good prescribing by physician other than with large apprehension intended for the period of use of medicines (65%).by patients which is extremely significant in sequence to be distribute to patients. All prescription components supposed to be completed by physicians that will give to patient approval and decrease the option of irrational use of medicines. To make certain that medicines are used optimally, to convene the patient's clinical requirements efforts should be spend by the regulatory agencies to make certain safe and efficient use of medicines.

CONCLUSION

Irrational drug use in the hospitals (public and private) and clinics of Karachi, Pakistan were studied in this study. Although, the sample size was too short due to less number of patients in this study, but this gives us irrational drug use in hospitals either in public of private hospitals of Karachi. In this study, we find out that large number of drugs are being used in wrong way as, no any indication, costly drugs are being written on the prescription, prescription contain contra-indicated drugs, drug-drug interaction drugs etc. etc. In this study, above given problems should be addressed on large sample size to find out and to streamline the rational use of drugs to avoid the problems which arrived due to drug misuse. We are very thankful to all head of departments of all public, private hospitals and clinics and others especially Pharmacy department for providing us very valuable suggestions and information during the course of study.

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