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Research Article

STUDY ON THE USE OF MEDICINES IN SOME SELECTED HEALTH CARE FACILITIES OF ARUNACHAL PRADESH

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ABSTRACT

Patient should receive medication appropriate to their clinical needs. Current medication practices were assessed in some selected health facilities of Arunachal Pradesh using the WHO formulated drug use indicators. A prospective study carried out on different indicator showed a slightly higher values with respect to average number of drug per encounter (2.376) and use of antibiotics (42.38% of total cases) while in case of number of medicines prescribed by generic name (3.36 % of total drugs), number of patients with knowledge of correct dosage regimen (47.76% of cases), availability of essential medicines (71.20 %) as well as percentage of key medicines (69.00 %) were found to be lower as compared to the international average value. Corrective measures could be undertaken to increase the effectiveness of the rational drug use concept in the area of study.

Keywords: Rational drug use, health indicator, Arunachal Pradesh, antibiotics, generic.

INTRODUCTION

The World health organization (WHO) has been putting a continuous effort for promoting rational use of medicine. The ultimate goal is to achieve the situation when patients receive medication appropriate to their clinical needs, in doses that meet their own individual requirements for an adequate period of time, and at the lowest possible cost. However, roughly more than 50% of all medicines are prescribed, dispensed or sold inappropriately, while 50% of patients fail to take them correctly and about one third of the world's population lack access to essential medicines[1](WHO, 1993).

A limited number of objective measures can describe the drug use situation in a country, region or individual health facility[2]. Necessary intervention could be undertaken on the basis of such measures or indicators and also these can be used to assess the impact of such intervention.

The continuously increasing number of drug available in the market for the treatment of different ailments has increased the possibility of irrational or non rational use of medicine. To asses the scope for improvement in rational drug use in out patient practice, the World Health Organization (WHO) formulated a set of "Drug use indicators" to measure the performance of the health facilities.

Arunachal Pradesh is a small state in north eastern India located between 26°30' N and 29°30' N latitude and between the longitude of 91°30'E and 97°30'E. The total area of the state is 83,743 sq. km. Its total population is 1,091,117 having population density 13 persons per sq. km. The state of Arunachal Pradesh was formally inaugurated on February 20, 1987.

It is bounded by long international border with Bhutan on west (160 km), China on the north and north east (1030km) and Myanmar on the east (440km). The land is mostly mountains with Himalayan ranges along the northern border criss crossed with mountain range running north-south. It stretches from show-chapped mountain in the north to the plain Brahmaputra Valley in the south[10].

The object of this study was to assess the current usage of medicine in the urban areas of Arunachal Pradesh and to find out the associated problem towards promoting rational drug use.

MATERIALS AND METHODS

The health facilities selected for the proposed study were situated in Itanagar, Naharlagun and Pasighat. A total of 210 prescriptions were collected from the following three health care facilities of Arunachal Pradesh:

a) Rama Krishna Mission Hospital, Itanagar.
b) General Hospital, Naharlagun.
c) General Hospital, Pasighat.

Itanagar, the capital of Arunachal Pradesh is situated in the District of Papumpare. The General Hospital, 'Rama Krishna Mission Hospital' located at west of Itanagar town was selected for the study. Another location of study was the General Hospital, Naharlagun. Naharlagun is a town about 9 km. away from the state capital with a population of 26,912 (Census 2001).

The third hospital selected was at Pasitghat, the District Head Quarter of East Siang District of Arunachal Pradesh. The district has a population of 21,972 (Census 2001) and is 261 km away from the state capital. The District East Siang has an area of 4005 sq. km.

A prospective study was carried out during the month of August, 2007 in the three health facilities mentioned above. The assessment of the current medication practices in the selected areas was made by monitoring the prescriptions, interviewing the patients and health care providers, and also the health care administrations so that a report could be prepared on drug utilization pattern as part of the study for rational use of drugs.

The collection of data and the study was approved by the respective chief medical officer of above health facilities. The interviews were held randomly in the corridor of the out patient department and in pharmacy outlets. The data for the "Prescribing indicator" was recorded by scrutinizing the prescription immediately after the patient-prescriber encounter.

For the "Patient care indicator", patients were asked to repeat the drug dosages to know the patient's knowledge on when and how the drug should be taken after the pharmacist explained the dosage to the patient. Data pertaining to "Facility indicator", the person-in-charge of the concerned health care establishment was asked whether any essential drugs list existed in the out patient department during the study period. The key drug list was also obtained from the concerned person. Then the collected indicators were analyzed as per the procedure recommended by the WHO.

RESULTS AND DISCUSSION

The drug use indicator data are shown in Table 1. The average number of drugs prescribed per prescription was found to be 2.37. It is recommended that not more than 2 drugs per prescription should be given to avoid drug interaction and dispensing errors. However the previous studies reported from India showed that on an average, each patient received ranging from 1.4 to 4.1 drugs per encounter.

Prescription of drugs in generic name was conspicuously low (3.36%) as most of the drugs prescribed were proprietary.

The number of encounters with antibiotics in the present study was 42.38% as compared to international value of 39.48% whereas this value is about 75% in whole India. Pencillins, other antibacterial agents (Sulfa drugs), anti-infectives, dermatological drugs, anti-infective opthalmological agents and anti-diarrhoeal drugs like streptomycin, neomycin etc. or combinations of these were regarded as antibiotic, while antiamoebic, antigiardiasis, antihelminties were not considered as antibiotics.

This consideration was made according to WHO model list of essential drugs. Appropriate use of antibiotics is necessary so as to prevent emergence of drug resistant bacteria. An urgent need arises to reduce the use of injection in developing countries to prevent health care problem associated with HIV and other blood borne pathogens.

In the present study, the use of injections was very low (11.42%) as compared to other Indian studies, but this might be deceptive because of the practice of general practitioners giving injection in their clinic and not giving a prescription for the same. In the health facilities under study, 46.08% of prescribed drugs were dispensed which is lower than figures reported in other Indian studies.

The drugs, which were dispensed, were not adequately labeled as the name of the patient and the generic name of the drugs where not written. However, on the prescription pictogram indicating how the drug should be taken was given. For example, for a medicine in tablet dosage form to be taken three times a day, the pictogram drawn was 0-0-0. The use of pictograms has been shown to improve recall of medical information in people with low literacy skill. 47.76% of the people knew the correct dosage of the drug schedule when asked.

Table 1: Drug use indicators, Location: Arunachal Pradesh (Itanagar, Naharlagun and Pasighat)

Core Drug use indicators		**Observation**
Prescribing indicators	Average no. of medicines prescribed per prescription	2.376
	Percentage of medicines prescribed by generic name	3.36% of total drugs
	Percentage of encounters with antibiotics prescribed	42.38% of total cases
	Percentage of encounters with injection prescribed	11.42% of total cases
Patient care Indicators	Average consultation time	10.01 minutes
	Average dispensing time	47.26 seconds
	Percentage of medicines dispensed	46.08%
	Percentage of patients with knowledge of correct doses	47.76% of cases asked
Facility Indicators	Availability of list of essential medicines or formulary	71.20%
	Percentage of Key medicines available	69.00%

CONCLUSION

The core drug use indicators represent first level measure of prescribing and patient care performance in health facilities. The results of a drug use indicator study should trigger action to improve aspects of performance identified as major problem. Because, the core drug use indicators are general, and do not refer to particular health problem, so they do not lead directly to particular focused interventions.

Any drug utilization study based on the WHO core drug use indicators has also limitations. Determination of the quality of diagnosis and evaluation of the adequacy of drug choices is beyond the scope of the prescribing indicators. Also, the patient care indicator does not reflect many other fundamental issues related to the quality examination and treatment.

However, study of drug utilization provides information about current treatment practices, performance of individual facilities, and supervision of specific drug use behaviors which may be useful in future for comparison of any study of this kind with that of other parts of Arunachal Pradesh or India as a whole.

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