

Drug Utilisation in Antenatal Clinics in Tanzania

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A prospective survey of prescribing patterns at twenty antenatal clinics in Dar-es-Salaam, Tanzania, was carried out by trained research assistants in order to document the prescribing patterns of antenatal care providers.

A total of 600 prescriptions were collected, recorded using WHO/DAP forms and analyzed. The number of drugs per prescription was 0-5 percentage of encounters with injection and antibiotic prescribed 22% and 20.1% respectively. Percentage of drugs prescribed by generic name was 77.6%. These and other related findings are discussed.

Key Words: Prescriptions, prescribing patterns, antenatal clinics, Tanzania.

INTRODUCTION

Drugs taken by pregnant mothers may cross the placenta to enter the foetal circulation. The potential for doing harm to the foetus is considerable as exemplified by the now classical thalidomide disaster [1]. On the beneficial side, phenobarbitone, taken towards the end of pregnancy may induce foetal liver enzymes and so reduce the incidence of neonatal jaundice [2]. Penicillin can reduce the risk of congenital pneumonia when given to patients with prolonged labour with ruptured membranes [2]. It is therefore, essential to limit prescribing drugs in pregnant women and avoid teratogens. Clinical personnel as well as patients should be made aware of the potential dangers of drugs in pregnancy.

Recently introduced WHO/DAP indicators for rational use of drugs include evaluation of prescribing habits [3] and have been used in this study to assess the quality of care given to pregnant women.

The health care delivery pyramid in Tanzania consists of dispensaries manned by Rural Medical Aides (RMA), health centres manned by RMA and/or Medical Assistants (MA) followed by district, regional and referral hospitals which are run by doctors and from regional level upward by specialist doctors.

The purpose of this study is to document the prescribing patterns in antenatal clinics with special reference to prescribing indicators.

EXPERIMENTAL

Twenty dispensaries in DSM region with antenatal clinics (ANC) were randomly selected from a register of all dispensaries of the Ministry of Health. In a period of five months beginning October 1995 to February 1996 each antenatal clinic was visited by research assistants and five prescriptions were randomly picked by intercepting patients leaving the consultation room. A total of six visits were made thus summing up to 30 prescriptions from each clinic. When the survey was completed 600 prescriptions were collected and the details were recorded on WHO/DAP forms designed for the purpose [3].

RESULTS

The pregnant mothers under study were aged 24 ± 3 (\pm SD) years. Results of the study are summarised in table 1 - 3. Table 1 shows the number of items (drugs) per prescription. The average number of items per prescription was 1.9 whereas the lowest and highest were 0 and 5 respectively (table 1).

The exposure to injection was 22% whereas antibiotics accounted for 20.1% of all prescriptions (table 2). On the other hand generic prescribing was high 77.6% compared to non-generic (table 2) and fixed drug combinations were not commonly used (table 2).

Analysis of single drug items showed that acetylsalicylic acid was the most prescribed drug followed by chloroquine (table 3).

TABLE 1: Classification of Antenatal Clinic Outpatient Prescription Samples According to Number of Items (Drugs) Per Prescription Form

Number of drugs per Prescription	Number of Prescriptions	Percentage of Total N = 600
0	9	1.3
1	151	25.2
2	353	58.8
3	79	13.2
4	7	1.2
5	1	0.2
6	0	0.0

The average number of items (drugs) per prescription was 1.9

TABLE 2: Injections, Antibiotics, Generic and Fixed Combination Prescribing

Indicator	Per cent
Antibiotics	22.1
Injections	20.1
Generics	77.6
Non generics	22.4
Fixed drug combination	3.0

TABLE 3: Classification of Prescribed Drugs According to Single Drug Items

(TOP 10)

Drug	Per cent (N= 1127)
Acetylsalicylic acid	14.0
Chloroquine	13.4
Paracetamol	12.2
Folic acid	9.6
Ferrous Sulphate	7.6
Benzathine Penicillin	6.3
Mebendazole	4.1
Clotrimazole	2.8
Chlorpheniramine	2.7
Nitrofurantoin	2.6

DISCUSSION

In this study the average number of drugs per patient was 1.9 which is lower than reported in America and Edinburgh studies [4] the difference may have been due to variations in disease patterns in the countries reported.

However, the lower drug exposure in this study may also have been due to non-availability and low stock levels of drugs seen in public dispensaries. In 0.2% of prescriptions the highest number of drugs per prescription was five. Except in a few diseases a large number of drugs in a prescription implies symptomatic rather than specific treatment and this in turn implies incomplete diagnosis [5]. This exposure to an extensive number of drugs in pregnant mothers in some of the clinics is irrational prescribing. This is not without side effects to both mother and foetus. There is a need to educate all prescribers on this practice.

The exposure to antibiotics in this study tallies with reports from other developing countries [6]. The high prescription of antibiotics does suggest the presence of infective disorders.

However, there are no proper morbidity statistics for antenatal clinics in these dispensaries to associate with the high antibiotic usage. Another factor which could contribute to the high use of antibiotics is the absence of laboratory facilities for confirmatory tests. This leads to presumptive treatment of most ailments with antibiotics. There is a need, therefore, to investigate factors which lead to the extensive use of antibiotics in these ANC to limit a possible spread of resistance and reduce expenditure on these pharmaceuticals.

The prescribing of injections was also surveyed. However, during this study, no consideration was given for vaccinations that are normally given by injection. About 20% of all prescriptions were for injections (table 2). The overuse of injections appears to be common in other developing countries [7] although this indicator measures the exposure of patients to injections does not give a true indication of the therapeutic decision of prescribing an injection by a prescriber. WHO has been active in this area of

injection practices research. There is need to educate both patients and prescribers on this practice.

Generic prescribing prevailed whereas fixed drug combination products were limited to cotrimoxazole (a combination of trimethoprim and sulphamethoxazole). Hence use of generics is rational prescribing and allows the cheapest form of drug to be purchased.

The top commonly prescribed single drug was acetylsalicylic acid followed by chloroquine and paracetamol (table 3). All these drugs are useful in malaria and pain, however, use of therapeutic doses of acetylsalicylic acid in normal pregnancy has been associated with bleeding in the neonate [8]. It may be advisable to limit the use of acetylsalicylic acid in normal pregnancy.

CONCLUSION

Our study indicates that despite adequate favourable performance of the ANC especially the prescribing of injections and/or antibiotics as measured by indicators, we would like to stress the importance of such variability as a "Problem identifier" for planning intervention or supervisory actions.

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