

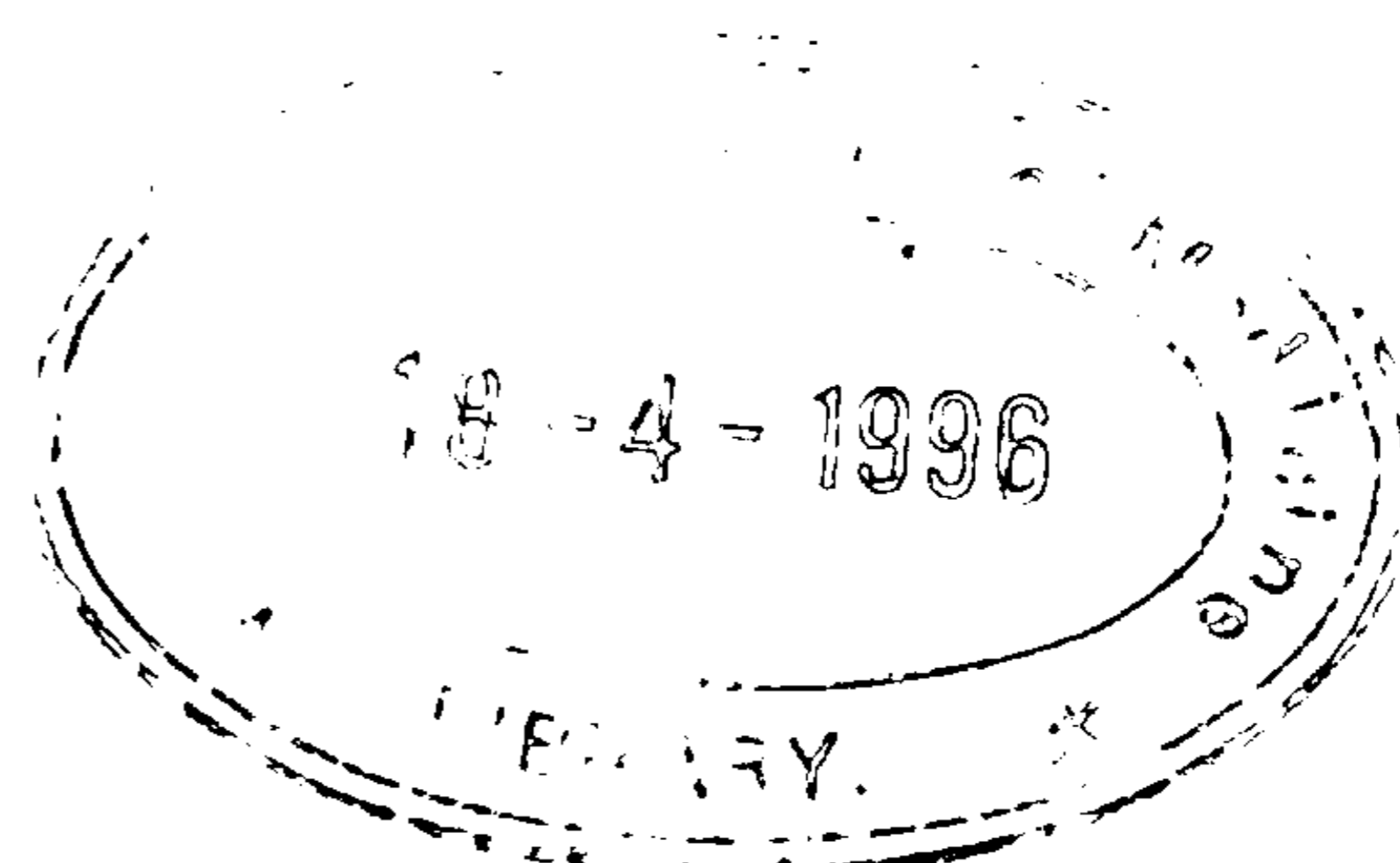
Summary

Over the past ten years much attention has been focussed on the problems of the supply, the distribution and the use of pharmaceuticals. Information on drug consumption is lacking in most of the developing countries. In Sri Lanka several studies on drug utilization have been carried out and certain amount of information is available on drug consumption. However the drug utilization involves a number of different aspects. The available information regarding some is inadequate. The present study was carried out to determine the pattern of drug consumption at institutional level with special reference to the prescription practices and the cost, and at community level with special reference to the practice of self-medication.

The main study consisted of two components i.e. a hospital or institutional based component which consisted of three areas of study, and a community based component which consisted of a community survey.

The areas of study of the hospital based component were:

- (A) Retrospective study of records pertaining to the cost of pharmaceuticals in the Gampaha District and four selected Government hospitals of different levels in the same District.



(B) Retrospective study of patient care records in the out-patients' departments (OPDs) of the same four selected Government hospitals as in "A".

(C) Knowledge, attitudes and practices survey among the prescribing officers working in the Government hospitals of the Gampaha District, regarding the cost effective ways of drug use.

The four studies were conducted using the latest data available from the year 1991 to the year 1992. Study "A" was carried out using the data pertaining to the year 1991, and the OPD prescriptions for the year 1992 were used for the study "B". The surveys of study "C" and community based component were carried out in July and December 1992 respectively.

The four hospitals were selected randomly using four lists of hospitals of different levels. The selected hospitals were, the Teaching Hospital (TH) Ragama, the Base Hospital (BH) Watupitawala, the District Hospital (DH) Meerigama, and the Peripheral Unit (PU) Kelaniya.

The information for the hospital based component was collected from the computer database of the Medical Supplies Division (MSD) of the Ministry of Health and from the records maintained at the institutions.

Prescriptions from the out-patients' department (OPD) were obtained using systematic random sampling techniques. The total number of OPD prescriptions studied was 6003,

which was one percent of the total and the non-respondent rate was 16.7 %.

The total number of prescribing officers who participated in the knowledge, attitudes and practices survey was 162, which was fifty percent of the total and the non-respondent rate was 5.6 %.

The community based component consisted of a cross sectional survey regarding self-medication. For the reasons described in the text, it was decided to carry out this survey among the married women of the survey population.

Multistage cluster sampling technique was used to select the respondents for the community survey. The total number of respondents interviewed was 895 and the non respondent rate was 0.56 %.

The total health budget in the public sector of Sri Lanka in 1991 was 1.6 % of the Gross National Product (GNP). The total pharmaceutical cost in the public sector in the year 1991 for Sri Lanka was Rs. 471.4 million, and in Gampaha District it was Rs. 30.6 million (6.5 % of the total). At national level, the total pharmaceutical cost was approximately 9 % of the total health budget in the public sector or 11.5 % of the current expenditure on health. In Gampaha District the total pharmaceutical cost was 13.7 % of the recurrent expenditure on health.

The average cost of pharmaceuticals per person per year in the public sector in 1991 was Rs. 27.41. For the Gampaha District it was Rs. 19.74.

Both nationally and district-wise (Gampaha) anti-infective drugs accounted for a major portion of the pharmaceutical cost (nearly one third).

The smaller hospitals spend relatively a large proportion of their pharmaceutical expenditure on anti-infective drugs than the bigger hospitals. A high expenditure both nationally and district-wise (Gampaha) was observed for capsule ampicillin, tablet methyldopa and tablet paracetamol (cap. ampicillin accounted for 5.9 % of the total cost of pharmaceuticals nationally and tab. methyldopa 4.2 %). However it should be noted that in public sector, cap. ampicillin was replaced with cap. amoxycillin from the year 1992.

Of the 468 pharmaceuticals issued by the Medical Supplies Division (MSD) 50 % of the items cost less than Rs. 2.94 per dosage unit. Unit prices ranged from Rs. 0.01 to Rs. 1296.13.

In 1992, mean cost of drugs per OPD prescription was higher in larger hospitals than in the smaller ones. The value derived for the T. H. Ragama was Rs. 9.08 per OPD prescription, for the B.H. Watupitawala Rs. 6.66, for the D.H. Meerigama Rs. 5.71 and for the P.U. Kelaniya Rs. 5.19.

Of the capsules and tablets, the most widely used drugs in the public sector, both nationally and divisionally were, vitamin B compound, paracetamol, aspirin, multivitamin and chlorpheniramine. Among injectable preparations most widely used drug in the public sector was procaine penicillin.

As some pharmaceuticals are manufactured in different strengths, in addition to the quantity used, taking into consideration the approved adult dose, Defined Daily Dose (DDD) per 1000 population per day was also studied. High DDD values were observed with oral preparation of vitamin B compound (19.8), multivitamin (11.8), paracetamol (3.2) and chlorpromazine (2.8). In the Gampaha District it was for the same drugs that high DDD values were observed except the tablet chlorpromazine.

Most commonly prescribed drug in the OPDs of the larger hospitals was tablet paracetamol and in the smaller hospitals it was tablet aspirin.

Nearly one half (51.9 %) of the OPD prescriptions contained an anti-infective drug at the T.H. Ragama. The percentages of anti-infective drugs used in the OPDs of other hospitals were 56.1 at the B.H. Watupitawala, 54.1 at the D.H. Meerigama and 38.0 at the P.U. Kelaniya.

The mean number of drugs prescribed in the OPDs' was 2.7 at the T.H. Ragama, 2.3 at the B.H. Watupitawala, 2.5 at the D.H. Meerigama and 2.5 at the P.U. Kelaniya.

On direct questioning, it was observed that 68 % of the prescribing officers always or very often used generic names. The use of generic names was less among the experienced officers.

The main source of information for the prescribing officers regarding the cost of drugs was the pharmaceutical representative. The second most important source was the pharmacy.

Nearly 80 % of the women in the community mentioned on direct questioning that they try self-treatment on the first day of troublesome fever, cough and cold, headache and abdominal pain whereas only 47 % depended on self-medication for diarrhoea on the first day.

Tablet paracetamol was the commonest substance used by the women to self-treat troublesome fever and headache. For one day's cough and cold, abdominal pain and diarrhoea home remedies were preferred.

Around 17.7 % of women used drugs regularly. The common illnesses for which they regularly used drugs were hypertension, arthritis and bronchial asthma. The common drugs used regularly were tablet methyldopa, capsule indomethacin, tablet salbutamol and tablet paracetamol.

Of the women interviewed, 82.7 % reported one or more symptoms/illnesses in the preceding one week (5.8 % had not taken any treatment, 54.2 % used allopathic drugs, 17.5 % used traditional or Ayurvedic and 18.7 % used a combination of both allopathic and traditional).

The number of symptoms/illnesses per woman per week was 1.41.

The common conditions reported were headache, pains in the joints and cough and cold.

Sixty percent of the symptoms/illnesses were treated with allopathic drugs. Sixty percent of the percentage of

symptoms/illnesses (or 36 % of the total) have sought advice from a practitioner trained in allopathic medicine.

In case of 24.3 % of the total number of symptoms/illnesses the women have practiced self medication with allopathic drugs. Irrespective of the number of conditions they had 29.2 % of women practiced self-medication within a period of one week.

The majority (84.3 %) of symptoms/illnesses were self-medicated because of the impression that the conditions were mild.

Approximately for three fourths (77.1 %) of the conditions, mild analgesics and antipyretics had been used for self-medication. Cough remedies and drugs used for asthma were the second commonest.

In nearly two thirds of instances, drugs for self medication were obtained from groceries.

The majority (67.2 %) of the women were familiar with the drug because of previous use. The commonest source of information for the others was the advertisements in the mass media (29.3 %).

The results indicate that drug utilization in Sri Lanka appears to be satisfactory with regard to the aspects considered in the present study. However, few problems were identified for which recommendations were made to improve the prescribing habits of medical officers and also to safeguard people from the possible hazards of self-medication. The need for further research on drug utilization is also stressed.