

A Study of Unclaimed Prescriptions in Hospital Universiti Sains Malaysia (HUSM)

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Summary

An analysis of 524 unclaimed prescriptions (which contributed 0.9% of the total prescriptions) showed that 23.8% were for vitamins, 17.7% for anti-inflammatory drugs, 16.4% medications for skin and mucous membrane and 9.9% for antibiotics. The unclaimed prescription rates varied inversely to the staff-strength working in the dispensary. Sixty-eight point nine per cent of the unclaimed drugs could be purchased at the pharmacy shops without doctor's prescription.

Key Words: Unclaimed prescriptions, Pharmacy services

Introduction

Unclaimed prescriptions can be defined as prescriptions that are filled by a pharmacist but not collected by the patients. In Hospital USM, a prescription is considered as unclaimed if the patient does not collect his medicines within one month. These medicines will be put back to the stock and the patient has to see a doctor if he needs the prescription again.

The rate of unclaimed prescriptions can be used as a measure of patient non-compliance and at the same time it can be utilised as a measure of the efficiency of the pharmacy service.

In a study of unclaimed prescription in a military hospital it was found that the percentages of unclaimed prescriptions were highest for anti-inflammatory drugs (17.5%) followed by prenatal care drugs (13.0%) antibiotics (9.2%), cough and cold medications (5.2%), diuretics (3.8%) and anti-hypertensives (3.8%)^{1,2}.

In another study, 224 unclaimed prescriptions at the University of Michigan Hospital's Ambulatory Care Pharmacy were analysed. It was found that the most

frequent categories of unclaimed prescriptions were for skin and mucous membrane, central nervous system and anti-infective medications³.

In this study, 524 unclaimed prescriptions at Hospital Universiti Sains Malaysia in the months of April to September 1993 were analysed. The purpose of the study were:

- 1) to determine the rate of patient non-compliance through unclaimed prescriptions
- 2) to determine the monthly variation of the unclaimed prescriptions and to correlate this to the staff-strength at the dispensary
- 3) to determine the characteristics of unclaimed prescriptions in relation to the clinics of origin, categories of drugs and the profile of patients to whom the prescription were written for.

Materials and Methods

Prescriptions were written by doctors using prescribed prescription scripts. The prescriptions were brought to a counter at the dispensary to be checked and subsequently filled. Patients had to wait for about half

an hour before they could obtain their medicines from another counter. They were given numbers to ensure that they follow their turns. When they did not turn up to collect their medicines, the drugs were kept at the pharmacy for one month before they were returned to the stock.

A total of 524 scripts of unclaimed prescriptions were collected during the six-month study period. From these, data on patients' ages, sexes, clinics of origin, diagnoses and drugs prescribed were recorded. The rate of unclaimed prescriptions was taken as the percentage of unclaimed prescriptions out of the total prescriptions for the period. This rate was compared to the staff-strength working at the dispensary. The dispensary staff-strength was derived from the the percentage working man-days of the month using the following formula:

$$\text{Percentage working man-days} = \frac{\text{actual working man-days}}{\text{total man-days}} \times 100$$

Total = Total number of dispensary staff x working days in the month.

Actual working man-days = Total man-days - Total number of days leave (including medical leave) taken by the dispensary staff in the month.

Results

The Hospital USM's Pharmacy handled between 9,000 to 10,000 prescriptions a month. The monthly average from Community Medicine Clinic, Specialist Clinics and Accident and Emergency Unit were 4,842, 4,691 and 192 respectively. Out of the total 58,352 prescriptions during the study period, 524 or 0.90% were classified as unclaimed. (Table I). The rates of unclaimed prescriptions ranged from the lowest 0.48% in July to the highest 1.34% in May 1993. The specialist clinics recorded a higher unclaimed prescription rate (1.08%) compared to Community Medicine Clinic (0.72%). The rates were also inversely correlated to the staff-strength at the dispensary. In May 1993 when 82.1% of the staff were working, the unclaimed prescription rate was the highest. Similarly in July 1993 when 92.0% of the staff were working, the rate dropped to 0.48% (Table I). The correlation coefficient was 0.87 and it was significant at 5% level (Fig. 1).

When analysed by clinics of origin, the highest proportion of unclaimed prescriptions was recorded from the Community Medicine Clinic (39.7%) and the Obstetrics and Gynaecology Clinic (20.4%). The percentages from the other clinics were low.

The break downs of unclaimed prescriptions by Poison

Table I
Monthly unclaimed prescription rates* by clinics at HUSM from April - September 1993

Month (1993)	Community Medicine OPD	Specialist Clinics	A & E	Average
April	0.47	1.37	0.0	0.84
May	1.08	1.61	0.52	1.34
June	0.73	0.65	2.25	0.74
July	0.30	0.62	1.12	0.48
August	0.62	0.92	1.04	0.76
September	1.06	1.35	0.90	1.20
Average	0.72	1.08	1.00	0.90

* Unclaimed prescription rate is the percentage of unclaimed prescriptions over the total prescriptions for the month.

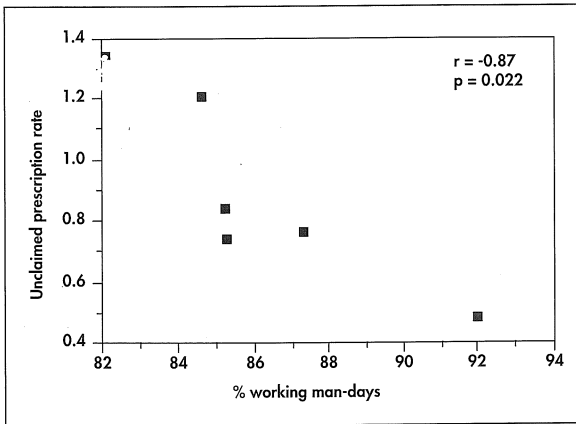


Fig. 1: Scatter diagram showing the correlation of percentage working man-days of dispensary staff with unclaimed prescription rate

Classification showed that almost one third each belonged to Group B, Non-poisons and Groups C and E combined (Fig. 3). Group B drugs could only be dispensed on a doctor's prescription where as drugs in

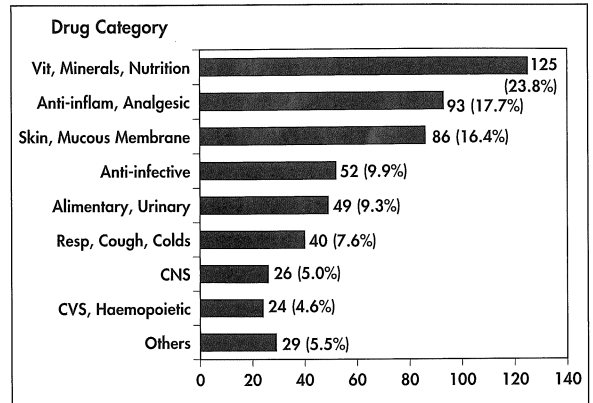


Fig. 2: The number of unclaimed prescriptions by category of drugs, HUSM 1993

Groups C and E could be purchased at the pharmacy shops without a doctor's prescription. Sixty-eight point nine per cent of the drugs unclaimed belonged to the latter groups. The unclaimed prescriptions from most specialist clinics except for the Psychiatric Clinic contained drugs from these latter groups (Table II).

Table II
The frequency and percentage of unclaimed prescription by poison classification and by clinics, HUSM 1993

Clinics	Poison Group B No (%)	Non-Poison & Group C & E No (%)	Total No (%)
Community Medicine	93 (44.7)	115 (55.3)	208 (39.7)
O & G	13 (12.2)	94 (87.8)	107 (20.4)
Medicine	16 (45.7)	19 (54.3)	35 (6.7)
Paediatrics	7 (17.5)	33 (82.5)	40 (7.6)
Surgery	7 (28.0)	18 (72.0)	25 (4.8)
Orthopaedics	4 (14.8)	23 (85.2)	27 (5.1)
Ophthalmology	6 (23.1)	20 (76.9)	26 (5.0)
Otorhinolaryngology	3 (15.8)	16 (84.2)	19 (3.6)
Psychiatry	8 (88.8)	1 (11.2)	9 (1.7)
A & E	6 (54.5)	5 (45.5)	11 (2.1)
Others	10 (58.8)	7 (41.2)	17 (3.2)
Total	163 (31.1)	361 (68.9)	524 (100.0)

The categories of drugs in the unclaimed prescription are illustrated in Figure 4.

Out of 524 patients to whom the unclaimed prescriptions were written for, 226 (43.13%) were males and 298 (56.87%) were females. Adults in the age group of 21 to 45 years constituted 60.11% of the cases.

Discussion

In this study the overall rate was 0.9% or 9.0 unclaimed prescriptions per 1000 prescriptions. Craghead RM *et al.* recorded a rate of 1.2 per 1000 before a computerised system of dispensing was introduced and 18.4 per 1000 after computerization¹. The high rate was attributed to the unfamiliarity of the staff and the patients with the automated system. However the rate was measured again after nearly a year and found to be 16.5 per 1000². With our present manual system, some of the prescriptions might not reach the dispensary and the patient could have gone home with the prescriptions. These unaccounted prescriptions could be one of the reasons why the unclaimed prescription rate was high after implementing the computerised system in Craghead study¹.

The rate of unclaimed prescriptions was closely related to the staff-strength at the dispensary. The lower the staff-strength working at the dispensary, the higher the rate of unclaimed prescriptions.

The high proportion of unclaimed prescriptions seen at the Obstetrics and Gynaecology Clinic was probably due to the fact that the majority of the patients who went there were antenatal mothers who were prescribed routine vitamins. The patients might feel that they did not require the vitamins and therefore left their prescriptions unclaimed. This would also be consistent with the observations of Craghead *et al.* who saw a similar trend².

Among the drugs which were not claimed, 68.9% belonged to the groups that could be purchased at pharmacy shops without a doctor's prescription. This factor might contribute to the high rate of unclaimed

prescriptions. Twenty-three point eight per cent of the unclaimed drugs comprised of vitamins, minerals and nutritional product which were prescribed from the antenatal clinic. Analgesics and anti-inflammatory agents were the next most commonly unclaimed medicines (17.7%). They originated from Orthopaedic and Community Medicine clinics. Craghead RM *et al.* recorded the same trend². However Kirking MH *et al.* found that the most frequent categories of drugs unclaimed were preparation for skin and mucous membrane and Central Nervous System and anti-infective medications³.

The patients whom the unclaimed prescriptions were written for were mainly in the age group of 21 to 45 years. Females outnumbered males possibly because significant number were antenatal mothers.

Conclusion

The unclaimed prescription rate in Hospital USM was 0.9%. The rates varied inversely to the staff-strength at the dispensary. Very high proportion of the unclaimed drugs were from the groups that could be purchased at pharmacy shops. These groups were vitamins, minerals and nutritional products, analgesics and anti-inflammatory agents. The following suggestions should be considered in order to reduce the rate further:

- a) Routine vitamins for antenatal mothers should be given at the clinic without issuing prescription scripts. This will reduce the work load of the dispensary.
- b) Options should be given to the patients when prescribing analgesics and anti-inflammatory, as to whether they prefer to buy these medicines outside rather than waiting for the medicines at the hospital pharmacy.

Further studies should be conducted to see the real reasons why prescriptions are not claimed. The attitude of the patients to a doctor's prescription should also be studied. The unclaimed prescription rates should be compared to waiting times at the pharmacy to see whether they correlate to the efficiency of the service.

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