Private pharmacies in tuberculosis control—a neglected link

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SUMMARY
In most settings in India, private pharmacies dispense prescriptions for anti-tuberculosis drugs made out by private practitioners. In a cross-sectional study, we assessed the dispensing practices for tuberculosis and knowledge about the national tuberculosis programme of 300 pharmacies. In all, 2800 prescriptions were dispensed monthly by the pharmacies. Doctors’ prescriptions were for durations of several months, but half of the patients bought drugs one dose at a time for self-administration. This practice might promote drug resistance. Although 95% of pharmacists were not aware of the existence of the tuberculosis programme, the majority (97%) were willing to learn and contribute towards tuberculosis control. The need and the potential of private pharmacies for participation in tuberculosis control are highlighted.

KEY WORDS: pharmacies; TB control; anti-tuberculosis drugs; resistance

IN INDIA, the Revised National Tuberculosis Control Programme (RNTCP), based on the DOTS (directly observed treatment short course) strategy, was introduced in 1993 to address the continuing toll of tuberculosis. Although about one-fourth of India’s population has already been covered under the programme, with 80% of enrolled patients being successfully treated with DOTS,1 it is largely implemented at the government health facilities and excludes the private sector, which caters to over half of all tuberculosis patients. The private sector in India includes private practitioners, non-governmental organisations (NGOs) and private pharmacies. Recognising the importance of the private sector, the government has begun to involve them in tuberculosis control activities, but these efforts are limited to private practitioners and private institutions only.

In most settings in India, private pharmacies are often the first health care contact when a person falls ill. Private pharmacies also dispense prescriptions for anti-tuberculosis drugs made out by private practitioners. Thus, pharmacies in both rural and urban areas are a crucial link in the chain of health care providers. Pharmacists are aware of the drug procuring habits and the drug preferences of patients, and they possess first hand knowledge about the health providers’ choice of anti-tuberculosis drugs, including the duration for which drugs are prescribed. We conducted a cross-sectional study to characterise the dispensing pattern for anti-tuberculosis drugs by the private pharmacists, and to assess their willingness to participate in the RNTCP.

METHODOLOGY
The study was conducted in Tiruvallur District and in Chennai Metropolis, in Tamil Nadu State, southern India. At the time this study was conducted, DOTS had been implemented in part of the study area, providing an opportunity to compare the dispensing practices of private pharmacies in DOTS and non-DOTS areas. We randomly selected 150 pharmacies each in DOTS and non-DOTS areas, covering a total population of 7.5 million. Using a semi-structured questionnaire, we interviewed the owner of each selected pharmacy to seek information about the quantity and type of prescriptions for anti-tuberculosis drugs dispensed each month. Pharmacists’ knowledge about tuberculosis treatment, RNTCP and DOTS, their willingness to participate in the RNTCP, and the impact of the RNTCP on sales of anti-tuberculosis drugs were also enquired into.

RESULTS
The results of the study are summarised in the Table. The majority (81%) of the pharmacies had been dispensing anti-tuberculosis drugs for over 5 years. Overall, 2800 prescriptions for anti-tuberculosis drugs had been dispensed by the 300 pharmacists, on average 9.3 per month.

More than 90% of the prescriptions for anti-tuberculosis drugs included three drugs. Although 95% of the patients presented a prescription for anti-tuberculosis drugs for longer than a month, less than...
40% of patients bought drugs for a month or longer: 50% to 60% of patients bought drugs on a daily basis, due to lack of money. Ninety per cent of them preferred combipacks, as they were considered to be more economical.

All the pharmacists were aware of the availability of free anti-tuberculosis drugs in government facilities, and over 87% knew the correct treatment duration. In both DOTS and non-DOTS areas, only 15% had heard of the RNTCP, and even fewer (5%) knew about the DOTS strategy. However, an overwhelming majority (over 95%) indicated willingness to participate in the RNTCP, by way of referral of individuals with chest symptoms to government facilities and by displaying posters on the need for regular treatment. Pharmacists were willing to promote awareness about tuberculosis and DOTS in the community.

**DISCUSSION**

Several findings of our study point to the possibility and necessity of involving private pharmacies in tuberculosis control in India. First, a substantial number of tuberculosis patients already approach private pharmacies for anti-tuberculosis drugs in both DOTS and non-DOTS areas. This substantiates the findings of earlier studies from Tamil Nadu and Maharashtra, where about 55% to 62% of individuals with chest symptoms initially approached private practitioners for relief of their symptoms. Many of them buy drugs on a daily basis, subject to availability of money, spending more than half a day’s earnings to buy drugs for a day. Second, an overwhelming majority of the pharmacists expressed willingness to participate in the National Tuberculosis Control Programme. Third, even in an area where DOTS is implemented, self-administration of drugs by patients still continues on a substantial scale. Continuing to ignore private pharmacists is likely to perpetuate continued unsupervised self-administration by patients, resulting in emergence of resistance to anti-tuberculosis drugs. This becomes relevant in the context of the prevailing drug resistance patterns in the community. Among newly detected patients, resistance to isoniazid (INH) was 15.4%, and 4.4% to rifampicin (RMP) (including resistance to INH and RMP in 3.4%); among defaulters resistance to INH was 67% and 12% for RMP, reporting a four-fold escalation of acquired resistance. Thus in containing the problem of resistance there is an urgent need to adopt stringent measures in the sale of anti-tuberculosis drugs by the government.

The volume of prescriptions dispensed in DOTS and non-DOTS areas was similar. One of the reasons for this could be the lack of involvement of private providers in the programme in the DOTS area. Another reason could be that the DOTS programme was introduced in the area only 18 months ago, and it is therefore probably too early to assess the impact of the programme.

There are few published studies examining the role of private pharmacies in tuberculosis control. Our study is the first in India to explore the potential of pharmacies in the National Tuberculosis Control Programme, with the added advantage that it compares dispensing practices in DOTS and non-DOTS areas. Our findings indicate that there is scope for involving private pharmacies in the RNTCP as DOTS providers and motivators for treatment completion, and for promoting awareness about tuberculosis and DOTS in the community. The government should actively seek the participation of private pharmacies through advocacy, training, and imparting a sense of ownership in the National Tuberculosis Programme.
ther research is urgently needed to define the role of private pharmacies, an untapped resource in National Tuberculosis Control Programmes in developing countries.

References

RÉSUMÉ
En Inde, dans la plupart des situations, les pharmacies privées exécutent les ordonnances faites par les praticiens privés pour les médicaments antituberculeux. Dans une étude transversale, nous avons apprécié les pratiques d’exécution des ordonnances pour la tuberculose et les connaissances en matière du programme de tuberculose dans 300 pharmacies. Au total, les pharmacies ont exécuté 2.800 prescriptions par mois. Les prescriptions des médecins étaient faites pour des mois mais la moitié des patients ont acheté leurs médicaments une dose à la fois pour une auto-administration. Cette pratique pourrait favoriser la résistance à l’égard des médicaments. Bien que 95% des pharmaciens n’aient pas connaissance du programme antituberculeux, la majorité (97%) étaient désireux de s’initier et de contribuer à la lutte antituberculeuse. La nécessité et les potentialités des pharmacies privées dans la participation à la lutte contre la tuberculose sont soulignées.

RESUMEN
En la mayoría de los lugares de la India, las farmacias privadas dispensan las prescripciones de medicamentos antituberculosos de los médicos privados. En un estudio transversal, evaluamos las prácticas para dispensar los medicamentos para la tuberculosis y los conocimientos con respecto a los programas de tuberculosis de 300 farmacias. Un total de 2800 prescripciones por mes fueron dispensadas por las farmacias. Las prescripciones de los médicos eran hechas por meses, pero la mitad de los pacientes compraban una dosis de medicamentos cada vez, para la auto-administración. Esta práctica podría favorecer la resistencia a los medicamentos. Aunque el 95% de las farmacias no conocían los programas de tuberculosis, la mayoría (97%) estaban dispuestas a aprender y a contribuir al control de la tuberculosis. Se pone en evidencia la necesidad y las potencialidades de las farmacias privadas en la participación al control de la tuberculosis.