



PHARMACIES, SELF-MEDICATION AND PHARMACEUTICAL MARKETING IN BOMBAY, INDIA

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Abstract—Studies of pharmaceutical practice have called attention to the role played by pharmacists and pharmacy attendants in fostering self-medication and medicine experimentation among the public. Left undocumented is the extent to which clients passively follow the advice of pharmacy personnel or question their motive or expertise. While research has focused on pharmacists and pharmacy attendants as agents encouraging self-medication and medicine experimentation, adequate attention has not been paid to pharmacist–client interactions that are sensitive to the social, cultural, and economic context in which medicine sales and advice occur. This paper highlights the context in which pharmacy attendants engage in “prescribing medicines” to the public in Bombay, India. An ethnographic description of pharmacies and pharmaceutical-related behavior in Bombay is provided to demonstrate how reciprocal relationships between pharmacy owners, medicine wholesalers and pharmaceutical sales representatives (medreps) influence the actions of pharmacy staff. Attention is focused on the role of the medicine marketing and distribution system in fostering prescription practice, pharmacy “counter-pushing” and self-medication. In documenting the profit motives of different players located on the drug sales continuum, it is argued that the economic rationale and the symbiotic relations that exist between doctors, medreps, medicine wholesalers and retailers, need to be more closely scrutinized by those advocating “rational drug use”. © 1998 Elsevier Science Ltd. All rights reserved

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INTRODUCTION

In most less developed countries (LDCs), almost any drug available on the market may be purchased over-the-counter (Ferguson, 1981; Krishnaswamy *et al.*, 1983; Logan, 1983; Tomson and Sterkey, 1986; Greenhalgh, 1987; Hardon, 1987; Van der Geest, 1987; Haak, 1988; Price, 1989; Goel *et al.*, 1996; Trostle, 1996; Van der Geest *et al.*, 1996). “Irrational” use of pharmaceuticals, in particular self-medication with antibiotics, has been widely reported leading the World Health Organization to call attention to the dangers of self-medication as a cause of antibiotic resistance (Kunin, 1983; Kunin *et al.*, 1987; Etkin, 1992). Equal concern has been expressed about the over-prescription of drugs by doctors, the iatrogenic effects of “illogical” drug combinations (e.g. multiple forms of antimicrobials contained within a single medication) and the availability of substandard drugs in the market place. In addition to the problem of resistant microbial strains resulting from the inappropriate use of antibiotics, drug side-effects, allergic reactions and toxic poisoning have become a cause of alarm.

Several studies of pharmaceutical practice have been conducted over the last two decades by pharmacoepidemiologists, health social scientists and consumer advocates. These studies have examined

the clinical rationality of prescription practices, self-medication inclusive of over-the-counter (OTC) drug use for acute and chronic illnesses, the purchase of nutritional supplements (tonics and vitamins) which have questionable therapeutic value, and the self-regulation of prescribed medicine dosage (Conrad, 1985; Nichter and Vuckovic, 1994; Ross-Degnan *et al.*, 1996; Van der Geest *et al.*, 1996; Madden *et al.*, 1997). The rising tendency for people in LDCs to self-medicate with commercial medicines has been associated with marked decreases in thresholds of tolerance for symptoms, greater familiarity with drugs and medicine vendors, changing health concerns related to defective modernization (e.g. environmental degradation, adulteration of food), dramatic increases in the number of products available in the marketplace and changes in the purchasing power of consumers. Health, it has been argued, is becoming increasingly pharmaceuticalized and commodified as more and more people conveniently “reach for the pill” at the first sign of ill health or malaise (Jayaraman, 1986). Health is being treated as a state which one can obtain (or maintain) through the consumption of medicines, even under adverse conditions, if one has the capital to invest. In India, for example, environmental degradation and a rising concern for food adulteration has been accompanied by the proliferation of pharmaceuticals marketed to purify and

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protect the body (Nichter and Nordstrom, 1989; Nichter, 1996).

Attention has also been called to the role played by pharmacists and shop attendants in fostering self-medication and medicine experimentation among the public. Studies in several LDCs have documented that pharmacies (chemist shops and drugstores) are not only sites where medicines are bought and sold, they are also places where information and advice on health problems and treatment is sought (Ferguson, 1981; Krishnaswamy *et al.*, 1983; Logan, 1983; Shiva, 1985; Fabricant and Hirshhorn, 1987; Greenhalgh, 1987; Van der Geest, 1988; Goel *et al.*, 1996; Ross-Degnan *et al.*, 1996; Van der Geest *et al.*, 1996). Most of these studies are rural or town based, and identified pharmacies as a site of primary health care. Some studies have found that it is fairly routine for people to seek the advice of pharmacists and medicine shop attendants for common ailments. Such consultations are convenient: they save time, money and the opportunity cost of waiting to be seen by a doctor (Ferguson, 1981; Logan, 1983; Mitchell, 1983; Kloos *et al.*, 1986; Igun, 1987; Haak, 1988).

Existing studies suggest that clients who directly consult pharmacy personnel for medications often have unrealistic expectations. They expect immediate demonstration effects from the medicines they purchase. Therefore, it has been suggested that pharmacy personnel tend to recommend medicines which have dramatic effects as well as lucrative profit margins. For example, it is not in their best interest to advise that oral rehydration solution be used for cases of diarrhea, or only this therapy. Left undocumented is the extent to which clients passively follow the advice of pharmacy personnel or question their motive and/or expertise. This issue is particularly important in urban areas where the public is more critical of the medicine business, and where there is less time for pharmacy attendants to interact with clients.

While attention has been focused on pharmacists and medicine shop attendants as agents encouraging self-medication and medicine experimentation, little is known about them as a group. Thousands of pharmacy attendants work in medical shops in LDCs. What is their level of training and how aware are they of the specific indications, dosages and contraindications of the drugs they sell to the

public? Some studies suggest that ill-trained pharmacy attendants are all too eager to recommend medicines (Tomson and Sterkey, 1986; Greenhalgh, 1987; Igun, 1987, 1994; Kunin *et al.*, 1987; Van der Geest, 1987; Wolfers, 1987; Haak, 1988). Left undocumented are the factors which mitigate against such behavior.

A better understanding of these factors requires a more careful consideration of pharmacist-client interactions sensitive to the social, cultural and economic context in which medicine sales and advice occur. This entails (a) a consideration of the pressures pharmacy owners bring to bear on those who actually look after pharmacy business on a day-to-day basis, (b) a situational analysis of what occurs at a pharmacy counter, which is sensitive to the types of relationships which pharmacy personnel maintain with regular and off-the-street customers, pharmaceutical sales representatives (medreps) and doctors.

In this paper we address these issues and consider how often and in what context pharmacy attendants engage in "prescribing medicines" to the public in one of India's most densely populated cities, Bombay. Our use of the term "prescribing" encompasses both (a) the direct offering of advice about specific medicines when symptoms are presented by clients and (b) the offering of advice about medicine substitutes or adjunct medicines to complement those requested by clients or prescribed by doctors. We examine a range of factors which both encourage and mitigate against pharmacy attendants' propensity to assume a proactive medicine "advice giving" role. An ethnographic description of pharmacies and pharmaceutical-related behavior in Bombay is provided which examines how reciprocal relationships between pharmacy owners, medicine wholesalers, and pharmaceutical sales representatives influence the actions of pharmacy staff*.

METHODOLOGY

Fieldwork for this study was conducted in Bombay between April and August 1992, and August and January 1994†. A combination of methods was used to gather quantitative as well as qualitative data:

(1) *Semi-structured interviews* were conducted with a sample of 75 pharmacy owners and managers in Bombay city. The sample was segmented such that 25 pharmacies were selected from low, middle and high income localities. The two main objectives of these interviews were to (a) provide an overview of the way pharmacies operate in Bombay and (b) examine pharmacy managers' perceptions on a set of issues related to the promotion of medicines by pharmaceutical companies and consumer demand inclusive of doctors (or prescribers) and the lay public.

*Our companion paper (Kamat and Nichter, 1997) examines in greater detail the tactics medreps employ in encouraging the sale of medicines at pharmacies. For an excellent critical review of the activities and motivations of medreps in the West, see Lexchin (1989).

†The study benefitted from the longitudinal research carried out in the South Indian city of Mangalore in which changing trends in pharmaceutical practice were monitored during the mid 1970-1980s. Changing trends in pharmaceutical practice are reported in Nichter (1996).

(2) *Participant observation* was conducted in six registered pharmacies located in three distinct socio-economic environments — two each from the high, middle and low income areas. A minimum of 10 d was spent in each of the six pharmacies. Considerable time was invested in building rapport with the owners/managers of the pharmacies who willingly participated in the study after confidentiality was assured.

(3) *Drug sales data* were recorded for three full days in each of the six shops. All transactions were recorded for a total of 1599 customers: 500 in the high income locality, 540 in the middle income locality and 559 in the low income locality. Data were collected on a total of 2564 medicines purchased: 897 in the high income locality, 864 in the middle income locality and 803 in the low income locality*.

(4) *Exit-interviews* were conducted with 150 randomly selected customers about the purchase of prescription drugs over-the-counter — 25 at each of the six shops†. The main objective of conducting exit-interviews with customers was to ascertain the reasoning behind pharmaceutical-related behavior

observed at the pharmacies. Criteria of customer selection was that they purchased at least one “scheduled” (prescription-only) medicine, with or without a current prescription‡. Excluded were customers who purchased only “non-scheduled” drugs such as paracetamol, antacids, etc.

(5) *In-depth interviews with pharmaceutical sales representatives (medreps)*. While conducting participant observation in the six shops, 35 medreps were observed as they interacted with pharmacy personnel. Data were also gathered from 14 in-depth interviews with medreps between September 1993 and January 1994§.

PHARMACIES AS A GROWING BUSINESS IN URBAN INDIA

In urban India, pharmacies are prolific and the medicine market highly competitive. At most pharmacies, many prescription-only (scheduled) drugs and a wide range of proprietary medicines may be purchased over-the-counter. Bombay is the commercial capital. It has India’s highest concentration of pharmaceutical companies and pharmacies in India. Bombay also has the highest doctor to population ratio among Indian metropolitan cities¶. There are an estimated 20 000 qualified medical practitioners and several thousand registered medical practitioners (RMPs) in the city, served by over 5000 medreps representing more than 100 pharmaceutical companies (Nandaraj, 1994; Yesudian, 1994)||.

An estimated 7000 licensed pharmacies are found in Bombay**. These pharmacies come in all shapes and sizes. Many are located along main roads near hospitals and polyclinics. Others are clustered near large residential complexes and in congested slums. There are no drug store chains like Boots in the U.K., Walgreens in the U.S.A. or Mercury Drugs in the Philippines. In addition to pharmacies, innumerable provision shops and stalls (such as *pan-beedi* stalls) stock OTC medicines and a limited number of scheduled prescription-only drugs.

Pharmacies in India operate under a variety of names such as “Chemists and Druggists”, “Chemist and General Store”, “Medical and General Stores”, or simply “Medicals”. In Bombay, pharmacies generally stock between 7000 and 20 000 medicinal products. Aside from medicines and an assortment of nutritional supplements, they also stock cosmetics, confectioneries, office supplies and miscellaneous household provisions. For this reason, the use of the word “pharmacy” to describe medicine retailers in India is somewhat misleading. There are few “pharmacies” in India where a qualified pharmacist “fills a prescription” or “dispenses” medicines in the manner found in most pharmacies in the West. In Indian pharmacies, only prepackaged medicines are sold, be they allopathic, ayurvedic, unani, or homeopathic medicines. At pharmacies which exclu-

*Variables included in the drug sales study were: age and sex of the customer, names of the medicine purchased (which were later put into standard categories with the help of the Monthly Index of Medical Specialties, MIMS-India), whether the medicines purchased were for self or bought by proxy for another, whether the medicine was bought with or without a prescription, whether the prescription was dated, and if so valid, and the manner in which a medicine was requested (by mentioning the name of the medicine, against an old sample, showing a piece of paper with the name of the medicines). The quantity and cost of each item purchased was also recorded.

†The sample was comprised of 70 males and 80 females. The mean age of the customers was 36. Eleven percent of the respondents were illiterate, 46% had been to school but not beyond the 10th grade and the remaining 43% had college educations. In terms of socio-economic status (SES), 40 belonged to the high SES group, 53 to the middle SES group, and 57 to the low SES group.

‡Certain drugs marketed in India are called “scheduled drugs” because they are classified under a separate schedule in the Drugs and Cosmetics Act (1940).

§For details, see our companion paper (Kamat and Nichter, 1997) on the activities of medreps.

¶On the issue of the tremendous growth in India’s private health sector and quality of care, see Bhat (1993) and Bhat (1996).

||Accurate figures of the number of RMPs actually practicing in Bombay are not available. RMPs have a wide range of training — some having completed indigenous medical training courses of various duration, and others having apprenticed under established practitioners grandfathered into registration. Nandaraj (1994) estimates that of the 20 000 qualified doctors in Bombay, 14 000 are in private practice.

**Pharmacists in Bombay have a professional association called The Retail and Dispensing Chemist Association (RDCA). The association is currently 50 y old and has over 3500 members.

sively sell homeopathic medicines, efforts are made to dispense medicines to suit the individual needs of a customer.

According to regulations of the Government of India, a license has to be procured from the Food and Drug Administration India (FDA) to stock and sell medicines from each and every system of medicine registered with the government. A license to operate a pharmacy is granted only to a "qualified pharmacist". In addition, a pharmacy must maintain (a) a refrigerator to store perishable medicines and (b) separate cash memos for medicines classified under Schedule H, L, C and E of the Drugs and Cosmetics Act (1940) and for proprietary medicines and tonics.

All six pharmacies selected for our detailed case studies were registered pharmacies stocking scheduled (prescription) drugs. The primary business of these shops was the sale of medicines as distinct from other shops selling medicines as only one of many commodities.

INVESTMENTS AND PROFITS

The investment needed to establish a pharmacy in an Indian city varies with the locality and size of the shop. In Bombay, a medium sized shop (15 × 15 feet) in a low-middle income locality will require an investment of anything between 300 000 to 400 000 rupees (approximately US\$ 8600 to \$ 11 500)*. A full stock of medicines will require an additional investment of 350 000 rupees (approximately US\$ 10 000). Until recently, pharmaceutical wholesalers provided medicine stock to shops on credit for a maximum of three months. This practice has recently ceased because several pharmacies which used such credit have closed down in less than six months without completing payments to pharmaceutical stockists.

Entrepreneurs who venture into the retail medical business often procure general business loans from banks. Banks, however, do not extend special pharmacy loans and the terms and conditions of securing a loan are the same as those made for other retail businesses. Banks do, however, provide overdraft facilities to pharmacy owners against a stock guarantee. The upper limit for an overdraft is equivalent to between 20% and 50% of the value of the stock in the shop.

Owning a pharmacy in India can be very lucrative. In Bombay, for example, the monthly net profit made by an average small shop in a low

income neighborhood is between 15 000 to 20 000 rupees (approximately US\$430 to 575), while small shops in middle income localities generally make between 25 000 to 30 000 rupees (approximately US\$715 to 860) net profit per month. In a high income locality where investment in a pharmacy might range between 10 to 15 times more than that in the low or middle income localities, net profit per month is often 50 000 rupees (approximately US\$1430) or above.

PROLIFERATION OF PHARMACIES

The number of pharmacies in India has increased dramatically during the past decade. Out of the 75 pharmacies surveyed in Bombay, 32% were less than two years old and more than half (52%) were less than five years old. Three-quarters of new pharmacies (less than two years old) were situated in low income localities. Slums are a popular market niche for businessmen wishing to venture into the retail medicine business because investments are low and the potential for reasonable profits is high. High population density coupled with high incidence and prevalence of common diseases mean significant sales may be realized from a modest assortment of drugs.

The marked increase in the number of pharmacies in urban India may also be attributed to the promotional activities of pharmaceutical companies and to a sudden increase in the profit margin for retailers in this business. Data collected from pharmaceutical wholesalers, pharmaceutical sales representatives and pharmacists revealed that profit margins in the past decade have increased on average from 5% to 12% for allopathic drugs†. Profit margins for medicines tend to be slightly less at large pharmacies, especially those in front of public hospitals, than in small pharmacies where volume of sale is less. Profit margins for ayurvedic and other herbal products are much higher often reaching 30% to 40%, but the volume of sales of such products is significantly less compared to allopathic drug formulations. Intense competition between pharmaceutical companies has indirectly given rise to an increase in the number of wholesalers in the city, who in turn, offer attractive incentive schemes and concession packages to patron pharmacies.

Another factor related to the rise in pharmaceuticals is the potential for money laundering. One shop owner explained this potential in the following way:

This is one business among the very few retail businesses where day-to-day transactions take place on cash terms and where a cash memo is given to customers. Thus, the retail business of selling medicines is good for someone who wants to convert his black (unaccounted) money into white. A medical shop provides the quickest and surest way out for anyone with such intentions.

*One US\$ = 35 rupees approximately.

†An increase in the local sales taxes (and also excise duty) from 3% to 5% beginning June 1993 has also contributed to an increase in the overall profit margins for retailers. This is because local taxes are included in the profit margin a retailer receives from the wholesalers.

COMPETITION AMONG PHARMACIES

Competition among pharmacies is keen, especially in areas where shops are clustered together. For example, one shop observed in a low income locality had six other competitors within a radius of 25 m. Every pharmacy manager that was interviewed accused the "chemist next door" of "undercutting", or not charging customers the mandatory 5% local tax over and above the maximum retail price (MRP). Selling medicines without tax is used as an incentive to solicit the continued patronage of regular customers*. One shop owner noted:

All my competitors are undercutting. That chemist over there simply does not care about business ethics. He does not want to charge the 5% tax to any of his customers. We all know that he is unscrupulous, but we cannot do anything to him because he is not a member of the RDCA. Things are getting out of control. So, do not be too surprised if you find, in another two years, chemist shops in Bombay displaying banners saying: "Medicines on sale — 5% discount given on all medicines. Hurry! Offer open while stock lasts!"

The competition between pharmacies has become so intense in Bombay that pharmacies located near large public and private hospitals hire "agents" whose job it is to persuade patients to buy medicines from a particular pharmacy. These agents get a commission from the pharmacy owner for having successfully "captured" prospective customers. Such customers are often intercepted inside hospital premises. Agents offer assistance in procuring needed drugs and a cash discount on medicines if they are purchased from a particular pharmacy. The practice of pharmacies offering gift vouchers to customers on bills exceeding a certain amount, as found in other countries, was not documented in Bombay.

WHO OWNS AND WHO ACTUALLY MANAGES PHARMACIES

In 48% of the 75 pharmacies surveyed, the pharmacy was a family business. 21% of the shop pro-

prietors owned more than one pharmacy in the city. 71% of the pharmacy proprietors were qualified pharmacists: 41% had a Bachelor's degree in Pharmacy and 29% had a Diploma in Pharmacy†. In no cases, however, were pharmacies managed by proprietors on a day-to-day basis. Salaried managers and clerk/attendants ran the shops. Only 41% of those who managed shops on a day-to-day basis had either a B.Pharm or a D.Pharm. Even in these shops, it was observed that customers rarely interacted with a qualified pharmacist.

In nearly all cases, it was pharmacy attendants who managed the front counter. For instance, during the collection of the drug sales data from the six shops in Bombay selected for intensive observation, 99% of the customers were attended to by clerks/shop attendants, including the two in the high income locality staffed by a qualified pharmacist. The qualified pharmacists were either absent or busy managing the cash-counter. Only on rare occasions were they asked questions by attendants. The qualified pharmacist, even when present, rarely advised customers about side-effects, contraindications, dosages and when medicines should or should not be taken.

An average size pharmacy is generally managed by four persons‡. In the 75 pharmacies surveyed, only 20% of those managing the front counter had either a degree or diploma in pharmacy. 67% of the shop attendants had not studied beyond the 10th grade. Shop attendants received an average starting salary of 800 rupees (US\$25) a month, while senior shop attendants with management duties received a monthly salary of between 1800 to 3000 rupees (US\$52 to 86).

Nearly a third of the 75 pharmacies visited were owned by businessmen who did not have a pharmacy degree. As noted earlier, FDA regulations require pharmacies to have a "qualified pharmacist" in order to be granted a license. Businessmen bypass this requirement by paying for the services of a qualified pharmacist on a *part-time basis*. Typically, these are recent B.Pharm graduates who either do not have the resources or the inclination to set up a pharmacy of their own. Hired as *signature pharmacists*, their only job is to sign all the bills for scheduled medicines made out to customers by shop attendants. This job takes a signature pharmacist less than an hour every few days, providing him a monthly payment of between 400 to 600 rupees (US\$12 to 17). Most of the signature pharmacists associated with the shops observed had a full-time job in a chemical factory or a pharmaceutical company. A few were retired pharmacists from a public hospital or a municipal clinic.

Once a license to operate a pharmacy is obtained in the name of the signature pharmacist, the license certificate is framed and prominently displayed in the shop. For all practical purposes, this arrangement meets all the statutory rules of the FDA. The

*The RDCA considers undercutting as an unfair business practice. However, since it is widely practiced, imposing any penal action on a pharmacist found to have violated business ethics is rare.

†A bachelor's degree in pharmacy takes three years beyond the 12th grade to complete, whereas a diploma takes two years beyond the 12th grade. Under the Drugs and Cosmetics Act (1940), a person with either a degree or a diploma in pharmacy is eligible to become a pharmacist. However, doctors with an M.B.B.S. or an M.D. degree are not eligible to obtain a license to operate a pharmacy.

‡The minimum number of personnel in a pharmacy is two and the maximum between eight to 10 in some of the large shops located in and around large hospitals. A total of 261 personnel were employed in the 75 shops covered in the present survey. Of these, 119 were attendants, 59 were family members/relatives (but not qualified pharmacists), 62 were managers and 21 were proprietors.

owner of one shop in Bombay provided the following explanation for this "system":

How else can people like us get into this business? There are thousands of chemist shops in this city. Do we have as many qualified pharmacists in the city? Would a qualified pharmacist be willing to work in a chemist shop where he would not even get 2000 rupees a month? A B.Pharm graduate who works in a pharmaceutical company as a chemist or an MR with a few years of experience will get almost twice the salary and many attractive benefits. Why would a pharmacy graduate want to get into this boring business! Moreover, having a degree and being educated is one thing, but doing this retail medicine business is an entirely different thing. You have to be very shrewd and you need to have a mind like mine!

Many pharmacy managers argued that it is unnecessary for a pharmacy to be managed by a qualified pharmacist because of the way medicines are packaged and sold. In their opinion, experience is far more important than having a formal degree. What is required is some type of apprenticeship. One senior pharmacist, an active member of the Retail and Dispensing Chemists Association (RDCA), commented:

Do you think that something will go terribly wrong if this shop does not have a qualified pharmacist? I am a qualified pharmacist with not one but two graduate degrees. Of what use is my formal qualification and training to the customers? Thirty years ago when I started this pharmacy, I had to actually mix and dispense a mixture of different chemicals as per the prescription of a doctor. You must have seen that Rx symbol written on some of the prescriptions. Some doctors still use that outdated symbol when they write a prescription. Now every medicine comes in prepackaged bottles and strips, all neatly labelled. The name of the company is clearly written, and so is the brand name and ingredients in the product. So where is the scope for a qualified pharmacist to use his knowledge and training in all this? Do you need a person with a degree or a diploma in pharmacology to take the medicines from the shelf or the drawer and hand them over to the customer? Even a high school student who can read and write a little bit of English can do this job.

Viewed strictly as a business, a pharmacy may not need a pharmacist. From a public health perspective, however, there are several inherent dangers in thinking that training is unnecessary for those manning pharmacy counters. Untrained shop attendants are unable to recognize inappropriate combinations of medicines and unable to advise customers about how medicines should be taken, what their side effects are, and when they are contraindicated. At issue is whether they or the public view this as their role. Also important to consider is what the ramifications might be of shop staff calling to a client's attention inappropriate therapy, side-effects, or dosage schedules which are inconsistent with the advice of doctors having different levels of training (from RMPs to MDs). Some studies of pharmacies in LDCs have suggested that untrained shop attendants are inclined to dispense prescription-only medicines over-the-counter. This begs the question of whether training and guidelines should be provided to them in contexts where it is unlikely

that this activity will be curtailed. A related question is whether attendants would be interested in such training.

During our study we found that confidence among shop attendants regarding their knowledge of medicines ran quite high. When asked to explain the use of a particular medicine, attendants were quick in giving terse answers like "it is for B.P.", "it is for the heart", "tension", "sleeping", "diabetic people use it" or "people with heart problems take it". When asked to cull out all medicines in the shop which are typically used for a particular disease, attendants did so with ease. Attendants could not, however, provide any information on side effects or counter-indications associated with the drugs "they knew". When asked how particular drugs worked, they tended to make vague references to human physiology often drawing upon a humoral model of the body.

Spot observations at pharmacies revealed that counter attendants were often asked medicines for specific complaints by clients by name and without a current prescription. Attendants proceeded to provide medicines requested and/or substitutes. Transactions were brief. Information about dosage schedules was only occasionally requested and information about side-effects or counter-indications was never queried. When asked for medicine like "antibiotics for cough", attendants tended to mimic common doctor prescriptions. Offered to patients, for example, would be a strip of amoxicillin. Patients then indicated amounts desired, with no feedback provided to them by attendants about appropriate dosages.

Given recent experimentation in the development of pharmacy training programs in other countries, we asked our sample of attendants if they would be interested in obtaining such training (Kafle *et al.*, 1992). For the most part, attendants were eager to learn more about the drugs they sold and were enthusiastic about parapharmacy training. Our impression was that most attendants saw training as a window of opportunity leading to a "certificate", and, thus, a better paying job and increase in status. Their enthusiasm in receiving training in pharmacy management had little to do with a desire to better serve the public, given time constraints and pre-existing ideas maintained by the public about how and how long medicines need be taken.

Exceptions were noted, however, of more highly motivated counter attendants who displayed a genuine interest in learning not only about medicines but also ways of talking to clients about appropriate medicine use. Such attendants recognized constraints in the information they would be likely to give customers. One attendant remarked that given the nature of the pharmacy business, it would be far easier for him to render advice about taking a longer course of medicine (e.g. five instead of three days of antibiotics) or the timing of medicines than

advice about irrational drug combinations. The latter would result in a loss of sales and lead to possible reprimand from doctors or loss of their "good will" necessary for business.

CUSTOMERS

Observations in the six shops revealed that on an average day 150 customers visit a medium-sized pharmacy. Larger shops located near hospitals, by comparison, received between 750 to 1000 customers per day. The number of customers visiting a pharmacy was also reported to vary by season. Most pharmacists reported March to September as the period when business was best. Pharmacies witness the peak number of customers during the monsoon season between June and mid-September, when the sale of medicines for fever, cough, cold, malaria and diarrhea is brisk. October to the end of February was described by pharmacy staff as a "healthy season" for the public but a "bad season" for the medicine selling business. At this time, the business of regular clients with chronic complaints is especially important. Two-thirds of pharmacy staff also reported monthly business cycles. More sales of drugs are made during the first ten days of every month. It is at this time that many people have received their monthly salary and can afford to see a doctor and buy medicines.

PHARMACY PATRONAGE

Approximately 75% of customers who come to a pharmacy buy only medicines, while the other 25% purchase items such as soaps and baby formula. Of those who purchase medicines, approximately 15% purchase medicines for chronic illnesses. Of the 150 customers interviewed in the six shops, 84% said that they usually purchase needed medicines at the shops where they were interviewed. The most common reasons cited for frequenting a particular pharmacy was proximity of the shop to one's residence or doctor, familiarity with shop personnel and the perception that all the medicines they needed could be found in the shop. Pharmacy personnel did all they could to foster the continued patronage of regular customers. When a particular medicine was not in stock, they often obtained it for the customer from another shop, assuring them that it would be made available that evening or the following day.

While pharmacy personnel are responsive to the demands of clients in order to retain their popularity, this does not mean that all customer demands are met. The phrase "out of stock" is often used by pharmacy personnel when they are approached by an unfamiliar customer who requests medicines without a prescription and which they feel uncomfortable selling. This is a polite way of telling a customer that he or she cannot get a particular medicine without a valid prescription. Observation

of shop attendants revealed that they rarely refused to fill a customer's request for medicine, regardless of whether they had a valid prescription. The prime exceptions noted in all six shops were requests for barbiturates, tranquilizers, sedatives and anti-depressants such as, for example, "Nitrosun", "Calmpose", "Valium" (diazepam), "Alzolam" (alprazolam) and "Larpose" (lorazepam). Unknown customers who requested these medicines without a prescription were asked to return with one. If the customer was a "known customer", however, his or her requests were generally honored.

One reason pharmacy personnel are more strict with their sale of barbiturates is because an overdose of barbiturates is a popular means of committing suicide. Pharmacy managers displayed mixed feelings about the care they needed to exercise in the sale of drugs like diazepam. One pharmacist noted:

I do not see why we should insist on a prescription when it comes to selling medicines like "Calmpose". I find this prescription business ridiculous. Let's say, one of our customers consumes ten tablets of "Calmpose" at one go. Will he or she die? No! If the fear is that the customer might commit suicide by consuming a large dose of "Calmpose", then why does the FDA not insist on selling insecticides like "Tik-20" or "Baygon Spray" only against a prescription? Are they not more dangerous and poisonous than these sleeping pills?!

Some pharmacy staff were in fact sympathetic to patient requests for drugs like calmpose, given the hectic pace of Bombay city life. After all, said one, 5 mg of calmpose can do little more than help someone sleep, and sleep is as important to health as proper digestion. Pharmacy attendants were aware that drug addicts use barbiturates and tranquilizers and stated that these drugs are readily available on the street, leading addicts to seek their supply from known sources and not unknown shops.

PURCHASING MEDICINES WITH AND WITHOUT A PRESCRIPTION

Many prescriptions presented to pharmacy attendants are not dated and, if dated, outdated and invalid. Prescriptions over two months old were commonly observed being given to shop attendants by customers. Contrary to practices in the West where the pharmacist retains the doctor's prescription, the common practice in India is to return the prescription to customers after medicines have been purchased. Shop attendants request prescriptions from their customers more as a means to help them locate the right medicines than as a means to control the sale of prescription-only drugs. In only one shop were attendants ever observed to advise customers with "invalid" prescriptions to see a doctor and get them renewed. Elsewhere, customers were observed reusing prescriptions over five years old without so much as a comment from attendants.

Table 1. Select drugs and whether they were purchased with or without prescription at pharmacies in three different locales in Bombay (Drug Sales Data). (In Percentages)

Drug category	Pharmacies in high income locality			Pharmacies in middle income locality			Pharmacies in low income locality			Grand total
	with prescription	without prescription	subtotal	with prescription	without prescription	subtotal	with prescription	without prescription	subtotal	
Antibiotics	40	60	(110)	73	27	(113)	60	40	(139)	362
Sedatives and tranquilizers	29	71	(34)	34	66	(35)	42	58	(12)	81
Topical antifungals with corticosteroid	43	57	(37)	41	59	(29)	39	61	(31)	97
Antidiarrheals	35	65	(17)	45	55	(20)	50	50	(26)	63
Antituberculosis	33	67	(3)	100	00	(8)	50	50	(24)	35

Figures in parenthesis are bases upon which percentages are drawn.

This included prescriptions for acute as well as chronic conditions.

An analysis of drug sales data from 1599 customers observed in the six shops revealed that 66% of all the medicines (1693 out of 2564 medicines) were purchased by customers over-the-counter. Of these over-the-counter (OTC) purchases, 32% (550 medicines) were "scheduled drugs". Of the 550 scheduled drugs purchased over-the-counter, 27% (151) were antibiotics*. (See also Table 1.)

Reviewing exit-interviews data on the social class of customers, we found a similar trend — that the proportion of customers who bought scheduled medicines over-the-counter was much greater in the high income locality (87%) than in the middle SES group (77%) or in the low SES group (63%). This trend has also been documented elsewhere in India (Krishnaswamy *et al.*, 1983; Greenhalgh, 1987). The data set collected is, however, not large enough to determine whether rates of self-medication by social class significantly differ for prescription-only drugs and OTC drugs.

Overall, interviews with clients revealed that people from the high socio-economic strata were more likely to engage in self-diagnosis, self-prescription and self-medication as compared to those in the low and middle socio-economic strata.

HOW MEDICINES ARE REQUESTED WITHOUT A PRESCRIPTION

Customers who visit a pharmacy without a prescription generally state their requests in one of the following ways: they (a) directly mention the name(s) of the medicines they need, (b) show an old sample of the medicine (a strip or bottle), (c) present a piece of paper/chit on which the names of medicines are scribbled, (d) present symptoms (either one's own or those of a family member) to the shop attendant and request appropriate medicines, (e) specify certain parts of the body or a condition associated with a particular medicine or (f) describe the shape, form and color of the medicine.

The most common ways of requesting medicines without a prescription were found to vary across socio-economic groups. Customers attending shops in the low income localities were commonly observed to request medicines by saying *pet ki goli* (stomach tablet), *kamar ki goli* (waist tablet), *seer dard ki goli* (headache tablet), *khasi ki goli* (cough tablet), *daat ki goli* (teeth tablet). In some cases, customers further specified the color of the medicine they desired. Symbols and trade marks which appear on product packaging are also referred to while requesting medicines. For example, a popular ointment for ringworms and eczema sold under the brand name "Ringazone" is referred to as *nagchhap*, meaning cobra brand, because of the picture of a cobra printed on the packaging. Similarly, a Neosporine ointment product was referred to as *ghodachap*, meaning horse brand, because of the picture of a horse (logo of Wellcome) that appears on the packaging.

The most frequent means of buying medicine adopted by middle income customers was verbally mentioning a medicine by name. Using a slip of paper (chits) upon which a name was written was more common in the high income locality shops. In high income areas, domestic servants were often sent to pharmacies to buy medicines for their employers. When medicines were requested by name in higher income areas, a brand name was invariably used.

The drug sales data revealed that the detailed presentation of symptoms to pharmacy staff was

*Of the 22 brand products containing a high level antibiotic such as ciprofloxacin, norfloxacin, pifloxacin, e.g. "Ciprolet-500", "Cifran-500", "Norflox-400", "Pelox-400", 13 were purchased with a prescription and 9 without prescription. Whereas, of the 25 items containing trimethoprim and co-trimoxazole, e.g. "Septran" and "Bactrim", 9 were purchased with prescription and 16 without prescription. As for the 35 anti-TB brand products monitored, e.g. "R-Cinex", "Isokin-300", "Tricox", 13 were purchased with a prescription and 22 without prescription. For sedatives and tranquilizers such as "Valium-5 mg", "Ativan", "Calmpose", "Trika", "Larpose", 28 items were purchased with prescription, 53 were purchased without prescription. Similarly, of a total of 97 topical steroid preparations, e.g. "Sofradex", "Betnovate", "Eumosome-G", "Zole-F", "Candid-B", 38 were purchased with a prescription, 59 were purchased without prescription. All the above brand products were marked with "to be used only under Medical Supervision" or "to be sold by retail on the prescription of a Registered Medical Practitioner only".

Table 2. Select drugs and mode of purchase (drug sales data; in percentages)

Drug category	With prescription	Mentioning brand name of the drug	Showing a chit/ piece of paper on which brand name is written	Showing an old sample	Presenting symptoms to pharmacy attendant	Total number of drugs purchased
Antibiotics	58	25	12	4	0.5	(362)
Sedatives and tranquilizers	35	39	00	11	15	(81)
Topical Antifungal	40	40	10	10	00	(97)
With Corticosteroid						
Antidiarrheals	44	22	10	6	17	(63)
Antituberculosis	37	20	26	17	00	(35)

Figures in parenthesis are bases upon which percentages are drawn.

the *least* common mode of requesting medicines. Out of a total of 2,564 medicines purchased by 1,599 customers, 1,693 medicines were purchased without prescription. Out of these, 63% were requested by name, 19% by showing a piece of paper, 13% by showing an old sample, and only 3% by presenting symptoms to the shop attendant (beyond a passing remark to a single symptom like cough, fever or diarrhea). Similarly, out of the 112 exit-interview customers who bought at least one drug without a prescription, 66% requested their medicines by mentioning the brand name, 12% presented an old sample, 18% gave the attendant a piece of paper containing a medicine's name, and only 4% consulted pharmacy staff beyond mentioning a common ailment*. More specifically, of a total of 249 medicines purchased by 150 exit-interview customers, 24% were purchased against a prescription, 49% by mentioning the brand name of the drug, 15% by showing the attendant a piece of paper containing a medicine's name, 10% by showing an old sample and only the remaining 3% of the items were purchased by consulting the pharmacy staff.

Two important observations may be made with reference to the above data. First, all experienced pharmacy attendants interviewed reported to us that people living in urban India are becoming increasingly familiar with the names of commonly prescribed allopathic medicines (see Table 2). Second, only a small percentage of urban customers at pharmacies engage pharmacy personnel in therapeutic consultations beyond briefly mentioning a symptom. Crowded urban pharmacies provide a

poor environment for customers to consult pharmacy personnel beyond a quick question. The few therapeutic consultations that do take place between customers and pharmacy personnel generally occur between 11.30 a.m. and 4.30 p.m., a slow business period at most pharmacies.

Shop keepers often know the needs of routine customers. In one of the shops in a low income locality that was closely monitored, many customer-provider interactions required no verbal requests. The mere presence of these customers at the counter was sufficient indication for the shop attendant to pull out certain medicines and make them available. Most of these customers were chronic patients who had been purchasing their medicines from the same shop for years. In other cases, customers' gestures such as pointing to the head or stomach engendered a quick presentation of tablets and a fast exchange of money.

PURCHASING MEDICINES BY PROXY

Customers buy medicines at pharmacies both for themselves and for others. While interviewing customers during exit-interviews, it was found that in all six shops the number of customers who bought medicines for someone else exceeded those who bought medicines for themselves. 59% of the 150 customers interviewed were purchasing medicine for others. Of these, 11% were domestic servants buying medicines for their employers.

The drug sales data, which corroborated this trend, revealed that a majority (63%) of customers had bought medicines for someone other than themselves. Buying by proxy was more common in the high income locality shops (68%) than the middle income (62%) and low income locality shops (46%). Specifically, as many as 29% of the customers in the high income locality shops were servants/office attendants buying medicines for their employers. Thus, given high rates of buying medicines by proxy, researchers need to be cautious in interpreting pharmacy clientele data as representing the characteristics of the afflicted. In other words, care must be exercised in extrapolating data on the afflicted from data on who purchases medicines.

*Some researchers, Krishnaswamy *et al.*, (1983) in India, and Price (1989) in Ecuador, have reported that only a very small percentage of people actually engage in therapeutic consultation with pharmacy personnel. Other researchers have reported significantly higher proportion of therapeutic consultations in other developing countries. See for example, Ferguson (1981) Logan (1983); Hardon (1987); van der Geest (1987); Haak (1988). Nichter and Nichter (1996) found that in Mangalore, India, chemist consultations have fallen over the last decade with rates of consultation varying significantly by pharmacy and customer load (e.g., time availability).

RESPONSE TO THE PRICE OF MEDICINES

Do people have an idea of how much they will need to spend prior to visiting a pharmacy? Does the difference between actual cost and expected cost influence decisions to buy partial doses of loose medicines, requests for medicine substitutes, or the postponement of treatment? These are important but neglected issues warranting research. It was observed that customers with prescriptions often request a shop attendant to estimate the cost of the medicines contained on a prescription before deciding whether or not to buy them. In some cases, customers singled out particular items on a prescription and asked for the price. This behavior was observed in all six shops. Shop attendants always obliged the client. A quick mental calculation is made and the customer told: *X rupai ke andar baitega*, meaning it will "fit" inside X rupees. If the counter is not crowded, the attendant will physically verify the price of the items requested and give an exact figure.

In low income locality shops, if the estimate went beyond 75 rupees, attendants would express a word of caution to the customer by saying it will be expensive or it is going to be very heavy (expensive). When a customer does not have sufficient money, an intricate process of negotiation takes place between the customer and the attendant. In cases where more than four or five items are listed in the prescription, it is common for customers to seek attendants' input about important medicines. In other words, they try to assess the priority of one medicine over another. It is in this context that the importance of the attendants' advice is most visible.

Advice offered by pharmacy attendants is influenced by how much money the customer is willing to spend and which symptoms require immediate attention. It was generally observed that medicines which will "cure" are privileged over medicines that give *shakti* (strength) — tonics and vitamins. For example, a patient having limited funds and a prescription for TB medications and tonic for weakness will be encouraged to buy a dose of rifampicin even if the profit margin on a bottle of tonic is greater. When funds for "medicines that cure" were limited, attendants were observed to advise customers to either buy selected "cure" items noted on a prescription or a partial (i.e. one day) dose of each of the items in the prescription. Additional research is required to ascertain if one pattern of advice is more common than the other, both by disease type and by client characteristics.

Customers were often observed to display surprise and despair after learning the cost of medicines prescribed. While it was common to hear customers grumbling over the prices of medicines, their frustrations were rarely directed at shop personnel. In none of the shops observed were customers found to haggle with shop attendants over prices. Chronic patients tend to be the ones most sensitive to price fluctuations. Upon examining the cost of regular medicines such customers were often heard exclaiming, "My God! What is happening to this country! Have the prices of these medicines shot up so much in just one month?!" One strategy adopted by chronic patients to counter escalating prices was to request the same medicines from the "old stock".

We explored the perception that more expensive medicines are likely to be more powerful than the less expensive ones. This appeared to be more pervasive among the low income clients than among clients who were better educated and more prosperous. For example, one low income customer who had come to buy OTC medicine for cough, fever and diarrhea was heard saying to the attendant, "Is this the best medicine you have for this problem? Do you have anything more *bhari* (powerful) than this? I am willing to pay more".

MEDICINE COST AND HOUSEHOLD EXPENDITURE ON MEDICINES

The cost of medicines in India has been rising way beyond the rate of inflation (see Rane, 1993). At present, how much do customers spend on an average transaction at a pharmacy? Do people from the higher socio-economic strata spend more on medicines than those from the lower socio-economic strata? Drug sale data on all 1599 customers monitored revealed that on average a customer spent rupees 14.92 paise at a pharmacy. The median expenditure at a pharmacy was 10 rupees, and three-quarters of all customers spent less than 20 rupees per transaction.

Exit-interview data from 150 customers who purchased one or more scheduled drugs generated higher expenditure estimates*. The average expenditure was 38 rupees per transaction and the median cost, 24 rupees. 79% of the customers spent less than 50 rupees per transaction. 47% of the customers from the high SES group, 62% of those from the middle SES group and 31% of customers from the low SES group spent more than 25 rupees per transaction. Although not the focus of the present study, we wanted to get an estimate of household medicine expenditure of our sample. Rather than asking informants to recall actual amounts spent, we asked them to estimate whether on average they spent more or less than 100 rupees per month on medicines over the last year. 57% of the informants from the high SES group, 77% of those from the

*As noted earlier, the sample of exit-interview customers comprised only those who had purchased at least one scheduled (prescription) medicine — drugs that were more expensive than non-scheduled or OTC drugs such as paracetamol, antacids, etc.

middle SES group and 42% of those from the low SES group said that they spent more than 100 rupees per month on medicines for their household.

These data suggest that people from the middle SES group may spend more money on medicines when compared with those in the high and low SES groups. This is a hypothesis which needs to be tested in a larger sample controlled by household size.

BILLING THE CUSTOMER

Pharmacy attendants find writing receipts for customers a time consuming and tedious task especially when a list of medicines is long. During rush hours, it is particularly troublesome, and few customers insist on a bill for medicines purchased. Less than 25% of the customers observed who purchased prescription medicines requested a bill. A bill for the items purchased is normally insisted upon by the customer when (a) the patient is hospitalized, the medicines are expensive and list of medicines is long and (b) the customer gets medical bills reimbursed either from their employer or an insurance company. In the latter case, receipts were sometimes manipulated toward the client's benefit.

In one shop, several customers were observed to purchase general items — cosmetics and toiletries — but request that a “medical” bill be made for that amount. Without any hesitation, the person attending the customer would reach out to the nearest shelf, pull out a bottle of “Evion 600” and put down all the details from the label (to make the cash memo look authentic) inclusive of batch number and expiry date. The same bottle of Evion was being used repeatedly, each time a customer asked for a “medical” bill against the purchase of non-medical items. When questioned about this, the shop owner replied:

I always oblige my customers with such bills because I have nothing to lose. At least my customer is happy. I think that, nowadays, many people from the middle class request “medical bills” because they get them reimbursed from their employers or the insurance company. This has increased during the past two years. So, every time my customer requests a “medical bill”, I use this bottle of Evion. I do this because I do not have to “cook up” names of medicines and other details each time a request for such a bill is made. I have kept this bottle handy solely for this purpose. If the amount is small, I write one or two strips of Becosules or some other vitamins. Frankly, in this business, *kutchbhi chalta hai* (anything goes)!

The statement “goods once sold will not be taken back or exchanged” is printed below each cash memo but does not hold good in most pharmacies. At least 10% of chemist shop customers return medicines. The practice is so common that pharmacies have their own hand written codes on items stocked in the shop. Since receipts are not always given as proof of purchase to customers, the codes

help the pharmacy personnel verify the authenticity of the source of purchase. Regular customers often return partial medicines, strips of pills and capsules if the medicine is reported to be ineffective, if the customer experiences side-effects, or if the complaint subsides. Medicines are generally only accepted on return if sold within the past week to a known client. They request the manager to either give them a cash reimbursement, a substitute medicine, or a cosmetic, toothpaste or soap of equal value.

WHY CUSTOMERS BUY LOOSE MEDICINES AND PART PRESCRIPTIONS

It is very common for customers to request either a part of the strip or a few tablets/capsules instead of an entire strip or bottle. 93% of the sample of 75 pharmacists/managers reported that customers commonly requested loose medicines and 85% said that they do not hesitate to oblige such customers. The remaining 15% said that they do not sell loose medicines in their shops. Either an entire strip or a smaller sized bottle of the medicine must be purchased. The practice of selling loose medicines was often restricted, however, to “fast moving items”. For example, some shop attendants who were reluctant to sell vitamin tablets/capsules loose, sold antibiotics from the ampicillin group and higher level sulphonamides and antibacterials (co-trimoxazole, quinolones like norfloxacin, ciprofloxacin and pefloxacin). Why were staff in these shops more willing to sell antibiotics loose than vitamin tablets/capsules? Being expensive, many customers are unwilling to buy an entire course of antibiotics in a single transaction. Antibiotics typically come in strips of 10 and 20 s, and for the lay person to complete an entire course of a medicine is an expensive undertaking. Doctors (GPs) tend to write a prescription for either four, six or eight tablets/capsules and not the entire course of a medicine during one consultation. This is more affordable to the patient in the short-term. The patient is asked to return to the doctor for a second consultation so the doctor may evaluate how the patient is responding to the prescribed treatment. If the patient comes back with a complaint that the medicine did not have any effect or that it had some “side-effects”, the doctor changes the prescription.

Patients come to have the impression that the efficacy of medicines needs to be evaluated in the short-term, an impression which fosters unrealistic expectations from medicines. In cases where longer (more appropriate) courses of antibiotics are prescribed, some patients prefer to purchase only part of the prescription to test the efficacy of the prescribed medicines. This is particularly true if the prescribed medicines are very expensive. OTC medicine use also follows this pattern, which appears to be empirically valid in cases of self-limiting illness.

The manager of one pharmacy offered the following commentary on medicine consumption in India:

I am convinced that 50% of the people in this country die not because of their illness, but because of the powerful allopathic medicines they eat. People want quick relief, quick cure, so doctors put them straight on *jada power-walla* (high-power) antibiotics. People take them, but very often do not complete the recommended course either because they do not have the money to buy the next dose, or because they start feeling better after taking the medicines for one or two days, and do not feel the need to continue. This has very bad effects on the patient's body. It becomes *dheela* (loose) and the patient dies because medicines stop having any *assar* (effect) on his body.

Shop personnel carefully monitor the prescription habits of local doctors so that they are not stuck with stock items. Strips of commonly prescribed medicines are sold loose without fear that a shop will be stuck with remaining tablets or capsules. Wholesalers and medreps indirectly support the sale of loose medicines by assuring pharmacists/managers that unliquidated items "will be taken care of", i.e. taken back when expired. This leads shop personnel to view selling of course medicines as a "no risk" business transaction.

Customers are ambivalent about what to do with unused or left-over medicines. Medicines tend not to be thrown away in India, especially if expensive. In some cases, customers approach shop attendants to find out what else such medicines can be used for beyond an original complaint. For example, in one of the shops monitored in the low income locality, a woman in her late 40s was observed to pull a strip of "Pyralfin" from her purse. She asked the shop manager if he would exchange it for some tablets to stop diarrhea. The manager declined, stating the tablets were not fresh. The woman asked the manager, "What can I do with these tablets? They are so expensive. I do not want to throw them away. Can I use them for my headache? Will they work?" The manager did not express any surprise at the customer's queries. He informed her that they were "malaria" tablets and that she should not use them for any other condition.

MAXIMIZING PROFITS: INCENTIVE SCHEMES AND COUNTER-PUSHING

Medicine wholesalers, their salesmen and medreps play an indirect but a decisive role in fostering self-medication, the sale of prescription-only drugs over-the-counter and drug substitution. Complex arrangements are negotiated between all those involved in the business of buying and selling medicines, to meet a common goal, that of maximizing profits. Carry and Forwarding Agents, known as "Superstockists" among medicine wholesalers, receive a 2% profit margin on the stock they procure directly from the pharmaceutical company of which they are agents. Wholesalers who deal directly with a superstockist get an 8% profit mar-

gin on the stocks they are able to sell to retail chemist shops. On average, a wholesaler in Bombay may be an agent for 15 pharmaceutical companies.

Pharmaceutical companies provide incentive schemes to wholesalers, who in turn pass them on to retailers to generate sales. A common scheme takes the form of direct cash discounts on bills for stock worth or exceeding a specified amount. Wholesalers typically advance their stock to retailers on a 7 to 25 d credit basis. If a retailer pays his bill in less than one week, a 0.5% to 2% discount is taken off the amount due. This discount enables shop owners to offer medicines on credit to regular customers as an incentive to remain their patrons. Out of the 75 pharmacies covered in the survey, 39% offered credit to regular customers. However, several pharmacy managers noted that recent shortening of credit duration from wholesalers is affecting this credit facility. Thus, today in most pharmacies, 99% of the transactions that take place between a retailer and his customers are on a day to day cash basis. Another common incentive scheme offered to retailers by wholesalers involves the purchase of a given amount/volume of a specific medicine. Pharmaceutical companies also offer cash incentives directly to the retailer. The company's medrep gives a voucher/check to the retailer for having bought/sold a specified amount of the company's products. Product bonus incentives are also popular among retailers. The form they commonly take is that for every 10 strips of X medicine purchases, one or two strips of the same medicine are given as a free bonus. During some promotional campaigns, bonuses can go up to seven strips for every 12 strips sold.

Bonus schemes are attractive to chemist shop owners. Not surprisingly, the first question a retailer typically asks a salesman who has come to take an order is: "Is there a scheme?" In many cases, salesmen try to sell their company's scheme first, before drawing attention to the merits of the product. Retailers, however, while interested in schemes, do not agree to stock a particular product until its popularity is established, because slow moving products block investments and take up shelf space which constitutes an opportunity cost. OTC products may be marketed by incredibly aggressive schemes. For instance, an OTC product for cough, cold, fever and pain (which contains paracetamol, caffeine and ephedrine hcl) and is sold by a local Bombay company, under the brandname "Superaction". It comes with a buy 12 and get seven strips free scheme. The retailer buys one strip of "Superaction" for 5 rupees and sells it at 7 rupees (the manufacturer's recommended price printed on each strip), plus he sells bonus strips for pure profit. The manager of one pharmacy commented on this product's profit potential and to whom he tends to sell it:

I make a profit of anything between 75% and 100% on "Superaction". During the past two weeks, I sold two boxes (20 strips) of this item for which I got a pocket calculator worth 80 rupees from the company. I make a lot of profit on this product, but I have to counter-push it because local doctors do not prescribe it. I do not recommend this product to every customer who asks for medicines for headache or body pain but mostly to *angutachapwallas* (illiterates) who come and ask me to give some medicine for cold and pain.

This example illustrates how bonus and other incentive schemes motivate chemist shop staff to recommend particular products.

BRAND SUBSTITUTION

Counter-pushing medicines over-the-counter takes two forms: (a) suggesting products when symptoms are reported but medicines are not specified and (b) advising customers about medicine substitution. Substitution is especially common in pharmacies located near large hospitals. Shop attendants who engage in counter-pushing often tell a customer *company bund hogaya*, meaning the company has closed down; or *Ye mal abhhi ata nahi*, meaning the company has stopped marketing this product; or *Ye lelo, dava vahi hai, sirf nam allag hai*, meaning take this, the medicine is the same, only the name is different.

72% of the pharmacists/managers in our survey stated that they recommend substitutes for prescription items when their stock has run out. However, only 34% reported that most of their customers tend to accept the substitutes they offer. In other words, in a majority of cases, substitutes are not purchased by customers. Notably, in the low income locality, customers were observed to accept a substitute for a prescribed medicine and then verify it with the doctor. Recognizing this pattern, the shop attendants of one pharmacy made it a point to advise their customers to show substitute medicines to their doctor. A special attempt was made in this pharmacy to keep track of medicine substitution sequelae. It was found that nearly half of all customers returned substitute products the same day they were purchased, saying that the doctor had told them not to accept it*. Commenting on drug substitution, the manager of another pharmacy noted:

We have to be very cautious when recommending substitutes, especially if a customer has come with a prescription. Most doctors do not appreciate it if we give substitutes for the brands they have prescribed. I learnt my lesson a few years ago. I got a yelling from the neighboring doctor because I had given a substitute for the brand he had prescribed. The reputation of this shop has to be protected. Now, I offer substitutes only when I am

sure who the doctor is. All of us in this shop have a good idea of which doctors in this locality are very particular about the brands they prescribe. If we have recommended a substitute, we advise the customer to show it to the doctor first and to return it if it is not acceptable.

Pharmacy personnel spoke of particular brand products being immensely popular among doctors in their area. For these items, substitution was not attempted. For example, Septran Syrup is known to be enormously popular one area in Bombay. If it is substituted by other co-trimoxazole products such as Bactrim, a product with a very attractive incentive scheme, there was a high probability that the substituted product would not be accepted by the doctor. The point being made is that pharmacy staff are very careful to whom they sell substitutes and which brand products they substitute.

EXPIRED ITEMS

None of the 75 pharmacies covered in the study maintained a systematic inventory, and shop managers only had a rough idea of the number of medicines stocked in their shops. They did, however, check their stock position, periodically culling out items which had expired. Shop attendants also take note of expired items during their routine transactions with customers. The routine inquiries made about product stock by salesmen and medreps also prompt shop managers to verify and update their stock.

Expired items are accumulated and returned to the company via salesmen and the wholesaler at a 15% deduction. There is a fixed period — the 15th to the 28th of every month — during which time shop managers hand over expired items (including breakages) to salesmen. A common point of friction between shop managers and salesmen and medreps is the inability of the manager to liquidate the stock of particular slow moving medicines. Shop owners lose money on these medicines in terms of cash deductions subtracted from the cost of expired items and opportunity costs originated with the shelf space occupied by these items. Counter-pushing such items is often resorted to as a means of preempting such a situation. Alternatively, shop managers/attendants attempt to persuade local "friendly" doctors to help liquidate the stock by prescribing such items more frequently. Medreps are often the intermediaries through which doctors are approached to alter their prescribing practices in lieu of pharmacy managers having an overstock problem. Shop managers reported that doctors often oblige such requests because of the symbiotic relationship that exists between them. The extent to which this practice fosters polypharmacy and over-prescription demands further scrutiny.

*A recent trend among some doctors in Bombay is to stamp "no substitution allowed" on prescriptions. It remains to be studied whether this stamp accompanies all their prescriptions or only some.

CONCLUSION

Many people who have entered into the chemist business are unscrupulous. They are attracted to this business only because of the high profit margins. These people are least interested in serving the public. Many of the new shop owners are illiterate. They cannot even sign their names, but own chemist shops! They know neither the head nor tail of medicines and sell medicines as they would any other household provisions, be it a kilo of rice, a hammer or nails. Thank God the profit margin is not as high as it is in foreign countries! If the profit margin goes beyond what it is now, I will give it to you in writing, all kinds of crooks will enter into this business, and the retail business of honest chemists will go down the drain! (qualified pharmacist and shop owner).

The retail medicine business in Bombay is lucrative, giving rise to a steady growth in the number of new pharmacies opening up in the city over the last decade. This proliferation of pharmacies is especially evident in slums, where setting up shops requires relatively low amounts of venture capital. Legal requirements pertaining to the licensing of pharmacies have been evaded by opportunistic business people who contract the services of signature pharmacists, who do little more than sign paperwork. A qualified pharmacist, even when present in a shop, rarely interacts with customers. The day-to-day activities of a pharmacy are typically managed by untrained counter attendants who are familiar with medicines stocked and conditions for which they are commonly prescribed or advertised. Their knowledge is bolstered by discussions with medreps and salespersons who talk to them as well as shop owners as a way of monitoring shop sales and doctors prescribing habits.

Having a valid prescription is not a prerequisite for receiving scheduled drugs at pharmacies in Bombay and the presentation of a prescription is rarely insisted upon. People buy steroids, antibiotics, anti-tuberculosis drugs and even psychotropic medicines over-the-counter. Many customers who do have a prescription only buy part of the course of medicines prescribed by doctors, and it is not uncommon for doctors (especially RMPs) to prescribe only part of a course of medicines as a means of diagnosis by treatment. Antibiotics are commonly purchased for self-medication and are often purchased in loose form by customers.

Unlike the situation reported in some other LDCs, only a small percentage of customers in Bombay were directly observed to consult pharmacy personnel about their medical problems beyond requests for medicine for common symptoms (cf. Ferguson, 1981; Logan, 1983; Mitchell, 1983). Most interactions at pharmacies are initiated by customers who mention the names of the medicines they require or some identifying characteristic. When pharmacy counter attendants are consulted, consultations involve decisions about drug prices,

and what drugs on a prescription to purchase when a patient has limited funds.

Given the intense competition among pharmacies, owners try and keep regular customers happy. Regular customers have access to most drugs without a prescription and are often given a 5% cash discount. Credit is usually extended to "good customers" and medicine returns are often accepted from them.

The over-the-counter sale of medicines at pharmacies is influenced by aggressive marketing strategies engaged by pharmaceutical companies. By offering attractive incentive schemes, ranging from rebates to "buy some get some free" schemes, stock bonuses and gifts to cash discounts, companies encourage the sale of drugs to wholesalers as well as retailers. Medreps who represent pharmaceutical companies encourage doctors to prescribe their products and pharmacies to stock them. To accomplish the latter, medreps act as intermediaries assisting pharmacies to liquidate unsold and slow moving stocks. A complex chain of symbiotic relationships between all parties involved in medicine dispensing and sales influences pharmaceutical practice.

Does the urban public passively accept the product advice offered to them by pharmacy staff, or are they sensitive to market forces which might motivate the pushing of particular products? Our observation is that while some customers are unsuspecting targets of counter-pushing in the form of product suggestions and medicine substitution, many others are wary of such efforts and cautious in their transactions of pharmacy personnel. One notable finding of this study is that, while self-medication with scheduled drugs is commonplace, prescriptions are taken seriously. While nearly three-quarters of the pharmacy managers in the present study reported that they recommend substitutes for prescribed medicines, only about one-third of their customers accepted brand substitutes without checking with their doctor. Sensitive to this pattern, shops took back drugs not approved by doctors when patients consulted them about the substitution.

Studies of pharmaceutical practice have drawn attention to the manner in which medicine use is associated with the meanings medicines have for people, perceptions of medicine quality and safety, and the ways in which medicine efficacy is judged in relation to expectations (Etkin, 1988; Van der Geest and Whyte, 1989). In this article, we argue that it is equally important to consider economic factors which influence both the sale and purchase of medicines. We have focused attention on the role of the medicine marketing and distribution system in fostering prescription practice, pharmacy counter-pushing and self-medication. The results of the study point to the profit motives of several different players located on the drug sales continuum. The economic rationale(s) and symbiotic relations exist-

ing between these players (doctors, pharmaceutical company medreps, medicine wholesalers, and retailers) clearly needs to be scrutinized by those advocating "rational drug use".

Some public health advocates and health social scientists have suggested that we view retail drug outlets as a potential source of community based information about medicine*. For example, innovative parapharmacy programs have been developed on an experimental basis in a few developing countries and some measure of success in the promotion of more rational drug use has been reported (cf. Kafle *et al.*, 1992; Oshiname and Brieger, 1992; Ross-Degnan *et al.*, 1996). In India, such programs have not yet been piloted despite a growing recognition of the prevalence of self-treatment with scheduled drugs procured from pharmacies staffed by unqualified pharmacy attendants. Activists groups in Bombay, such as the Medico Friend Circle, have called for consumer education pertaining to pharmaceuticals, but have not proposed parapharmacy courses for chemist shop counter attendants. A number of issues need to be considered before developing and testing the feasibility of such programs in India. What information base do pharmacy attendants need to acquire in order to practice more responsible pharmacy, what should be the scope of the information they provide to clients, and what simple procedures may be developed to help them deal with common situations such as being asked advice about partial purchase of prescriptions? How feasible and sustainable are para-professional training programs given staff turnover and product proliferation? Moreover, how supportive are pharmacists and chemist shop proprietors likely to be of paraprofessional training programs for attendants given demands on their time and profit motives during spurious practices? In this context, Haak's comment is noteworthy (Haak, 1988, p. 1425):

History has taught us that no solution for the irrational use of pharmaceuticals can be expected from the pharmaceutical industry.

*As noted by Price (1989), interventions aimed at chemist shops might decrease distribution of the drugs with more serious side-effects, and increase awareness among clerks and consumers of safer alternatives.

†Useful to such research would be an application of Bourdieu's work (Bourdieu, 1990) on the pragmatics of practice wherein emphasis is placed on practice within fields constituted by networks of stake holders (individuals and institutions). A distinctive logic of practice emerges within each field responsive to the distribution of power, influence and resources. Resources include multiple forms of economic, social, cultural, and symbolic capital. The strategies of agents within fields reflects their efforts to maintain or advance access to power and/or capital. Bourdieu (1991) suggests that stakeholders are subject to the dynamics of supply and demand as they effect access to different types of capital.

If the pharmaceutical industry is not presently motivated to regulate itself, then it is important to create an environment where it is in their best interest to do so (Kamat and Nichter, 1997; Nichter, 1997). Part of creating such an environment entails the education of consumers about both the appropriate use of medicines available on the market and the profit motives of those involved in selling medicines. Consumers need to develop a critical consciousness — a consciousness which requires frank discussion of existing patterns of medicine use and misuse, discussion which focuses on specific medicines not general messages about rational drug use.

If pharmaceutical practice is to change in India, consumers demand for information about medicines needs to complement demand for appropriate medicines at reasonable prices. Until consumers become more critical of how they are using medicines and what their expectations of medicines are, measures to introduce change into the medical system are unlikely to have much effect. Intense competition dramatically affects doctor and pharmacy staff interactions with the populace. It is unlikely that these stakeholders will change their existing practices until there is some indication that the offering of more responsible health service will pay off economically, over time, by continued client patronage.

Can a quick fix, quick profit mentality be transformed? In a country like India the question begs consideration beyond a discussion of medicine regulation and education for rational drug use. Required is a situational assessment of the logic of practice which unfolds in the medical marketplace as stakeholders interact and respond to each others' immediate and longer term goals and motivations†. Without such an assessment, talk of rational drug use is window dressing. It is what is going on in the shop which is critical.

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