

# Interactions between patent medicine vendors and customers in urban and rural Nigeria

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Patent medicine vendors (PMVs) supply a large portion of the drugs used by the public in African countries to treat their illnesses. Little has been reported about what actually transpires between PMVs and their customers, but nevertheless, concerns have been raised about the potential for abuse of their position. This study conducted 720 observations of PMV-customer interaction in 444 medicine shops in both the metropolis of Ibadan and the rural town of Igbo-Ora in Oyo State, Nigeria. Each interaction lasted 2 minutes on average. A quarter of the customers shared their illness problems with the shop attendant, 9% presented a prescription and the majority simply requested items for purchase. Most customers (73%) were buying drugs for themselves, while the remainder had been sent to purchase for another person. The former were more likely to be adults, while the latter were more often children and adolescents. The most common PMV behaviours are: selling the requested medicine (69%), giving their own suggestions to the customer (30%), asking questions about the illness (19%) and providing instructions on how to take the medicine (21%). Only three referrals were observed. The large number of specific drug requests was evidence of a public that was actively involved in self-care, and thus the major role of the PMV appeared to be one of salesperson meeting that need. A second role became evident when the customer actually complained about his/her illness, a practice associated with the more active PMVs who asked questions, gave suggestions and provided information. These PMV roles can be enhanced through consumer education, PMV training and policy changes to standardize and legitimize PMV contributions to primary health care.

**Key words:** patent medicine, medicine vendors, observational study, client-provider interaction

## Introduction

Patent Medicine Vendors (PMVs) have both functional and legal dimensions to their practice. The functional part involves the process of selling a product, while the legal component designates which products the PMV can and should sell. *Patent medicine* refers to proprietary drugs that are considered safe to sell to the general public in prepackaged form, and include common drugs like pain-relieving tablets and cough syrups (Egboh 1984; Snow et al. 1992; Mwenesi et al. 1995). Such medicines are to be sold in their original packets as they come from the manufacturer. That package must not be altered, and drugs must not be extracted from the package and sold in lesser or greater number, as this constitutes *dispensing* (Twebaze 2001). Ironically, selling a chloroquine base product such as *Nivaquine* in its packet is patent medicine vending, while counting generic chloroquine tablets from a tin is considered dispensing (Egboh 1984).

The term ‘vending’ itself denotes that the work of PMVs is commercial and retail in nature. Therefore, even though the vending involves health care products, the primary function of the PMV is a business, not unlike selling stationery supplies, as is evidenced by the fact that the bulk of customer-PMV interactions simply involve the selling of medications requested by the customer (Oshiname and Brieger 1992;

Osamor 2001). Like any other successful business person, the PMV tries to respond to customer demand. Hence, one often finds for sale in the PMV shop generic drugs like paracetamol and chloroquine in large tins and antibiotic and psychotropic drugs that are outside the scope of the PMV’s license (Nigeria Federal Ministry of Health 1946; Egboh 1984; Fassin 1986; Monsoro et al. 1987; Adikwu 1996; Ongore and Nyabola 1996; Indalo 1997). This is where the legal component of PMV practice becomes salient.

In addition to specifying that the PMV should sell only prepackaged patent medicines, Pharmacy Law in Nigeria requires that the licensee be at least 21 years of age and submit the names of two referees (Egboh 1984). Educational level is not specified, but by convention in Nigeria, the minimum educational attainment of PMVs has been primary schooling (Akinde et al. 1982; Abiola et al. 1983; Ojuawo and Oyaniyi 1993; Osamor 2001). Studies have shown that this minimal level of education does not confer on the PMV or her clerk or apprentice correct knowledge about the medications in her store or the common illnesses experienced by her customers (van der Geest 1991; Wolf-Gould et al. 1991; Oshiname and Brieger 1992; Masele et al. 1993; Osamor 2001). Concerning malaria, it has been found that shop clerks and owners consider analgesics containing aspirin to be anti-malarial drugs (Brieger et al. 2002).

In reality, a variety of people become PMVs. Some enter apprenticeships to learn the work under an existing license holder (Abiola et al. 1983; Fassin 1986; Mosoru et al. 1987). Others may be former or current auxiliary level health staff (Abiola et al. 1983; Mosoru et al. 1987; Jimmy 2000). It is often difficult to distinguish the functional difference between PMV shops and *real* pharmacy stores because the clerks hired by (the often absentee) pharmacist may themselves not be qualified to dispense (Twebaze 2001), and thus no different from the clerk in the PMV shop. Furthermore, the process of selling patent and other medicines is often blurred when one finds medicines being sold in other shops along with household products like soap powder, in roadside kiosks that contain cigarettes and kola nuts, on open trays in a busy market, and by hawkers walking or riding motorcycles through the back streets of city slums or out in distant rural villages (Brieger et al. 1986; van der Geest 1987; Adetunji 1991; Diop 1992; Oshiname and Brieger 1992; Snow et al. 1992; Slater and Saadé c.1996; Brieger et al. 2002).

In short, selling medicine is a business with tentacles in all corners of Africa where people perceive a need to buy medicinal products. In this context, the PMV can be broadly defined as a person without formal pharmacy training who sells orthodox pharmaceutical products on a retail basis for profit. While this definition does not clearly designate the PMV as a health care provider, the fact is, the PMV enterprise as broadly described above is the primary source of orthodox drugs for both urban and rural populations (Iweze 1987; Salako et al. 2001).

While patent medicine shops are acknowledged as a major course of health care products, little has been reported on what actually happens in the shops. The purpose of this study was to observe and document the interactions that occurred between PMVs or their clerks/apprentices and their customers. This investigation was intended not only to determine the extent to which they behave as business people and/or health care providers, but also to identify points at which the quality of the interaction might be improved.

## Methods

The study took place in a central town of a rural local government and in two communities within a large urban metropolis in Oyo State, Nigeria. Effort was made to locate and visit the shops of all PMVs in the town of Igbo-Ora and in the communities of Mapo and Idikan within the city of Ibadan. The approximate population of the local government where Igbo-Ora is located is 60 000, while the Ibadan metropolitan area contains over 2 million people.

The observational checklist used in this study was designed taking into consideration the activities of both the customers and the attendant or salesperson. It included both the requests of the customers and the responses, verbal and non-verbal, of the salesperson. This study did not assess the content and accuracy of information, but instead was focused on the nature of the interaction.

Customer behaviours of interest included whether they

requested a specific drug, presented a prescription and/or requested advice. The broad age group was recorded (customers were identified as an adult, adolescent or child based on appearance, the latter defined as a primary school-aged child or a parent carrying a preschool-aged child). Observers also noted whether the customer was heard to request medicine for another person.

Observers determined whether the salesperson was the shop owner or a clerk/apprentice. Salesperson behaviours of interest included whether he/she asked questions, made suggestions or simply sold what was requested. The checklist was pre-tested in Idere, a small community near one of the study sites.

During the preparatory stage it was learned that the PMVs had community-level associations that were concerned with the improvement and protection of their members. The researchers worked through the associations to gain legitimacy and support, since PMVs are quite suspicious of outsiders who might be government agents bent on harassing them and extorting bribes. The leaders of each association introduced the researchers to the members at a regular meeting where the nature and purpose of the study was explained.

Observations were made by some members of the research team and by trained research assistants who were primarily young high school graduates. Upon entering the PMV shop, the observer would greet the owner or shop assistant and explain the purpose of the visit. After permission to observe was obtained, the observer positioned him/herself as unobtrusively as possible, given that some of the shops were quite small. Observers attempted to make a maximum of five observations per shop, but were also instructed to move on to another shop if this goal had not been achieved within an hour. Observations were geared to the afternoon and evening periods when, according to the association leaders, there would be more business. In a few cases, several visits had to be made to a shop since the owner and sole salesperson was a teacher or other professional and opened the shop only after his/her regular work.

Data generated from the field were edited daily. These were then coded and entered into the computer for analysis using the EPI-INFO statistical package version 6.04a. A p-value of less than or equal to 5% was used to determine significant associations in statistical testing.

## Results

A total of 720 observations were made in 149 shops, 45 (30.2%) of which were in the town of Igbo-Ora. Most of the customers were adults (55.8%), followed by adolescents (208/720; 28.9%), and children (110/720; 15.3%), including 23 brought by their mothers. In over half of the observations (56.0) the shop owner was the salesperson. Observations in the rural town shops comprised 61.7% (444) of the sample. Interactions between attendants and customers ranged from 1–10 minutes with a mean of 1.9 and a median of 2.0.

### Customer behaviour

It was observed that 524 (72.8%) customers obtained drugs for themselves, and 211 (29.3%) obtained drugs for other people. As can be deduced from the numbers, 15 people did both, but for further analysis they were coded as seeking medicine for themselves, leaving 196 who only bought for another person. Three customer behaviours were noted. Most customers (79.0%) simply asked for specific medicines. Presenting an illness complaint or problem was less common, and was done by 178 (24.7%). Only 65 (9.0%) customers had a prescription sheet. Customers in urban areas were more than twice as likely to present a prescription (13.8%) than those in the rural community (6.1%) (Fisher's exact  $p$  value = 0.0007).

Data in Table 1 show possible differences when the customer was buying for him/herself or when buying for another person. No differences were found when comparing location and attendant present at the time of purchase. The likelihood of the customer purchasing for him/herself increased with the customer's observed age, and conversely, younger customers were more likely to purchase for other people. The only customer behaviour that varied by person for whom the drug was purchased was when a prescription was presented, and this behaviour was more common among those purchasing drugs for another person.

### Attendant behaviour

Six different attendant behaviours were observed. In 499 (69.3%) observations, attendants sold the medicines requested by the customer; in 219 (30.5%) encounters the attendant gave his/her own suggestions to the customer; during 134 (18.6%) instances they asked for clarifications and history from the customer. Some attendants communicated to the customer the dosage, precautions and side effects of the medicines purchased. Communication about the drugs

was observed during 150 (20.8%) encounters. Less commonly, during 32 (4.4%) encounters the attendant actually filled the prescription presented, and only three (0.4%) referred the customer to a health facility.

Table 2 looks in more detail at four shop attendant behaviours. In the rural community, when the attendant was a clerk and when the customer was buying for him/herself, the shop attendants were more likely to simply sell what the customer requested. Since requesting specific drugs and selling those drugs are closely linked, consumer actions were not compared with this attendant behaviour, although attendants only sold the requested drugs 80% of the time.

Attendants were more likely to ask the customer questions about his/her illness in rural settings, if the attendant was the shop owner and if the customer was buying medicine for another person. Attendants' responses were also associated with the following consumer behaviours: when the customer asked for advice or made an illness complaint, but did not request any specific drugs.

Attendants were likely to give their own ideas about what the customer should buy if the attendant was the shop owner, if the customer presented an illness complaint and asked for advice, if the customer did not request any specific drug, and if the customer was purchasing for another person. Finally, attendants were more likely to provide some education on drug use in rural shops if the customer had mentioned his/her problems, and if the customer did not request a specific drug.

### Discussion

The results of this study offer some insight into the behaviour of PMVs, their customers and the interactions between them. Concerning the customers, of primary importance is the fact that most know what products they want to purchase in advance. This illustrates one of the perceived benefits of

**Table 1.** Factors associated with whether customers are purchasing for self or another person

Customer characteristic (N)		Percentage observed to purchase drugs for self
Location	Urban (208)	75.4
	Rural (316)	71.2
Attendant present	Owner (403)	70.0
	Clerk (317)	76.3
Age group	Adult (402)	89.3***
	Adolescent (208)	60.6
	Child (110)	35.0
Customer behaviour (N)	Person for whom drug bought	Percentage observed
Requested specific drug	Self (524)	79.8
	Another (196)	77.0
Stated problems, illness complaints	Self (524)	24.5
	Another (196)	24.8
Presented prescription	Self (524)	6.1***
	Another (196)	16.8

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

**Table 2.** Factors associated with drug seller behaviours

Characteristic (N)		Seller behaviour – percentage observed			
		Sell what requested	Ask questions	Give own ideas	Educate on use
Location of shop	Urban (276)	62.7**	11.6***	25.4	25.4*
	Rural (444)	73.4	23.0	32.2	18.0
Attendant present	Owner (403)	63.0***	23.3***	34.0**	23.1
	Clerk (317)	77.3	12.6	24.0	18.0
Customer age group	Adult (402)	67.7	19.4	31.8	22.1
	Adolescent (208)	68.8	17.3	23.6	19.7
	Child (110)	76.4	18.2	32.7	18.2
Person customer purchased drugs for	Self (524)	74.6***	14.7***	26.5**	20.8
	Other (16)	55.1	29.1	37.8	20.9
<i>Customer behaviours</i>					
Customer mentioned problems, asked for advice	Yes (178)		51.1***	75.3***	41.0***
	No (542)		7.9	14.6	14.2
Customer requested specific drugs	Yes (569)		15.6***	22.3***	17.0***
	No (151)		29.8	57.0	35.1
Customer presented prescription	Yes (65)		18.5	29.2	21.5
	No (655)		18.6	29.6	20.8

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

self-care as described by Levin (1980): it enables people to have control over their health care experience. The paucity of prescription forms seen in this study was also reported from Ghana (Wolf-Gould et al. 1991). This does not necessarily reflect on the utilization rate of formal health care services, since most government and private clinics do have a pharmacy. Instead, this finding likely implies that PMVs are a major first choice in health care (Salako et al. 2001), especially for the poor (Iweze 1987).

The findings also show that nearly one-quarter of customers see the PMV as a source of advice and information about their illness. Although this study did not assess the content and accuracy of information provided to customers, other studies have reported that PMVs vary widely in the amount, accuracy and quality of information they give (Wolf-Gould et al. 1991; Ongore and Nyabola 1996; Indalo 1997; Twebaze 2001; Nshakira et al. 2002). PMVs may even *inflate* information about the efficacy and purposes of the drugs they sell in order to impress the customer (van der Geest 1991).

Unlike with a formal clinic, it is possible to send another person to buy one's medicines at a PMV shop. The age differences between those buying for themselves and those buying for others imply that the task of buying for another person is often given to adolescents and children. This may pose a communication challenge when the attendant asks the customer about the nature of the illness or gives directions for taking the medication. As it is, few PMVs provide information on taking the medicines, and therefore, patient education may be an area where training is needed.

Shop owners appear responsive to the needs of their customers. When the customer complains about his/her illness, the PMV is more likely to ask questions, give ideas and educate on medication use. When the customer simply

requests a drug by name, the PMV is less likely to engage in these behaviours. This is more likely to happen when the shop owner is the attendant, implying that he/she is more experienced and confident in giving advice and/or customers select the times and shops to visit when they know that a trusted owner is present.

The study has demonstrated that the actual owner of the shop is not always present or serving customers, since just under half of observed sales took place when a clerk or apprentice was selling. This raises questions not only about qualifications, but also training as an intervention to improve on PMV quality. Oshiname and Brieger (1992) found that either shop owners or their apprentices would take the time to attend training, but not both. Another approach building on peer education, supplemented with job aids, has been tried in Kenya (Marsh et al. 1999), and produced improvements in the selling of appropriate drugs in appropriate amounts.

## Conclusions

In conclusion, it would appear that the PMV has two roles in the provision of health care. He/she may simply be a commercial outlet to the majority of customers who have a clear sense of their own health care needs. On the other hand, a fair number of customers look at the PMV as a provider in a broader sense, and come to the shop expecting advice and guidance.

The first role can be enhanced through community health education that aims at creating better informed health care consumers. Consumer understanding could also be improved with better product detailing to the PMV by pharmacy companies, thus making PMVs more knowledgeable about product dosages and precautions. It is the second PMV role

that makes formal health care providers nervous, because the PMV is not licensed to provide care and dispense medicines, but only to sell proprietary drugs. Training alone cannot solve the problem. A greater recognition of the role that PMVs play in primary care will hopefully result in interventions that change attitudes of formal health care providers as well as create policies that legitimize, standardize and improve the quality of PMV performance.

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