

Original Research Article

BETWEEN GUIDELINES AND PRACTICE: A QUALITATIVE STUDY OF ANTIBIOTIC DISPENSING IN COMMUNITY PHARMACIES IN SARGODHA, PAKISTAN

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ABSTRACT

Background: Antibiotics are often supplied without a prescription through community pharmacies in Pakistan, although prescription-only dispensing is required. Little is known about how pharmacy staff make these decisions at the counter. The objective is to explore how community pharmacists and pharmacy technicians experience antibiotic dispensing rules in routine practice, and what shapes their decisions when a patient has no prescription.

Materials and Methods: A qualitative descriptive study was conducted in community pharmacies in Sargodha, Pakistan. Nine pharmacists took part in in-depth interviews, and 10 pharmacy technicians took part in two focus group discussions of five participants each. Participants were selected purposively. Data were analysed thematically using a combined inductive-deductive approach, and data collection and analysis were conducted concurrently.

Results: Four connected themes were identified. First, prescription-only dispensing was accepted in principle but applied conditionally, as staff used informal rules based on symptoms, duration of illness, affordability and patient insistence. Second, the counter worked as a marketplace, where refusal risked losing the customer to a nearby pharmacy. Third, staff worked without a supporting system, with little current guidance and few links to prescribers or the regulator. Fourth, participants explained non-prescription dispensing mainly through patient, prescriber, regulatory and workforce pressures. Technicians described non-prescription supply more openly than pharmacists.

Conclusion: The gap between rule and practice was not mainly a gap in knowledge. Stewardship in community pharmacy should address the informal decision rules that staff already use, apply prescription rules consistently across all outlets, link pharmacies with prescribers, and include pharmacy technicians.

Keywords: Antimicrobial Resistance; Anti-Bacterial Agents; Antimicrobial Stewardship; Pharmacies; Pharmacists; Qualitative Research; Pakistan.

INTRODUCTION

Antimicrobial resistance (AMR) is one of the most serious threats to global health. In 2021, an estimated 4.71 million deaths were associated with bacterial AMR. By 2050, this number could rise to 8.22 million a year, and South Asia is expected to be among the regions with the highest AMR death rates.^[1]

How antibiotics are used shapes how quickly resistance spreads. In many countries, the community pharmacy is the first place people go for antibiotics. A review of 162 studies from 52 countries found that nearly two-thirds of antibiotics dispensed in community pharmacies were supplied without a prescription. The rate was highest in low-income countries and had not improved over two decades.^[2] Pakistan faces the same problem. In Pakistan, antibiotics are intended to be dispensed on

prescription rather than supplied over the counter.^[3] In practice, they are easy to obtain without one. A 2026 study in Bahawalpur found that 96.5% of the drugstores visited supplied antibiotics without a prescription, and a qualified person was present in only 5.2% of them.^[3] Similar studies in other districts of Punjab and in Hazara have found non-prescription supply between one-third and nine-tenths of visited outlets.^[4,5]

Lack of knowledge does not fully explain this. A survey of community pharmacists in Lahore found adequate knowledge and positive attitudes, but poor dispensing practice.^[6] Self-medication with antibiotics is also common in primary care across Pakistan.^[7] Pakistan's second national action plan on AMR aims to strengthen surveillance and promote the responsible use of antibiotics.^[8] For such plans to succeed, they must change what happens at the pharmacy counter.

Surveys and simulated-client studies show how often antibiotics are supplied without a prescription. They do not show how pharmacy staff decide what to do when a patient arrives without one. Qualitative studies can answer this question, but they remain few in Pakistan. An earlier study in Lahore linked these practices to limited knowledge, patient behaviour and the wider social environment.^[9] The views of pharmacy technicians, who often serve customers when no pharmacist is present,^[3] also deserve attention.

This study therefore explored antibiotic dispensing in community pharmacies in Sargodha, Pakistan, from the perspective of both pharmacists and pharmacy technicians. It asked two questions. How do pharmacy staff understand the prescription-only rule? And what shapes their decisions when a patient has no prescription?

MATERIALS AND METHODS

Study design and setting: A qualitative descriptive design using thematic analysis was used to explore the experiences and decision-making of pharmacy personnel involved in antibiotic dispensing. The study was conducted in community pharmacies in Sargodha, Punjab. Participating pharmacies included independent outlets and branches of pharmacy chains, and most were located in urban areas of the city.

A qualitative design was selected because the study sought to understand how pharmacy personnel interpreted antibiotic-dispensing guidance and how they managed everyday dispensing decisions in routine practice.

Participants and sampling: Participants included community pharmacists and pharmacy technicians with direct experience of antibiotic dispensing. Pharmacists participated in in-depth interviews, while pharmacy technicians took part in focus group discussions.

Purposive sampling was used. Pharmacists were eligible if they held a recognised pharmacy qualification, such as Pharm-D or a postgraduate qualification in pharmacy and were working in community pharmacy practice. Pharmacy technicians were eligible if they had relevant pharmacy training and at least one year of experience in a pharmacy setting.

Twelve eligible pharmacists were approached, and all initially agreed to participate. Data collection and analysis proceeded concurrently. Recruitment stopped after the ninth interview because no substantively new codes were emerging; the remaining three pharmacists were therefore not interviewed. Two focus group discussions were held with pharmacy technicians, with five participants in each group. The second focus group produced findings similar to those of the first and did not substantially change the coding structure.

The final sample comprised 19 participants: nine pharmacists and 10 pharmacy technicians.

Data collection: Semi-structured topic guides were developed from the study objectives and the literature on antibiotic dispensing, guideline adherence, patient demand, education, professional collaboration and regulation.

All interviews and focus group discussions were conducted face to face by the first author, who had no prior professional relationship with the participants. Individual interviews were held at participants' pharmacies and generally lasted 45 to 60 minutes. Focus group discussions lasted approximately 60 to 90 minutes.

Interviews and focus group discussions were conducted in a mix of Urdu and English. Two digital recorders were used, and field notes were taken during and immediately after data collection.

The pharmacist interview guide explored current dispensing practices, familiarity with antibiotic-dispensing guidance, barriers to adherence, patient education, patient demand, collaboration with physicians and suggestions for improvement.

The focus group guide explored similar issues from the perspective of pharmacy technicians, including training, decision-making, awareness of the Drug Regulatory Authority of Pakistan (DRAP), public expectations and the role of government.

Data analysis: Audio recordings were transcribed verbatim, and Urdu passages were translated into English during transcription. Data were analysed thematically using a combined inductive-deductive approach.^[10]

Initial coding was guided by the study objectives and topic-guide domains, and additional codes were added as new ideas emerged from the transcripts. Coding was carried out manually by the first author. Meaningful sections of text were coded and compared across interviews and focus groups. Related codes were grouped into categories, which were then developed into broader themes. The codes and developing themes were reviewed by the research team.

Data collection and analysis were conducted concurrently, so that issues requiring further clarification could inform later interviews and discussions. During refinement, categories were compared across participants and between the two groups, with attention to contradictions between stated rules and described practice. The final analysis organised the findings into four connected themes: conditional dispensing in the absence of a prescription, commercial pressure at the counter, the absence of a supporting system, and wider system pressures shaping responsibility for dispensing.

Trustworthiness and reporting: Several steps were used to strengthen the credibility of the analysis. Coding and interpretation were discussed within the research team, and differences were resolved through consensus. Field notes were reviewed alongside the transcripts to support interpretation, and representative quotations were retained to keep the findings close to participants' accounts.

The study is reported in accordance with the Consolidated Criteria for Reporting Qualitative Research (COREQ).^[11]

Statistical analysis: No statistical analysis was undertaken because the study generated qualitative interview and focus-group data only.

Ethical considerations: Ethical approval was obtained from the ethics committee of Khyber Medical University, Peshawar. All participants

received information about the study and provided written informed consent, including consent for audio recording, before data collection.

Participation was voluntary, and participant codes were used in place of names to protect confidentiality. Recordings and transcripts were stored securely and were accessible only to the research team.

RESULTS

Nineteen participants took part: nine pharmacists in in-depth interviews and 10 pharmacy technicians in two focus group discussions. The analysis produced four connected themes (Table 1). Together they describe how a prescription-only rule that participants broadly accepted became conditional practice at the counter. Staff applied informal decision rules (Theme 1) under commercial and patient pressure (Theme 2), with little institutional support (Theme 3), and explained the resulting gap mainly through pressures within the wider health system (Theme 4). Quotations are labelled P1 to P9 for pharmacists and FGD1 or FGD2 with a participant number for pharmacy technicians. Quotations were translated from Urdu where needed and lightly edited for readability without changing their meaning.

Table 1: Themes, central meanings and illustrative elements

Theme	Central meaning	Illustrative elements
1. Prescription-only in principle, conditional in practice	Participants accepted prescription-only dispensing as the standard but described informal rules for departing from it.	Symptom- and condition-based supply; duration of illness; affordability; insistence combined with perceived need; stated rule contradicted by described practice.
2. The counter as a marketplace	Dispensing decisions were shaped by customer expectations, competition between pharmacies and the need to retain customers.	Customer demand; loss of customers to nearby pharmacies; customer satisfaction; counselling as negotiation; referral when counselling fails.
3. Working without a system	Staff made dispensing decisions with little current guidance and few links to prescribers or the regulator.	No formal training or updated guidance; reliance on experience, peers and the internet; guidance tied to changes of government; no doctor-pharmacist forum; no contact with DRAP; unqualified sellers.
4. Explaining the gap through wider system pressures	Participants explained non-prescription dispensing mainly through patient, prescriber, regulatory and workforce pressures, while some also called for a larger professional role for pharmacists.	Patients, prescribers, government and unqualified sellers as causes; calls for enforcement, public campaigns and joint policy; greater pharmacist authority.

Theme 1: Prescription-only in principle, conditional in practice

All nine pharmacists described checking for a prescription as the expected first step, and technicians in both focus groups acknowledged that antibiotics should be supplied only on prescription.

"Firstly we try to make sure that the patient has the prescription of the doctor." (P1)

The same accounts, however, described what happened when no prescription was presented. At that point participants drew on a set of informal decision rules rather than on guidance. The most common rule was to match an antibiotic to the presenting symptoms or to a recognisable condition, and some pharmacists named both the condition and the drug they would supply.

"If a prescription is not available, we give them according to symptoms of disease like UTI etc." (P7)
 "...if patient don't have a prescription for the cases of pharyngitis UTI or RTI we prescribe clarithromycin or Claracid to the patient..." (P3)

Other rules concerned how long the illness had lasted, whether the patient could afford the medicine or a consultation, and whether the patient's insistence was matched by apparent need.

"...if they have it from 4 to 5 days then we give some other combination." (P4)

"Mostly when a patient comes in we check for a prescription and even then we try to see if it fits the patient's budget and condition." (P8)

"If the patient insists and the condition seems like it could require antibiotics I tend to dispense." (FGD1-P5)

These rules gave staff a workable way to decide, but they rested on individual experience and judgement rather than on a shared standard.

"...with experience you understand which antibiotic is most effective for each patient..." (P1)

"Mostly based on the patient's description of symptoms. We have to rely on our judgment a lot." (FGD1-P3)

In some accounts the stated rule and the described practice appeared side by side. One pharmacist stated that antibiotics were supplied only on prescription and, in the same interview, described supplying them without one. The reference to "minor doses" appeared to serve as a justification, presenting non-prescription supply as limited and therefore acceptable.

"The rules for dispensing antibiotics are made by our pharmacy we only give antibiotics on the prescription of a doctor." (P5)

"If any patient doesn't have a prescription we give minor doses to them depending upon their symptoms..." (P5)

Technicians described the same gap more directly.

"Honestly while we know antibiotics should be dispensed only with a prescription in reality it's often overlooked." (FGD1-P1)

Departure from the rule was therefore not a rejection of it. Participants continued to describe prescription-only dispensing as correct, while treating it as a standard that could not always be applied at the counter.

Theme 2: The counter as a marketplace

The informal rules described above operated in a commercial setting. Participants described customers who expected antibiotics and a local market in which refusal carried a cost, because another pharmacy nearby would supply the drug.

"The guidelines are clear but in practice, they're rarely followed. The pressure from customers who are used to getting antibiotics easily is high." (FGD2-P2)

"...if you refuse it then some next pharmacy will give it to them." (P2)

In this setting, refusal was seen as moving the sale elsewhere rather than preventing the patient from obtaining the antibiotic. Some pharmacists described their aims in terms of keeping customers satisfied as well as following the rules, and presented the two as goals to be balanced.

"We try not to malpractice and try to make the customers happy while abiding by the policies." (P8) Two pharmacists described the same aim in the same words, linking counselling to customer satisfaction and return visits.

"We guide all side effects and dosage of antibiotics try to satisfy the patient and try to make sure the patient follows up with our pharmacy." (P5, P6)

Affordability and patient preference added to this pressure. Participants described patients who lacked the resources for a consultation, and patients who

arrived having already chosen an antibiotic. One pharmacist estimated that three in ten patients resisted advice in favour of their own choice.

"Being a pharmacist it is not recommended to give a person antibiotics without a prescription but sometimes a person doesn't have enough resources..." (P1)

"Out of 10 3 patients resist antibiotics of their choice and I give them according to their understanding." (P6)

In these encounters, counselling functioned as a negotiation. Participants described explaining dose, duration, side effects and resistance, but reported that the advice was often not followed.

"Try not to do this it may damage your kidneys you may have more side effects and the next time you will have resistance..." (P2)

"We educate patients about drug interaction and drug resistance. Only a few follow drug course... and most of the patient doesn't follow the full course prescribed." (P3)

"It happens often. I try to explain why they might not need it but not everyone listens." (FGD1-P1)

When negotiation failed, participants described two responses: referring the patient to a physician, or dispensing when the patient insisted and the need seemed plausible.

"...if he is not willing to understand our language... then we ask him to concern the doctor of his trust." (P9)

"If I'm unsure I advise them to see a doctor. But if they insist and it seems like they might need antibiotics I sometimes dispense them." (FGD2-P2)

Theme 3: Working without a system

Participants made these decisions with little institutional support. None of the pharmacists described receiving current guidance or training from government, and technicians described learning on the job.

"We haven't gotten any new knowledge from the government or in any workshop." (P8)

"No formal training. It's mostly learning as you go and from peers." (FGD1-P2)

Staff filled this gap from other sources: the pharmacy's own rules, the internet, colleagues, and what they had learned during their pharmacy education.

"Exactly we know the internal guidelines. We don't have information from the Pakistan Drug Regulatory Authority. But we search on the net for that and follow that in our store." (P3)

"We have studied all the guidelines about dispensing drugs in our course of pharmacy." (P6)

Two pharmacists linked the availability of guidance to changes of government, describing more contact under the previous government than under the current one. Guidance was therefore experienced as intermittent rather than as a stable feature of practice.

"Last government was serious about the issue and used to send health workers for awareness and guidance of a pharmacist." (P5)

"We have a little information about it in the last government but in the new government, we don't have any policy." (P4)

The same absence of structure applied to relationships with prescribers. Eight of the nine pharmacists described limited or no interaction with physicians, and several noted that there was no forum in which the two professions met. For one pharmacist, distance from the city made contact more difficult.

"We have no community in which doctors and pharmacists sit together and discuss drug policies." (P4)

"There is a barrier between doctors and pharmacists. there is no coordination or health care policies." (P9)

"There is no interaction between health care provider and pharmacist because my pharmacy is far away from the city." (P6)

Contact with the regulator was described in similar terms.

"No there is no link between drug regulatory authority and pharmacist. There are no notices ever came to us." (P9)

One pharmacist also pointed to weak control over who could dispense, describing untrained staff opening their own pharmacies after a short period of work.

"If a sales boy who works for a few months in a pharmacy gets the know-how and opens his pharmacy." (P7)

Without current guidance, a prescriber to consult or a regulator to report to, individual judgement became the main basis for dispensing decisions. This returns to the informal rules described in Theme 1.

Theme 4: Explaining the gap through wider system pressures

When participants explained why non-prescription dispensing continued, they more often referred to patient demand, prescriber practices, weak enforcement and unqualified sellers than to their own dispensing decisions.

"First of all, it should be that before writing, the doctor should do a test, which is not such a difficult test." (P2)

"Doctors should frequently do antibiotic sensitivity tests..." (P8)

"Yes we try to follow the rules, but often we have to give antibiotics because that's what customers expect." (FGD1-P5)

Their own dispensing was usually described as a response to these wider pressures. Consistent with this, most recommendations focused on stricter enforcement, public awareness campaigns and joint policy-making by doctors and pharmacists.

"Strict enforcement of prescription laws and more public awareness campaigns." (FGD1-P1)

"...there should be campaigns for antibiotics whether that is through TV commercials or a health care provider..." (P1)

"So there should be policies made by mutual agreement and practice of doctors and pharmacists.

And this should be implemented on a government level." (P7)

Participants did not frame improvement only in terms of penalties. They also asked for training and support that would make compliance more realistic.

"They should regulate pharmacies more strictly and provide support for training." (FGD1-P2)

Alongside this, some pharmacists sought a larger role for their own profession, including a guaranteed pharmacist presence in every pharmacy and the authority to change antibiotics.

"It is very important that a pharmacist is present in the pharmacy..." (P1)

"Pharmacists should be empowered so that they can exchange antibiotics for patients. Higher committee should be made to overcome this problem of drug resistance." (P3)

These two positions sat together. Participants largely explained non-prescription dispensing through wider system pressures, while also seeing a stronger professional role for pharmacists as part of the solution.

Comparison between pharmacists and pharmacy technicians

The two groups agreed on patient pressure, limited training and weak institutional support, but differed in how openly they described departures from the prescription rule. Pharmacists generally began their accounts from compliance, described prescription checking and counselling in detail, and presented non-prescription supply as an exception governed by symptoms or circumstances. Technicians described the same practice more directly, as frequent and driven by customer expectation (FGD1-P1, FGD1-P5, FGD2-P2).

This difference may reflect the different positions of the two groups. Pharmacists carry formal professional responsibility for dispensing and may have been more inclined to give accounts consistent with that responsibility, while technicians described the pressure they met directly at the counter. Taken together, the two groups suggest that studies relying only on pharmacists' self-reported accounts may provide a more compliance-oriented picture of dispensing practice.

DISCUSSION

This study set out to understand why antibiotic dispensing in community pharmacies departs from the prescription-only rule. The answer was not that pharmacy staff did not know the rule. Almost all of them knew it and accepted it. The problem lay in what happened at the counter when a patient arrived without a prescription.

At that point, staff relied on decision rules of their own. They matched antibiotics to symptoms, to the length of the illness, to what the patient could afford, and to how strongly the patient insisted. They did this in a setting shaped by customer demand and competition, with little support from guidance,

prescribers or the regulator. When they explained why non-prescription dispensing continued, they mainly referred to pressures within the wider health system. Each of these findings is discussed below, in the same order as the themes.

The first finding is that the gap between rule and practice was not mainly a gap in knowledge. This matches recent evidence from Pakistan. A survey of 359 community pharmacists in Lahore found adequate knowledge and positive attitudes, but poor dispensing practice.^[6] Our findings help to explain that pattern. Staff did not ignore the rule. They replaced it, case by case, with rules of their own.

This differs in part from earlier qualitative work in Lahore, which linked irrational dispensing mainly to limited knowledge among pharmacists.^[9] In our study, knowledge was uneven, but it was not the main barrier. The larger problem was that no shared standard guided what to do when a prescription was missing. In that space, experience and personal judgement took over.

One example shows why this matters for stewardship. A pharmacist justified supplying antibiotics without a prescription by saying that only "minor doses" were given. Supplying a reduced or incomplete antibiotic course without clinical assessment does not make non-prescription use appropriate and may conflict with antimicrobial stewardship principles. Participants themselves stressed the importance of completing the full course when they counselled patients. A small supply without a prescription works against that same message.

The second finding is that the pharmacy counter works as a marketplace. Staff described customers who expected antibiotics and nearby pharmacies that would sell them if they refused. This concern is common in Pakistan. In a survey of pharmacy staff in Punjab, 87.8% said that a patient who was refused would try another pharmacy, and 61.8% felt that dispensing without a prescription reduced the economic burden on patients.^[12] In Bahawalpur, drugstores in community settings were more likely to supply antibiotics without a prescription than those located near hospitals, and the authors linked this to competition for customers and weaker oversight.^[3] The same pressures appear worldwide. A review of 162 studies from 52 countries found that customer demand, the financial motives of pharmacy staff, and costly or inconvenient alternatives all drive non-prescription dispensing.^[2]

This has a clear implication. When one pharmacy refuses, the sale moves next door. Individual restraint therefore achieves little unless all pharmacies are held to the same standard. Our participants appeared to understand this, which may explain why many of them asked for consistent enforcement.

Counselling also changed its role in this setting. Staff explained doses, side effects and resistance, but counselling often became a negotiation, and patients did not always listen. Two pharmacists linked counselling to keeping customers satisfied and

bringing them back. At the counter, professional and commercial goals sat side by side.

The third finding is that staff worked without a supporting system. They received little current guidance. They had no routine contact with physicians or the regulator. Some described guidance as something that came and went with changes of government. Pakistan's second national action plan on antimicrobial resistance aims to strengthen surveillance and promote the responsible use of antibiotics.^[8] Our findings suggest that such plans will change daily practice only if they have a visible and steady presence at the level of the individual pharmacy.

Weak control over who dispenses adds to the problem. One pharmacist described untrained staff opening pharmacies after a few months of work. Other studies from Pakistan support this concern. A simulated-client study in Hazara found that 90.5% of visited outlets supplied antibiotics without a prescription, and that medical stores were considerably more likely to do so than pharmacies.^[5] In Pakistan, medical stores may be run by pharmacy technicians rather than pharmacists.^[5] This makes technicians an important group for any stewardship effort.

The fourth finding concerns how participants explained the problem. They more often referred to patient demand, prescriber practices, weak enforcement and unqualified sellers than to their own dispensing decisions. Their accounts therefore framed non-prescription dispensing largely as a response to pressures within the wider system. This does not mean their explanations were wrong. Many of the pressures they described are real, and the studies above support them. But it matters for change. If pharmacy staff see themselves only as responding to pressures created by others, they may see little reason to change their own practice.

At the same time, some pharmacists wanted a larger role for their profession, including a guaranteed pharmacist presence and the authority to change antibiotics. This fits with growing attention to the role of community pharmacists in antimicrobial stewardship in Pakistan.^[13] The wish for more authority is an opportunity. It can be used to build stewardship roles that come with clear responsibility for dispensing decisions.

The difference between pharmacists and technicians also deserves attention. Technicians spoke more openly about dispensing without a prescription, while pharmacists described their practice mainly in terms of compliance. Studies based only on pharmacists' self-reported accounts may therefore present dispensing practice in more compliance-oriented terms than studies that also include other pharmacy staff or observe practice directly. Studies that observe practice directly support this view. Simulated-client studies in Pakistan have found non-prescription supply in one third of visited pharmacies in Punjab and in most visited outlets in Hazara.^[4,5] In Bahawalpur, even the four drugstores where a

pharmacist was present supplied antibiotics without a prescription.^[3]

Implications for practice and policy

Taken together, the findings point to five practical steps, each linked to the themes above.

First, training should address the decision rules that staff already use. Staff need clear guidance on what to do when a patient has no prescription: when to refer, what to say, and why a small supply is not a safe option. Training on the rule alone is unlikely to help, because the rule is already known.

Second, enforcement should be consistent across all outlets, including medical stores. As long as refusal simply moves the sale elsewhere, individual restraint will have little effect. At the same time, evidence on what works is limited. A 2025 Cochrane review found no clear evidence that single-component interventions reduce non-prescription antimicrobial sales, and called for studies of policy measures.^[14] New approaches in Pakistan should therefore be tested and evaluated, not assumed to work.

Third, pharmacies need links with prescribers and the regulator. Simple local arrangements, such as named referral contacts or regular meetings between nearby clinics and pharmacies, could give staff somewhere to turn in uncertain cases. Evidence on collaboration between pharmacists and physicians comes mainly from chronic disease care, particularly cardiovascular conditions, rather than from antibiotic use.^[15] Such arrangements should therefore be tested for antibiotic dispensing.

Fourth, public messages should target a clear behaviour. Participants wanted awareness campaigns, and patient demand was central to their accounts. A review of antimicrobial resistance campaigns suggests that campaigns with a well-defined target behaviour are more likely to change what people do.^[16] A simple message, such as asking patients not to request antibiotics without a prescription, may be more useful than general warnings about resistance.

Fifth, pharmacy technicians should be included in all of these steps. They meet customers at the counter every day, and some medical stores are run by technicians rather than pharmacists.

Strengths and limitations

This study has several strengths. It included both pharmacists and pharmacy technicians, and it used both interviews and focus groups. This allowed the same practice to be seen from two positions in the pharmacy. The analysis also looked for contradictions within accounts, not only agreement between them.

The study also has limitations. It was conducted in one city, so the findings may not apply to all of Pakistan. The data were self-reported, and dispensing without a prescription is a sensitive topic. Some participants may have described their practice more favourably than it is, and the difference between pharmacists and technicians suggests that this may have happened.

Detailed demographic data were not available for reporting. The focus groups were small, with five participants each. Interviews were conducted in a mix of Urdu and English, and quotations were translated, so some meaning may have been lost. The audio recordings were no longer available at the time of writing, so the final refinement of themes drew on coded data extracts rather than repeated listening to the full recordings. Finally, the study explored reported practice and did not observe dispensing directly.

CONCLUSION

Antibiotic dispensing in community pharmacies in Sargodha followed a clear pattern. Pharmacy staff knew and accepted the prescription-only rule. When a patient came without a prescription, however, they applied rules of their own, under commercial pressure and with little support from guidance, prescribers or the regulator. When explaining why non-prescription dispensing continued, participants more often referred to pressures within the wider health system than to their own dispensing decisions. More knowledge alone is unlikely to close this gap. Improvement will need practical guidance for the moment a patient arrives without a prescription, consistent enforcement across all outlets, working links between pharmacies and prescribers, clear public messages, and the inclusion of pharmacy technicians. Community pharmacies should be treated as partners in stewardship, with both support and responsibility.

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