Can Medicine-sellers in Pharmacies Meet the Needs of STD Clients?

Observations from an Urban Area of Bangladesh

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Glossary

AIDS	Acquired Immune Deficiency Syndrome
AIDSCAP	AIDS Control and Prevention Project
BCC	Behaviour Change Communication
CARE	Cooperation American Relief Everywhere
CSW	Commercial Sex Worker
HIV	Human Immunodeficiency Virus
HSC	Higher Secondary Certificate
HPED	Health and Population Extension Division
HPTP	Health Providers' Training Programme
ICDDR,B	International Centre for Diarrhoeal Disease Research, Bangladesh
KAP	Knowledge, Attitude and Practice
MOHFW	Ministry of Health and Family Welfare
NIPHP	National Integrated Health and Population Programme
ORP	Operations Research Project
OTC	Over The Counter
PHC	Primary Healthcare
RTI	Reproductive Tract Infection
STD	Sexually Transmitted Disease
SMC	Social Marketing Company
SSC	Secondary School Certificate
UNAIDS	United Nations Programme on HIV/AIDS
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

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Abstract

With the emergence of human immunodeficiency virus (HIV), prevention and management of sexually transmitted diseases (STDs) have become an urgent issue. As in many other developing countries, pharmacies are the resource most readily available to the people of Bangladesh with symptoms of STDs. But the question remains to be addressed is “Can medicine-sellers of pharmacies meet the needs of STD clients?” The Social Marketing Company of Bangladesh has been organizing a training programme for the medicine-sellers on STDs/acquired immune deficiency syndrome (AIDS) AIDS since 1995. Few studies addressing medicine-sellers’ knowledge of STDs/HIV/AIDS have been carried out in Bangladesh.

This study assessed the profiles of the medicine-sellers of pharmacies of an urban area of Bangladesh. The study also assessed their knowledge on STDs/HIV/AIDS and their practices in managing the STD cases.

In total, 201 medicine-sellers from 157 pharmacies of Tongi Municipality area were surveyed. A self-administered questionnaire was used for collecting data to explore the profiles and reported STD case management practices of the medicine-sellers and the mystery-shopping events to observe their practices. All the 201 medicine-sellers filled up the questionnaire. The mystery-shopping events were conducted in 33 randomly-selected pharmacies. In the mystery-shopping events, trained persons pretended to be STD clients and sought services from the selected pharmacies.

Results of the study showed that ninety-three percent of the medicine-sellers completed at least 10 years of schooling. Medicine-sellers defined STDs as only gonorrhoea or syphilis, and 84% were able to mention the STD-related complications. Forty-three percent could describe AIDS, and 65% could mention at least one preventive measure of AIDS. Ninety-six percent reported that they received STD clients with complaints of urethral discharge, genital ulcer, and vaginal discharge. There was a gap between the reported and the observed practices of the medicine-sellers. Seventy-two percent reported that they referred their STD clients to physicians, and 43% reported that they provided treatments. During the mystery-shopping, it was observed that only 4 of the 33 medicine-sellers referred the STD clients (mystery-shoppers), and 27 provided treatments and counselling. The medicine-sellers maintained privacy, but provided inadequate treatment to the STD clients (mystery-shoppers).

This study implied that pharmacies provide services to the STD clients as a source of medicines, advice and referral, but they lack the ability to provide adequate information and treatments. Although services of the medicine-sellers are used for different health problems, including STDs, they do not have any formal training in the management of STDs. For an effective programme concerning the prevention of STDs/AIDS, pharmacies, as an infrastructure, can be potentially involved. Initiatives should be taken to conduct operations research to test whether medicine-sellers can provide standardized treatments for STDs, including appropriate referral.

Introduction

As the new millennium approaches, over 33 million people are estimated to be living with human immunodeficiency virus (HIV), while about 14 million are estimated to die due to HIV/acquired immune deficiency syndrome (AIDS) [1]. According to UNAIDS, WHO, and other international agencies, the HIV/AIDS pandemic is shifting to Asia, specifically South and South-East Asia. Bangladesh is at a pre-epidemic stage of AIDS with a strong potential for the spread of HIV because of its close proximity to the Asian AIDS epicentre, and because it is in the middle of the crossroads of South-Asian migration and mobility.

With the emergence of HIV infection, prevention and management of sexually transmitted diseases (STDs) have become an urgent issue, since many of the STDs are co-factors for HIV transmission. WHO estimates that, during 1995, at least 333 million new cases of curable STDs in adults occurred globally, and an estimated 150 million of these were in the ten countries of South-East Asia. For several decades, STDs have been ranked among the top five diseases for which adults of developing countries seek healthcare services [2].

Healthcare-seeking behaviour is both a function of attitude toward the disease and sex, and accessibility and quality of healthcare facilities that deal with STDs. Several studies observed that seeking care from the formal health sector has been avoided because of stigma associated with STDs. Some have no confidence in the formal health sector, because they either had negative experience at a local clinic or have heard that they can expect to wait for long time, shortages of medicine, and rude or judgmental health staff [3]. Judgmental and unsympathetic attitudes of providers toward STD cases have a profound impact on service-seeking behaviour [4]. These factors may induce people to seek care from medicine-sellers in pharmacies and from *kabiraj* and traditional healers.

In many developing countries, the point of first encounter for the treatment of STDs is pharmacies. In Cameroon, a survey of men leaving pharmacies found that the majority received their prescriptions from medicine-sellers at the pharmacies [5]. In Thailand, the association of pharmacists has adopted a syndromic management flipchart to train the Bangkok pharmacists in syndromic management, while in Nepal, the medicine-sellers are being taught to dispense antibiotics, using a syndromic management approach, and to provide clients with preventive education and condoms [6].

Over the counter (OTC), the purchase of antibiotics from pharmacies is almost universal despite laws that regulate their distribution. Since dispensing of drugs is strictly regulated, the medicine-sellers in pharmacies do not have any opportunity to undergo special training in providing STD case management services, and they remain poorly knowledgeable to give appropriate service or adequate information on antibiotics recommended for STD case management. Therefore, the treatment obtained from these sources is usually inadequate or ineffective; patients do not receive the benefit of preventive education, including condom advice, and their sexual partners are not referred to and treated [6]. But in many other developing countries, pharmacies are looked upon as the resources most readily available to the people with STD symptoms.

In Bangladesh, both government and non-government organizations provide reproductive tract infection (RTI)/STD services at various levels. In the urban areas of Bangladesh, the pharmacies are ubiquitous, and are a ready source of medicines; pharmacies are located in every street corner. The findings of a study show that there is one pharmacy for every 1,000 persons, and one qualified physician for every 2,000 in Dhaka city [7].

Studies concerning service-seeking behaviours in Bangladesh are limited. According to the available information, men with STDs usually seek treatment from medicine-sellers [8]. Pharmacies also play a role in reproductive health services, providing referrals for clinical family planning methods, advice on pregnancy, and treatment and referral for STD-related symptoms [9]. The results of the KAP study on males, carried out by the Social Marketing Company (SMC), showed that the sources of treatment for males with STD symptoms were physicians/clinics/hospitals/pharmacists/ *kabiraj*/homeopath [10]. Pharmacy is one of the sources from where truckers sought services for their STD symptoms [11]. The results of the stepwise qualitative study, carried out by the PIACT Bangladesh, showed that the urban people usually seek care from the government hospital facilities, pharmacies, and private medical practitioners, and the rural people go to the pharmacies, quacks, government healthcare facilities at the subdistrict (thana) and union levels. The poor usually go to the traditional healers and homeopathic doctors. However, both urban and rural dwellers usually procure medicines from pharmacies [12].

The SMC began the Health Providers' Training Programme (HPTP), involving medicine-sellers in 1986. During 1986-1999, they have trained about 61,000 unqualified medical practitioners, including rural medical practitioners and medicine-sellers as health providers for family planning and oral rehydration therapy/oral rehydration solution. The SMC's training programme exclusively on STDs/HIV/AIDS for

medicine-sellers is a key component of "Shurockkha"–the STD/AIDS Prevention Programme of the SMC [13]. It launched "Shurockkha" in 1995, with financial support from USAID. Shurockkha, through the SMC's HPTP, conducts training sessions for medicine-sellers operating in and around selected commercial sex establishments, transport terminals, and selected industrial areas since 1996, as a sequel to its behaviour change communication (BCC) campaign encouraging people to seek appropriate treatment for STDs.

The present study was based on the baseline survey of the operations research (OR) intervention titled "Building capacity for pharmacy-based services to prevent STDs/HIV/AIDS." This operations research has been designed based on the above-mentioned SMC's STD/AIDS prevention programme, involving medicine-sellers, to determine whether the medicine-sellers of pharmacies can provide necessary STD/HIV/AIDS prevention services to clients and how training can improve services, such as providing information on STDs/HIV/AIDS and condom use; referring clients for treatment to other sources; giving emphasis on drug compliance; and counselling on the treatment of partner(s). The Operations Research Project of the ICDDR,B: Centre for Health and Population Research has been conducting this OR in collaboration with the SMC.

Objectives

The objectives of the study were to

- describe the profiles of the medicine-sellers of the Tongi municipality area
- assess their knowledge on STDs/AIDS, and
- assess the STD management practices of these medicine-sellers.

Methodology

Two hundred one medicine-sellers of 157 pharmacies of the Tongi municipality area were surveyed. The SMC enlisted these pharmacies for STD/HIV/AIDS training programme in Tongi. The survey was carried out during November-December 1998 before the training programme of the SMC to be conducted. The study explored the profiles of the medicine-sellers of those pharmacies, the patterns of their services to STD clients, and their knowledge on STDs/AIDS.

For this study, medicine-sellers mean those who sell medicines from pharmacies. Traditionally, these medicine-sellers are termed as “pharmacists.” But technically, only those who have undergone a formal training on pharmacy can be called as “pharmacists.” Others who dispense medicines over the counter without any formal training on pharmacy can be termed as “medicine-sellers”. In this study, the term “medicine-sellers” has been used for referring to both the categories. Literally, a pharmacy means a store where medicines are prepared and are also dispensed. But the use of the term “pharmacy” is universal in naming the shops selling medicines. In this study, a pharmacy means a medicine shop which sells allopathic medicines.

Tongi is an industrial area adjacent to the Dhaka city. There are a number of large markets and bazars where these pharmacies are located. It is one of the 19 urban areas prioritized by AIDSCAP/USAID in 1996 for behaviour change communication (BCC), condoms and STD services to prevent HIV epidemic in Bangladesh [14]. This area has a substantial number of transient male transport workers, traders, and floating commercial sex workers (CSWs).

Data were collected using a self-administered questionnaire and mystery-shopping. The purpose of the self-administered questionnaire was to gather information on the profiles of the medicine-sellers, i.e. their age, education, experiences, and knowledge on STDs/AIDS, and to explore what they report regarding STD management practices. All the two hundred and one medicine-sellers filled up the questionnaire individually under the supervision of the investigators. As part of the survey, mystery-shopping events were conducted in 33 pharmacies which were randomly selected from 157 pharmacies enlisted by the SMC. In the survey, mystery-shopping was an event where the trained persons pretended to be STD clients and sought services from the selected pharmacies. The three male shoppers who conducted the mystery-shopping at those selected pharmacies were termed “mystery shoppers.” The “mystery shoppers” had completed 14 years of schooling, and are experienced in conducting interviews. They were trained by the investigators to pretend to have either urethral discharge or genital ulcers. After each visit to a pharmacy, the shoppers went to a secluded place and recorded their observations on a formatted sheet supplied by the investigators. The purpose of the mystery-shopping exercise was to gather information on the usual practices of the medicine-sellers with STD clients.

Findings

Profiles of medicine-sellers

The profiles of the medicine-sellers are shown in Table 1. All the medicine-sellers in this study were males, and the median age was 28 years. Fifty-five percent were aged less than 30 years. Sixty-four percent had either completed S.S.C (had at least 10 years of schooling) or H.S.C (had at least 12 years of schooling), and 7% had schooling less than 10 years. About 29% had a degree at the bachelor's level (at least 14 years of schooling) or above. Only 3 medicine-sellers had a diploma in pharmacy.

The experience of the medicine-sellers ranged from 1 to 34 years. The median year of experience was 8 years. Fourteen percent of the respondents reported that they had previous training on STDs management, but none of them mentioned the source of training.

Table 1. Profiles of medicine-sellers (n=201)

Variable	Medicine-sellers (%)
Age (years)*	
≤ 20	12
21-30	48
31-40	24
41-50+	16
Education	
Below S.S.C	7
S.S.C	34
H.S.C	30
Degree and above	29
Experience as medicine-sellers	
1 year	10
2-5 years	41
>5 years	49

*Missing: 3 (Three medicine-sellers did not mention their age)

Knowledge of medicine-sellers of STDs/AIDS

The medicine-sellers defined STDs as only gonorrhoea, syphilis, or vaginal discharge. Of the 201 medicine-sellers, about 84% could mention the complications of STDs, such as infertility and abortion. Fifty-five percent associated condoms with the prevention of STDs. Forty-three percent could describe AIDS, and 65% could mention at least one preventive measure of AIDS.

The medicine-sellers cited the multiple sources of STD information (Table 2), but a physician was identified as the commonest source by most medicine-sellers. They indicated that the printed materials, such as books, newsletters, and magazines, were also the sources of acquiring knowledge on STDs. Five percent mentioned that billboard was a source of information on STDs, and 38% reported that medicine companies also provided information on STDs.

Table 2. Sources of knowledge of medicine-sellers (n=143) on STDs*

Source of knowledge	Medicine-sellers (%)
Physicians	70
Books	63
Newsletters/magazines	53
Radio and television	39
Medicine companies	38
Friends	18
Billboards	5

*Multiple responses were accepted

STD management services reported by medicine-sellers

In response to the question “Have you had any STD clients in the last month?”, 96% of the medicine-sellers reported that they had STD clients with complaints of urethral discharge, genital ulcer, and vaginal discharge. Of them, 67% mentioned genital ulcer, 74% mentioned clients having urethral pus discharge, and more than half reported that they had clients who sought services for their wife with vaginal discharge (Table 3). A few reported that they attended the female clients with vaginal discharge.

Table 3. STD complaints attended to as reported by medicine-sellers (n=193)*

Complaints by STD clients	% of medicine-sellers who attended STD complaints (%)
Urethral discharge/gonorrhoea	74
Genital ulcer	67
Vaginal discharge	66
Impotency	3

*Multiple responses were accepted

The medicine-sellers reported that they provided treatment, counselling and referral services to their STD clients (Table 4). Seventy-nine percent mentioned that they counselled their STD clients, while 72% reported that they referred their STD clients to physicians for treatment. But 43% reported that they alone provided treatments to their clients with STDs.

As reported by the medicine-sellers, 92% had a separate room for attending the clients, and about half of them mentioned that the pharmacies they were attached with had a physician in each for private practice.

Table 4. Services provided by medicine-sellers (n=193) to STD clients*

Services provided to STD clients	Medicine-sellers (%)
Counselling	79
Referral	72
Treatment	43

*Multiple responses were accepted

In response to the question “If you provided counselling, what were the aspects discussed?”, the medicine-sellers cited multiple aspects of counselling which were: avoiding extra-marital sex, condom use, drug compliance, treatment of partner, and follow-up visits (Table 5).

Of the medicine-sellers who counselled the STD clients, 46% reported that they counselled their clients, in addition to providing treatments, and of them, about 41% covered all aspects of counselling. Those who did not provide treatments also counselled the STD clients, in addition to referring them to other facilities, and of them, about 21% reported that they counselled on all the aspects. Of the medicine-sellers who provided counselling only, about 6% reported that they covered all the aspects of counselling.

Table 5. Counselling services given to STD clients*

Aspects of counselling	Treated and counselled (46%) (n=70)	Counselled and referred (33%) (n=51)	Only counselled (21%) (n=31)
Avoiding extra-marital sex	74	71	26
Use of condoms	87	80	58
Drug compliance	79	59	26
Treatment of partner(s)	80	51	19
Follow-up visits	64	31	16
Covered all aspects	41	22	06

*Multiple responses were accepted

In the case of referring the STD clients, the medicine-sellers reported they directed the clients to the qualified general medical practitioners, STD specialists and hospitals as the referral points for their STD clients. Most of them preferred the STD specialists (Table 6).

Table 6. Referral of STD clients by medicine-sellers (n=139) for treatment*

Referring points	Medicine-sellers (%)
STD specialists	89
Hospitals	42
General medical practitioners	36

*Multiple responses were accepted

Mystery-shopping

The results of the mystery-shopping focused on real life practice of the medicine-sellers when the mystery shoppers sought services as STD clients and how they managed these clients (shoppers). As mentioned before, the mystery-shopping events were conducted at the 33 randomly-selected pharmacies located in the Tongi municipality area.

Management of STD clients

The findings of the study imply that the medicine-sellers attended the clients (mystery shoppers), provided them with STD prevention information, prescribed medicines, and also referred them to other facilities (Table 7).

Table 7. Management of STD clients (shoppers) by medicine-sellers (n=29)*

Services (unprompted)	No. of medicine-sellers
History-taking	21
Physical examinations	8
Treatment	24
Counselling	27
Blood test advice	2
Referral	4

*Multiple responses were accepted

Following are the findings in details.

Attitude (n=33)

During each mystery-shopping event when the mystery shoppers had to present STD symptoms to the medicine-sellers, they were instructed to observe whether the medicine-sellers were friendly, rude, or judgmental toward them, whether they were interested in dealing with such clients or referred them to the qualified practitioners.

Twenty-nine medicine-sellers showed interest in treating the presented STD symptoms by the mystery shoppers, i.e. as soon as the shoppers informed them about their condition, they showed willingness to treat them. Of them, 28 were friendly, i.e. they received the clients well, but one was indifferent, i.e. he did not express any concern or show any interest.

Four medicine-sellers refused to give any treatment to the clients. Among them, two who were judgemental said the clients, “You have this disease, because you had sex with bad women, and I do not want to treat you”. Two others were indifferent, i.e. they only mentioned that they would not be able to treat them.

The shoppers were also instructed to observe whether the medicine-sellers, who were interested in providing treatment, took any history, wanted to do physical examination, advised laboratory tests, prescribed medicines, and counselled.

History-taking (n=29)

Twenty-one took the history of illness, i.e. they asked respective shoppers about their marital status, duration of the symptoms, and whether they had any sex with any CSW, while 8 gave treatment without taking any history.

Physical examination (n=29)

Only eight medicine-sellers wanted to do physical examination. However, the clients could manage to avoid it.

Treatment (n=29)

Twenty-seven medicine-sellers prescribed medicines, and of them, 3 prescribed in response to requests made by the shoppers. Two medicine-sellers requested the shoppers to get blood tests and then to come back for treatment.

Counselling (n=27)

Twenty-seven medicine-sellers counselled the clients on completing the full course of medicines, and 22 of them requested follow-up visits. But 5 did not ask for any follow-up visits even after being probed by the shoppers for revisit. Sixteen counselled them on treatment of partner(s), and 11 informed them about STDs/AIDS. Seven medicine-sellers also provided information about STDs/AIDS (Table 9).

All the medicine-sellers maintained privacy during counselling. Twenty-two pharmacies had separate rooms for doctors. During some of the mystery-shopping events, shoppers were brought to those rooms when the doctors do not practise. Some pharmacies had a small space behind medicine racks where they spoke to the shoppers privately. But in many cases, the shoppers were requested to wait until the other clients left the shop, and then they were brought to a corner of the shop to speak. During these interactions when other clients came, the medicine-sellers stopped to talk and attended those clients. As soon as the clients left, they restarted attending the shoppers.

Referral (n=33)

Only 4 medicine-sellers referred the clients to a general practitioner.

Patterns of prescribing medicines by medicine-sellers

The findings of the study showed that the medicine-sellers prescribed oral, injectable and topical antibiotics, analgesics, and vitamins. The medicines prescribed by them were compared with the treatments recommended by the Ministry of Health and Family Welfare (MOHFW), and the National Integrated Population and Health Programme (NIPHP) developed technical standards and the service-delivery protocol for the management of RTIs/STDs [15]. The medicine-sellers prescribed medicines for urethral discharge and genital ulcer. Information was obtained on the drugs of choice (Table 8), the dose, and the treatment course prescribed by the medicine-sellers.

Table 8. Patterns of prescribing medicines by medicine-sellers (n=27)*

Prescription of antibiotics	No.of medicine-sellers
Prescribed recommended medicines	
Combination of antibiotics	2
Single antibiotic	12
Prescribed medicines, not recommended	
Combination of antibiotics	4
Single antibiotic	9
Topical antibiotic	6
Analgesic	5
Anti-allergic	4

*Multiple responses were accepted

Most medicine-sellers did not prescribe medicines as per the recommendation of the technical standard. A number of combination of two antibiotics are recommended for the treatment of genital ulcer and urethral discharge. Six medicine-sellers prescribed the combination of two antibiotics, but only two of them prescribed antibiotics as per the recommendation. The rest of them prescribed a single antibiotic, and of them 12 prescribed at least one antibiotic as per the recommendation. But none of them could prescribe the recommended dose and the course of treatment. Thus, it is evident that the doses prescribed by the medicine-sellers were either incorrect, under or over doses. In addition to oral antibiotics, 6 medicine-sellers prescribed topical antibiotics. Of them, 4 prescribed to apply antibiotic ointment for the treatment of genital ulcer, and the other two prescribed to apply the ointment over the entire penis for the treatment of urethral discharge. Some medicine-sellers also prescribed analgesic and anti-allergic medicines for the treatment of genital ulcer and urethral discharge.

Information given on STDs/AIDS by medicine-sellers

The shoppers were instructed to observe and know whether the medicine-sellers provided information on STDs/AIDS and their prevention. They also observed whether the pharmacies had any BCC materials on display.

Fourteen medicine-sellers provided information on STDs/AIDS, but half of them informed after being probed by the shoppers. In providing multiple information on STDs/AIDS, 4 informed the shoppers that AIDS is a deadly disease and STDs can cause AIDS. "Don't go to bad places (meaning "brothel" or CSWs) was the advice of 3 medicine-sellers. Two informed the shoppers that AIDS can be transmitted through blood transfusions, and one of these 2 also explained that AIDS could be transmitted through sexual intercourse and through contaminated syringes and needles. Three medicine-sellers stated that STD is a symptom of AIDS (Table 9).

Twenty-five medicine-sellers stated that the use of condoms can prevent STDs. Of them, 11 provided this information spontaneously (Table 9), and 14 responded after being probed. Eighteen of the 25 medicine-sellers discussed how to use a condom--seven of them discussed this spontaneously, and the rest discussed this after being probed by the shoppers.

Twenty-four pharmacies had condom-dispensing boxes on display, but none of these pharmacies had any posters regarding condom promotion. Four displayed stickers regarding condom use on display.

Table 9. STD/AIDS information provided by medicine-sellers (n=27)*

Information	No. of medicine-sellers who informed
Condom prevents STDs	11
STDs can cause AIDS	4
AIDS is a deadly disease	4
STDs--a symptom of AIDS	3
Do not go to bad places	3
AIDS can be transmitted through sex	3
AIDS can be transmitted through blood	2
AIDS can be transmitted through syringes	1

* Unprompted multiple responses were accepted

Reported and observed practices of medicine-sellers

Of the 201 medicine-sellers, 67% reported that they referred their STD clients to general practitioners, STD specialists, or hospitals, although about half of them also provided treatments themselves. During the mystery-shopping, it was observed that 73% of the medicine-sellers provided treatments, and only 12% referred the STD clients to a general practitioner (Figure). In the figure others include no services or refusal to treat or only advice for laboratory investigation.

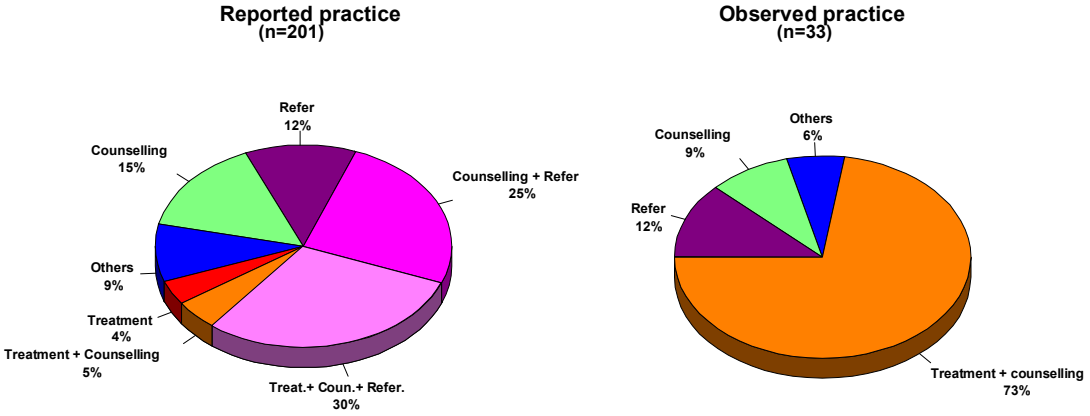

Fig. Gap between reported and observed practices of medicine sellers

Discussion

The findings of the study showed that the medicine-sellers attended the STD clients and provided treatments. They showed friendly attitude in treating the STD clients. But most of them prescribed medicines without following the recommended steps of STD management. The pharmacies in most cases did not require clients to undergo any physical examinations or screening process--they provided advice to the extent that they can sell medicines to the clients [15]. The study has shown that almost none prescribed medicines as recommended by the national standardized guidelines of RTI/STD management. Instead, they provided inadequate treatment. In Cameroon, a survey of men leaving pharmacies found that only 9-15 percent of men received prescription from a physician [5]. The majority received their prescription from pharmacies, but 50-75 percent of the patients were treated incorrectly.

The goal of public health providers is to ensure quality services for the population. Although, in fact, services of medicine-sellers have been used for STD management services, they are not mandated to provide treatments, and there are no formal training facilities for them on STD management. There is also much less acceptance for training them explicitly in STD syndromic management which is due to the perception by health administration authorities of condoning dispensing of antibiotics without any prescription, and which is seen by many in the medical

community as a threat to their profession. It is evident from different studies that people with STD symptoms seek services from pharmacies, and medicine-sellers in pharmacies provide services to them. This study also implied this fact, and showed that the services, including the treatment of STD clients by the medicine-sellers, were not adequate and proper. Therefore, their services need to be improved by training them on STD prevention and management. To succeed in this approach, advocacy must be built among the decision-makers, and they must be engaged as partners in the intervention from the outset.

In Nepal, medicine-store are being personnel taught to dispense antibiotics, using the syndromic management approach, and to provide clients with preventive education and condoms [6]. This intervention is being developed and implemented by the Nepal Chemists and Druggists Association, in close collaboration with the Nepal Medical Association, Department of Drug Administration, and other relevant government agencies and university experts. The intervention also includes the establishment of appropriate referral networks between pharmacies and health facilities. As mentioned elsewhere in this paper, in Thailand, the pharmacists' association has adopted the syndromic management flip-chart to train Bangkok pharmacists in STD management [6]. The results of a pilot project in Chiang Mai, a province in northern Thailand, showed that, given a proper education, medicine-store personnel can play an important role in STD control [17]. During the 18-month project, great progress was made in improving the knowledge of staff and their clients and helping them use that knowledge to improve STD case management. An effort has begun to train medicine-store personnel throughout Thailand, so that they can play a greater and more constructive role in the national AIDS prevention and control programme.

The medicine-sellers in this study were experienced in dispensing medicines. The majority of them had an education from the level of SSC to above, and almost all of them had the intention to provide information on the prevention of STDs/AIDS to their clients. But their knowledge on STDs/AIDS was not adequate, and they, thus, provided inadequate information to the clients on STD/AIDS. This may be due to their limited exposure to STDs/AIDS information. The medicine-sellers in this study mentioned the sources of their knowledge on STDs/AIDS, but one is required to speculate their preferences regarding the sources of information, and how they want to acquire and provide necessary preventive education to their clients.

It is evident from this study that the medicine-sellers referred their clients to other health facilities, and preferred qualified medical practitioners, STD specialists, and hospitals as the referral points, but, in practice, very few did refer. Pharmacies are an important component of the private sector. Clients with STDs come to them for services, and referring clients to a proper referral point is important in providing effective and quality services. Establishment of a referral network between pharmacies and health facilities should be considered for improving the prevention and management of STDs.

The study has shown that most medicine-sellers counselled their STD clients on compliance of treatment provided by them. More than half counselled them on treatment of their partners, and more than one-third counselled them on the use of condoms. Counselling means in-depth, long-term and repeated interactions between a trained counselling professional and a patient covering topics that can be very broad in scope and emotional in nature [18]. In a pharmacy setting, there are usually limited human resources available, and the interaction between a client and medicine seller may be brief as well as restricted to only one encounter. For these reasons, patient/client education is the preferred term. Medicine-sellers can be the potential providers of pharmacy-based preventive education on STDs/AIDS.

Future Direction

This study implies that pharmacies provide services as a source of medicines, advice, referral and information for STD problems. Therefore, the quality of services available at pharmacies needs further in-depth exploration. The pharmacy is one of the important sources of primary healthcare for the population, especially men. Therefore, the medicine-sellers' current and potential roles in the prevention of STDs/AIDS have to be explored and tested. People use pharmacies for different health problems as well as for STDs. For an effective control programme of STDs/AIDS, pharmacies, as an infrastructure, can be potentially involved. Provision of STD treatment by medicine-sellers based on syndromic management has been tried in several developing countries. Initiatives should be taken to conduct operations research to test whether the medicine-sellers can provide standardized treatments for STDs, including appropriate referral. Furthermore, research is needed to be carried out to identify the factors that influence clients' choices for reproductive healthcare, including STDs and to determine the quality of services available at pharmacies. The factors that influence medicine-sellers' knowledge and practices relative to STDs should also be identified.

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