A Survey on The Recent Scenario of Model Pharmacies in Dhaka City

By

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A thesis submitted to the School of Pharmacy in partial fulfillment of the requirements for the degree of
Bachelor of Pharmacy (Hon's.)

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Declaration:

It is now declared that

1. The surveyor has acknowledged all primary sources of help.
2. The thesis submitted is his original work while completing his degree at Brac University.
3. This thesis report contains no materials accepted or submitted for any other degree or other institution or diploma at a university.
4. The thesis project does not contain any materials previously published or written by a third party.

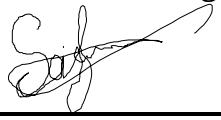
Ethics Statement

This survey was initially set up and approved by the School of Pharmacy, Brac University. And it was conducted under the guidelines of "Ethical Issues in Public Health Surveillance" of World Health Organization (WHO).

Dedication

This work has been dedicated to the author's respective parents and honorable teachers for their guidelines to run the survey properly.

Student's Full Name & Signature:



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Approval

The thesis titled "A survey on the recent scenario of Model Pharmacies in Dhaka city" submitted by Saifuzzaman Sumon (17146063) of Summer 2020 has been accepted as satisfactory in the fulfillment of the requirements for the degree of Bachelor of Pharmacy (Hon's), School of Pharmacy, Brac University on 27tt March 2022.

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Abstract:

The "Model Pharmacy" initiative was initiated in 2016 by the Ministry of Health and Family Welfare (MHFW) of Bangladesh, aiming to improve the country's whole h**e**althcare system to remove all types of inappropriate dispensing practices. According to DGDA, a model pharmacy must follow certain norms and regulations on personnel management, premises management, dispensing system, medicine storage, and documentation. The surveyed information was based on 25 essential criteria selected from DGDA guidelines. These included having A-grade pharmacists, ADR reporting, a separate counseling room, prescription drug selling, expiration checking, seating and washroom facilities, and customer unawareness. Unfortunately, the result did not meet the objective as 0% of pharmacies have a "No Smoking" signage and ADR reporting system. Several criteria result in less than or equal to 10% of fulfillment. To ensure the initiative of "Model Pharmacy" is a practical and effective step in Bangladesh, Model Pharmacies must be monitored frequently, and required measures to be taken strictly.

Keywords: Model Pharmacy, Model Medicine Shop, DGDA, Patients Care, Dhaka city, Retailer Pharmacy

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List of Acronyms

PCB	Pharmacy Council of Bangladesh
CTD	Common Technical Document
MHFW	Ministry of Health and Family Welfare (MHFW)
DGDA	Director General of Drug Administration
NID	National Identity Card
TIN	Tax Identification Number
OTC	Over-the-Counter
BPS	Bangladesh Pharmaceutical Society
PHC	Primary Health Care
CTD	Common Technical Document
PI	Prescribing information
GMP	Good Manufacturing Practices
WHO	World Health Organization
MRP	Maximum Retail Price
BCDS	Bangladesh Chemist and Druggist Samity
CTD	Common Technical Document
MDGs	Millennium Development Goals
BCC	Behavior Change Communication
IEC	Information Education and Communication

Chapter 1

Introduction

Model Pharmacies in Bangladesh are registered drug outlets in markets operated by ordinary traders (either "A," "B," or "C" grade pharmacists), and customers purchase drugs as needed with counseling (Welfare, 2016). Some of the sociologists have described Model Pharmacy practice in Bangladesh as an incomplete or peripheral profession, with specific duties requiring sound judgment and experience, while others professions are not as judgmental as this Model Pharmacy profession (Habib et al., 2020). As a result, implementing the need to establish Model Pharmacies, those drug stores are being built to provide safe medicine delivery and patient care, termed a Model Pharmacy (level I) (Welfare, 2016). Moreover, the service will be provided by an 'A'-grade registered pharmacist (with a Master of Pharmacy or Bachelor of Pharmacy Degree and a valid registration number) who will be present on the premises for 24 hours every day, seven days a week (Sayed, 2019; Welfare, 2016). Under the guidance of the "A"-grade pharmacist, 'B' (having a Diploma in Pharmacy) or 'C' (having completed a certificate course and recognized as a professional dispenser) grade pharmacy staff may assist in dispensing (Welfare, 2016). Model medicine shops (level II) deliver a level of service that at least one individual performs with a "C" grade qualification, According to the (DGDA) guidelines (Welfare, 2016). The personnel of Model Pharmacies must have the necessary skills, credentials, and competencies and accept liability for their commitments as the pharmacist-in-charge. All "A," "B," and "C" grade pharmacists working in Model Pharmacies must complete a Pharmacy Council Bangladesh - (PCB) authorized 30-hour orientation (for "A" and "B") or an 80-hour dispensing training course ("C") and pass the related examination (Welfare, 2016). To obtain a certificate, a C-grade pharmacist at a retail medicine business, also known as a salesman or dispenser, must complete a 12-week brief training (Munna & Islam, 2014;

Welfare, 2016). Bangladesh Chemist and Druggist Samity (BCDS) and the Bangladesh Pharmaceutical Society (BPS) collaborate to offer this certificate course. The employment of an "A"-grade pharmacist registered with the Pharmacy Council Bangladesh (PCB) is required, according to the guideline, to keep the business and service operating (Munna & Islam, 2014; Welfare, 2016). These Criterions are expected to guarantee the sensible use of drugs, but regrettably, the practice is not carried out following the guidelines. All pharmacy stores should operate under the guiding principle of putting the safety and well-being of their consumers first (Egorova & Akhmetova, 2015). All pharmaceutical service providers must work in a secure and safe atmosphere in compliance with legal and professional Criterions, and they must offer an image that promotes pharmaceutical service (Begum et al., 2021; Egorova & Akhmetova, 2015; Habib et al., 2020; Sultana, 2018)

Furthermore, it is attempting to change and improve its medicines registration system to assure the safety and efficacy of medicines and enhance the potential for drug exporting (Begum et al., 2021; Sultana, 2018). As a result, the DGDA has adopted the Common Technical Document (CTD) formats and rules to compile registration dossiers for pharmaceuticals submitted with the application for registration (Habib et al., 2020). Illegal practices are standard in conventional pharmacies and medication shops. The DGDA: part of the health ministry: developed the Model Pharmacy program to safeguard the public, especially these acts (Saha & Hossain, 2017; Sayed, 2019).

1.1 Pharmacy

It is the science and method of creating, distributing, and evaluating medications and delivering additional healthcare services. It is a health profession that combines pharmaceutical sciences and health sciences, intending to ensure medication usage that is safe, effective, and affordable (Welfare, 2016).

The following principles govern the Criterion for Model Pharmacies (Welfare, 2016):

1. The governance mechanisms are in place to protect 'patients' and the general public's health, safety, and well-being.
2. Personnel is enabled and capable of offering the services necessary to protect the general patient's health and safety.
3. The equipment, facilities, and utilities utilized in providing pharmaceutical services protect the patient's and the public's health, safety, and well-being (Welfare, 2016).

1.2 Model Pharmacy perspective in Bangladesh:

In Bangladesh, a lack of attention is being paid to the dangers of improper medicine usage, unlicensed prescriptions, random use of antibiotics, and the dangerously high incidence of antibiotic resistance in the healthcare system. Because it is Bangladesh's sole pharmaceutical industry regulator, the DGDA is still grappling with the problem (Munna & Islam, 2014). With these problems in mind, Bangladesh's Government has issued a National Drug Policy, 2016, which guarantees that people access high-quality pharmaceuticals at reasonable prices (Egorova & Akhmetova, 2015). Following this approach, there was interest in establishing Model Pharmacies. Information was gathered from a "Certified Drug Dispensing Outlet" model in Tanzania. Essential pharmaceuticals outlet "Duka Le Dawabaridi" was determined to have several shortcomings in the quality of treatment, drug storage, personnel expertise, and enforcement following an examination in 2001 (Chuc et al., 2002). Management Sciences for Health, an NGO and consultancy group from the United Kingdom (U.K.), began collaborating with the Tanzanian government to address these issues (Chuc et al., 2002; Egorova & Akhmetova, 2015). They could keep the cost of pharmaceuticals low while still providing high-quality care. Bangladesh and Tanzania have similar histories in the construction of Model

Pharmacies (Franco et al., 2002). This Tanzania-based Bangladesh model was built to secure a community-level platform associated with effective public health initiatives And a drug-selling platform linked to primary health care (Akici et al., 2004; Downey et al., 2021; Ferdiana et al., 2021). It was expected that the Accredited Drug Dispensing Outlet (ADDO) model shops would provide essential PHC services such as knowledge of first aid. Those are for snake bites and drowning, dressing burns and wounds, temperature and blood pressure measurement, examination of urine sugar, DOTS services, and health promotion and education (Downey et al., 2021; Edward et al., 2016; Franco et al., 2002).

Furthermore, Bangladesh's widespread and open secret can be purchased any drug without a prescription, although pharmacy proprietors do not admit to this activity. It is simple for salespeople and dispensers to fall prey to pharmaceutical corporations' aggressive marketing methods, leading to unlawful over-prescription, wasteful and expensive prescription drug prescribing, non-prescription distribution of medications, and injection dispensing (Begum et al., 2021; Biswas et al., 2014; Sultana, 2018). As a result of convenience, reduced wait times, cost reduction, the availability of financing, and flexible operating hours in Bangladesh, individuals extensively rely on pharmacies for their healthcare needs (Biswas et al., 2014). Consequently, this research was conducted to determine if newly opened Model Pharmacies are more effective at improving dispensing patterns and expertise for dispensers and customers than traditional medication shops (Alam et al., 2015). Self-medication is on the rise in Bangladesh, thanks to the country's burgeoning pharmaceutical industry. A-, B-, or C-grade pharmacists, chemists, owners of stores, or managers of businesses play a significant role in promoting self-medication by selling medicine to customers (Eades et al., 2011). Physicians' fees and diagnostic tests are also rising due to more self-medication, which lowers the cost of these services. Mobile phones and the Internet's near-constant availability are also factors in this trend (Saramunee et al., 2015). A major contributing factor to the illogical administration

of medications is the failure of retail pharmacies, pharmacists, and their assistants to adhere to Model Pharmacy rules (Eades et al., 2011; Saramunee et al., 2015; Villako & Raal, 2007).

1.3 Model Pharmacy perspective worldwide:

For the WHO, "rational medicine" means that patients are given medicines appropriate for their clinical needs, in dosages that fulfill their requirements, for a sufficient period and at reasonable prices (Policarpo et al., 2019). Following WHO guidelines, the distribution procedure should include six phases that pharmacies and pharmacists must manage and ensure (Villako & Raal, 2007). The WHO European Region's legislative and regulatory framework for community pharmacy must be carefully adhered to (Cavaco et al., 2005; Nunes et al., 2015; Policarpo et al., 2019). A rising number of countries are concerned about the quality of medicines and the improper use of antibiotics (Martins & Queirós, 2015). Due to malpractices, a large portion of the population is at risk for increased healthcare expenses; adverse medication responses; allergic reactions; toxic poisoning; aggravation or prolonging of severe disease; antibiotic resistance; and, most significantly, inadequate and risky treatment (Martins & Queirós, 2015; Policarpo et al., 2019). The general level of satisfaction with pharmacies is higher than with other healthcare providers, such as private medical practices, clinical labs, or private hospitals (Eades et al., 2011; Villako & Raal, 2007)

Consequently, a vast majority of the population in Canada, particularly women and those over the age of 60, consider pharmacists as positive role models (Policarpo et al., 2019). This study looks at the connection between pharmaceutical providers and their clients differently (Villako & Raal, 2007). With this survey in Portugal, consumers may learn about the present model of community pharmacy and their thoughts on new service offerings and emerging new models of community pharmacy practice in the country as a whole according to (Policarpo et al., 2019).

1.4 Level of Pharmacy:

Retail pharmaceutical service levels are classified into two categories: training credentials, abilities and competencies, the premises' physical condition, and the type of medicine or product to be handled. To be designated as a "model" outlet, a business must adhere to the Directorate General of Drug Administration's accreditation guidelines (Welfare, 2016).

1.4.1 Model Pharmacy (Level-I)

This level of service will be given, managed, or overseen on-site by an "A" grade pharmacist. 'B" or "C" grade pharmacy staff where an A-grade pharmacist will supervise the whole process (Welfare, 2016).

1.4.2 Model Medicine Shop (Level-Il)

This level of service will be provided by at least a person having a minimum of a "C" grade qualification (Welfare, 2016).

1.5 Standards for Model Pharmacies (level I)

After launching the initiative of "Model Pharmacy" by The Government of the People's Republic of Bangladesh's Ministry of Health and Family Welfare (MHFW), the Directorate General of Drug Administration (DGDA) of Bangladesh introduced some guidelines. These guidelines are intended to assist in designing and running a Model Pharmacy in Bangladesh (Welfare, 2016).

1.5.1 Personnel Standards:

Each Model Pharmacy's personnel should meet the following standards (Welfare, 2016).

Owner Requirements:

1. It needs to have a Bangladeshi NID.
2. It needs to have a TIN.
3. Needs to have a Trade License after passing the post-course test for the Pharmacy Business training course certified by the Pharmacy Council of Bangladesh (PCB). The certificate and trade license exhibit in charge of pharmacy of the premises and his/her contact information.
4. The owner is responsible for inspecting the inventory and advising proper disposal of medications and other items (Welfare, 2016).

Technical Personnel:

1. All "A," "B," and "C" grade pharmacists of a Model Pharmacy must complete some relevant course approved by PCB to start working on a Model Pharmacy. A 30-hour course on dispensing for "A" and "B" grade pharmacists and an 80-hour course on dispensing for "C" grade pharmacists is mandatory to complete with passing the relevant exams. After passing the exam, any secondary school science certificate holder who completes the PCB-approved training course on dispensing for 80-hour can be registered as a "C" grade dispenser. All technical workers working in a Model Pharmacy must follow the following rules: maintaining a high level of personal hygiene (Welfare, 2016).

1.5.2 Supervision of Model Pharmacy

2. The supervision of Model Pharmacy will be done on-site by an "A" grade pharmacist who has a one-week orientation course authorized by the Pharmacy Council.

3. Pharmacist-in-charge and Model Pharmacy Owner Contract: Every owner in charge of the pharmacy must sign a legally enforceable contract.
4. The contract will outline each party's tasks, obligations, and terms and conditions (Welfare, 2016).

1.5.3 Standards of Premises

Every Model Pharmacy location must satisfy the following minimal requirements (Welfare, 2016):

1. Every Model Pharmacies should have at least 300 square feet of area and a ceiling height of 8 feet.
2. Provide enough seating facilities for consumers who are waiting for service.
3. Have a source of electricity, like a generator, direct link to the electrical grid.
4. A signboard displayed the store name, address, registration number, and official logo (brand) in compliance with the branding requirements established by the DGDA.
5. A visible "NO SMOKING" sign prohibits smoking for customers and workers on-premises, with A sign announcing operation hours.
6. Control of Temperature: A Model Pharmacy must have enough air-conditioners and a power backup source (e.g., instant power supply) to keep below 30 degrees Celsius. A thermometer is required in the Model Pharmacy to monitor the room temperature.
7. Refrigeration: A Model Pharmacy must contain one pharmacy-grade refrigerator capable enough to preserve the temperature-sensitive medications. All freezers used to keep medications must be used only for pharmaceutical storage.
8. Locations: where scheduled drugs are housed must have a CCTV security camera set at least to cover the service area and those locations. All pharmaceuticals,

accompanying paperwork, and recording equipment shall be kept only on the Model Pharmacy premises.

9. Dispensing Practices: In charge of the pharmacy is responsible for the pharmaceutical goods and services are given by any other pharmacy technical employee under his supervision. Patients whose problems cannot be treated by Model Pharmacy staff should be referred to the nearest health facility. In charge of pharmacy ensures that no damaged, counterfeit, inferior, or expired medications are distributed.
10. Patient Guidance: The pharmacist-in-charge ensures that the consumer obtains dosage instructions and medication information before leaving the premises. The client comprehends the information and guidance provided to guarantee the effective use of the drug. Customers are advised to keep medications out of the reach of minors.
11. Containers for Dispensing: Unless the manufacturer supplies the medication in bulk, all oral liquid solutions must be delivered in reusable containers. The medicines must be protected from light, physical stress, and contamination in all medicinal product distribution containers.
12. Tools Needed for Dispensing: In Model Pharmacies, the following equipment must be accessible and in use: (Measuring Tools, Spatula, Mortar, Pestle, Counting Tray) (Welfare, 2016).

1.5.4 Dispensing Standards for Model Pharmacies

1. Dispensed drug labeling must be clear and visible in the local language. Medicines must be dispensed with the relevant warning and advisory labeling.
2. The label on the container includes the patient's name and address. The name of the medication. Instructions for use, strength, dose, and the total amount of drug delivered.

If the medication is supposed to use for external use, the phrase "For external use only" must appear on the label (Welfare, 2016)

1.5.5 Medication Storage

1. A separate room, shelves with sliding glass, or a locked closet or drawer should be used to store approved prescription drugs that are not accessible to the public. The dispensing counter must be the only place where pharmaceuticals can be stored. Properly labeled and packaged pharmaceuticals must be kept in the manufacturer's original packing and stored under the manufacturer's storage conditions (e.g., refrigerated) until disbursed. Expired or damaged medications must be documented, sealed, quarantined, and marked with a warning in red ink. There should be no medicine on the floor, hallways, bathrooms, or staff rest areas.
2. Maintaining a cold chain ensures that vaccines are available at all times.
3. It is permitted for OTC medications to be kept outside of the professional service area. However, they must be kept close enough for the pharmacist in charge or other certified pharmaceutical professionals to supervise them effectively.
4. These guidelines must be maintained to ensure proper hygiene and infection control.
5. Model Pharmacy employees should abstain from eating in the dispensing area. Employees should be able to dine in a private area.
6. Toilets must have soap and water available and a sign that tells people to wash their hands.
7. There must be a DGDA-authorized register for all pharmaceuticals given out. Each Model Pharmacy must retain a file for all regulatory communications from the DGDA and Ministry of Health and Family Welfare (e.g., drug recall notices). DGDA-approved

adverse drug reaction forms must be maintained on hand at all times by the Model Pharmacy, and any adverse drug responses must be reported to the DGDA regularly.

8. OTC drugs can be kept outside the professional service area but must be close enough for effective monitoring by the pharmacist-in-charge or other licensed pharmaceutical experts (Welfare, 2016).

1.5.6 Medicines that have been damaged or have expired

1. Supposing defective or expired pharmaceuticals must carefully adhere to the DGDA's and other competent authorities' established laws and procedures.
2. Model Pharmacies will be permitted to sell and stock DGDA-registered prescription-only drugs.
3. Model Pharmacies will be permitted to carry and sell all non-prescription and over-the-counter (OTC) drugs registered with the DGDA (Welfare, 2016).

1.5.7 Medical Supplies and Devices

Model Pharmacies will be allowed to sell medical equipment and devices in addition to medicine if they fulfill the DGDA's quality Criterion. Medical supplies and equipment shall be labeled "Medical Supplies and Devices" and kept separate from therapeutic items (Welfare, 2016).

1.5.8 non-pharmaceutical product sales

Hygiene, health-promoting items, toiletries, and cosmetics will be stored and sold in Model Pharmacies. Non-pharmaceutical products shall be stored apart from therapeutic medicines, with signs indicating "Non-pharmaceutical Products." Traditional or alternative medicines approved or registered by the DGDA, such as Unani, Ayurvedic, or biochemical medicines,

may be kept and sold but must be shelved separately from therapeutic items with distinguishing signage, such as "Traditional/Alternative Medicines." Moreover, the maximum retail price (MRP) recommended by DGDA for pharmaceutical products is mandatory for pharmacies to adhere to (Welfare, 2016).

1.5.9 Penalties and offenders

"Model Pharmacies are subject to regulatory inspections regularly. If convicted, any individual who breaches any provision of these standards shall face a warning, fine, and jail time as stipulated by existing statutes, ordinances, and regulations" (Welfare, 2016).

Chapter 2

Methodology

2.1. Study Method & Design

This survey was a facility-based pilot study that used a random sampling of Model Pharmacies to examine the level of fulfillment of DGDA guidelines on 30 Criteria.

2.2. Sampling Location

We randomly selected 30 Model Pharmacies of Dhaka City from different parts of its area. The sampling processes were done by 4 Model Pharmacies from the Gulshan area, 1 Model Pharmacy from the Mohakhali area, 1 Model Pharmacy from the Badda area, 4 Model Pharmacies from the Shahbag area, 6 Model Pharmacies from the Uttara area, 3 Model Pharmacies from the Mirpur area, 7 Model Pharmacies from the Mohammadpur area and 5 Model Pharmacies from the Dhanmondi area. There are about 193 licensed Model Pharmacies in the Dhaka district, according to the most recent statistics from Bangladesh's DGDA (Welfare, 2016).

2.3. Design of questionnaires

A questionnaire was designed on 30 individual (Closed/Yes-No) questions with some (W.H.) sub-questions depending on the Criteria under DGDA guidelines. DGDA provided those guidelines to open or re-establish a Model Pharmacy under the "Model Pharmacy" initiative in 2016 launched by The Ministry of Health and Family Welfare (MHFW) of Bangladesh (Welfare, 2016).

2.4. Participants in the study

A technique of random sampling was used. Each pharmacy had at least one (Owner/Manager/In-Charge/Counselor/dispenser/salesperson) who were ("A"/"B"/"C" grade pharmacists), and seven samples were rejected from a population of 37 pharmacies due to a lack of complete and accurate information. The study was expanded to include 30 (Owners/Managers/In-Charges/Counselors/dispensers/salespersons) answers in response to the questionnaire prepared for this survey.

2.5. Consent of Participants

This study is noninvasive. Respondent's (Owner/ Manager/ In-Charge/ Counselor/ dispenser/ salesperson) oral consent were obtained to complete the survey. Moreover, data confidentiality and the personality of the whole study protocol were maintained.

2.6 Limitations

1. **(Area Limitation)** the study was conducted inside Dhaka rather than throughout the country.
2. **(Support Limitation)** the proprietors of some of the respondents of the Model Pharmacies were reticent to offer information about their pharmacy.
3. **(Knowledge Limitation)** All participants (Owner/Manager/Counselor/In-Charge /dispenser/salesperson), regardless of their socioeconomic status, education level, or age, have limited knowledge about Model Pharmacies and their services. As a result, a small amount of data was eliminated due to its vague understanding.
4. **(Criterions Limitations)** We could not make our questionnaire with all of the requirements of DGDA rather than with some of the priority-based & selected requirements.

Chapter 3

Result: quantitative (graphs) and qualitative (comments)

3.1 Criterion 1: Availability of A-grade pharmacists in Model Pharmacy

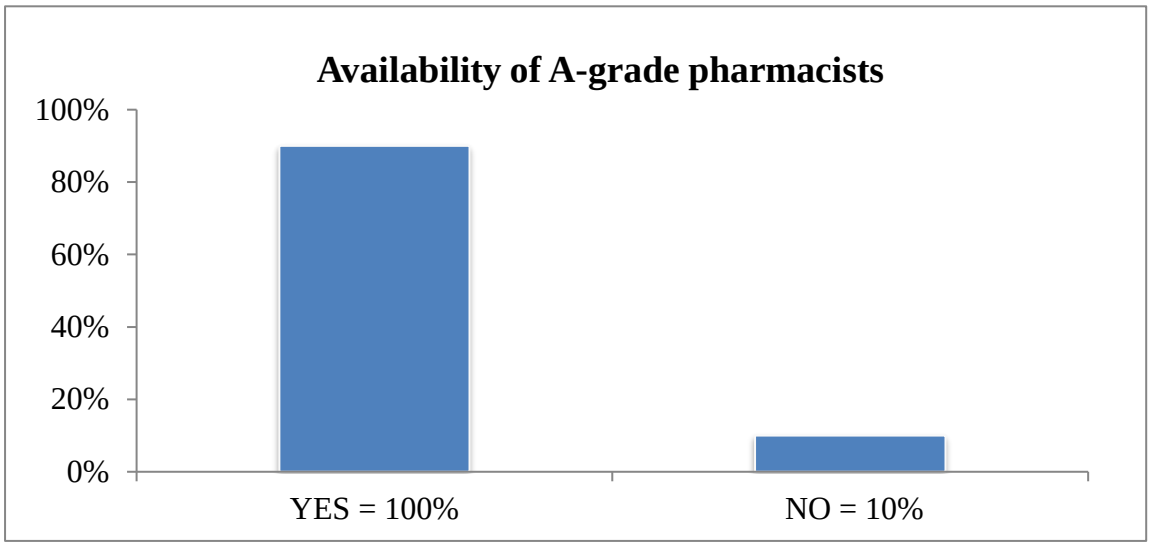

Figure 2: Availability of A-grade pharmacists in Model Pharmacies

Every Model Pharmacy must have an A-grade pharmacist for its patient counseling after launching the "Model Pharmacy" initiative in 2016 by the Bangladesh Ministry of Health and Family Welfare (MHFW). After that, we found a small number of pharmacies that did not recruit an A-grade pharmacist or recruited an A-grade pharmacist who was not present during his working hours.

"The main reason behind the absence of A-grade pharmacists in Model Pharmacies is pharmacy owners' profit-based business policy. Nevertheless, it should not have occurred. It is quite impossible to provide adequate patient services in Model Pharmacy without having an A-grade pharmacist. The owners should take this pharmacy business as a social service rather than only for-profit purpose.": Stated a pharmacy in charge of a Model Pharmacy of Uttara.

3.2 Criterion 2: Salary range of an A-grade pharmacist

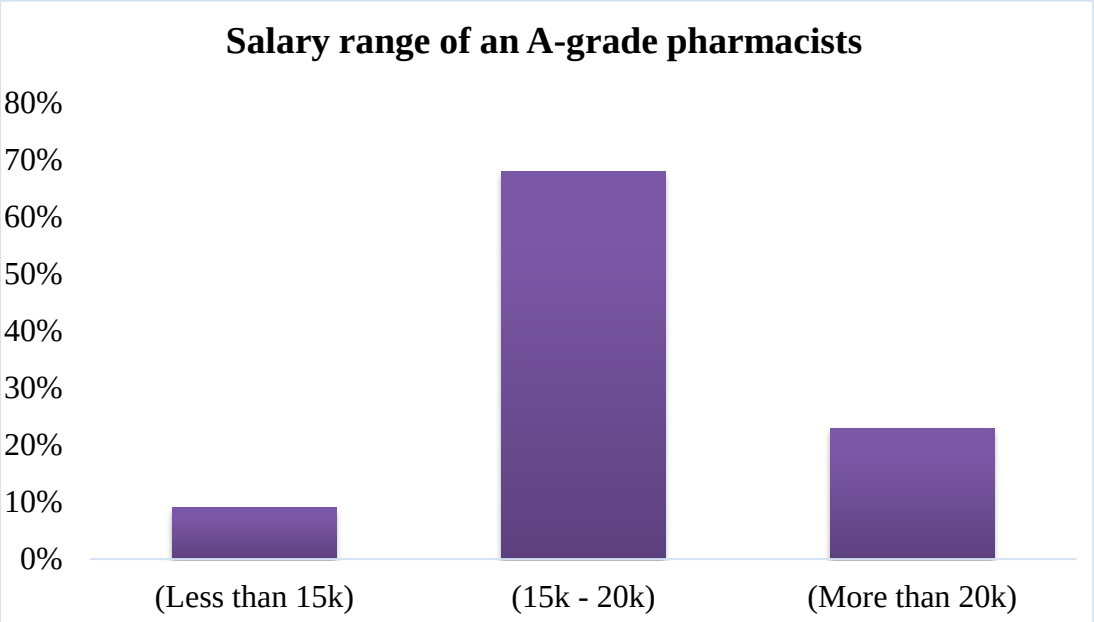

Figure 3: Salary range of an A-grade pharmacist

"The salary range and position growth are inferior of an A-grade pharmacist till now in a Model Pharmacy. There are many reasons works behind this. The main reason is there is no salary scale declared or established by the government, whereas some other countries have that scale as near as the doctors. Furthermore, doctors prescribe drugs with specific brand names instead of generic names. Patients lose their right to choose their needed drugs by consulting an "A" grade pharmacist. By the way, "A" grade pharmacists are also losing the position value.": Stated an A-grade pharmacist of a reputed Model Pharmacy of the Gulshan.

3.3 Criterion 3: Working hours of a Model Pharmacy

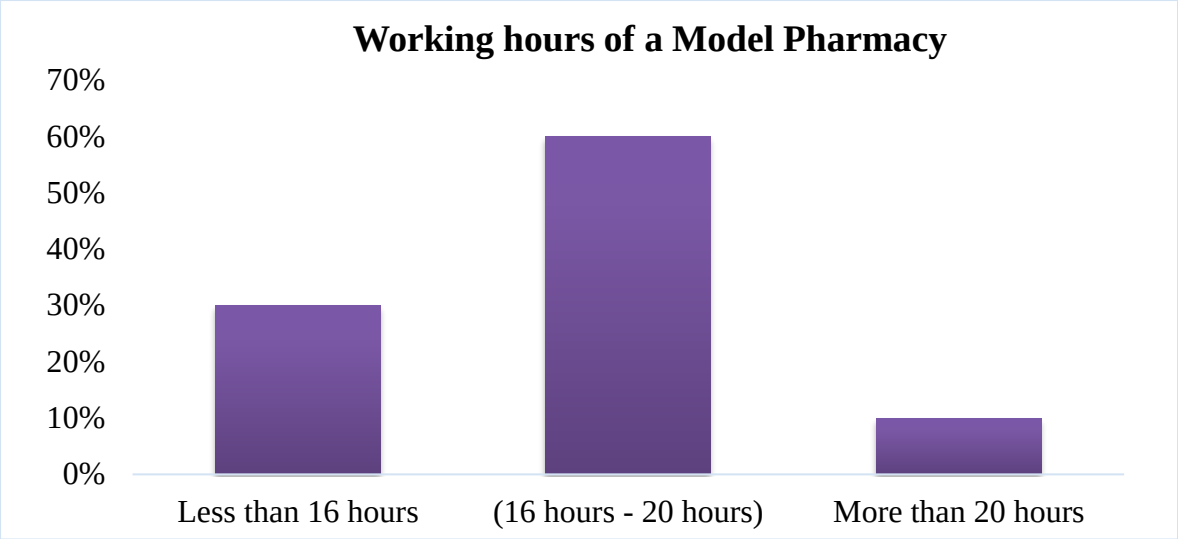

Figure 4: Opening hours of a Model Pharmacies.

This graph shows an exemplary scenario of some Model Pharmacies remaining open a day for 24 hours. However, most of the Model Pharmacies remain open for an average time of 16.7 hours. As it is a retailing business related to selling sensitive and emergency products, all Model Pharmacies should remain open for 24 hours to ensure the proper supply to the patients.

"It should be our vision as a Model Pharmacy personnel to serve the medicines and services to the patients any time they needed. In case of emergency, our products and the supervision of pharmacy personnel are very needy and lifesaving. So, Every Model Pharmacy should remain open for 24 hours a day to serve the best patient care.": According to A pharmacy Manager of a Model Pharmacy of Uttara.

3.4 Criterion 4: Counseling hours of an A-grade pharmacist

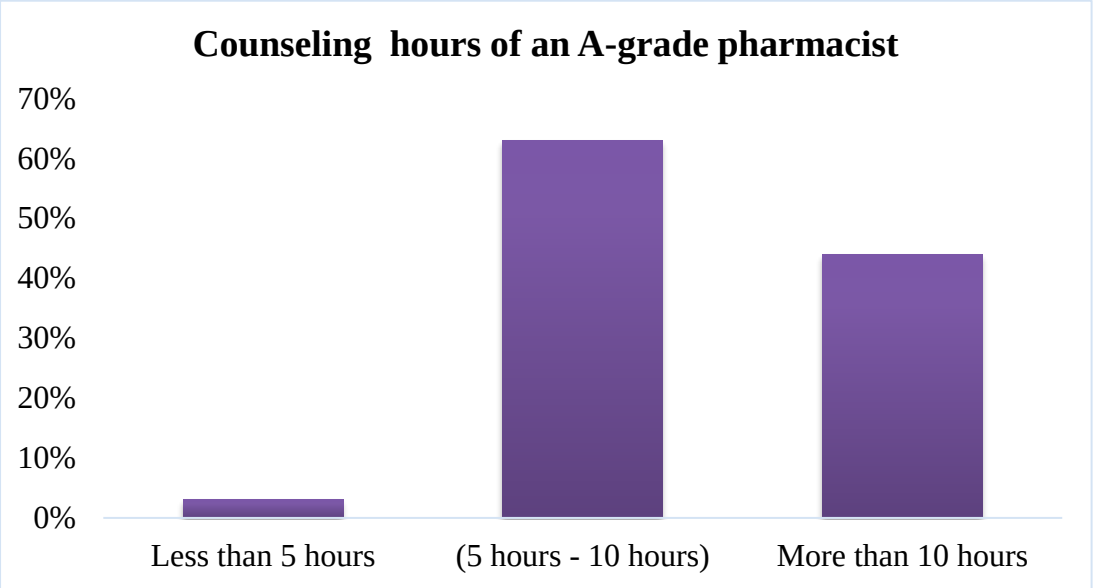

Figure 5: Counseling hours of an A-grade pharmacist.

As the salary range of an A-grade Pharmacist is higher than other working personnel in a Model Pharmacy, pharmacy owners like to recruit them for 5 or 6 hours to pay less amount than the actual salary range. They want to provide A-grade pharmacists only for a limited time only when many patients come to their pharmacy, not for the time when a small number of patients come to their pharmacy. However, it is the right of every patient to be counseled about their medication by a Model Pharmacy. So, A-grade pharmacists should be recruited for at least 12 to 16 hours in a pharmacy area.

"I feel the necessity of recruiting A-grade pharmacists at least for 12 hours working time (9 am - 9 pm) as per the requirements of Bangladesh's environment,": Stated an A-grade pharmacist of a reputed Model Pharmacy Gulshan.

3.5 Comparison: Working hours versus counseling hours

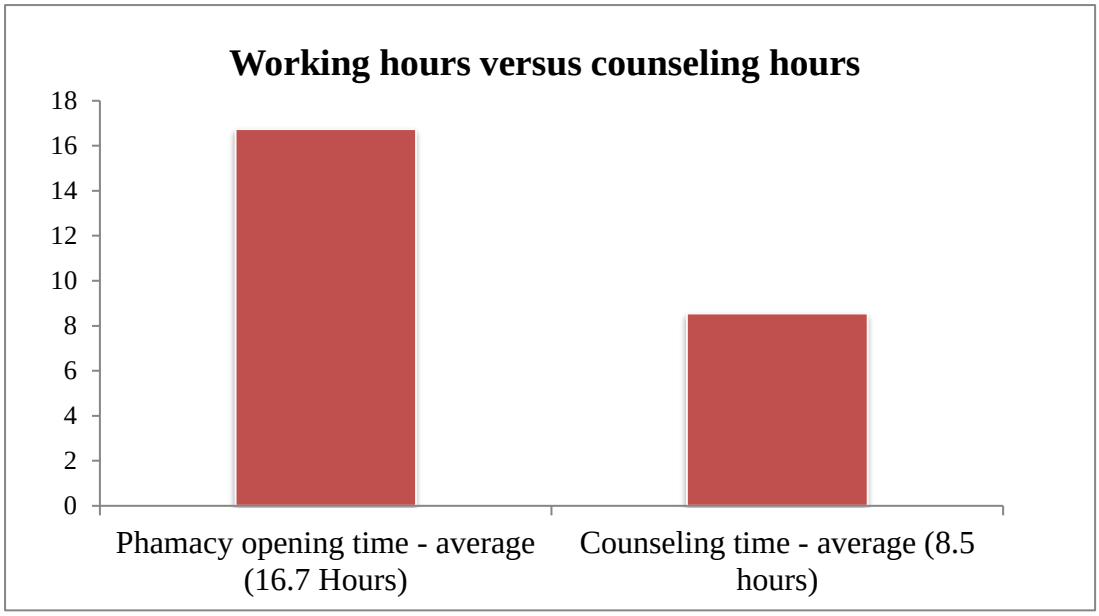

Figure 6: Pharmacy open hours versus patient counseling hours

Unfortunately, the differences between pharmacy open hours and counseling hours are substantial. Thus, the patients are deprived of their right to be counseled. This graph shows that the owners of the pharmacies are more prone to be business-oriented rather than to provide proper patient care. Because the pharmacy owners think it is very costly to recruit an A-grade pharmacist for whole opening hours.

3.6 Criterion 5: Availability of all of the dispensers as "B" & "C" grade pharmacists

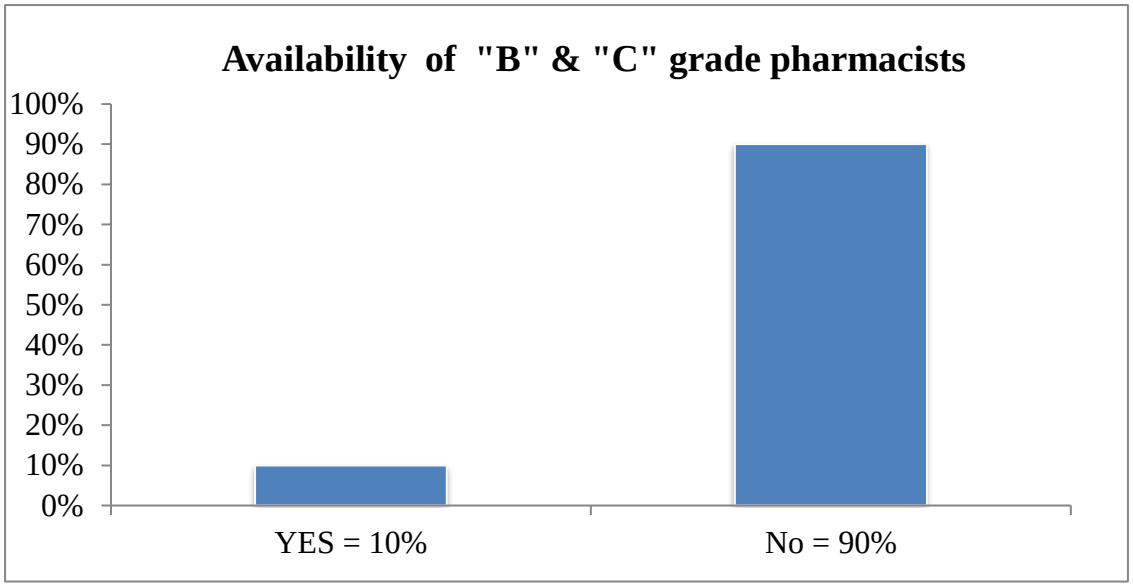

Figure 7: Availability of B-grade & C-grade pharmacists

This survey shows that around 58% of dispensers are certified as "B" or "C" grade pharmacists after completing a certified course provided by the Pharmacy Council of Bangladesh (PCB), which is not satisfactory at all. 100% of the dispensers of a Model Pharmacy must be "B" or "C" grade pharmacists to work during the working hours on the pharmacy premise, according to DGDA. So, pharmacy owners need to recruit only the certified dispensers or provide enough support to complete the certified courses for the existing dispensers from the Pharmacy Council of Bangladesh (PCB) (Welfare, 2016).

3.7 Criterion 6: Availability of patient counseling room

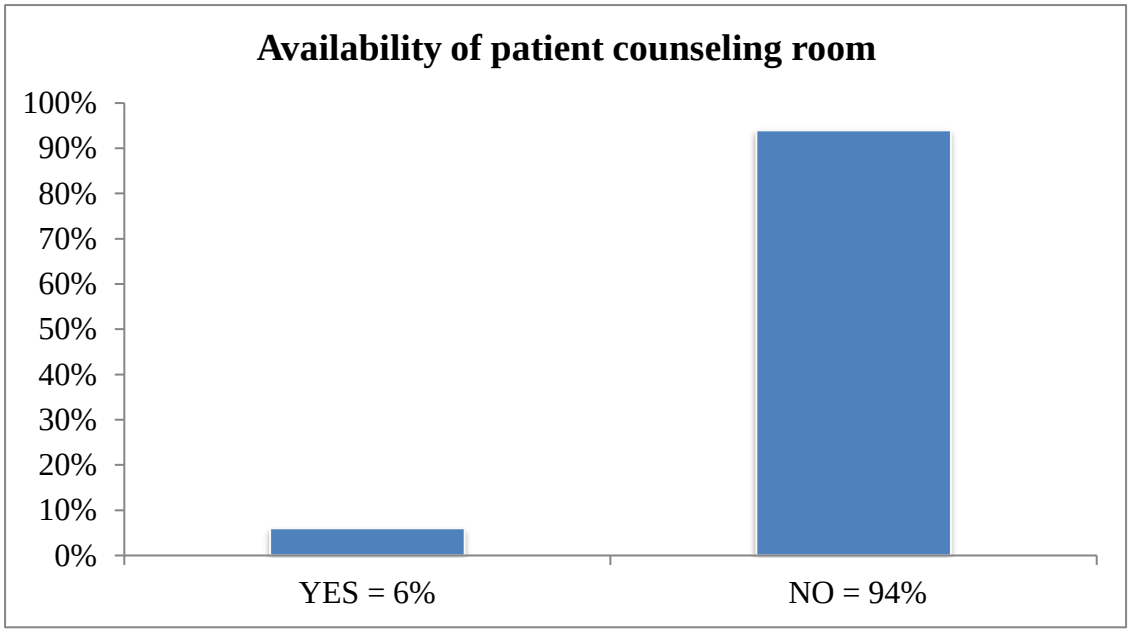

Figure 8: Availability of patient counseling room

In these criteria, the environment of Bangladesh is impoverished till now as we see only 46% of pharmacies provide the patients counseling support with separate counseling rooms. Every Model Pharmacy needs to have one patient counseling room according to the guidelines of DGDA for opening or re-establishing a Model Pharmacy in Bangladesh provided. The Model Pharmacy owners are unwilling to provide separate patient counseling rooms and separate corners for female patients because of the shortage of pharmacy premise areas. The main reason is lees preliminary investment to start a Model Pharmacy behind this. So, the owners want to just manage their business without providing proper patient care.

3.8 Criterion 7: Availability of separate corner for female patients

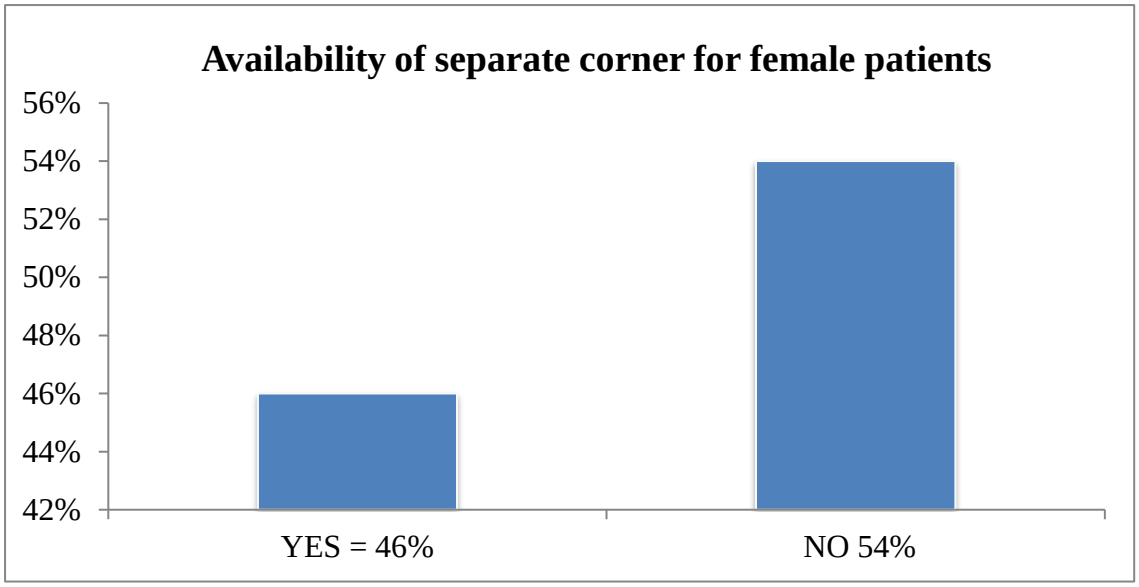

Figure 9: Availability of separate corners for female patients

"Most Model Pharmacies owners do not manage a separate corner for female patients and a separate room for patient counseling because they manage only short premise areas for their pharmacy. Though it is one of the major requirements of DGDA to open a new Model Pharmacy, the owners do not invest much in a separate counseling room. They think the condition of the Model Pharmacy business in our country is a little less profitable than the cost needed to run it. So, the owners are likely, not willing to invest more in one patient care as not for having this Model Pharmacy business as a profitable business compared to the Local Pharmacy business.": According to an A-grade pharmacist of a reputed Model Pharmacy in the Mohammadpur area.

3.9 Criterion 8: Availability of the price chart of drugs

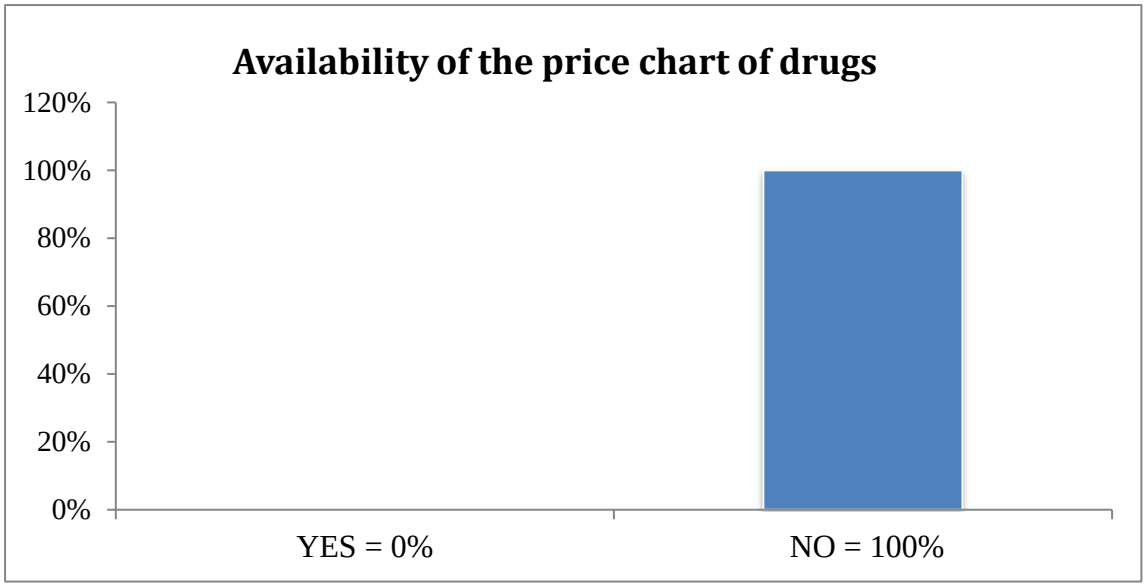

Figure 10: Availability of the price chart of drugs

One Criterion raised today from the customers is to have price lists of drugs through charts or printings on every primary packaging material like Blisters strips. The customers and t dispensers of the pharmacies expressed the necessity of the price tag on primary packaging to show the customers about the drug's actual price so that they do not need to bargain about the drug's price with the customers.

3.10 Criterion 9: Availability of 300 square feet area of pharmacy premise

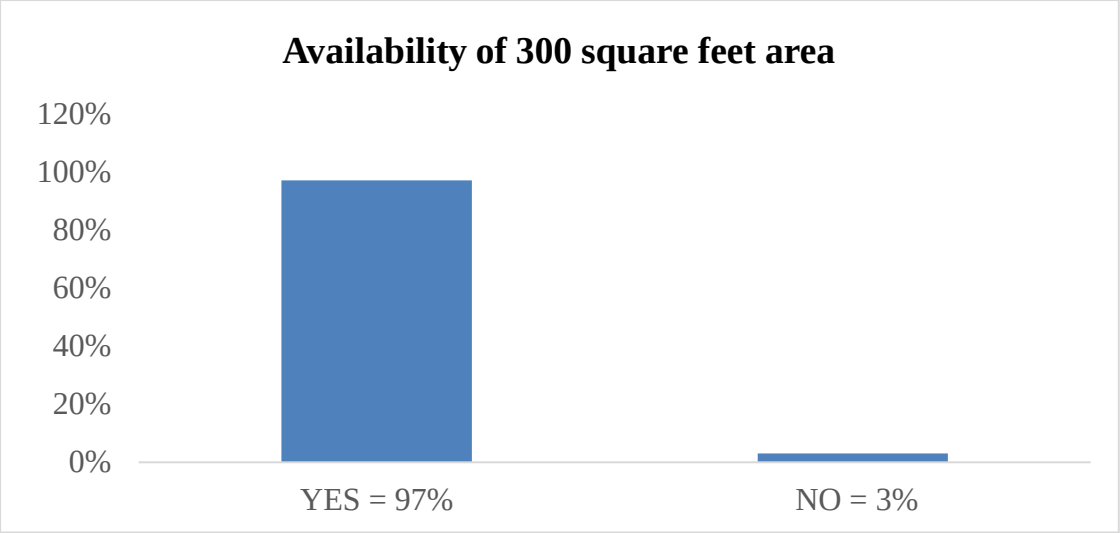

Figure 11: Availability of 300 square feet area

3.11 Criterion 10: The total area of a Model Pharmacy

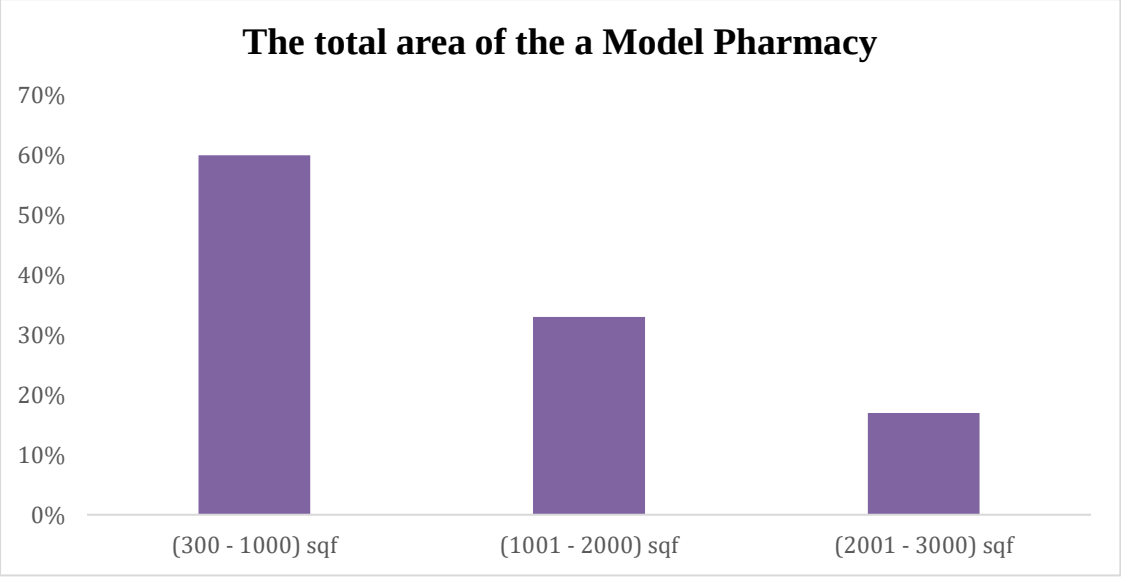

Figure 12: total area of the Model Pharmacy

Nowadays, the owners of pharmacies are aware and motivated about their pharmacy area. There are some reasons behind this where the main reason is business. Because we saw the extended areas of most pharmacies were used for showcasing their non-pharmaceutical

products, not for organizing a separate room for patient counseling. So, it is observed that they are being more focused on broadening their business with multi-disciplinary products rather than focusing on better patient care.

"Pharmacy owners are very calculative to invest in their pharmacy when calculating which is less profitable and more profitable. So, they are likely to use more space on their premises as they can store some selected non-pharmaceutical products and medical devices in their pharmacy under the guidelines of DGDA. Using those spaces for versatile products storing and selling can make a profit and create their business versatility." According to an A-grade pharmacist of a reputed Model Pharmacy in the Dhanmondi area.

3.12 Criterion 11: Availability of washroom facility

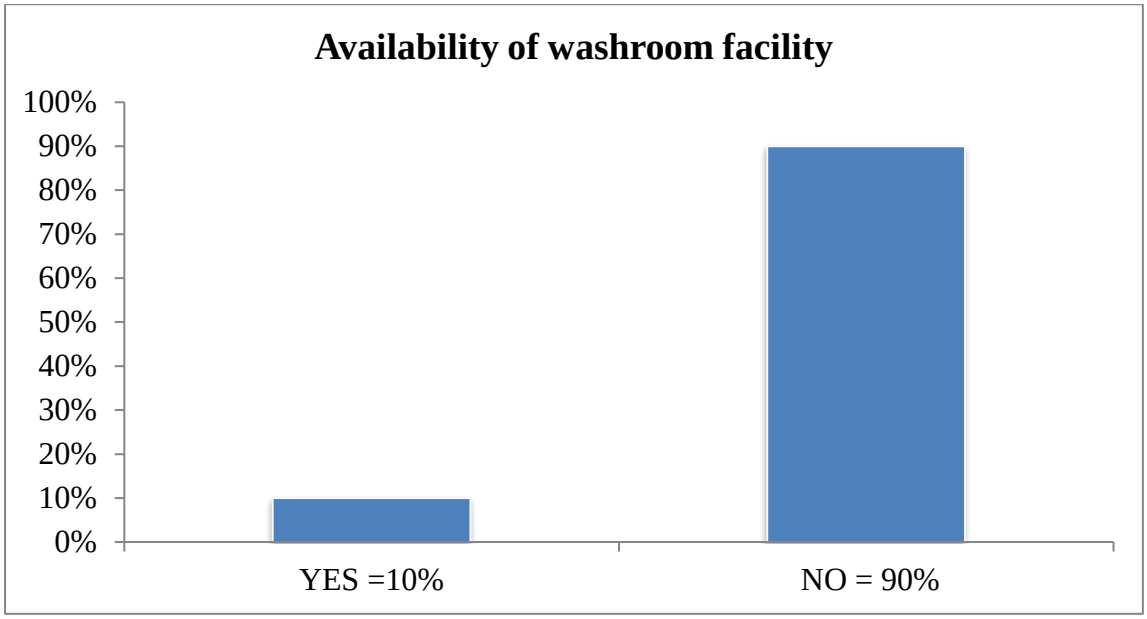

Figure 13: Availability of washroom facility

"Around 90% of the Model Pharmacy owners cannot provide washroom facilities in their pharmacy until now. They are also unwilling to do that because it needs investment and is not a profit-making investment.": According to a Model Pharmacy manager of the Dhanmondi area.

Model Pharmacies in Dhaka city are very poor in providing washroom facilities for their patients. The surveyor finds washroom facilities only in 10% of pharmacies through the survey. Furthermore, those were not attached to their pharmacy but were different. So, patients cannot access the washroom inside the pharmacy, and they cannot access separate washrooms for males or females.

3.13 Criterion 12: Availability of fully air-conditioned premise

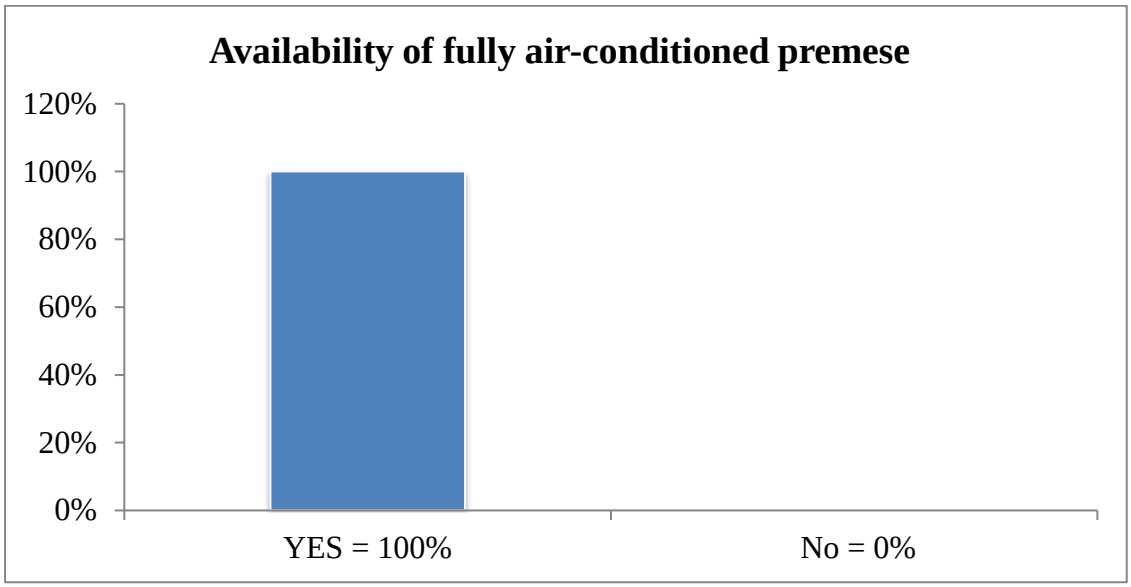

Figure 14: Availability of fully air-conditioned premise

The author finds satisfactory results on this criterion of air-conditioned premises in Model Pharmacies. The result shows that around 100% of the Model Pharmacies have proper air-conditioning systems. As Bangladesh is regionally a hot country, they cannot think of running a Model Pharmacy without having proper air-conditioning systems.

3.14 Criterion 13: Availability of proper refrigeration system

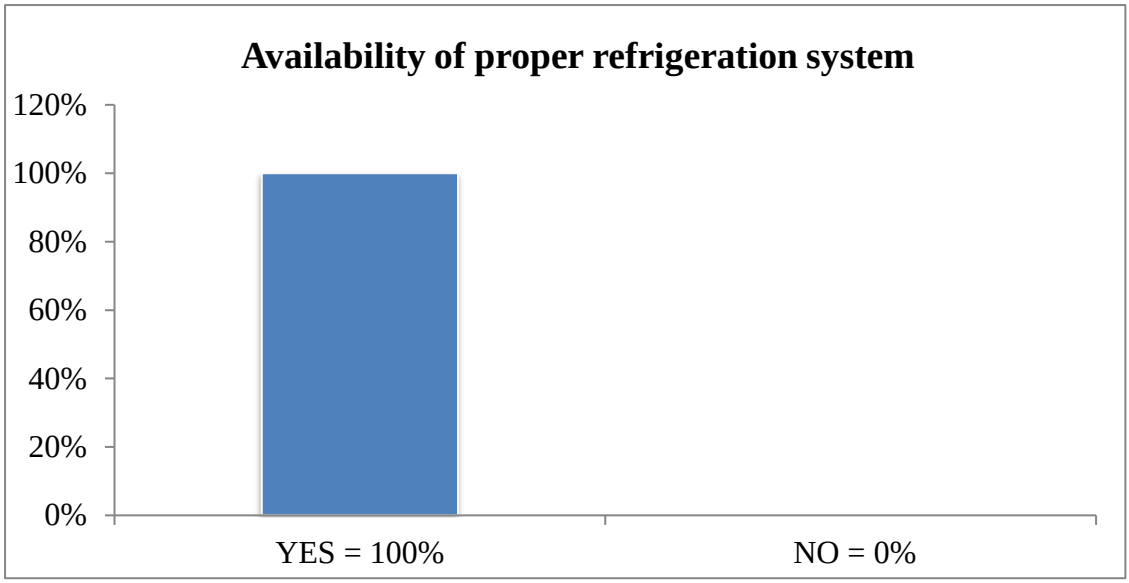

Figure 15: Availability of proper refrigeration system

Surveyors found very satisfactory results on these criteria. Around 100% of Model Pharmacies are now operating their pharmacy with proper air-conditioned and refrigeration systems to preserve the temperature-sensitive drugs. Because proper air-conditioning system to control the temperature of the premise under 30 degrees Celsius and an excellent refrigerator to preserve the temperature-sensitive drugs during their shelf life is very important to run a Model Pharmacy under the guidelines of DGDA. In these cases, new Model Pharmacies are starting their pharmacy premise with air-conditioned and refrigeration systems. On the other side, older ones are transferring from non-air-conditioned systems to the air-conditioning system.

3.15 Criterion 14: 7 Days opening of Model Pharmacies

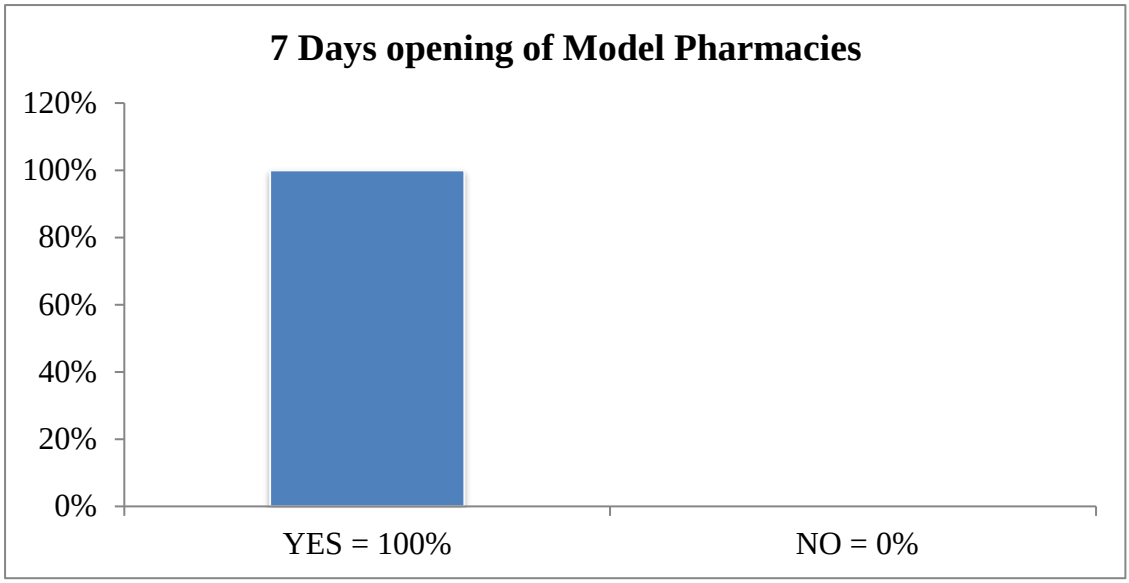

Figure 16: 7 Days opening of Model Pharmacies

"We are concerned about the necessity of our customers/patients. We open our pharmacy seven days a week and 24 hours a day. You will see that some of the Model Pharmacies remain open only for hours when more customers come to their pharmacies. However, we are more conscious of the necessity for our customers/patients. So, we try to remain our pharmacy open 24 hours a day and seven days a week. So that patients get their necessary drugs at any time or as soon as possible they need.": According to the manager of a Model Pharmacy in Uttara.

3.16 Criterion 15: Availability of seating facility

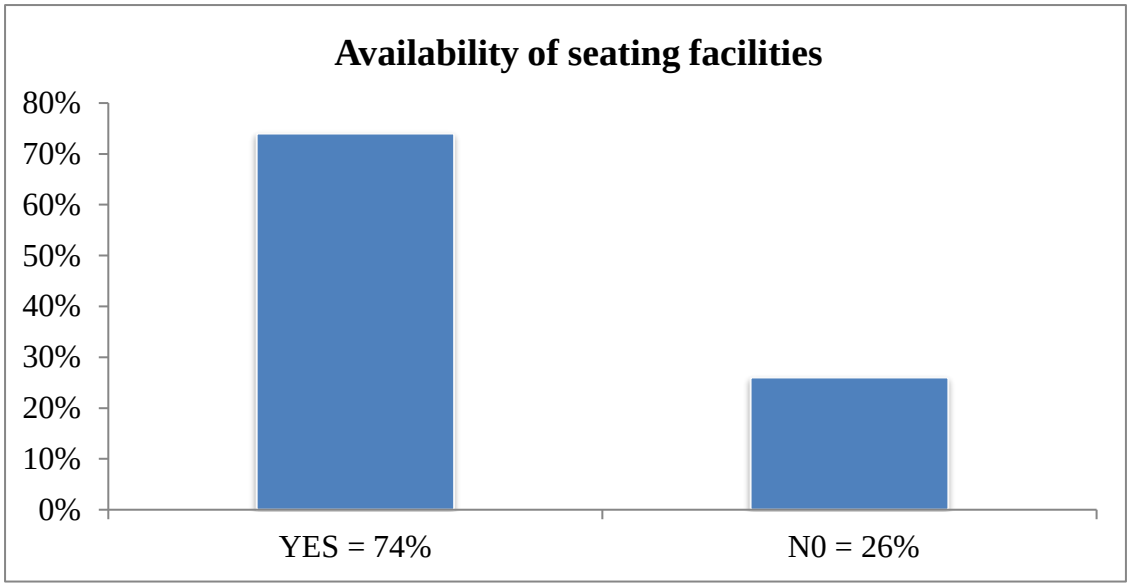

Figure 17: Availability of seating facilities

Though Model Pharmacies cannot provide enough standard seating facilities in Dhaka city, most pharmacies try to fulfill the criterion with only some chairs or benches. Thus, only a few patients are getting to the facility in case of an emergency. However, to ensure the proper dispensing environment of patient care, they need to provide enough seating facilities for their customers/patients.

3.17 Criterion 16: Selling of prescription drugs without prescription

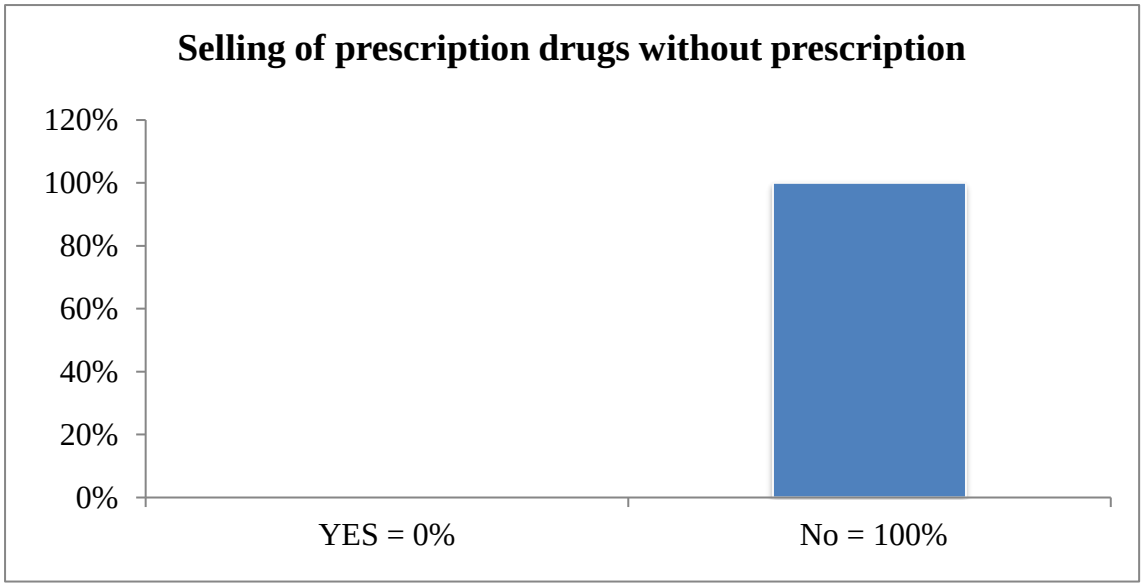

Figure 18: Selling prescription drugs without prescription

3.18 Criterion 17: Selling of Antibiotics without Prescription

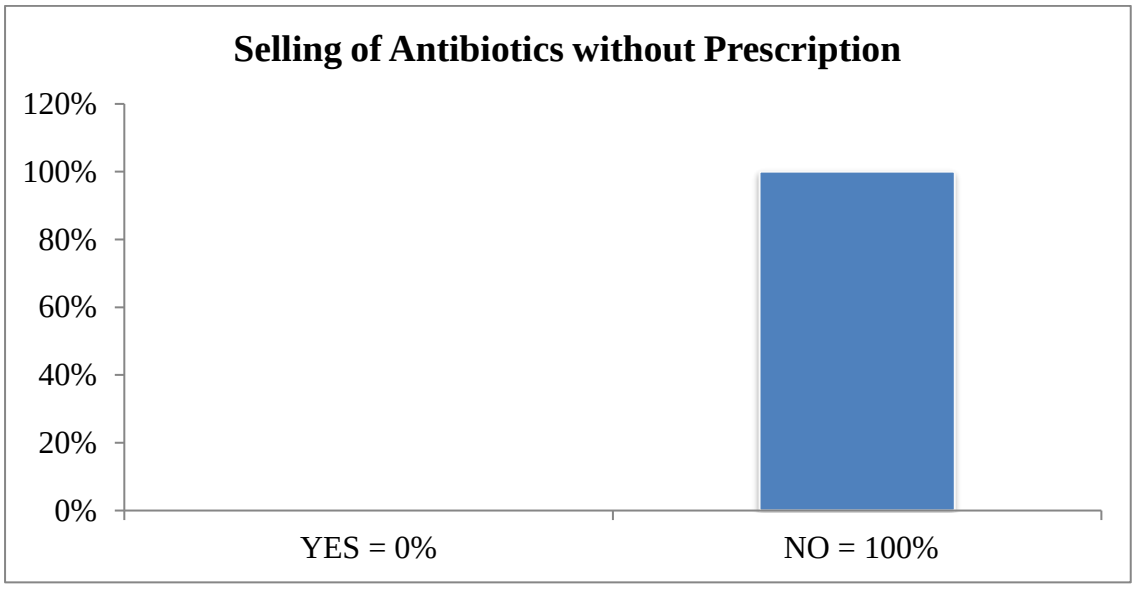

Figure 19: Selling antibiotics without prescription

Around 68% of our country's patients come to buy antibiotics in the pharmacy without carrying any prescription (Biswas et al., 2014). However, the result is that only 0% of pharmacies sell prescription drugs and antibiotics without prescription. So, it is clear that the result from this survey depends on the oral answers of the participants (dispensers/ Owner /In-charge/ A-grade

Pharmacist/Manager) of the pharmacies that do not match with the actual scenario of antibiotics and prescription drugs sold without prescription.

This survey is based on the given answers of the participants (Owner/dispenser/In-charge/Manager/A-grade Pharmacist) of the pharmacy who are the representative of the pharmacy. So, there is a significantly less chance to provide any information that represents any negative impact on that pharmacy. The author finds a different picture of the result by observing the behavior of the patients of the pharmacies in Dhaka city. So, a further cross-sectional study will be needed to introduce the actual scenario of this issue.

One Pharmacy Manager in the Mirpur area states, "Most patients come to buy medicines in pharmacy without a prescription. They generally come with tablet strips, photos of strips, written names of drugs in the paper, or the tendency to tell the names of the drugs orally."

3.19 Criterion 18: Selling of narcotic drugs without prescription

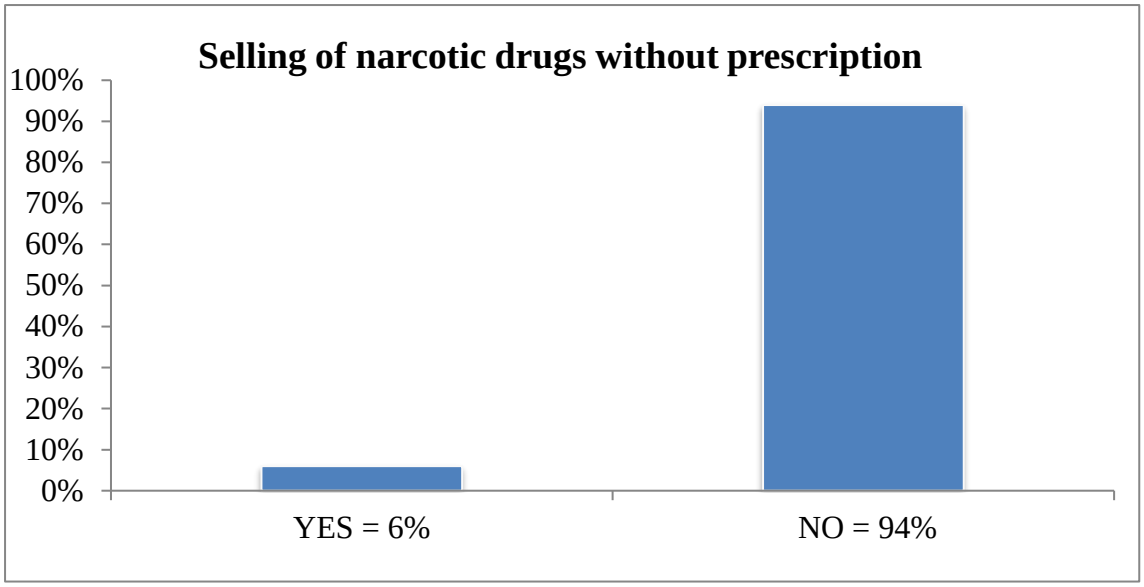

Figure 20: Selling antibiotics without prescription

"It is hard to get the license to sell narcotic drugs as it requires strict guidelines. Moreover, selling narcotic drugs is less in amount by prescription, and some issues are related to misuse of this class of drugs.": According to the dispenser of a Model Pharmacy of Uttara.

Surveyor finds that only 6% of Model Pharmacies have the license to sell narcotic drugs through the survey. So, it is clear that most Dhaka city citizens are the principal sufferers to find the narcotic drug retailer and buy their necessary drugs.

3.20 Criterion 19: Availability of data recording system

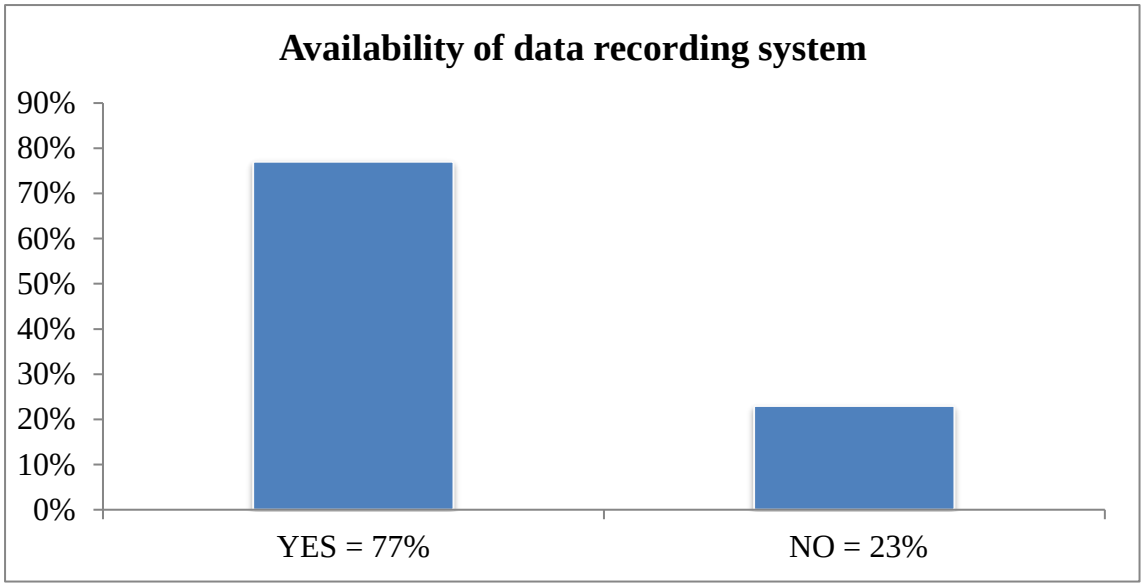

Figure 21: Availability of data recording system

It is not a good picture of the data recording system of Model Pharmacies in Dhaka city. Around 77% of pharmacies maintain data recording systems because none records any patient service-related data like any prescriptions in their pharmacy or records patient information in a separate patient profile. Rather than, they only record the sold medicines from their pharmacy.

3.21 Criterion 20: Media used to record all data

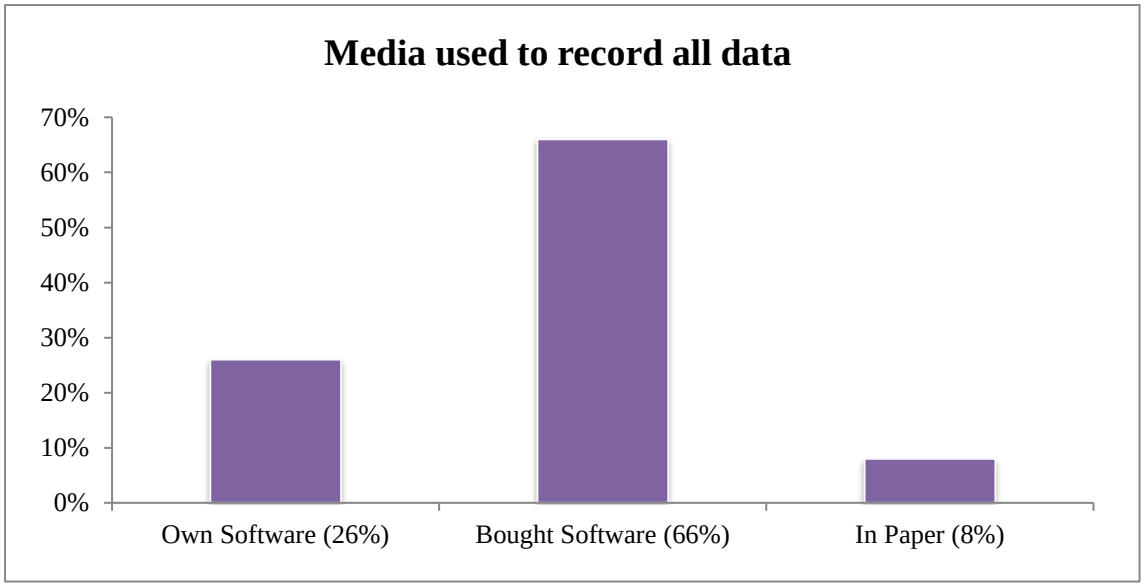

Figure 22: Media used to record all data

The author finds that only 26% of Model Pharmacies have developed software to record the sold drugs from their pharmacy, whereas 66% use bought software to record their data. Moreover, the study shows that paper record-keeping tasks have decreased significantly in Dhaka.

3.22 Criterion 21: Availability of online service systems

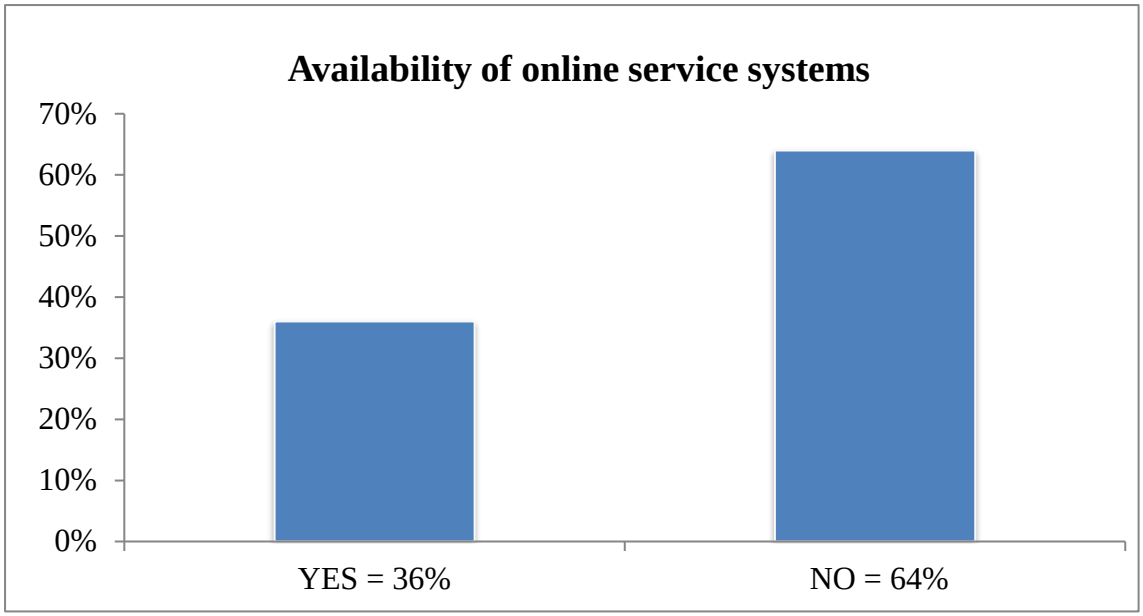

Figure 23: Availability of any online service system

"It is straightforward to start an online service for a Model Pharmacy but that much harder to start or run it. Because a lot of things to be considered for running this service system: one of them is to checking & handling of prescriptions and another is to deliver the drugs to the proper place with proper preservation of sensitive drugs.": According to a dispenser of a Model Pharmacy of Uttara.

3.23 Criterion 22: Media used for online services

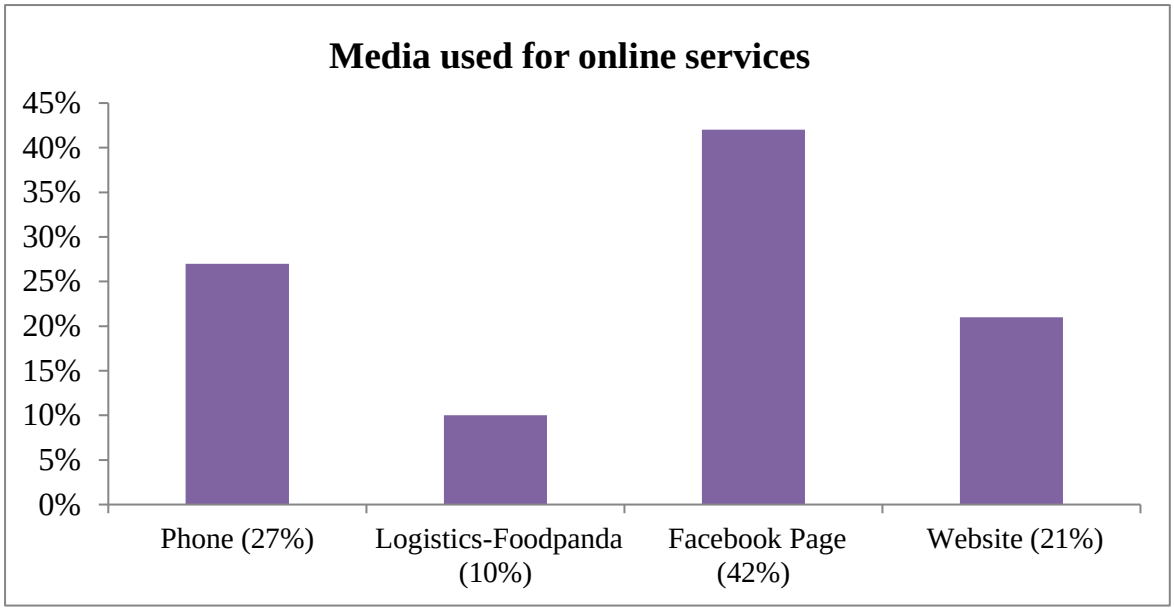

Figure 24: Media used for online services

"The situation of Bangladesh till now is not favorable to provide online delivery support to the customers with own logistic system by any Model Pharmacy. Because most customers are not that updated to order their needed drugs through online services. Moreover, checking customers' prescriptions, delivering temperature-sensitive drugs, and maintaining an online order system is tough for a Model Pharmacy by itself.": Stated by an in-charge of a Model Pharmacy of Uttara.

3.24 Criterion 23: Time-frequency of checking drugs expiration

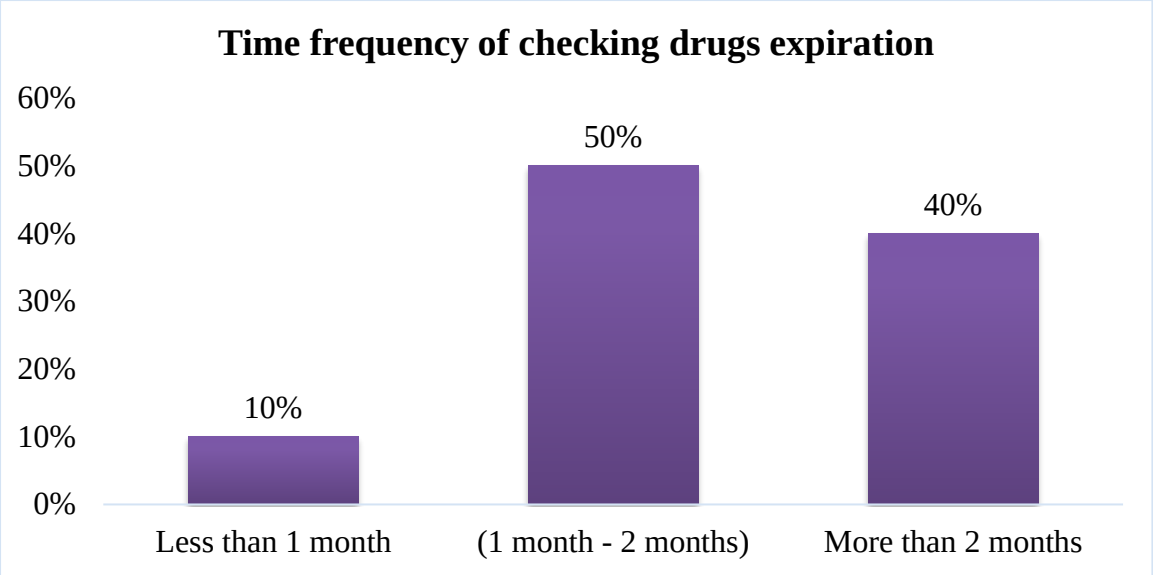

Figure 25: Time-frequency of checking drugs expiration

"We generally check the expiry of medicines before dispensing every day. Moreover, we search for the nearly expired drugs every month, and we keep away the three months near expired drugs to the red zone of the pharmacy to return to the mother company of those drugs.": Stated a dispenser of a Model Pharmacy of Mohakhali.

However, the author finds the opposite picture there. No dispenser is checking the expiry of the drugs during dispensing.

3.25 Criterion 24: Training facilities provided by pharmacy owner

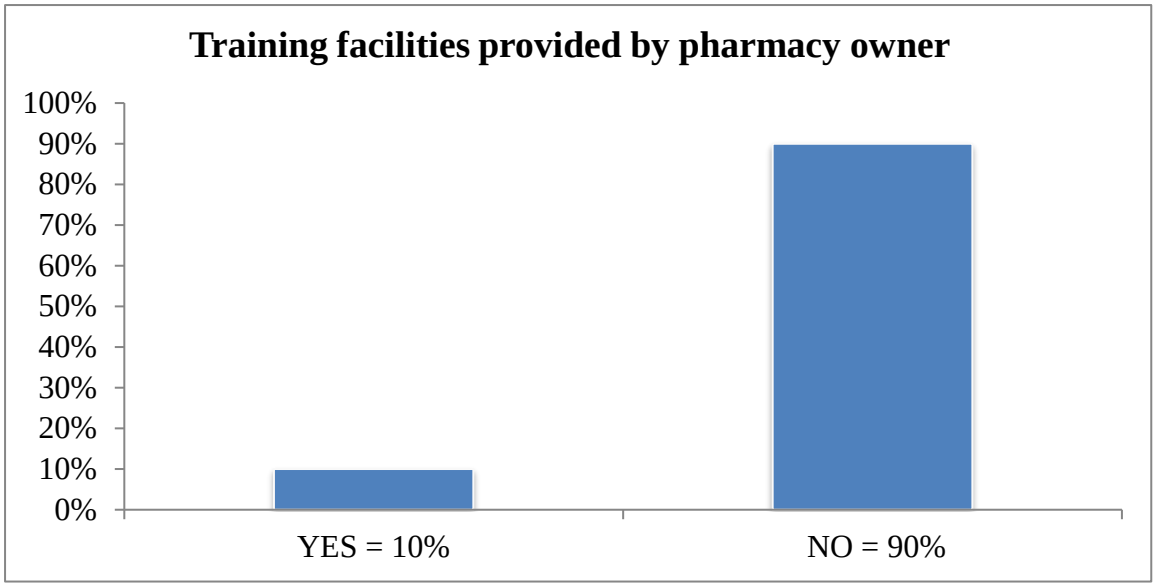

Figure 26: Training facilities provided by pharmacy owner

The study finds that only 10% of Model Pharmacies were provided yearly training facilities on the latest products of pharmaceutical companies and proper dispensing practices by the owners of those Model Pharmacies. This study shows an inferior picture of training facilities for the working personnel of Model Pharmacies. However, to ensure the proper dispensing practice and patient care, the working personnel of a Model Pharmacy need to be updated with regular training sessions on updated knowledge.

3.26 Criterion 25: Interests in participating in governmental training

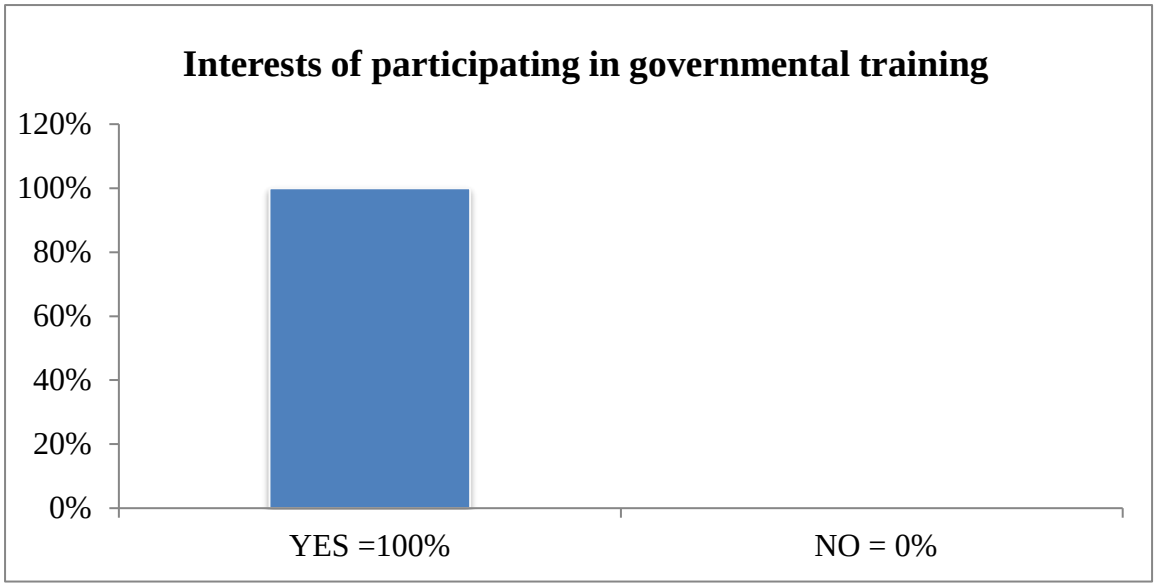

Figure 27: Interests in participating in governmental training

"Government should take steps to provide free & short training course for the owners & dispensers of the (Local Retailer Pharmacies) or (Local Medicine Shops) those are not till turned into (Model Pharmacies) or (Model Medicine Shops). Moreover, providing knowledge of Preservation and Dispensing of the drugs to ensure the minimal safety of the patients of their area.": According to a "B" grade pharmacist of a reputed Model Pharmacy of Uttara.

3.27 Criterion 26: Interests in doing paid training

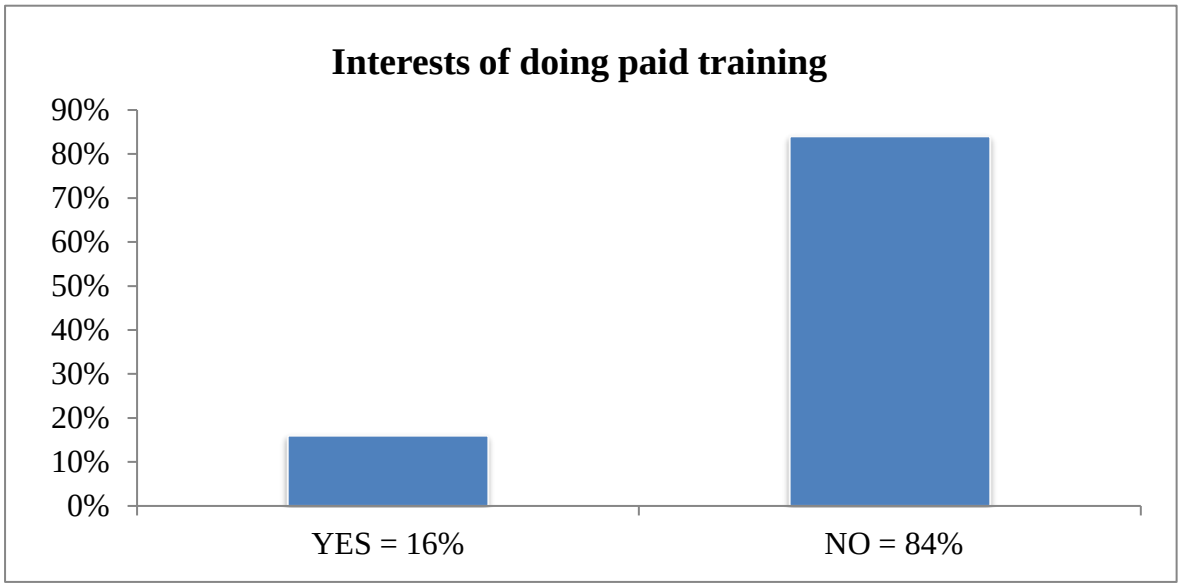

Figure 28: Interests in doing paid training

"We should be interested in paid training, but I will not do the courses if the payment is high as we have to give our busy time on it.": According to a dispenser of a Model Pharmacy of Uttara.

"I will prefer to do those courses for free. However, if the government provides paid courses for the case, It is possible only to do those if the payment is under 2-3 thousand.": According to a dispenser of a Model Pharmacy of Gulshan.

3.28 Criterion 27: Initial investment of Model Pharmacy

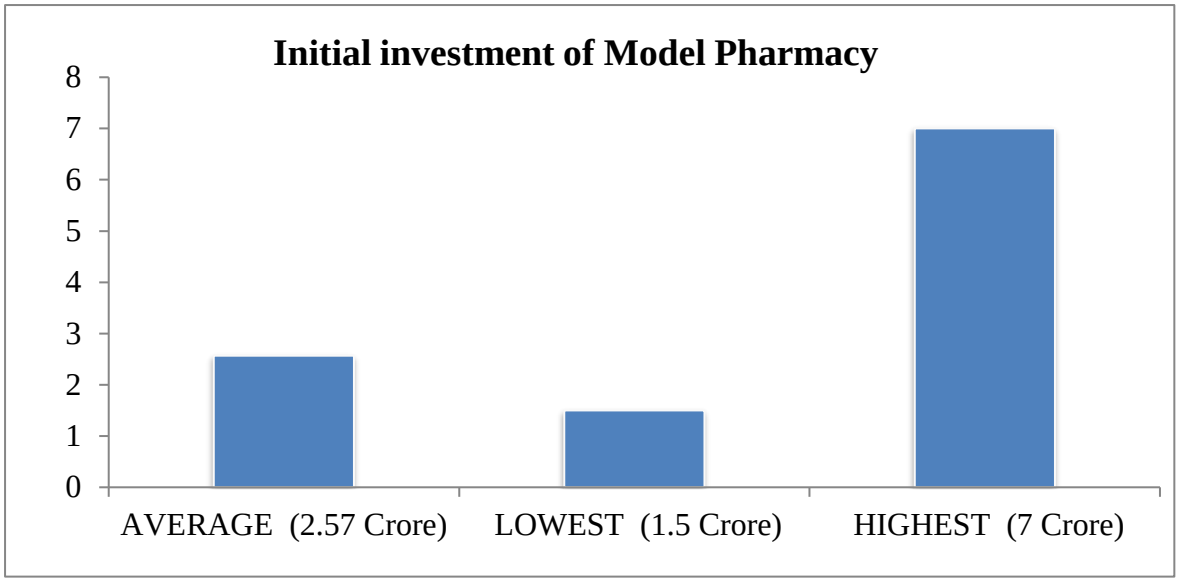

Figure 29: Initial investment of Model Pharmacy

"We cannot share this information with anyone out of the pharmacy personnel as this information is quite confidential.": Stated in charge of a reputed Model Pharmacy in the Badda area.

"It has become a challenge to run Model Pharmacy business for the offer trend in Dhaka city. Mainly, local pharmacies have created this environment to increase their sales. However, it has created a situation where customers/patients do not want to buy their needed medicines without a 5% to 10% discount. Thus, it is tough to continue the business of a Model Pharmacy with this offer business trend because we have a lot of extra costs of ensuring the proper patient care rather than selling only medicine in our pharmacy.

3.29 Criterion 28: Time needed to get back the investment

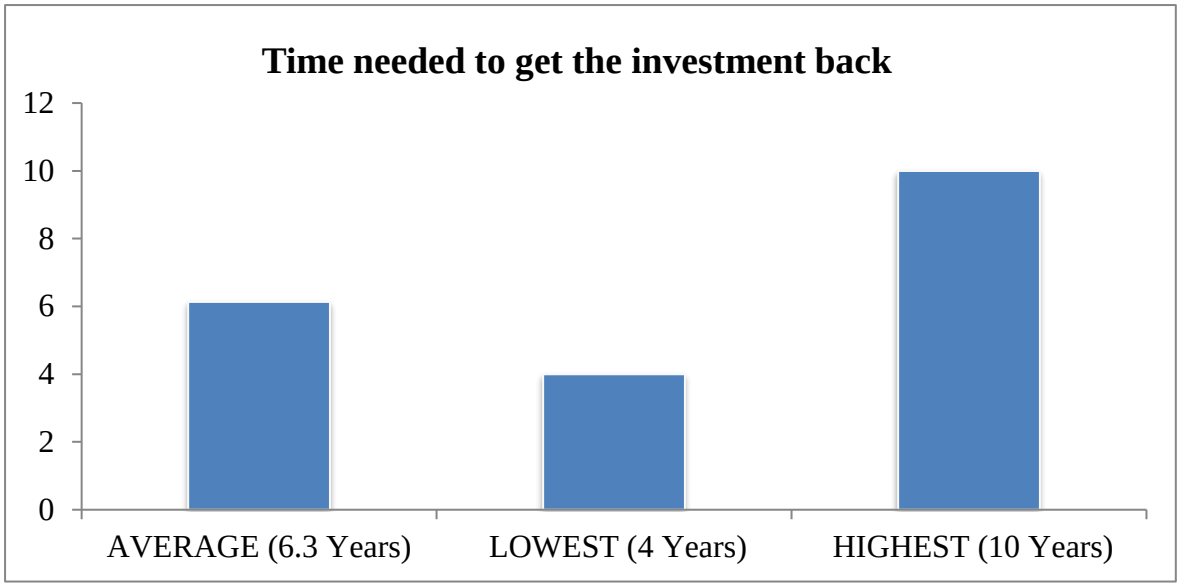

Figure 30: Time needed to get the investment back

"It is tough to get back the investment back within a short time by making a profit from a Model Pharmacy because Bangladesh is not that suitable enough place for this Model Pharmacy business till now. The main reason is that the Model Pharmacy initiative was just implemented in 2016 by the government of Bangladesh, so people are not that aware now of the efficacious difference between a Model Pharmacy and a Local Pharmacy. As a result, the level of sale of medicines did not increase that much to make more profit covering up the high cost needed to run a Model Pharmacy. The reasons here are a lot of extra costs needed to run a Model Pharmacy providing proper patient care with premise environment maintenance, patient counseling, and online medicine delivery facilities.": According to a Manager of a reputed Model Pharmacy of Dhanmondi.

3.30 Criterion 29: Obstacles for model pharmacy business

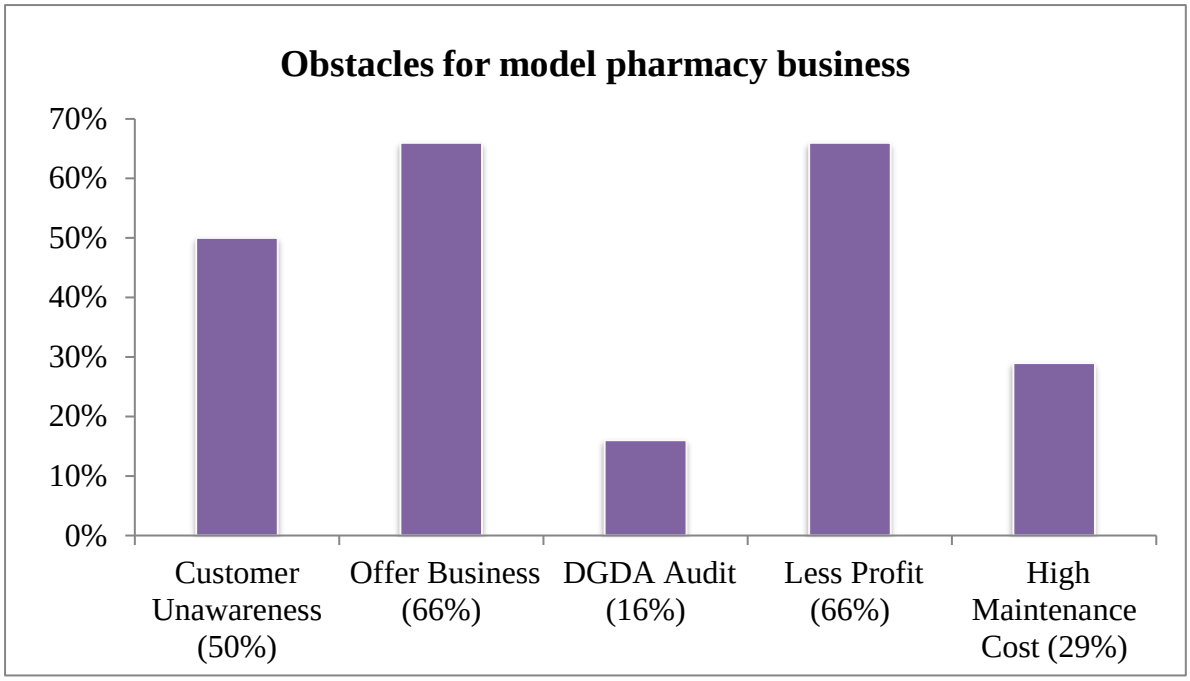

Figure 31: Obstacles for model pharmacy business

According to a reputed Model Pharmacy manager of the Gulshan area, "DGDA only audits for medicine expiration checking or examines whether the pharmacies fulfill the guidelines. Nevertheless, they should help or guide the authority or the personnel of pharmacies to develop the criteria of DGDA guidelines and adopt the latest medication systems with the latest technologies of better patient care."

"It has become a challenge to run Model Pharmacy business for the offer trend in Dhaka city. Mainly, local pharmacies have created this environment to increase their sales. However, it has created a situation where customers/patients do not want to buy their needed medicines without a 5% to 10% discount. Thus, it is tough to continue the business of a Model Pharmacy with this offer business trend because we have a lot of extra costs of ensuring the proper patient care rather than selling only medicine in our pharmacy.

3.31 Criterion 30: Percentage of patient unawareness

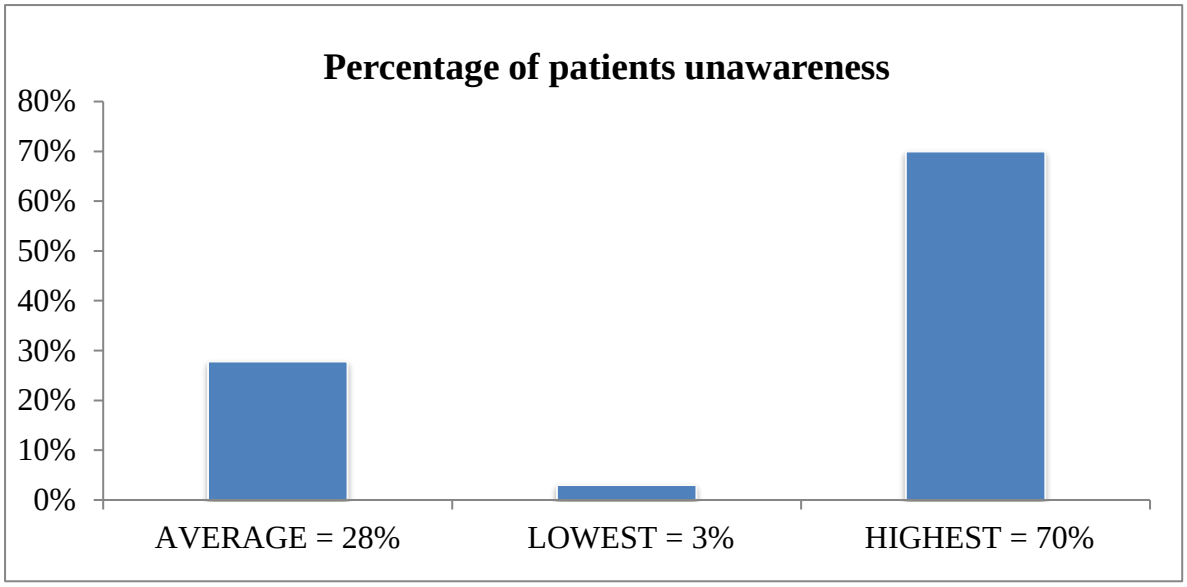

Figure 32: Percentage of patient unawareness

3.32 Comparison: Level of patient unawareness in different areas

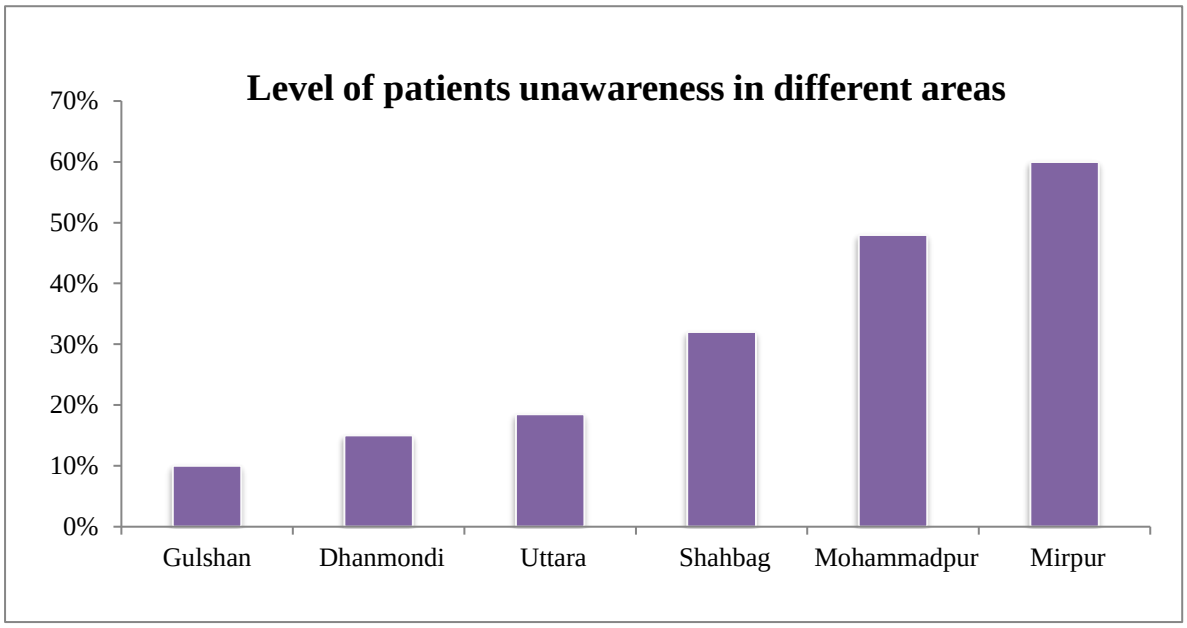

Figure 33: Level of patient unawareness in different areas

"The current scenario of patient unawareness has improved drastically by previous 3-5 years in case of being aware of fulfilling the dose of antibiotics until now. Patients are not aware of

coming pharmacy with prescriptions rather than with medicine strips, pictures from phone or telling the name of the drugs orally to buy any drugs": According to an A-grade pharmacist, a renowned Model Pharmacy, Uttara (December 2020).

This result shows the difference and percentage of patient unawareness depending on the six different areas of Dhaka city. The result shows the ranking and average percentage of patient ignorance in those areas with position number one (Gulshan area: average percentage of 10%), position number two (Dhanmondi area: average percentage of 15%), position number three (Uttara area: average percentage of 18.5%), position number four (Shahbag area: average percentage of 32%), position number five (Mohammadpur area: Average percentage of 48%) and position number six (Mirpur area: average percentage of 60%).

Chapter 4

Conclusion

4.1 Discussion

It is a matter of great regret that the survey results express the opposite picture of the agenda of the "Model Pharmacy" initiative by Bangladesh's Ministry of Health and Family Welfare launched in 2016 (Welfare, 2016). We found only 0% Model Pharmacies throughout the survey where Adverse Drug Reaction (ADR) reporting systems are followed, had all the dispensers as "B" grade or "C" grade pharmacist and "No Smoking" signage was on their banner. Moreover, we found that only 3% to 10% of Model Pharmacies maintain most of our surveyed guidelines regarding individual patient counseling, washroom facility for the customers/patients, and selling narcotic drugs. We are only satisfied with the result of 7 days of opening pharmacies, having a refrigerator for preserving the temperature-sensitive drugs, adequate air-conditioning systems to control the environment of the premise under 30-degree Celsius. According to (DGDA), every Model Pharmacy must have an A-grade pharmacist on staff to provide patient counseling (Welfare, 2016). We discovered a few pharmacies that the owners did not hire an A-grade pharmacist or hired an A-grade pharmacist who was not present during working hours. The profit-based business approach of pharmacy owners is a significant factor in the lack of an A-grade pharmacist in Model Pharmacies. Regardless, it was not supposed to happen (Welfare, 2016). The owners of Model Pharmacy should treat this pharmacy business as a social service rather than a profit-making venture because it is impossible to deliver good patient services without an A-grade pharmacist. An A-grade pharmacist's income and advancement opportunities have lagged in a Model Pharmacy. The government has not disclosed or established a compensation scale; in contrast, in other nations, doctors' salaries are on a scale of 1 to 10. In addition, doctors do not use generic names when prescribing medications; instead,

they use brand names. By consulting an "A" grade pharmacist, patients are forfeiting their ability to choose the drugs they need based on their finances. Because of this, an "A" grade pharmacist loses their value. Pharmacy owners prefer to hire A-grade Pharmacists for 5 or 6 hours per week since their wage is higher than other working staff in a Model Pharmacy. When many patients come to their pharmacy, they give A-grade pharmacists, not when a small number of patients come to their pharmacy. However, every patient has the right to be educated about their medication by a model pharmacy. Depending on the pharmacy's setting, it may be necessary to hire an A-grade pharmacist for at least 12 to 16 hours. Bangladesh's environment is still poor, as just 6% of pharmacies offer patients counseling support with different counseling rooms. Each Model Pharmacy in Bangladesh must contain one patient counseling room, according to the DGDA's Model Pharmacy rules. Due to a lack of space, Model Pharmacy proprietors cannot give separate patient counseling rooms and female patient corners. The fundamental reason is a lack of initial investment in a Model Pharmacy. So, the owners want to run their business without good patient care. Customers today want drug pricing charts or printings on primary packaging materials like Blisters strips. Clients and pharmacy employees agreed that a price tag on the primary package was necessary to inform customers of the drug's exact cost and eliminate the need for price negotiations. Nowadays, pharmacy owners are informed and motivated about their pharmacy's location. The primary motivation is business. Most pharmacies' extended sections displayed non-pharmaceutical merchandise rather than a separate room for patient counseling. So, they are more focused on expanding their business with multi-disciplinary items than improving patient care. Generally, pharmacy owners are quite calculative when investing in their business. They will need extra room to store non-pharmaceutical products and medical devices in their pharmacy under DGDA standards. Profit and company flexibility can be gained by utilizing those spaces for flexible product storage and sale. Around 68 percent of our country's patients buy antibiotics without a

prescription. However, just 0% of pharmacies sell prescription medications and antibiotics without a prescription. The results of this study based on oral responses from pharmacy participants (dispensers, owners, in-charge, A-grade pharmacists, managers) do not reflect the reality of antibiotics and prescription pharmaceuticals sold without a prescription. A-grade pharmacists (Owner/dispenser/In-charge/Manager) are the pharmacy's representatives. Therefore, they are unlikely to submit any negative information about the pharmacy, and the author discovers a completely different picture when studying the behavior of pharmacy customers in Dhaka. So, more cross-sectional research is required to understand this issue fully. "Most of the patients come to get drugs without prescription," says a pharmacy manager in Mirpur. They usually have pill strips, images, drug names written on paper or tell drug names orally. Obtaining a narcotic drug dealer's license is difficult due to rigorous regulations. Also, prescription narcotic drug sales are down, and certain concerns are due to misuse of this class of drugs. The survey reveals that only 6% of Model Pharmacies are licensed to sell narcotics. Given the above, it is apparent that most people in Dhaka City struggle to find and get their medications.

This graph depicts a satisfactory situation where some Model Pharmacies are open 24 hours a day. However, most of the Model Pharmacies are open for an average of 16.7 hours. As a retail business dealing with the sale of sensitive and emergency products, all Model Pharmacies should be open 24 hours a day, seven days a week, to ensure that patients have access to the medications they need. In Dhaka, roughly 77 percent of pharmacies maintain data-keeping systems, unfavorable. Because none of the pharmacies maintain patient service data like prescriptions or patient information on a separate patient profile, they record the drugs sold by their pharmacy. Only 26% of Model Pharmacies have developed software to record sales, while 66% use purchased software. The survey also found that the paper used for record-keeping has reduced in Dhaka. "It is easy to suggest launching an online pharmaceutical business. However,

this is more challenging to start or maintain because there are many factors to consider while running this service system, such as reviewing and managing prescriptions and delivering medications to the correct location while preserving sensitive pharmaceuticals.

Running a model pharmaceutical business in Dhaka has become difficult. Local pharmacies have created this atmosphere to enhance sales. However, it has created a scenario where customers/patients would not buy their required drugs without a 5-10% discount. So, it is challenging to run a Model Pharmacy with this current business trend. Because it costs more to provide adequate medical care than to sell merely drugs in our pharmacy. Running a model pharmaceutical business in Dhaka has become difficult. Local pharmacies have created this atmosphere to enhance sales. However, it has created a scenario where customers/patients would not buy their required drugs without a 5-10% discount. So, it is challenging to run a Model Pharmacy with this current business trend. "The current scenario of patient unawareness has improved considerably by preceding 3-5 years in respect of being conscious of meeting the dose of antibiotics until now." Prescriptions are preferred over medication strips, phone photographs, or verbally stating the drug names": Uttara, a renowned Model Pharmacy, says A-grade pharmacist (December 2020). This graph depicts the disparity in patient unawareness among Dhaka's six districts. As a result, the top five areas are Gulshan (10%), Dhanmondi (15%), Uttara (18.5%), Shahbag (32%), and Mohammadpur (48%). The study shows an alarming report on patient unawareness that around 60% of customers are unaware in some areas of Dhaka city. So, it is quite impossible to implement an environment where proper patient care can be ensured without solving the problem of unaware customers/patients. So, the regulatory authorities of the health sector of the government of Bangladesh, such as the Director-General of Drug Administration (DGDA), Pharmacy Council of Bangladesh (PCB), and the Ministry of Health and Family Welfare (MHFW), need to take immediate steps to increase the awareness level of the customers/patients.

4.2 Conclusion

According to our study, Bangladesh's Model Pharmacy is still in its infancy. Retail pharmacists still have a knowledge gap about medication safety, administration, and storage, significantly influencing therapeutic results (Alam et al., 2015; Saha & Hossain, 2017). Because retail pharmacists receive little education and training (Sultana, 2018). As a result, the pharmacist should be thoroughly taught and educated to guarantee pharmaceuticals' safe and proper distribution (Sultana, 2018). Additionally, simple licensing processes and appropriate financial incentives are accessible by the DGDA (Begum et al., 2021; Biswas et al., 2014). Finally, we can state that if all stakeholders implemented the recommendations made here, our citizens would get adequate medical care from Model Pharmacies similar to those seen in industrialized nations. Model Pharmacies are inspected regularly by regulatory authorities. Anyone who breaches these standards is subject to a warning, a fine, and imprisonment as stipulated by applicable statutes, ordinances, and rules (Begum et al., 2021; Biswas et al., 2014; Habib et al., 2020; Welfare, 2016). The study may declare that customers are unaware of Model Pharmacies constructed in Dhaka (Sultana, 2018). This study reflects that the regulatory body of Bangladesh (DGDA) could not take any time-needed measurement yet to implement proper attention of customers/patients or mass population to overcoming difficulties to ensure healthcare services and for patients/customers regarding medicine purchase. As a time-needed project, the "Model Pharmacy" initiative was taken (Begum et al., 2021; Habib et al., 2020; Munna & Islam, 2014; Sayed, 2019).

According to good dispensing practices (GDP), the Model Pharmacy needs to fulfill the criteria for generating and delivering effective health care services. Otherwise, this pilot study may not be recognized long-term (Sayed, 2019). The authorities should take more measures related to patient care services, healthcare services, and promotion to benefit Model Pharmacies to the public (Begum et al., 2021). This study does not discover standard distribution procedures of

medications and adequate counseling of consumers to guarantee good health care practices done by current Model Pharmacies. Better monitoring by the regulatory authorities, public awareness campaigns, implementing behavior change communication (BCC), dispersing information education and communication (IEC) materials, a higher degree of professionalism of pharmacists, technical training of dispensers, and close surveillance by the DGDA are necessarily needed to improve the services of Model Pharmacies. All these combined efforts will assure the requirement, presence, continuity, and extension of Model Pharmacies in the health care system in Bangladesh (Hasinur et al., 2020).

4.3 Future Direction

However, the "Model Pharmacy" initiative in Bangladesh is still in its preliminary stages, and numerous steps and adjustments will be needed to achieve the ultimate aim of this initiative. Throughout the survey, the surveyor identified only 0 percent of model pharmacies where Adverse Drug Reaction (ADR) reporting procedures were followed, where all dispensers were "B" grade or "C" grade pharmacists, and where "No Smoking" warning signage was shown on their banner. So, in these cases, model pharmacy owners must be concerned. Moreover, they need to start taking steps to regularly report on adverse drug reactions (ADR) by displaying "No Smoking" warning signage on their banner and providing proper facilities for all of their dispensers to complete "B" or "C" grade training courses by PCB. Furthermore, we discovered that only 3% to 10% of model pharmacies adhere to most of the DGDA-assessed standards, such as individual patient counseling, restroom facilities for customers/patients, and the sale of narcotic medications. The owners of the pharmacies need to take steps to improve the conditions for those criteria. According to the Directorate General of Drug Administration (DGDA), every model pharmacy must have an A-grade pharmacist on staff who will give patient counseling (MHFW, 2016). It was revealed that the owners of a few pharmacies had either failed to hire an A-grade pharmacist or had engaged an A-grade pharmacist who was not

present during working hours. According to the National Pharmacy Association, the profit-based business approach taken by pharmacy owners contributes to the lack of an A-grade pharmacist in model pharmacies. Whatever the case, it was never supposed to happen. Instead of treating their pharmacy business as a profit-making endeavor, the proprietors of Model Pharmacy should approach it as a social service because it is impossible to provide exceptional patient care without the assistance of an A-grade pharmacist. The introduction of a model pharmacy program was intended to address these issues. Our survey results indicate that a fair number of "A," "B," and "C" grade pharmacists are required in a model pharmacy, and the surveyor proposes that this be done immediately. Each model pharmacy should feature a dedicated section where an A-grade pharmacist would provide patients with medication counseling and dispense their prescription medications. It is also necessary to maintain a fully digitized system for keeping track of patients and medications on hand. It is possible that putting an online drug delivery system in the model pharmacy could help even more patients be happy.

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