A Survey on Analysis of Present Perspective and Consequences of Self-Medication among the people of Gazipur Sadar Upazila, Dhaka, Bangladesh.

M. Pharm Thesis Report

A thesis report submitted to the Department of Pharmacy, Faculty of Allied Health Science, Daffodil International University for the partial fulfillment of Masters of Pharmacy Degree

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Declaration

I hereby declare that the project work title **"A survey based analysis of Present perspective and consequence of self-medication among the people of Gazipur, Dhaka, Bangladesh"** requirement for the complete the degree Masters of Pharmacy (M. Pharm) program under the Faculty of Allied Health Science Daffodil International University.

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Abstract

Self-medication has become a common practice among the peoples of all over the world. In Bangladesh it has also being practiced within the people. For self-medication practice a minimum knowledge is required regarding disease symptoms, diagnosis, use of drugs and doses. That's why the present study was designed to conduct a survey among the people of Gazipur Sadar Upazilla, Gazipur, Dhaka, Bangladesh about self-medication present perspective from 03 DEC 2023 to 15 DEC 2023. It was a close ended survey with set structured questionnaire and data was collected with the population consent. The sample size was 139, a single population with occupational proportionality. The study showed 92.81% of the population were doing self-medication and 7.19% population were out of this practice. Among that population about 52.5% of the population didn't have any idea about the dose and dose intervals of the medicines. Also 59.80% of the population didn't complete dose of the medicine and 52% didn't know the consequences of not completing the dose. And also 54% population didn't aware of improper use of antibiotics.

Due to financial issues 64% population prefer self-medication and also 69.06% population prefer shop dispenser advices for their self-medication. This study has also found majority of self-medication was taken for certain diseases (headache, acidity, diarrhea, depression) and these were just the result of inadequate food habits and life style of the population. In conclusion, public awareness should be increased about the self-medication and dose, dose intervals and also consequences of improper and long-term use of the medicines. They should be made aware of their food habits and life style to minimize the occurrence of certain disease and also self-medication.

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Chapter I

Introduction

1. Introduction

The World Health Organization (WHO) and the International Pharmaceutical Federation define self-medication as a run through by which a human being selects and uses medicines to treat signs/symptoms or minor health problems, recognized as such by themselves [1]. When done appropriately, self-medication can help the individual's health and is documented by the WHO as part of self-care [1,2]. Self-care is understood as what people do by themselves to inaugurate and maintain health, preventing, and dealing with disease. This concept of self-care includes health, nutrition, lifestyle, socio-economic, and environmental factors, as well as self-medication [1,3]. Lately, people have taken greater personal responsibility for their health and are seeking more information and facts to make pertinent decisions about their treatment either from reliable sources or from other questionable sources such as health issues related websites [1,4]. It is estimated that in the United States, some 100-150 million general physician consultations a year are related to conditions that could be self-treated. In recent decades, the role of pharmacists has been changed, being not only as drug dispenser at a pharmacy store but acting as part of a multidisciplinary team involved in health care [1,5]. It is essential to highlight the convenience of consumers to the pharmacists, those working in either the public sector, in private pharmacies and hospital pharmacy. Confirming such responsibility of pharmacist, Loyola Filho et al. found a significant association between pharmacist consultation and the use of non-prescribed drugs in Bambuí, Minas Gerais. [6]

1.1 Reasons of self-medication

The usage patterns of medications within a community can be influenced through two distinct avenues. On a positive note, national policies play a role when they advocate for the controlled distribution and sensible accessibility of essential drugs, emphasizing access through diagnosis and prescription by qualified professionals. Conversely, negative impacts can arise from unrestricted access, as well as the promotion and advertising of medications, which frequently encourage unnecessary and irrational utilization. [7] Research on self-medication has indicated that the upsurge in self-medication is attributed to various factors, including socio-economic conditions, lifestyle choices, easy access to drugs, the growing ability to manage certain ailments through self-care, and the increased availability of medicinal products in the market. Additionally, patient satisfaction with healthcare providers, prolonged waiting times, drug costs, educational background, age, and gender are crucial factors influencing self-medication. A prevalent reason for engaging in self-medication is the high fees associated with private doctor consultations, with the situation being particularly challenging in rural or remote areas where people face social, economic, and educational deprivation, along with limited healthcare facilities. Another study identified prior familiarity and the perception of the illness as non-serious as the top two reasons for self-medication, with informational materials being the primary source of guidance on self-medication. [1,8,9]

A survey revealed significant discontent among participants regarding the healthcare services they received, leading to a preference for pharmacies. The dissatisfaction was attributed to the perceived poor quality and delays within the health system, characterized by extended waiting times and queues. This contrasted with the perceived ease of access to services provided by pharmacies.

Another prominently emphasized factor by research participants was their dissatisfaction with the subpar quality of care within the public healthcare network, describing it as hasty and superficial. [7,10] Considering that the wide availability of medicines increases the possibility of irrational use, the excessive growth in the use of medicines in many countries has been pointed out as an important barrier to the achievement of the rational use of medicines. [11]

1.2 Positive outcomes of self-medication

Self-medication also has advantages for healthcare systems as it facilitates better use of clinical skills, increases access to medication and may contribute to reducing prescribed drug costs associated with publicly funded health programs [12].

1.2.1 In Pharmaceutical Industry

It is widely acknowledged that there is a growing trend in the pharmaceutical industry towards self-medication across various dimensions. This shift offers several benefits to the industry, including enhanced product accessibility, potential protection against generic competition through the transition to nonprescription status, and the opportunity to promote an established brand that is also available through prescription. [13]

1.2.2 For Healthcare Professionals

The strategic directives of numerous pharmacy professional organizations are contributing to a heightened push for deregulation and the encouragement of self-medication. In certain European nations, the realm of self-medication is primarily associated with pharmacies. Studies indicate that pharmacists endorse deregulation because it allows them to assume a more clinical role, expands therapeutic choices, fosters increased engagement with patients, and elevates their professional standing. [14] Physicians exhibit a more cautious approach towards self-medication, potentially stemming from concerns about reduced patient interaction, the risk of patients or pharmacists making incorrect medical diagnoses, and the inappropriate use of non-prescription drugs. Nevertheless, in the UK, there has been a significant transformation in medical practice, driven by increased clinical and administrative demands on doctors. [15,16] There is a growing acknowledgment that reducing unnecessary consultations for individuals with minor symptoms could be achieved through successful self-medication. In the UK and Europe, healthcare professionals are increasingly endorsing self-medication and advocating for additional deregulation. This change in perspective may indicate a growing trust in the deregulation process and in pharmacists' capability to assess, treat, and recommend medical attention when needed. [15,17]

1.2.3 Healthcare cost perspective

In some countries, broadening the range of self-medication is seen as a strategy to manage healthcare costs, especially in situations where the government bears the majority of service expenses. Promoting the purchase of over-the-counter medications by patients can lead to reductions in pharmaceutical spending. Additionally, this approach can be beneficial for individuals, as certain nonprescription items might be more cost-effective compared to prescription alternatives. [18] However, in the UK, certain patient groups, such as those over the age of 60, individuals with specific chronic conditions like diabetes mellitus, and those with low income, are entitled to receive prescribed medicines for free. This entitlement covers some

medicines available without a prescription, reducing the incentive for these patients to purchase such products, except for reasons of convenience. On the flip side, nations such as Italy do not provide reimbursement for over-the-counter medication expenses, and in Canada, several public health insurance plans exclude coverage for this class of drugs. This circumstance might foster self-medication, particularly when there's a charge associated with consulting a general medical practitioner. [15,19]. The authors, however, emphasized the need for prospective studies to confirm such results, specifically those measuring the impact of deregulation on patient care and outcomes. [20]

1.2.4 Patient's perspective

Self-medication has been a traditional element of family healthcare, and given the joint commitment of the industry, professions, and governments to encourage this healthcare sector, its prevalence is expected to increase. Advocacy for self-care is considered a means to provide patients with ample opportunities to take responsibility and develop confidence in managing their own health. The positive perception of patient empowerment is driving the development of a collaborative patient-clinician partnership. Healthcare professionals, including doctors and pharmacists, are seen as partners working with patients in managing health issues, rather than simply acting as gatekeepers to access medication. [21] According to studies, patients appreciate the increased accessibility of over-the-counter medication, finding it more convenient as it eliminates the requirement to visit a doctor and is cost-effective. A notable survey conducted in the UK on behalf of the Proprietary Association of Great Britain disclosed that most participants considered nonprescription medicines effective for minor health issues and valued them on par with those prescribed by a doctor. Another survey in Northern Ireland explored public views on community pharmacist and pharmaceutical services, revealing a preference for self-treatment of conditions like headache, indigestion, constipation, cough/phlegm, and colds/flu. [21,22]

These findings suggest public confidence in self-treatment for specific conditions and available products. Patients perceive self-medication as a convenient and effective option. Sales figures for antifungal agents in the US, used for managing vaginal candidiasis, have notably increased since the deregulation of these products, supporting the belief in the convenience and effectiveness of self-medication. [23]

1.3 Risk factors of self-medication

"Nonprescription products are generally intended for short-term usage in addressing self-limiting conditions. It is reasonable that certain products, like paracetamol (acetaminophen), may also serve for the prolonged treatment of specific chronic conditions such as self-management of osteoarthritis. [24] However, this prolonged approach may be recommended only after a physician has made a diagnosis. It is crucial to note that this recommendation is not applicable to many nonprescription products, as they may lack the potency or appropriateness for extended use. [25] The recognized risks associated with self-medication primarily stem from forms of inappropriate use, often described as misuse or abuse. These terms are sometimes used interchangeably but hold distinct meanings. Misuse refers to the incorrect application of a drug for medical purposes, such as prolonged use or increased dosage. Conversely, abuse is the utilization of drugs for nonmedical purposes, like seeking mind-altering effects or achieving weight loss. [26] All drugs carry the

potential for misuse, with abuse often linked to products containing opioids, antihistamines, and laxatives. It's challenging to definitively categorize an individual's inappropriate use of a product as either abuse or misuse. Furthermore, initial misuse for a genuine medical purpose, albeit at an elevated dosage, might evolve into abuse. [15,26]

As a result, healthcare professionals such as doctors and pharmacists may lack awareness of patients using products incorrectly, often due to inaccurate self-diagnosis. Concerns have been raised, particularly in the management of vaginal candidiasis. Ferris et al. investigated the capability of women, with or without a prior physician-confirmed diagnosis of vaginal candidiasis, to identify the condition based on a typical case scenario. [27] The study found that only a minority of patients could accurately diagnose the scenario, and a prior diagnosis had a moderate influence on their ability to do so. The study suggested that women might use antifungals to address conditions with symptoms resembling vaginal candidiasis but potentially more serious. [28]

Concerns related to the risks of self-medication encompass potential delays in treating serious medical conditions, the masking of symptoms of a severe condition through nonprescription product use, increased polypharmacy, and interactions with regularly used medications. [29]

Elderly individuals are often perceived as a population with an elevated risk of self-medication due to concurrent medication and medical conditions. Chrischilles et al. observed extensive use of multiple analgesic products, including nonprescription drug products, among older individuals (over 65 years of age) in rural Iowa, USA. [30] Batty et al. conducted a survey focusing on the utilization of nonprescription medications by hospitalized individuals aged 65 and above in the UK. The results indicated that these patients usually did not willingly share details about their nonprescription medication usage, and there was limited documentation of their use of such medications before admission in clinical records. Within the hospital setting, patients continued using these products, often unaware of the potential for adverse drug effects. Another vulnerable demographic is children, who exhibit distinct responses to drugs compared to adults, especially neonates, where toxicity can emerge due to enzyme deficiencies and variations in the sensitivities of target organs. [31,32]. In a comprehensive examination of the impact of nonprescription drugs on the developing fetus, Kacew underscored a notable rise in self-medication during pregnancy, mainly linked to persuasive product advertising. The author stressed the overarching guideline of refraining from the use of all medications during pregnancy. [33]

From a professional perspective, general practitioners (GPs) may perceive the utilization of nonprescription drugs as potentially detrimental to their rapport with patients. Numerous GPs in the UK have voiced reservations, contending that endorsing a nonprescription product contradicts their National Health Service contract, despite the government holding a divergent stance. Studies suggest that, in general, patients are open to doctors providing guidance on nonprescription drugs, although those exempt from prescription charges display less enthusiasm for such interventions. [34]

1.4 Antibiotic resistance current perspective

Infections caused by antibiotic-resistant pathogens typically manifest within hospital environments, where highly susceptible patients are concentrated, and there is extensive use of antibiotics along with invasive medical procedures. Statistics indicate that in 2006 alone, around 50,000 Americans lost their lives due to infections caused by two prevalent antibiotic-resistant pathogens—sepsis and pneumonia. The associated costs incurred by the U.S. government amounted to approximately $8 billion. [35] There is an observed inclination towards self-medication among the educated populace in certain developing nations, including India. [36] In a study assessing this pattern, an unexpected 73% of the population in Punjab, an Indian state, engaged in self-medication, ranging from minor health issues to chronic and recurring illnesses. These findings indicate that even after being diagnosed with a chronic condition, individuals often seek professional advice only occasionally and believe they are capable of managing and maintaining their own health. Besides the frequent use of antibiotics, a significant portion of the population is estimated to be using medications such as histamine H2-receptor blockers, topical corticosteroids, antifungals, and oral contraceptives without consulting healthcare professionals. This trend highlights a lack of awareness and knowledge regarding the appropriate use of antibiotics and other medications, potentially driven by a desire to avoid the inconvenience of visiting a doctor. [37] Recent research indicates that self-medication is notably widespread in economically disadvantaged communities. In numerous developing nations, healthcare facilities often fail to meet established standards and can be prohibitively expensive, prompting individuals to resort to self-medication as a convenient and necessary healthcare option. Another contributing factor to the prevalence of self-medication in developing countries is the accessibility of prescription drugs as over-the-counter (OTC) medicines, readily purchasable from pharmaceutical stores. Additionally, lenient medical regulations contribute to the abundance of non-prescription drugs available for the treatment and control of common diseases. [38]

1.5 Consequences of long-term use of pain-killer

Adverse events such as drug-induced liver injury (DILI) are not infrequent occurrences in clinical settings, given that a wide array of substances, including herbs and alternative medications, undergo metabolism in the liver microsomes. The severe clinical manifestation is fulminant liver failure, characterized by hepatic encephalopathy and coagulopathy preceding jaundice in patients with no prior history of liver disease. [39] Acetaminophen, known as APAP in the United States, paracetamol in Europe and other regions, or N-acetyl-p-aminophenol, is a widely employed compound globally. Its predominant use as an antipyretic or analgesic dates back to 1955, mainly owing to its easy availability in various formulations as an over-the-counter medication. APAP is among the most commonly utilized analgesics in the United States and is reported to be the primary cause of acute liver failure in the country. Approximately 30,000 patients are admitted to hospitals annually in the United States for the treatment of APAP-induced hepatotoxicity. [40]

It is widely recognized that the use of COX inhibitors in therapy is linked to various side effects, including gastrointestinal erosions, as well as renal and hepatic insufficiency. These severe adverse reactions are largely influenced by the inhibition of COX-1. [41] The primary side effect associated with NSAIDs is gastrointestinal (GI) toxicity. This GI toxicity is attributed to the suppression of COX-1-mediated production of cytoprotective prostanoids, such as prostaglandin PGE2 and PGI2.

Damage to the GI system can range from concealed blood loss to ulcer perforations. [42] NSAIDs can also lead to an increase in serum creatine levels and trigger conditions like hypercalcemia, interstitial nephritis, proteinuria, and acute renal dysfunction (renal toxicity). The diminished production of prostaglandins (PGs), including PGI2 and PGE2, which play a role in regulating renal blood circulation, contributes to a decrease in the glomerular filtration rate. Particularly in individuals with compromised renal function, this can lead to water retention, hypertension, and, in certain instances, renal failure. [43]

1.6 Reducing self-medication risk

1.6.1 Patient-Physician-Pharmacist Partnership

The emphasis on patient empowerment and their active participation in their healthcare, as discussed earlier should be viewed in conjunction with healthcare providers. Literature advocates a partnership in healthcare, particularly in decision-making, which extends to medicine consumption. [44] However, significant gaps exist in understanding how patients, physicians, and pharmacists perceive self-medication. Studies suggest that patients may not consistently perceive nonprescription medication as pharmaceutical drugs, and this perception might be intensified when obtaining such medications from retail outlets instead of pharmacies. As previously mentioned, research indicates that patients frequently refrain from disclosing their usage of nonprescription drugs to healthcare professionals, and conversely, doctors do not routinely inquire about the utilization of these products. [45] Additionally, there's a noted lack of knowledge among general practitioners (GPs) about nonprescription drugs, although the profession is gradually becoming more supportive of this aspect of healthcare. This knowledge gap could potentially lead to iatrogenic diseases, contributing to what is known as the 'prescribing cascade.' In this scenario, a patient may obtain nonprescription medication from a non-pharmacy source, and any adverse effects resulting from inappropriate use may go unrecognized by the doctor. [46] The patient doesn't communicate the use of the product to the doctor, and the doctor doesn't inquire. This situation may lead to the prescription of a medication that interacts with the nonprescription product or fails to address the adverse effects triggered by it. Consequently, the patient may return to the doctor for further consultation. [16,46]

1.4.3 Relation of Education and Information to reduce risk of Self-Medication

In order for patients to make informed choices regarding their health, they need to possess relevant knowledge. Frequently, the inappropriate use of nonprescription medications results from patients lacking information and comprehension. An initial study carried out in Northern Ireland, where community pharmacists aimed to address instances of misuse and abuse of nonprescription medicines, unveiled that individuals identified as misusing such medications were often uninformed about the recommended duration of drug use or the maximum allowable dosage. [47]. Acknowledging the growing self-care sector, Herxheimer stressed the importance of educating consumers about sensible drug use. He urged healthcare professionals, including doctors and pharmacists, to actively direct patients to the necessary information. [48] In the present era of evidence-based practice, it is essential to emphasize the logical choice and dispensing of products by pharmacists and their teams. Smith and Feldman pointed out the absence of scientific evidence supporting the efficacy of cold remedies. Pharmacists bear the responsibility of prioritizing patient well-being and providing the most appropriate and effective products for handling self-limiting

conditions. Adopting this approach enhances patient trust in self-medication as a valid intervention. [49]

Chapter II
Literature Review

2. Literature Review

Hughes, C. M., McElnay, J. C., & Fleming, G. F. (2001). Benefits and risks of self-medication. Drug safety, 24, 1027-1037.

The practice of self-medication is gaining significance in healthcare, empowering patients to take charge of managing minor illnesses and increasing their independence in decision-making. This trend offers advantages for healthcare systems by optimizing clinical skills, enhancing medication accessibility, and potentially reducing the prescribed drug costs associated with publicly funded health programs. Despite these benefits, self-medication poses risks such as misdiagnosis, excessive drug dosage, prolonged use, drug interactions, and polypharmacy, especially problematic in the elderly. To maximize benefits and minimize risks, proposed strategies include monitoring systems, establishing partnerships among patients, physicians, and pharmacists, and providing education and information to ensure safe self-medication practices. [12]

Chouhan, K. I. R. A. N. B. I. R., & Prasad, S. B. (2016). Self-medication and their consequences: A challenge to health professional. Asian Journal of Pharmaceutical and Clinical Research, 314-317.

The prevalence of using medication without consulting a licensed medical professional is on the rise. Lack of awareness regarding the safe and judicious utilization of medicines can have severe and challenging consequences. It is crucial to continually highlight the adverse outcomes of such behaviors to the public and take measures to address them. Widespread, indiscriminate use of antibiotics without proper medical supervision increases the likelihood of inappropriate or incorrect therapy, missed diagnoses, delays in receiving appropriate treatment, the development of pathogen resistance, and heightened morbidity. This review focuses on exploring the causes, dangers, and preventive measures against the potential risks associated with self-medication. [1]

Sunny, T. P., Jacob, R., Krishnakumar, K., & Varghese, S. (2019). Self-medication: Is a serious challenge to control antibiotic resistance? National Journal of Physiology, Pharmacy and Pharmacology, 9(9), 821-827.

As per the World Health Organization (WHO), self-medication constitutes a facet of self-care involving the independent selection and utilization of medications by individuals for the treatment of self-identified illnesses or symptoms. Antibiotics, crucial in regions with a high prevalence of infectious diseases, contribute significantly to preventing deaths. However, the emergence of pathogen resistance to antibacterial drugs, primarily attributed to self-medication with antibiotics, poses a substantial threat to public health. This phenomenon is a leading cause of the transmission of antibiotic drug resistance. Engaging in self-medication with antibiotics can lead to irrational drug use, exposing individuals to potential drug interactions, the development of drug resistance, and challenges in accurately diagnosing various diseases. Common issues associated with self-medication practices include inadequate dosages, insufficient treatment durations, and practices often deemed irrational. To mitigate the risks of human pathogen resistance, it is essential to establish standardized guidelines for antibiotic use. Additionally, community-level educational programs are crucial to enhancing patient awareness regarding the adverse effects and consequences of self-medication practices. This review primarily focuses on examining the

prevalence of self-medication, commonly treated illnesses, factors influencing antibiotic selection, patterns of antibiotic usage, reasons for self-medication, associated consequences, the impact of resistance on both the economy and public health, and various challenges. Furthermore, the paper delves into the current landscape of antibiotic resistance and ongoing efforts in the development of new antibiotics. [50]

Gohar, U. F., Khubaib, S., & Mehmood, A. (2017). Self-medication trends in children by their parents. J Develop Drugs, 6(2), 1-7.

The objective of the current investigation was to assess the patterns of parents engaging in self-medication for their children, their understanding of self-medication, and their attitudes toward this practice. Additionally, the study aimed to identify factors motivating parents to adopt this practice and determine their sources of information regarding drug usage. A total of 400 parents were randomly chosen and participated in interviews. The findings revealed a prevalence of 77.25% in parents practicing self-medication for their children, with a nearly equal distribution between male and female children (49% and 51%, respectively). Approximately 66% of parents demonstrated awareness of self-medication, and this behavior was more prominent among children aged 1-5 years, constituting 47%. The most commonly self-medicated conditions included fever, cough, flu, vomiting, diarrhea, and allergies. Frequently utilized drug categories encompassed antipyretics, cough and cold preparations, antimicrobials, antiemetics, and antiallergy medications. The study also noted that 45% of parents engaged in self-medication 3-4 times per year, with primary reasons being the perceived severity of illness, past experiences, time constraints, financial limitations, and the availability of leftover medicines. Common sources of self-medication included old prescriptions, advice from family members, friends, and purchases from medical stores. Furthermore, the investigation unveiled that 57% of parents reported their children's recovery following self-medication. It was observed that 63% of parents disclosed their self-medication practices to a physician, while 18% indicated that their children's health worsened after self-medication. Among the participants, 56% acknowledged the potential risks of self-medication for their children. [51]

Chapter III

Purpose of the study

3. Purpose of the study

In a developing country like Bangladesh self-medication practice is very common. Day by day the practice of self-medication is increasing. So, self-medication is a matter of concern for all. People need proper knowledge about the drug doses, dose intervals, consequence of not completing dose and inappropriate medication. Peoples also need to know that their food habit, life style how affect the management of diseases.

Thus this study aim is to find out the present scenario of self-medication among the people and also their knowledge about disease, dose, dose intervals, consequences of not completing dose and inappropriate medication.

So, this study will focus to increase the knowledge about self-medication and will reflect the importance of the knowledge about dose, dose intervals, consequences of not completing dose and inappropriate medication.

This study will empathize in increasing public awareness about self-medication and also relation of food habits and life style in disease management.

Chapter IV

Methodology

4. Methodology

4.1 Study Area and Period

The study was conducted at Gazipur Sadar Upazila, Gazipur, Dhaka, Bangladesh from 03 DEC 2023 to 15 DEC 2023. The region has both urban and rural areas with lot of private industries (Garments, textiles, pharma etc.).

4.2 Study Design

A cross-sectional study was conducted to assess self-medication tendency & their knowledge among the people of the Gazipur Sadar Upazila region of Gazipur, Dhaka, Bangladesh.

4.3 Population

The source population were selected based on the area they live in, ages and occupation. The study has covered people of most of the active occupations right now. The population were randomly selected from the different occupation and age group for the study.

4.3 Inclusion and Exclusion criteria

All the population were asked about their consent to provide the information for the study first. And all the data were included in the study with consent of the population. But population who didn't gave consent to provide data were skipped.

4.4 Sample Size Determination and Sampling Technique

The sample size was determined by using single population proportion formula using 42.4% self-medication prevalence, 95 % confidence level and 5% tolerable sampling error. The minimum sample size was 139. The sample was taken proportionally from all types of professions of the study population.

4.5 Data collection procedure

The data were collected using structured questionnaire from the population. The questionnaire was prepared after a pre-survey with google form online. Everyone was asked the questions and data were noted. Some population had quarries about the questions these were answered and data were collected.

Chapter V

Results and Discussion

5. Results and Discussion

5.1 Table 1: Self-Medication tendency of the population according to Socio-Demographic Characteristics (n=139)

Characteristics		Frequency	Percentage (%)
Gender	Male	93	66.9%
	Female	46	33.1%
Age	Less than18 years	10	7.2%
	18-28 years	53	38.1%
	29-40 years	43	30.9%
	41-50 years	26	18.7%
	More than 50 years	7	5%
Living area	Rural area	60	43.2%
	Urban area	79	56.8%
Education Level	Below SSC	20	14.4%
	SSC	25	18%
	HSC	27	19.4%
	Undergraduate	33	23.7%
	Graduate or higher	34	24.5%
Occupation	Student	42	30.2%
	Unemployed	9	6.5%
	Corporate/ Private job	15	10.8%
	Govt. Job	5	3.6%
	Business	10	7.2%
	Agriculture	10	7.2%
	Transport	15	10.8%
	Garments/industrial job	15	10.8%
	Sales Job	15	10.8%
	*Other	3	2.2%

*Others=Housewife, daily labour

Overall self-medication tendency among the population in Gazipur, Dhaka, Bangladesh region was found 92.81%. Self-medication tendency within the male was found 66.9% and within female 33.1%. That means males are more willing to buy medicine by themselves. The study has also showed that self-medication among the population of 18-28 years' age group was higher which was 38.1% and among the over 50 years' age group was lower which was only 5%. Among the age group 29-40 years' self-medication tendency was found 30.9% and among 41-50 years 18.7%. Peoples living the urban area has more tendency to buy medicine by themselves and the tendency was 56.8% and in rural area it was 43.2%. The reason behind that was availability of medicine shop everywhere in urban area and people do not bother to go to healthcare professional for symptoms which were cured by self-medication. In the rural area availability of medicine shop

was less but there was community clinic with healthcare service provider. So, people had more trust on the clinic and took medical advices from there.

Self-medication tendency among the different education level were found. About 14.4% population education was below SSC and 18% population were educated up to SSC only. About 19.4% were from HSC level and about 23.7% were undergraduate. Self-medication tendency among the highest education level graduate/ higher was found the most which was 24.5%. The reason behind that was they had basic knowledge about the medicine and disease. That's why they bought medicine by themselves.

This study had covered the population from almost all the occupation. And the data showed that self-medication tendency among the students were higher which was 30.2%. It was because of the easy excess to the internet and information of the disease and their cure. Students took help from the internet and bought medicine by themselves. Self-medication tendency among other occupations (corporate /private job, Govt. job, agriculture, transport, garments/industrial job, sales job, business and others) were found 10.8% and below.

5.2 Chart 1: Self Medication tendency of the population

Self-Medication tendency of the population

Frequently 33.8%
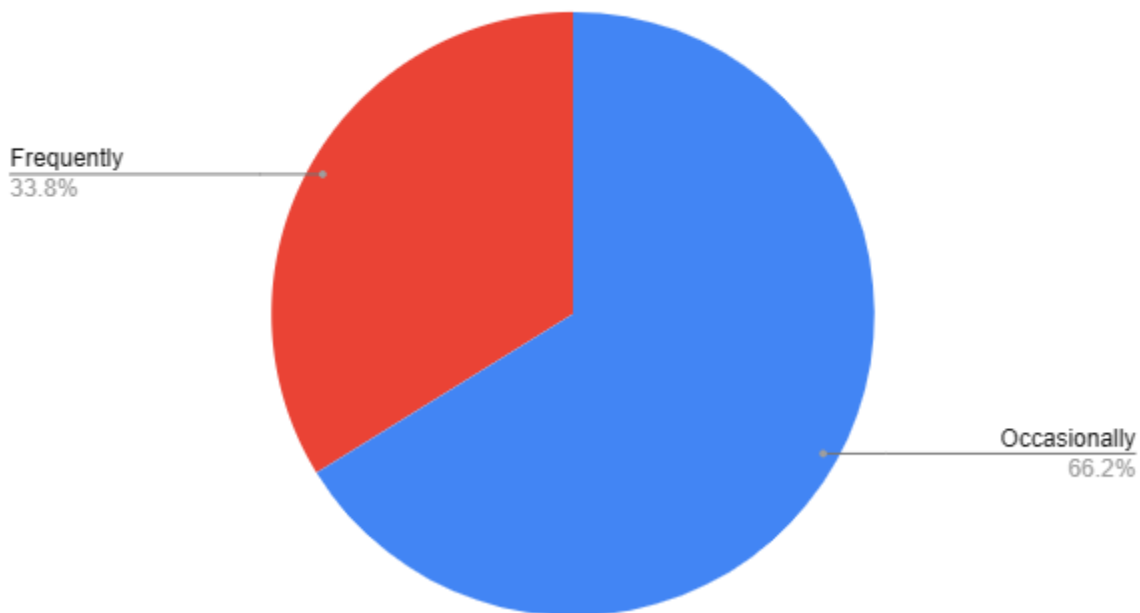
Occasionally 66.2%

The data of the study has indicated that self-medication tendency among the population was 66.2% occasionally and 33.8% frequently. That elaborated as population of 66.2% bought medicine on emergency basis or when they knew the symptoms well and in some cases they had trusted medicine dispenser. And 33.8% population blindly bought medicine without any advice from the healthcare professionals which is very alarming. They were buying medicine without any proper diagnosis.

5.3 Table 2: Frequently faced problems by the populations

Components	Variables	Percentages (%)
Headache	Yes	57.6%
	No	42.4%
Acidity related problems	Yes	69.1%
	No	30.9%
Upset stomach/diarrhea	Yes	59.7%
	No	40.3%
Drug induced problem	Yes	41%
	No	59%

Headache and acidity problems were most common problems among the population of our study. About 57.6% population were suffering from headache frequently and 69.10% of the population were suffering from acidity problems. The peoples were also suffering from upset stomach and diarrhea often. About 41% of the population felt discomfort after taking self-medication and had to consult doctors regarding this.

5.4 Chart 2: Frequently bought medicines

For Headache (paracetamol or other pain killer) — 70.50%
For Acidity (PPI's, antiulcerant syrup or antiulcerant... — 71.20%
For vomiting & Nausea — 43.20%
For rhinitis or allergy (antihistamine) — 48.20%
For depression (antidepressant) — 28.80%
For fever (antibiotics) — 46.80%
Antibiotics for diarrhoea — 42.40%
Pain killer — 36.70%
*Others — 4.30%
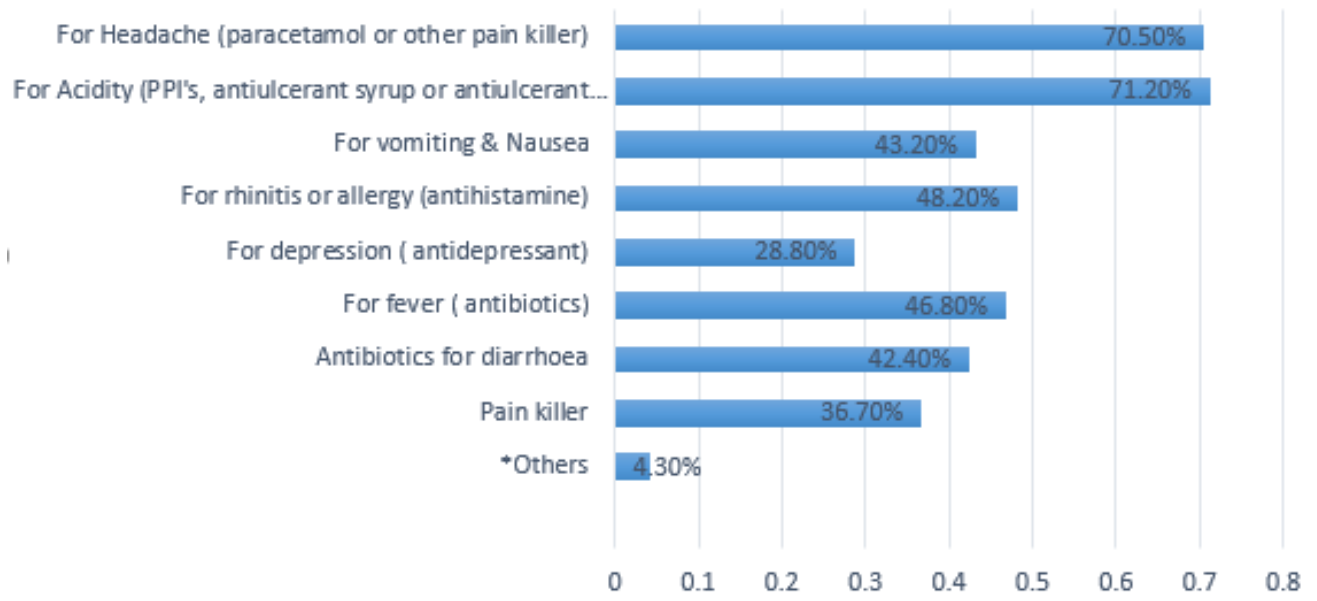
As mentioned earlier questionnaire was prepared after a pre-survey which was conducted online in google form, frequently bought medicine were shortlisted from there. The study data showed that about 70.5% population were buying paracetamol and other pain killer for headache only. About 71.2% populations were buying anti-ulcerant drugs. These two are common group of medicine which were bought frequently. Another alarming group of medicine were antibiotics. The antibiotics were bought for two common diseases frequently and these were fever and diarrhea. The frequency was 46.80% and 42.40% respectively. Drugs for vomiting and nausea were bought about 43.20% and antihistamine about 48.20%. painkiller was bought 36.70% and antidepressant 28.80%.

As study has showed that headache and acidity were the common problem among the population, the use of paracetamol and anti-ulcerant drugs has become a common affair to them. They were not aware of long-term use consequences of these drugs.

Buying antibiotics without doctor's consultation can lead to serious problems like antibiotic resistance and drug induced toxicity due to improper use. Randomly using of painkiller can lead to kidney and liver toxicity. And improper use of antidepressant drug can lead to serious drug induced toxicity, coma and even death. But most of the populations were not aware of that.

5.5 Table 3: Habits and life style of the population

Components		Variables	Percentage (%)
Eating habit	Street foods	-	77%
	Fast foods	-	71.2%
	Processed foods	-	60%
	Frozen foods	-	29.5%
Smoking	-	Yes	53.2%
	-	No	46.8%
Eating meal on time	-	Yes	52.5%
	-	No	47.5%
Daily Exercise	-	Yes	23%
	-	No	56.1%
	-	Yes but not regular	20.9%
Sleeping late at night	-	Yes	61.2%
	-	No	38.8%
Journey in every working day	-	Yes	60.4%
	-	No	39.6%

The reason of buying anti-ulcerant drugs reflected in the food habit of the population. About 77% of the population agreed they were eating street foods, about 71.2% population eating fast foods and 60% population processed foods, 29.5% population were up taking frozen foods. So the eating habits indicated that acidity problems were the results of their food habits. Also diarrhea and vomiting, nausea was also caused due to the unhygienic food up taking by the population.

About 53.2% peoples agreed that they were addicted to the smoking. And about 47.5% of the population did not take their meal on time. About 56.1% population did not do any basic exercise. About 61.2% of the population sleeps late at night and 60.4% of the population had to do journey in every working day. These data of their life style indicated the reasons of their headache problem and buying painkiller for headache. These data also indicated the late sleeping habit causes the depression problem among the population. Smoking and not doing exercise also not taking meal on time causes acidity problems, headache and also reason of depressive problems among the population.

5.6 Table 4: Knowledge of the population regarding medicine, dose, dose intervals and risk factors

Components	Variables	Percentage (%)
Dose & Dose Intervals	Yes	47.5%
	No	52.5%
Completing full dose of the drug	Yes	40.2%
	No	59.8%
Aware of consequence of not completing dose	Yes	48%%
	No	52%%
Aware of not buying antibiotics without prescription	Yes	46%%
	No	54%%
Aware of consequence of improper use of antibiotics	Yes	46%%
	No	54%%
Aware of consequence of long term use of pain killers	Yes	44.6%
	No	55.4%

This study has found out the knowledge of the population regarding medicines, dose, dose intervals and consequences of not completing dose and long term use of same medicine who are involved

in self-medication. About 52.5% literally do not know anything about the dose and dose intervals of the drugs. They are dependent on the shop dispenser regarding this. And sadly 59.8% of the population do not complete a full dose of the drugs which were advised or which need to be completed. After quarries regarding this issue they had answered that as they feel better after taking the medicine just few doses that's why they do not bother to take any further dose of the drug. By doing this they save money. Also about 52% of the population has no idea about the consequences of not completing doses of medicines. They also didn't know that they can't buy antibiotics without prescription which was 54% of the total populations. About 54% of the population were not aware of the consequences of improper use of the antibiotics. The bad effect of improper use of antibiotics like antibiotic resistance is almost a new term to the most of the population. 55.4% didn't know about the long term use consequences of the pain killers. Population are totally unaware of kidney & hepatic toxicity due to pain killer. Also some do not know about taking a proton pump inhibitor with pain killers otherwise it might cause ulcer.

5.7 Table 5: Reasons & thoughts of the population for choosing self-medication

Reasons & thoughts	Frequency	Percentages (%)
Based on someone suggestion	85	61.2%
Based on individual knowledge	61	43.9%
Following previous prescription	88	63.3%
Due to financial issue	89	64%
As feel better after taking medicine from the shop dispenser	96	69.06%

This study has found the reasons of self-medication as showed in table 5. About 61.2% of the populations were buying medicine based on someone suggestions. They literally didn't diagnose the disease properly and blindly believes the suggestion for buying medicines. About 43.9% of the population has basic knowledge about the symptoms of the disease and also has access to the internet from where they found the disease information and cure details. So, they prefer to buy medicines of these disease and symptoms by themselves. A huge percentages of population of 63.3% were dependent on the previously prescribed drugs. They bought the medicine based on the assumption that symptoms were likely the same as previous so following previous would be better and also would save money.

64% of the population agreed that their financial conditions were not stable and if they could just buy medicine from the shop dispenser feel better they could save money. About 69.06% of the population expressed that they feel better of the symptoms after taking medicines from the shop dispenser. As the large number of population of the Gazipur Sadar Upazilla garments worker, auto-rickshaw driver, daily labor, industrial worker which was 48.20% of the total population ,they lead their life in very tough financial conditions. So if they could just save money anyway they would prefer the saving money.

5.8 Table 6: Reasons for not going to government hospital rather than self-medication

Reasons	Frequency	Percentages (%)
Have to wait in long serial for consulting	98	70.5%
Doctor do not give enough time to the patients	87	62.6%
Presence of brokers who misleads & costs money	87	62.6%
Less diagnostic test facility in most of the hospitals	65	46.8%

As mentioned earlier 64% peoples had financial problems, they prefer to buy medicine from the shop dispenser. But when they were asked why didn't go to the government hospitals they showed the reasons stated in the table 6. According to the data 70.50% of the populations feels that they had to wait for long serial to consult a doctor in government hospitals. But the 62.60% of the population also reported that after a long serial doctors didn't give enough time to the patients. Also government hospital is full of brokers who tends to mislead the patients about the treatment cost, facility and diagnostic tests. This brokers costs money for medical services just being a medium. Also government hospitals were not fully equipped with diagnostic test facility, so they had to go outside for the tests.

These were the reported reasons of not choosing government hospitals over self-medication.

Chapter VI

Conclusion

6. Conclusion

The study concludes that the tendency of self-medication among the people is very high whichis 92.81% as per present study. Financial problems and less facility in the government hospitals one of the major reasons of self-medication. Easy excess to the internet and information shared in the internet also facilitate the self-medication to the population specially to the students. Self-medication has both positive and negative impacts as common disease or symptoms can be treated at home by self-medication it will save money and also reduce people's treatment cost. But this study has also showed that a large number of the population literally do not have any knowledge regarding disease, dose & dose intervals (52.5%), completion of full dose of a drugs (59.80%), consequences of improper use of medicines (54%) and consequences of long term use of the medicine's (55.40%). So it's dangerous for these population to take self-medication.

This study has also found that some disease like headache, acidity, diarrhea and depression are the results of inadequate food habits and life style of the population. So, if these habits and life style can be changed and monitored so that these diseases might not be the cause of self-medication. Thus self-medication tendency can be reduced and also population can save money by managing disease with food and life style without medicines.

So, public awareness should be increased regarding food habits and life style. Counseling to the underrated population who do not knows about the drug dose and dose intervals, completion of dose and consequences of bad effects of drugs improper and long-term use should be given.

Chapter VII

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7. References

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