



## THE ROLE OF THE PHARMACIST IN PATIENT CARE (BOOK REVIEW)

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### ABSTRACT

Most people on the outside of the health care profession are not familiar with this new role of the pharmacist. The general public has created a stereotypical pharmacist's picture as being a person who stands behind a counter, dispenses medicine with some instructions to the respective consumer. Pharmacy practice has changed substantially in recent years. Today's pharmacists have unique training and expertise in the appropriate use of medications and provide a wide array of patient care services in many different practice settings. As doctors are busy with the diagnosis and treatment of patients, the pharmacist can assist them by selecting the most appropriate drug for a patient. Interventions by the pharmacists have always been considered as a valuable input by the health care community in the patient care process by reducing the medication errors, rationalizing the therapy and reducing the cost of therapy. The development and approval of the Pharmacists' Patient Care Process by the Joint Commission of Pharmacy Practitioners and incorporation of the Process into the 2016 Accreditation Council for Pharmacy Education Standards has the potential to lead to important changes in the practice of pharmacy, and to the enhanced acknowledgment, acceptance, and reimbursement for pharmacy and pharmacist services. As an author, it is my heartiest believe that the book will adjoin significant apprehension to future pharmacists in patient care as most of the portion created from recently published articles focusing pharmacists in patient care settings.

**Keywords:** Patient Care; Patient Compliance; Patient Counseling; Extemporaneous Prescription Compounding; Framework for Medication Safety; Patient Behavior; Patient Education; Patient-Provider Relationship; Patient Relationship Management; Patient Problem Solving and Preventive Care; Pharmacovigilance; Patient Safety; Pharmaco-Economics; Long-term Care; Community Liaison Pharmacists in Home Care; Pharmacists in Ambulatory Care; Critical Care Pharmacists; Rational Use of Drugs; Surgical Dressing; Medication Risk Management; Medication History Taking and Reconciliation; Drug Related Problems; Medication Reconciliation; Palliative and Hospice Care.

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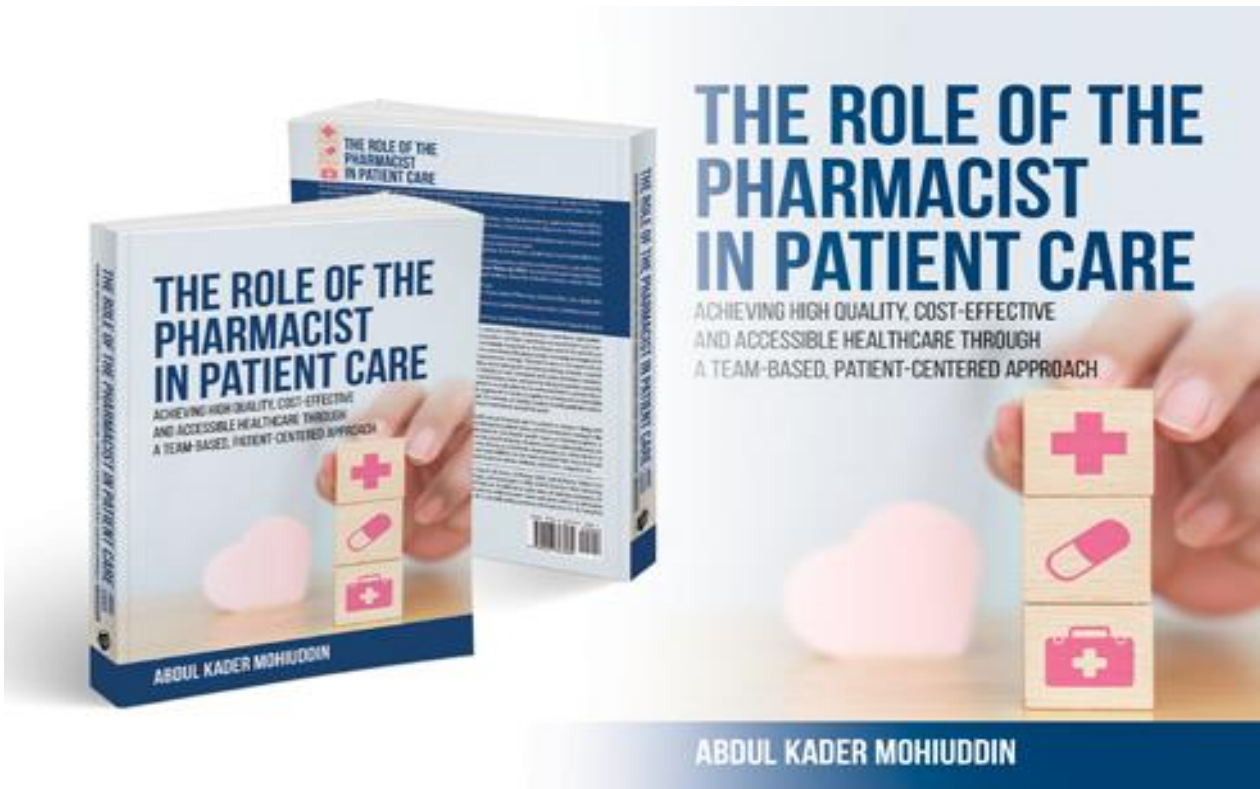


Figure 1: Book Cover Page. [Publisher: Universal-Publishers (US). (ISBN-10: 1627343083, ISBN-13: 9781627343084)]



Figure 2: The Author

## INTRODUCTION

The goal of high quality, cost-effective and accessible health care for patients is achieved through team-based patient-centered care. Pharmacists are essential members of the health care team. The profession of pharmacy is continuing its evolution from a principal focus on medication product distribution to expanded clinically-oriented patient care services. As a result of this professional evolution, the importance of, and need for, a consistent process of care in the delivery of patient care services has been increasingly recognized by the profession at large. Pharmacists in hospital, community care, dispensing and allied healthcare arena are highly appreciated for their knowledge-based contribution and dedication towards profession. The purpose of the book is to guide the patient care pharmacists in their day to day activities. Along with guidelines, the book encloses ideas about patient dealing, patient rights, ethical decision making, and professionalism. At every chapter, the role of pharmacists in that chapter specific issues are detailed explicitly so that a professional pharmacist or a student can figure out his or her do's and not to do's in that specific situations. Moreover, further reading references are listed to follow guidelines further. So, the book is an archive of potential references too. Among so many books on clinical pharmacy, hospital and community care pharmacy the role of pharmacists in patient care is rarely highlighted with a very little information. The sector is emerging in both developed and under-developed countries. In most of the books, either doctors' or nurses' roles are highlighted. The proposed book (**Figure 1**) highlights pharmacists' roles and responsibilities to the most, separated from those of doctors and nurses, with most recent information obtained from recently published articles of several journals, books, newsletters, magazines etc. The book's chapter-based summary is added in **Table 1** and comparison with similar other available books given in **Table 2**.

### Pharmacist's Role in Patient Care

The development and approval of the Pharmacists' Patient Care Process by the Joint Commission of Pharmacy Practitioners and incorporation of the Process into the 2016 Accreditation Council for Pharmacy Education Standards has the potential to lead to important changes in the practice of pharmacy, and to the enhanced acknowledgment, acceptance, and reimbursement for pharmacy and pharmacist services [1]. Nowadays, pharmacists also ensure the rational and cost-effective use of medicines, promote healthy living, and improve clinical outcomes by actively engaging in direct patient care and collaborating with many

healthcare disciplines. With this expanding scope of practice, pharmacists are being recognized as key components in providing individualized patient care as part of interprofessional healthcare teams [2]. Pharmacists help manage complex patients because they look at medications with a different eye than a doctor. One important practice they perform is a "comprehensive medication review" where patients bring in medications, vitamins, supplements, and OTC drugs [3]. Nowadays, the shortage of health personnel, and in particular pharmacists, is a challenging issue that the health systems have to face. The use of a new technology such as tele pharmacy can represent a possible option to solve these problems [4]. Up to 50% of ADE and ADE-related hospitalizations are judged to be preventable by avoiding inappropriate prescribing. Use of a simple interdisciplinary medication review has been shown to lead to the reduction of inappropriate prescribing and costs, but there was no effect on clinically relevant patient outcomes, possibly due to a lack of power and insufficient observation time [5]. Pharmacists see their patients somewhere between 1.5 and 10 times more frequently than they see primary care physicians [6]. Clinical pharmacists can help patients manage their medicines and reduce their anxiety about taking multiple medicines [7]. Pharmacists also get benefit because there is an increased recognition and respect for the value of the advice and service that they provide [8]. There is a need to increase access to primary care services, control costs, and improve outcomes in health care for patients especially in the management of chronic conditions which puts a strain on health care systems worldwide [9]. Pharmacists' better access to the patients and their acceptability improve patient care by enabling pharmacists to play an even greater role in the provision of safe and effective unscheduled care, treating common clinical conditions and responding to emergency requests for medicines [10]. Therefore, students who are interested in patient care practice as their future career, should develop a standardized approach to assessing, prioritizing, and resolving drug-related problems such as untreated conditions, appropriate drug selection, duplication of therapy, use of drugs without a condition or indication, over- or under-dosing, adverse effects or toxicity, allergic reactions, drug interactions, adherence, availability and access, cost, and outcomes expectations. Students also should be looking for the beneficial outcomes of drug therapy and pharmacy services with respect to patient understanding, disease and disorder prevention, and medication-associated efficacy and safety.

**Table 1: Book Compendium**

<b>Chapter</b>	<b>Synopsis</b>
<b>Chapter 1.</b>	<p><b>Pharmacy Practice at a Glance</b></p> <p>Pharmacy is the art and science of preparing and dispensing medications and the provision of drug-related information to the public. It involves the interpretation of prescription orders; the compounding, labeling, and dispensing of drugs and devices; drug product selection and drug utilization reviews; patient monitoring and intervention; and the provision of cognitive services related to use of medications and devices. The current philosophy or approach to professional practice in pharmacy is designated as pharmaceutical care. This concept holds that the important role of the pharmacist is “the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient’s quality of life.” Pharmacists, then, are those who are educated and licensed to dispense drugs and to provide drug information—they are experts on medications. They are the most accessible member of today’s health care team, and often are the first source of assistance and advice on many common ailments and health care matters.</p>
<b>Chapter 2.</b>	<p><b>Pharmacists in Clinical Pharmacy Practice</b></p> <p>Clinical pharmacy took over an aspect of medical care that had been partially abandoned by physicians. Overburdened by patient loads and the explosion of new drugs, physicians turned to pharmacists more and more for drug information, especially within institutional settings. Once relegated to counting and pouring, pharmacists headed institutional reviews of drug utilization and served as consultants to all types of health-care facilities. A comparison of Part I of this current edition of this text with previous editions will reveal the unprecedented expansion of opportunities for pharmacists in recent times.</p>
<b>Chapter 3.</b>	<p><b>Pharmacists in Hospital Management</b></p> <p>The advancements in medicine and technology have allowed care that once required the intensive care of a hospital setting to be delivered in less intensive settings. As a result, we have witnessed the development of ambulatory surgery centers, skilled nursing facilities, home health services, outpatient treatment centers, and multiple chronic disease monitoring programs. Health care leaders continually search for the delivery model that meets the quality, safety, and access expectations of patients at an affordable cost. This quest led to a progression from individual stand-alone hospitals to health systems. These “health systems” include the acute care services that only hospitals are equipped to provide and a cadre of other services that may include primary care, specialty outpatient care, home care, nursing home facilities, hospice care, ambulatory surgery programs,</p>
<b>Chapter 4.</b>	<p><b>Pharmacists in Community Care</b></p> <p>Community pharmacy comprises all of those establishments that are privately owned and whose function, in varying degrees, is to serve society’s need for both drug products and pharmaceutical services. It is difficult to characterize or describe the typical pharmacy because of the great variance among them. They range from the corporately owned chain pharmacy, to the pharmacy department in a supermarket, to the independently owned pharmaceutical center that provides prescription service plus a relatively few lines of health-related products. Although heterogeneous in some respects, as in type of ownership and type of goods and services offered, community pharmacies generally are recognized by the public as the most accessible source of drugs and of information about drugs.</p>
<b>Chapter 5.</b>	<p><b>Patient Rights and Ethical Care</b></p> <p>Patients also have a right to treatment that is both safe and effective within given parameters. The fundamental question that must be posed prior to considering any medical or surgical treatment for a patient is, Is the treatment safe and effective? Such a legal standard for drugs has been in effect since the passage of federal legislation in the early part of the 20th century. Not only must a drug be shown to be effective—that is, able to produce the effect for which it was administered—it must work with a certain degree of safety. Patients generally choose their own physician, pharmacy, and hospital. Patients are allowed to choose from multiple options of treatment when they exist. Patients must give their approval, through the process of informed consent, prior to the initiation of care. All of the preceding presupposes that treatment is available and that the patient has the economic wherewithal to pay for that treatment. For patients who are uninsured or lack the ability to pay, the right to choose the nature of their health care is meaningless.</p>

<b>Chapter 6.</b>	<p><b>Prescription</b></p> <p>The prescription order is a part of the professional relationship among the prescriber, the pharmacist, and the patient. It is the pharmacist's responsibility in this relationship to provide quality pharmaceutical care that meets the medication needs of the patient. The pharmacist must be precise in the manual aspects of filling the prescription order and must provide the patient with the necessary information and guidance to assure the patient's compliance in taking the medication properly. It is also the pharmacist's responsibility to advise the prescriber of drug sensitivities the patient may have, previous adverse drug reactions (ADRs), and/or other medications that the patient may be taking that may alter the effectiveness or safety of the newly or previously prescribed medications. Pharmacists now find themselves frequently contacting physicians to suggest alternative drug products for individual patients as dictated by the formularies used by third-part prescription insurance plans. To meet these responsibilities, it is essential that the pharmacist maintains a high level of practice competence, keeps appropriate records on the health status and medication history of his/her patients and develops professional working relationships with other health professionals.</p>
<b>Chapter 7.</b>	<p><b>Prescribing</b></p> <p>While drugs have the capacity to enhance health, they all have the potential to cause harm if prescribed inappropriately. For this reason, it is recommended that healthcare professionals who prescribe medications exercise critical thinking skills to ensure the safe and effective use of therapeutic agents. Pharmacists have crucial role plays in both handling prescription and prescribing. A rational prescribing is the sole of patient safety, compliance and patient relief. This paper proposes aims that a prescriber should try to achieve, both on first prescribing a drug to maximize effectiveness, minimize risks and costs, and respect the patient's actual need.</p>
<b>Chapter 8.</b>	<p><b>Patient Counseling</b></p> <p>Patient have an altered mental state mostly driven by emotional disturbance for being ill. Along with that cultural and economic factors gives rise to a question of out of the pocket expense. Any counseling or consultation provided should be done in a manner which respects the patient's privacy and maintains confidentiality. Nothing should be taken for granted regarding the patient's understanding of how to use medication, and appropriate steps must be taken to provide patients with the information and counseling necessary to use their medications as effectively and as safely as possible.</p>
<b>Chapter 9.</b>	<p><b>Extemporaneous Prescription Compounding</b></p> <p>Pharmacy activities to individualize patient therapy include compounding and clinical functions. Either function in the absence of the other results in placing pharmacy in a disadvantaged position. It is important to use a pharmacist's expertise to adjust dosage quantities, frequencies, and even dosage forms for enhanced compliance. All pharmacists should understand the options presented by compounding. Pharmaceutical compounding is increasing for a number of reasons, including the availability of a limited number of dosage forms for most drugs, a limited number of strengths of most drugs, home health care, hospice, the non-availability of drug products/combinations, discontinued drugs, drug shortages, orphan drugs, new therapeutic approaches and special patient populations (pediatrics, geriatrics, bioidentical hormone replacement therapy for postmenopausal women, pain management, dental patients, environmentally and cosmetic sensitive patients, sports injuries and veterinary compounding).</p>
<b>Chapter 10.</b>	<p><b>Framework for Medication Safety</b></p> <p>Appropriate medication use is a complex process involving multiple organizations and professions from various disciplines combined with a working knowledge of medications, access to accurate and complete patient information and integration of interrelated decisions over a period of time. The growing complexity of science and technology requires health care providers to know more, manage more, monitor more, and involve more care providers than ever before. Current methods of organizing and delivering care are not able to meet the new expectations of patients and families because the knowledge, skills, care options, devices, and medications have advanced more rapidly than the health care system's ability to deliver them safety, effectively, and efficiently. The potential for errors of omission or commission to creep into the process is extraordinary. No one clinician can retain all the information necessary for overseeing sound, safe, best practice. This is especially true in the case of pharmaceutical delivery and development.</p>

<b>Chapter 11.</b>	<p><b>The Enigma of Patient Behavior</b></p> <p>Patients today are considered to be thinking, able decision makers who can play an important role in the treatment process. Because patients are now recognized as active individuals, more attention is being paid to ways of restoring health or slowing illness progression through improved provider-patient communication and patients' involvement in their own treatment. Emphasis therefore is placed on a range of patient treatment behaviors including sharing beliefs and expectations, asking questions, adhering to regimens, using home monitoring devices, keeping appointments, identifying and reporting side effects and drug-taking problems, and other valuable forms of communication that are necessary in contemporary health care.</p>
<b>Chapter 12.</b>	<p><b>Patient Education</b></p> <p>Patient education ensures that healthcare team is working together on patients' individual medication plan, in conjunction with the rest of treatment, is vital to your recovery. Medication management is part of every patient's plan of care. On an initial visit a clinician completes comprehensive medication reconciliation. However, education is provided to every patient based on each medication the patient is prescribed. This includes its purpose, how and when to take it and how much of the medication to take. Education may be provided by any healthcare professional who has undertaken appropriate training education, education on patient communication and education is usually included in the healthcare professional's training. Health education is also a tool used by managed care plans, and may include both general preventive education or health promotion and disease or condition specific education. Important elements of patient education are skill building and responsibility: patients need to know when, how, and why they need to make a lifestyle change. Group effort is equally important: each member of the patient's health care team needs to be involved.</p>
<b>Chapter 13.</b>	<p><b>Patient-Provider Relationship</b></p> <p>The Provider-Patient Relationship is a recent idea of medicinal human science in which patients intentionally approach a specialist and, in this way, turn into a piece of an agreement in which they will in general reside with the specialist's direction. It has been recommended that a perfect relationship has specifically deliberate decision, professional's capability, great correspondence, compassion by the specialists, congruity, and no irreconcilable circumstance. Truth be told, a poor relationship has been turned out to be a noteworthy impediment for the two specialists and patients, and has in the end influenced the nature of medicinal services and capacity of the patients to adapt to their disease. Inferable from poor relationship, patients do not demonstrate consistence with specialist guidance totally; pick expert - by changing their professional over and over; stay on edge; may pick quacks or other non-logical types of treatment; critical increment in immediate and roundabout restorative costs. In view of intermittent change in line of treatment according to the counsel of various expert and non-culmination of the whole course of medications, there is an unmistakable extension for the rise of antimicrobial opposition, which further intensifies the medicinal expense and tension, lastly may create genuine types of malady or complexities. From the professionals' point of view, they may request superfluous examinations or may give over-medicines, as a sanity check. There is likewise watched an amazing decrease in human touch or sympathy; and a noteworthy ascent in unfortunate rivalry among specialists.</p>
<b>Chapter 14.</b>	<p><b>Patient Compliance</b></p> <p>With regard to the provision of health care, the concept of compliance can be viewed broadly, as it relates to instructions concerning diet, exercise, rest, return appointments, etc., in addition to the use of drugs. However, it is in discussions concerning drug therapy that the designation patient compliance is employed most frequently. It is in this context that it will be used in this discussion, and compliance can be defined as the extent to which an individual's behavior coincides with medical or health instructions/advice. Compliance with therapy implies an understanding of how the medication is to be used, as well as a positive behavior in which the patient is motivated sufficiently to use the prescribed treatment in the manner intended, because of a perceived self-benefit and a positive outcome (e.g., enhanced daily functioning and well-being).</p>
<b>Chapter 15.</b>	<p><b>Patient Relationship Management</b></p> <p>In the healthcare sector the key customers are patients. Hospitals may offer better care by establishing a long-term relationship between the hospital and a patient. The primary reason for investing in building positive relationships with patients is a limited number of patients in the therapeutic segment or of long-term care and only clinics aware of this fact that can attach to each patient have a chance to build a sustainable advantage. Encouragement of the patient to continue to use the services of</p>

	<p>a company/provider is a procedure several times cheaper than getting new patients. Developed or under developed country, patients have a similar need for understanding and following treatment guidelines which is truly impractical for long term care without personal supervision. So many factors are behind patient relationship but one thing clearly understood that the handling of such situation is a provider's function, a regular follow up through taking different measures along with treatment intervention.</p>
<b>Chapter 16.</b>	<p><b>Patient Problem Solving and Preventive Care</b>  Pharmaceutical care is a straightforward concept. It involves the pharmacist working in concert with his/her patients and other healthcare providers to identify, monitor, and achieve desirable health-related outcomes through the appropriate use of medications. The care provided must be based upon a logical, effective, and patient-specific pharmaceutical care plan. There is an old saying, "an ounce of prevention is worth a pound of cure." This has never been true in health care. Routine follow-up with primary care physicians and other health care professionals can aid in the early detection of many medical conditions (e.g., cancer, diabetes, hypertension) and can encourage healthy habits that prevent the development of other conditions (e.g., Hormone replacement therapy, substance abuse, obesity prevention, thyroid disorders etc.).</p>
<b>Chapter 17</b>	<p><b>Pharmacovigilance</b>  Pharmacovigilance fundamentally comprises safety of prescription. It is the science and movement associated with collection, detection, assessment, monitoring, and counteractive action of untoward impacts with pharmaceutical items. Drug specialists have entered job in wellbeing frameworks to keep up the objective and safe utilization of medication for they are sedate specialists who are unequivocally prepared in this field. The perspective of drug store understudies on pharmacovigilance and ADR announcing has additionally been talked about with a mean to center the need to improve content identified with ADR revealing and pharmacovigilance in undergrad drug store educational programs. Globally, despite the fact that the job of drug specialists inside national pharmacovigilance frameworks varies, it is exceptionally all around perceived. Reconciliation of ADR detailing ideas in instruction educational programs, preparing of drug specialists and willful commitment of drug specialists in ADR announcing is essential in accomplishing the safety objectives and preservation of general wellbeing. Additionally, these learning holes can be placated through ceaseless expert improvement projects and reinforcing hypothetical and viable information in undergrad drug store educational programs. Without adequately recognizing and acknowledging preparing requirements of drug specialists and other social insurance experts, the ability of national pharmacovigilance frameworks is probably not going to enhance which may trade off patient's safety.</p>
<b>Chapter 18</b>	<p><b>Patient Safety</b>  Patient safety is a global concern and is the most noteworthy areas of medicinal services quality. Medical error is a noteworthy patient safety concern, causing increment in medicinal services cost because of mortality, morbidity, or broadened clinic remain. A definition for patient safety has emerged from the medicinal services quality development that is similarly unique, with different ways to deal with the more solid basic segments. Patient safety was characterized as "the counteractive action of damage to patients." Importance is put on the arrangement of consideration conveyance that blocks errors; gains from the errors that do happen; and is based on a culture of safety that includes medicinal services experts, associations, and patients. Patient safety culture is a multifaceted marvel. Patient safety culture appraisals, required by universal accreditation associations, enable services associations to acquire an unmistakable perspective of the patient safety viewpoints requiring critical consideration, recognize the qualities and shortcomings of their safety culture, help care giving units distinguish their current patient safety hitches, and benchmark their scores with different healthcare settings.</p>
<b>Chapter 19</b>	<p><b>Pharmaco-Economics</b>  Cost-benefit analysis and other pharmacoeconomic tools are ways to analyze the value of the service to the public. These methods supplement the traditional marketplace value as measured by the prices that the patient or patron is willing to pay. As third parties continue to pay for a higher percentage of prescriptions dispensed, pharmacy managers are very cognizant that pharmacy services require continual cost-justification to survive and thrive in the future. The continuing impact of cost-containment is causing administrators and policymakers in all health fields to examine closely the costs and benefits of both proposed and existing programs. It is increasingly evident that private employers and public agencies are demanding that health</p>

	<p>programs be evaluated in terms of clinical and social outcomes related to costs incurred.</p>
<b>Chapter 20</b>	<p><b>Long Term Care</b> Pharmacist involvement in long-term care activities grew as a result of these regulations, which include oversight of provision of medications to nursing facilities and consultant pharmacist duties. Pharmacists practicing in the field of geriatrics must not only be cognizant of these guidelines, but must also be able to manage patients with multiple disease states taking multiple medications. Policies and procedures for organizational aspects, medication orders, ordering and receiving medications from the pharmacy, medication storage in the nursing facility, disposal of medications, medication administration, and medication monitoring are required in long-term care facilities.</p>
<b>Chapter 21.</b>	<p><b>Community Liaison Pharmacists in Home Care</b> The provision of home care has existed since the turn of the last century, when societal concerns regarding immigration, industrialization, and infectious diseases spawned the need for visiting nurses. Early homecare services primarily consisted of midwife and nursing assistance for births, and the care of influenza and tuberculosis patients. This early form of home care paved the way for the development of alternate site healthcare. In the past, the term home care generally referred to community-based nursing services provided to patients in their homes. Today, the term has been expanded to include home/alternate site healthcare and encompasses: long-term care, and skilled nursing facilities, assisted living and subacute facilities, home care, diagnostic centers, outpatient clinics, ambulatory surgery, rehabilitation facilities, and emergency service markets.</p>
<b>Chapter 22.</b>	<p><b>Pharmacists in Ambulatory Care</b> Pharmacy is evolving from a product-oriented to a patient-oriented profession. This role modification is extremely healthy for the patient, the pharmacist, and other members of the health-care team. However, the evolution will present pharmacists with a number of new challenges. Now, more than in the past, pharmacists must make the acquisition of contemporary practice knowledge and skills a high priority, to render the level of service embodied in the concept of pharmaceutical care. Pharmacy educators' organizations and regulatory bodies must all work together to support pharmacists as they assume expanded health-care roles. Pharmacy and the health-care industry must work to ensure that the pharmacist is compensated justly for all services. But before this can happen it will be necessary for pharmacy to demonstrate value-added to the cost of the prescription. Marketing of the purpose of pharmacy in the health-care morass and of the services provided by the pharmacist is needed to generate an appropriate perceived value among purchasers and users of health-care services. Pharmacists should view themselves as dispensers of therapy and drug effect interpretations as well as of drugs themselves. Service components of pharmacy should be identified clearly to third party payers and be visible to consumers, so that they know what is available at what cost and how it may be accessed. In the future, pharmacy services must be evaluated on patient outcome (i.e., pharmaceutical care) rather than the number of prescriptions dispensed, and pharmacy must evolve toward interpretation and patient consultation, related to the use of medication technologies.</p>
<b>Chapter 23.</b>	<p><b>Pharmacists in ICU</b> Clinical pharmacists make an essential contribution to the safe and effective use of medicines in critically ill patients. Few niche clinical pharmacy areas have documented the powerful impact a pharmacist's presence can have in the way it has been done in critical care. Direct patient care via pharmacist medication review is an important resource for reducing medication errors and optimizing medication use. Recommendations for changes to medication therapy related to these medication reviews have very high acceptance rates by critical care medical teams. Pharmacist prescribing to action the outcomes of their own medication reviews would be anticipated to reduce the workload of medical colleagues and improve efficiency. Moreover, pharmacist instigation of medication therapy planned by the multidisciplinary team may also offer advantages with respect to getting treatment right the first time in specific areas, for example, therapeutic drug monitoring or drug dosing in multiorgan failure.</p>
<b>Chapter 24.</b>	<p><b>Rational Use of Drugs</b> Many medicines now exist that can prevent, alleviate, treat, or cure diseases which previously took inordinate tolls on the health and well-being of children, families, communities, and populations. However, the overuse, underuse, or misuse of medicines (also referred to as irrational medicine use) puts these advances in jeopardy and, in addition to wasting limited resources, threatens future public health gains. The</p>



	<p>challenge of irrational medicine use is a global one—common to all countries and all healthcare settings. Both healthcare providers and patients contribute to irrational medicine use. Providers may prescribe too many, too few, or inappropriate medicines; or may prescribe the appropriate medicines in the wrong dose, formulation, or duration. Additionally, patients contribute to irrational medicine use through self-medication, pill sharing, or not completing a treatment regimen as prescribed.</p>
<b>Chapter 25.</b>	<p><b>Surgical Wound Enrichments</b> Wound healing is a highly complex process that results in the restoration of cell structures and tissue layers after an injury. It involves interdependent and overlapping cellular, physiological, biochemical, and molecular processes. There are numerous wound dressings and management techniques available today. The challenge lies not only in choosing the correct dressing, but also in using the chosen technique properly. This involves careful assessment of the wound, taking into account its size, the exudate, and the patient's preferences. Health care professionals require basic knowledge of dressings for correct application, and the wound should be monitored closely to ensure effective healing. Pharmacists can encourage improvement in wound care for patients who have recently undergone surgery by helping them select the appropriate postsurgical wound care products and by educating them on proper wound care.</p>
<b>Chapter 26.</b>	<p><b>Medication Risk Management</b> Medications are the most common treatment intervention used in healthcare around the world. Medication is given to almost every patient in hospital and can be the most important part of treatment. When used safely and appropriately, they contribute to significant improvements in the health and well-being of patients. However, medication is not without risk and occasionally medications can cause harm. Medication safety issues can impact health outcomes, length of stay in a healthcare facility, readmission rates, and overall costs to the healthcare system. Some harm caused by medicines is due to errors that are preventable. The US FDA approve drugs only if they are determined to be safe to use for the conditions described in their label. This basic tenet of the Food, Drug and Cosmetic Act has not changed. What has changed though in recent years is the interpretation of the term "safe." Modern concepts of pharmaceutical risk management are based on the premise that drug manufacturers, health care professionals, and patients have a responsibility to minimize the risks of using pharmaceutical products. Hospitals and health services aim to prevent harm by: understanding what contributes to these errors, taking action, sharing this information with the community and health professionals. It is not enough to make drugs minimally safe; they must be as safe as possible over the lifecycle of the product's use. However, starting in the early 1990s, FDA began to take a more active role in post-marketing surveillance and began instituting a more aggressive "management" process to assure greater safety in the use of marketed drugs. No longer do the manufacturer and FDA provide passive oversight and labeling changes to control risks, now the manufacturer must actively monitor for suspected, but unquantified risks and actively manage and minimize known risks.</p>
<b>Chapter 27.</b>	<p><b>Medication History Taking and Reconciliation</b> Patients are at risk of DRPs at transition points during hospitalization. The community pharmacist is often the first healthcare professional patients visit after discharge. Medication reconciliation, the process of identifying the most accurate list of all patient's medications is a strategy to identify many medication discrepancies and reduce potential harm. Medication reconciliation at transitions of care decreases medication errors, hospitalizations, and adverse drug events. Obtaining medication histories and conducting medication reconciliation are challenging tasks for the health professionals. Part of ADEs is due to medication discrepancies, or unexplained variations in medications in hospital admission and discharge or across different sites of care. Significant number of all hospital prescribing errors originate from incorrect admission medication histories, the DRPs are only discovered through patient interview, and more than half of discharge discrepancies are associated with admission discrepancies. ADEs associated with medication discrepancies can prolong hospital stays and, in the post-discharge period, may lead to emergency room visits, hospital readmissions, and utilization of other healthcare resources Pharmacists have proven themselves in both histories recording and reconciliation. True collaboration with allied health professions enhance this process. A reconciliation of medications supported by efficient communication between the hospital staff and community pharmacists, in addition to a standard patient interview and a general practitioner's examination of prescriptions, was found to be effective in identifying medication discrepancies for the patients.</p>

<b>Chapter 28.</b>	<p><b>Palliative and Hospice Care</b></p> <p>One of the main goals of medicine is to provide comfort and relief from pain and suffering. Unfortunately, a cure is not always possible particularly in this era of chronic diseases, and the role of physicians has become limited to controlling and palliating symptoms. Palliative care is a relatively new specialty that evolved during the last five decades. The aim of this specialty was to provide end of life care for patients with advanced cancer and their families. In addition, pastoral care is also included according to the religious beliefs of the patient. The other important components of palliative care are effective communication and planning and coordination of care. It is noteworthy that ensuring the availability of palliative care services is an obligation of health care systems under international human rights law. Hospice care is a type of palliative care with a few differences. Pharmacists in care team can play a major role in different care settings.</p>
<b>Chapter 29.</b>	<p><b>Non-Drug Pain Management</b></p> <p>The vast majority are eager to do pretty much anything to get away from the grasps of interminable agony. One of the primary cures offered to endless torment sufferers is prescription medications. Prescription painkillers are compelling much of the time. Be that as it may, the relief from discomfort they offer includes some major disadvantages for some. Painkillers risk getting to be addictive. What's more, as endless news reports have appeared, the consequences of dependence on painkillers can be wrecking. Non-tranquilize therapies decline torment and can be utilized notwithstanding pharmaceuticals or in lieu of pharmaceuticals. They offer the likelihood to enhance your personal satisfaction. Similarly, as with some other treatment, every individual will react distinctively to various therapies, and there is no certification that any treatment will give total help with discomfort. Though many evidences were weaker, the researchers also found that massage therapy, spinal manipulation, and osteopathic manipulation may provide some help for back pain, fibromyalgia, osteoarthritis, cancer pain, knee replacement, migraine, frozen shoulder and chronic non-migraine headache. These data can equip providers and patients with the information they need to have informed conversations regarding non-drug approaches for treatment of specific pain conditions. It's important that continued research explore how these approaches actually work and whether these findings apply broadly in diverse clinical settings and patient populations.</p>

### Key Features of the book

- The book solely focuses on job responsibilities of patient care pharmacists, separated from those of doctors and nurses, with the most recent information.
- Various aspects of pharmacist-led patient care services are incorporated in a single book.
- Career-focused discussions in every chapter with structured guidelines provided for the pharmacists.
- Content is mostly based on recent pharmacists' activities in the healthcare arena of developed countries.
- Chapter outline, abbreviations, synopsis, learning outcomes, cases, key terms and further references are added like a textbook.
- Possible errors during the patient dealing and measures to be taken in all aspects are thoroughly discussed.
- The future prospect of patient care pharmacists in different areas of health care elaborately discussed.
- Discusses patient relationship management with a caring and compassionate touch which is a very demanding approach to many high-profile healthcare settings.
- Along with professionals, undergraduate students can utilize this book as a reference for their courses like hospital and community pharmacy and pharmaceuticals.
- Scholars from countries around the world are giving their recommendation about the book.

Table 2: Comparison with Similar Available Books

Author	Title	Publisher	Price	Details	Superiority of Proposed Title
Richard Finkel	Patient Care Management Lab: A Workbook for Prescription Practice	Lippincott Williams & Wilkins, Feb 1, 2007	Kindle Edition 74 USD Spiral Bound: 47 USD	Develops and fine tunes pharmacy and pharmacy technician students' skills in reading, evaluating, and filling prescriptions.	Other than prescription handling, patient care pharmacists have many other responsibilities that are included.
Bernard J. Healey, Marc C. Marchese	Foundations of Health Care Management: Principles and Methods	John Wiley & Sons, Aug 9, 2012	E-book 72.99 USD Paperback 90 USD	The book covers such critical topics as leadership training, change management, conflict management techniques, culture building, quality improvement, and communications skills, as well as collaboration in the improvement of population health.	Patient care pharmacists need more coverage in areas of counseling, patient education, relationship management, understanding patient behavior, safety concerns, ethical issues and framework for safety in several stages of drug handling etc. are covered.
Seth B. Goldsmith	Principles of Health Care Management: Foundations for a Changing Health Care System	Jones & Bartlett Publishers, Oct 25, 2010	Paperback 192.95 USD	Hospital administration-based book, using relevant case studies to illustrate key points, this text explains the critical changes and challenges that administrators must deal	Pharmacists' role at every stages of patient handling is clearly defined along with the superiority of their services among other professionals in the healthcare arena.
Michael D. Hogue	The Pharmacist's Guide to Compensation for Patient-care Services	American Pharmaceutical Association, 2002	Paperback 249.01 USD	This comprehensive book covers all aspects of compensation for medication therapy management services provided by pharmacists in all practice settings	Other than pharmacists' compensation issues, every aspect pharmacy in patient care discussed deliberately as compensation of the professionals are not part of patient care.
Gwen Marram Van Servellen	Communication Skills for the Health Care Professional: Concepts, Practice, and Evidence	Jones & Bartlett Publishers, Oct 7, 2009	Paperback \$92.06, Kindle Edition \$3.49	It provides future and practicing patient caregivers in all specialties and services with basic communication knowledge and skills and is an invaluable resource for those in administrative functions as well.	Along with communication, patient care pharmacists have to cover safety concerns, vigilance, drug and healthcare costing calculation, medicine reconciliation issues that are discussed giving similar priority.
Colleen Doherty Lauster, Sneha Baxi Srivastava	Fundamental Skills for Patient Care in Pharmacy Practice	Jones & Bartlett Publishers, 2013	104.95 USD	Drug related problems and counseling well discussed.	Along with drug related problems, patient problems, safety concerns, home care and long-term care are also discussed.

American Pharmacists Association	How to Implement the Pharmacists' Patient Care Process	American Pharmacists Association, 2015	78.07 USD,	Policy related book, aims to help pharmacists understand the components of the patient care process and apply the process to patients in all pharmacy practice settings. Six sample case studies set in different patient care settings enable the reader to practice applying the patient care process.	Patient care process discussed through issues like counseling, compliance, framework of safety, patient safety concern, cost saving and vigilance.
Thomas R. Brown	Handbook of Institutional Pharmacy Practice	American Society of Hospital Pharmacists, 2006	31.89 USD	An overview of health delivery systems and hospital pharmacy through various practice settings such as home care, long term care, hospice and palliative care, ambulatory care, and managed care this text focuses on various elements important to health-system pharmacies. The Handbook of Institutional Pharmacy Practice is the first step in developing a career in pharmacy and provides opportunities for study in career enhancement.	Many concepts of the proposed book resemble to Handbook of Institutional Pharmacy Practice but content is different. Moreover, studies discussed in proposed book are at least an era of advanced.
Kimberly S. Plake, Kenneth W. Schafermeyer, Robert L. McCarthy	McCarthy's Introduction to Health Care Delivery: A Primer for Pharmacists	Jones & Bartlett Publishers, 2016	46.93 USD	A Primer for Pharmacists, Sixth Edition provides students with a current and comprehensive overview of the U.S. health care delivery system, including social, organizational, and economic aspects, from the perspective of the pharmacy profession.	The book is far better than the proposed book but the book focuses on overall pharmacists' roles toward profession. The proposed book only focuses roles of patient care pharmacists and the content is different from McCarthy.

#### Author Profile

Author (**Figure 2**) completed B.Pharm (2004) and M.Pharm (2006) from Department of Pharmaceutical Technology, Faculty of Pharmacy, University of Dhaka. He has completed his MBA (2007) from East West University. He was in faculty of Pharmacy, World University of Bangladesh as an Assistant Professor. Along with 8 years of teaching experience, he also

worked for reputed pharmaceutical companies in strategic management for 5 years. He authored 11 books (**Table 3**) and many articles on alternative medicines, patient care, marine drug sources and other recent issues of healthcare in several journals (**Table 4**) and newspapers (**Table 5**). He is now acting secretary and treasurer in Dr. M. Nasirullah Memorial Trust.

**Table 3: Author's Published Books**

No.	Book	Publisher	Year Published	Role
1.	The Role of the Pharmacist in Patient Care	Universal-Publishers (US). (ISBN-10: 1627343083 ISBN-13: 9781627343084)	2020	Sole Author
2.	A Comprehensive Chemical and Pharmacological Review of Cosmetics	Nova Science Publishing Inc. (US), ISBN: 978-1-53618-571-3	2020	Sole Author
3.	A Review of Pharmaceutical Science	GRIN Verlag, 2020 (Munich, Germany) (ISBN 3346214184, 9783346214188)	2020	Sole Author
4.	Nature and Nutrition: A New Era of Therapeutic Herbs	Nova Science Publishing Inc. (US), (ISBN 9781536158922)	2019	Sole Author
5.	Non-drug pain management: opportunities to explore (e-Book)	BiomedGrid LLC, USA May 09, 2019 (ISBN: 978-1-946628-01-5)	2019	Sole Author
6.	Common GI Disorders & Alternative Measures (e-Book)	LAP LAMBERT Academic Publishing (ISBN-13: 978-613-9-47148-5)	2019	Sole Author
7.	A Comprehensive Review of Surgical Supplies (e-Book)	Peernest, US August 13, 2019 (ISBN: 978-1-946628-24-4)	2019	Sole Author
8.	Skin Aging and Modern Age Antiaging Strategies (e-Book)	Peernest, US July 23, 2019 (ISBN: 978-1-946628-23-7)	2019	Sole Author
9.	A Pharmacological Review of Sunscreens and Suntan Preparations (e-Book)	Peertechz Publications, India August 05, 2019 (ISBN: 978-81-943057-1-2, DOI: 10.17352/ebook10112)	2019	Sole Author
10.	Medicinal Values of Seaweeds (e-Book)	Academic Publications, India (ISBN: 978-81-943354-4-3)	2019	Sole Author
11.	Clinical Pharmacists in Chronic Care Management (e-Book)	Academic Publications, India (ISBN: 978-81-943354-0-5)	2019	Sole Author

**Table 4: Author's Published Articles**

No.	Publication	Journal	Citation
1.	Intermittent Fasting and Adding More days to Life (Letter to the editor)	Applied Clinical Pharmacology and Toxicology (ISSN: 2577-0225)	Mohiuddin AK (2019) Intermittent Fasting and Adding More Days to Life. Appl Clin Pharmacol Toxicol 3: 121. DOI: 10.29011/2577-0225.100021
2.	Pharmacist-Led Antimicrobial Stewardship	Lupine Online Journal of Pharmacology & Clinical Research	Abdul Kader Mohiuddin. Pharmacist-Led Antimicrobial Stewardship. LOJ Phar & Cli Res 1(4)-2019. LOJPCR.MS.ID.000117. DOI: 10.32474/LOJPCR.2019.01.000117.
3.	Domination of Gastric Complications Among Diabetic Patients (Letter to the editor)	Journal of Gastroenterology and Hepatology Research	Mohiuddin AK. Domination of gastric Complications Among Diabetic Patients. Journal of Gastroenterology and Hepatology Research 2019; 8(4): 2928-2931. DOI: 10.17554/j.issn.2224-3992.2019.08.838
4.	Affordability Issues of Biotech Drugs in low- and middle-income countries (LMICs)	Drug Designing & Intellectual Properties International Journal	Abdul Kader Mohiuddin. Affordability Issues of Biotech Drugs in Low- and Middle-Income Countries (LMICs). Drug Des Int Prop Int J 3(2). DDIPIJ.MS.ID.000156. DOI: 10.32474/DDIPIJ.2019.03.000156.
5.	Patient history and medical record: Proper solution from accurate problem identification	Medicine and Medical Sciences (Academia Publishing)	Mohiuddin AK (2019). Patient history and medical record: Proper solution from accurate problem identification. Med. Med. Sci. 7(7): 082-086. DOI: 10.15413/mms.2019.0112
6.	Managing Rational Use of Drugs in Bangladesh	PharmaTutor	Mohiuddin, A. 2018. Managing Rational Use of Drugs in Bangladesh. PharmaTutor. 6, 11 (Nov. 2018), 30-35. DOI: <a href="http://doi.org/10.29161/PT.v6.i11.2018.30">http://doi.org/10.29161/PT.v6.i11.2018.30</a> .

7.	Patient Compliance: An Untold Story or a Fairy Tale?	Pharmaceutical Regulatory Affairs	Mohiuddin AK (2018) Patient Compliance: An Untold Story or a Fairy Tale? Pharmaceut Reg Affairs 7: 207. DOI: 10.4172/2167-7689.1000207
8.	Prescription and Prescribing: An Overview of Basic Concepts Mostly Overlooked	Asian Journal of Advanced Research and Reports	Mohiuddin, A. K. (2018). Prescription and Prescribing: An Overview of Basic Concepts Mostly Overlooked. Asian Journal of Advanced Research and Reports, 2(3), 1-17. DOI: 10.9734/ AJARR /2018 / 45249
9.	An East West Comparison of Patient Behavior	SOJ Pharmacy & Pharmaceutical Sciences	Mohiuddin AK (2018) An East West Comparison of Patient Behavior. SOJ Pharm Sci, 6(1) 1-10. DOI: 10.15226/2374-6866/6/1/00192
10.	Patient Behavior: an extensive review	Nursing & Care Open Access Journal	Mohiuddin AK. Patient Behavior: an extensive review. Nurse Care Open Acces J. 2019;6(3):76–90. DOI: 10.15406/ncoaj.2019.06.00188
11.	Pharmacoeconomics: The Cost of Health	Indian Journal of Medical Science	Mohiuddin A K. Pharmacoeconomics: The Cost of Health. Indian J Med Sci 2018 April-Aug;70 (2): 11-20. doi:10.13107/ijms.1998-3654.2018.234
12.	Pharmacovigilance: Present Scenario and Future Goals	Indian Journal of Pharmacy Practice	Mohiuddin AK. Pharmacovigilance: Present Scenario and Future Goals. Indian Journal of Pharmacy Practice, 2019; 12(1):02-09. DOI: doi:10.5530/ijopp.12.1.2
13.	Patient-Provider Relationship: Compliance with Care	Research Journal of Medical Sciences	A.K. Mohiuddin, 2019. Patient-Provider Relationship: Compliance with Care. Research Journal of Medical Sciences, 13: 25-37. DOI: 10.3923/rjmsci.2019.25.37
14.	Pharmacists in Public Health: Scope in Home and Abroad	SOJ Pharmacy & Pharmaceutical Sciences	Mohiuddin AK (2019) Pharmacists in Public Health: Scope in Home and Abroad. SOJ Pharm Sci 6(1):1-23. DOI: 10.15226/2374-6866/6/1/00196
15.	Ethics and Professionalism: Pharmacy Profession	American Journal of Public administration	AK Mohiuddin. Ethics and Professionalism: Pharmacy Profession. American Journal of Public administration, 2019,1:3. DOI:10.28933/AJPA
16.	Patient Rights in Pharmacy Profession	American Journal of Public administration	AK Mohiuddin. Patient Rights in Pharmacy Profession. American Journal of Public administration, 2019,1:5. DOI:10.28933/AJPA
17.	Patient Education: Steps Towards Compliance	Journal of Pharmacology & Clinical Research	Mohiuddin AK. Patient Education: Steps Towards Compliance. J of Pharmacol & Clin Res. 2019; 6(5): 555700. DOI: 10.19080/JPCR.2019.06.555700
18.	Pharmaco-economics: Essential but merely practiced in Bangladesh	Academia Journal of Scientific Research	Mohiuddin AK (2018). Pharmaco-economics: Essential but merely practiced in Bangladesh. Acad. J. Sci. Res. 7(3): 182-187. DOI: 10.15413/ajsr.2018.0195
19.	Risks and Reasons Associated with Medication Non-Adherence	Journal of Clinical Pharmacy	Mohiuddin AK (2019) Risks and Reasons Associated with Medication Non-Adherence. J Clin Pharm Vol: 1, Issu: 1 (50-53). DOI: 10.3619/JCP.1000105
20.	Patient History & Medical Record: Proper Solution from Accurate Problem Identification (Letter to the editor)	International Journal of Current Science and Multidisciplinary Research	Mohiuddin AK. Patient History & Medical Record: Proper Solution from Accurate Problem Identification. International Journal of Current Science and Multidisciplinary Research Volume 2, Issue 07, Page 115-120.
21.	Clinical Pharmacists in Pediatric Units	Acta Scientific Pharmaceutical Sciences (ISSN: 2581-5423)	Abdul Kader Mohiuddin. "Clinical Pharmacists in Pediatric Units". Acta Scientific Pharmaceutical Sciences 3.8 (2019): 41-44.
22.	Pharmacists in Aged Care Facilities	International Journal of Aging Research	Abdul Kader Mohiuddin. Pharmacists in Aged Care Facilities. International Journal of Aging Research, 2019, 2:41
23.	A Brief Review of Indigenous Plants as Sources of Pharmacological Interests	International Journal of Traditional and Complementary Medicine	AK Mohiuddin. A Brief Review of Indigenous Plants as Sources of Pharmacological Interests. International Journal of Traditional and Complementary Medicine 2019, 4:13. DOI: 10.28933/ijtcm-2019-01-0206

24.	Characterization of Chemical Groups and Study of Antioxidant, Antidiarrhoeal, Antimicrobial and Cytotoxic activities of ethanolic extract of <i>bacopa moneri</i> (Family: Ebenaceae) Leaves	Journal of Pharmacy Research	Howlader MSI, Sayeed MSB, Ahmed MU, Mohiuddin AK, Labu ZK, Bellah SF, Islam MS. Characterization of Chemical Groups and Study of Antioxidant, Antidiarrhoeal, Antimicrobial and Cytotoxic activities of ethanolic extract of bacopa moneri (Family: Ebenaceae) Leaves. Journal of Pharmacy Research 2012,5(6),3050-3052
25.	Thrombolytic, Membrane stabilizing, Antidiarrhoeal, and Antimicrobial Properties of Bioactive Compounds Isolated from leaves of <i>Sesbania grandiflora</i> Naturally Growing in Bangladesh	Iranian Journal of Pharmaceutical Sciences	binte Arfan N, Islam T, Sultana Julie A, Mohiuddin AK, Alam Khan S, Khalid Labu Z, Thrombolytic, Membrane stabilizing, Antidiarrhoeal and Antimicrobial Properties of Bioactive Compounds Isolated from leaves of <i>Sesbania grandiflora</i> Naturally Growing in Bangladesh. Iranian Journal of Pharmaceutical Sciences, 2016, 12 (3): 31-46
26.	Medicinal Properties of the <i>Sesbania grandiflora</i> Leaves	Ibnosina Journal of Medicine and Biomedical Sciences	binte Arfan N, Sultana Julie A, Mohiuddin AK, Alam Khan S, Khalid Labu Z. Ibnosina J Med BS 2016;8(6):271-277. DOI: 10.4103/1947-489X.210243
27.	Medicinal and Therapeutic Values of <i>Sesbania Grandiflora</i>	International Healthcare Research Journal	Mohiuddin AK. Medicinal and Therapeutic values of <i>Sesbania grandiflora</i> . Int Healthc Res J. 2019;3(5):161-166. <a href="https://doi.org/10.26440/IHRJ/0305.08265">https://doi.org/10.26440/IHRJ/0305.08265</a>
28.	Medical Waste: A Nobody's Responsibility After Disposal	International Journal of Environmental Sciences & Natural Resources	Ak Mohiuddin. Medical Waste: A Nobody's Responsibility After Disposal. Int J Environ Sci Nat Res. 2018; 15(2): 555908. DOI: 10.19080/IJESNR.2018.15.555908.
29.	Extemporaneous Compounding: Cautions, Controversies and Convenience	Innovative Journal of Medical and Health Science	Mohiuddin*, A. (2019) "Extemporaneous Compounding: Cautions, Controversies and Convenience", Innovative Journal of Medical and Health Science, 9(1), pp. 252-264. doi: 10.15520/ijmhs.v9i1.2420.
30.	Domination of Nephrotic Problems among Diabetic Patients of Bangladesh	Archives of Pharmacology and Therapeutics	Mohiuddin AK. Domination of Nephrotic Problems among Diabetic Patients of Bangladesh. Arch Pharmacol Ther. 2018; 1(1):8-13.
31.	Risk Associated with Supplements and Enhancing Drugs: Letter to the Editor	ARC Journal of Research in Sports Medicine	AK Mohiuddin, "Risk Associated with Supplements and Enhancing Drugs: Letter to the Editor" ARC Journal of Research in Sports Medicine. 2019; 4(1): 9-13. DOI: 10.13140/RG.2.2.18584.85764
32.	An A-Z Pharmaceutical Industry: Bangladesh Perspective	Asian Journal of Research in Pharmaceutical Sciences	AK Mohiuddin. An A-Z Pharmaceutical Industry: Bangladesh Perspective. Asian J. Res. Pharm. Sci. 2019; 9(1):17-28. DOI No: 10.5958/2231-5659.2019.00004.3
33.	A Brief Review of Traditional plants as Sources of Pharmacological interests	Open Journal of Plant Science	Mohiuddin AK (2019) A Brief Review of Traditional plants as Sources of Pharmacological interests. Open J Plant Sci 4(1): 001-008 DOI: 10.17352/ojps.000015
34.	Chemical Contaminants and Pollutants in the Measurable Life of Dhaka City	European Journal of Sustainable Development Research	Mohiuddin AK. Chemical Contaminants and Pollutants in the Measurable Life of Dhaka City. European Journal of Sustainable Development Research. 2019;3(2), em0083. <a href="https://doi.org/10.29333/ejosdr/5727">https://doi.org/10.29333/ejosdr/5727</a>
35.	Diabetes Fact: Bangladesh Perspective	International Journal of Diabetes Research	Mohiuddin AK. Diabetes Fact: Bangladesh Perspective. Int. J. Diabetes Res 2019 February; 2(1): 14-20. DOI: 10.17554/j.issn.2414-2409.2019.02.12
36.	Natural Foods and Indian herbs of cardiovascular interest	Pharmacy & Pharmacology International Journal	Mohiuddin AK. Natural Foods and Indian herbs of cardiovascular interest. Pharm Pharmacol Int J. 2019;7(2):60 – 84. DOI: 10.15406/ppij.2019.07.00235

37.	Alcohol Induced Fatty Liver: A Tragic Inception of Wrong Turn	Jacobs Journal of Gastroenterology and Hepatology	Mohiuddin AK. Alcohol Induced Fatty Liver: A Tragic Inception of Wrong Turn. JJ GASTRO HEPATO 2019; 6 (1): 041.
38.	Traditional System of Medicine and Nutritional Supplementation: Use Vs Regulation	Open Journal of Pharmaceutical Science and Research	Mohiuddin Ak. 2019. Traditional System of Medicine and Nutritional Supplementation: Use Vs Regulation. Open J Pharm Sci Res. 1: 53-98.
39.	A Comprehensive Review of Acne Vulgaris	Clinical Research in Dermatology: Open Access	Mohiuddin AK (2019) A Comprehensive Review of Acne Vulgaris. Clin Res Dermatol Open Access 6(2): 1-3. DOI: <a href="http://dx.doi.org/10.15226/2378-1726/6/1/00186">http:// dx.doi.org/10.15226/2378-1726/6/1/00186</a>
40.	Acne Vulgaris: Pimples No Not Have Simple Solution	International Journal of Clinical & Experimental Dermatology	Mohiuddin AK. Acne Vulgaris: Pimples No Not Have Simple Solution. International Journal of Clinical & Experimental Dermatology Volume 4, Issue 1, 1 to 26
41.	Skin Aging & Modern Age Anti-Aging Strategies	Global Journal of Medical Research	Mohiuddin AK. Skin Aging & Modern Age Anti-aging Strategies. Global Journal of Medical Research, 19 Issue 2 Version 1.0 Year 2019 Page 15-60
42.	Safety Issues of Biosimilar Products	Journal of Cancer Research and Therapeutic Oncology (JCRTO)	Abdul Kader Mohiuddin (2019) Safety Issues of Biosimilar Products. J Cancer Res Therap Oncol 7:1-4. DOI:10.17303/jcrto.2019.7.105
43.	Environmental Factors on Secondary Metabolism of Medicinal Plants.	Acta Scientific Pharmaceutical Sciences	Mohi Uddin. "Environmental Factors on Secondary Metabolism of Medicinal Plants". Acta Scientific Pharmaceutical Sciences 3.8 (2019): 34-46.
44.	Modern Age Cosmetics: An Extensive Review	Research and Advances in Pharmacy and Life Sciences	Mohiuddin AK. Modern Age Cosmetics: An Extensive Review. Research and Advances in Pharmacy and Life Sciences Vol 1, Issue 2, Page 47-92. DOI: <a href="http://doi.org/10.5281/zenodo.3333365">http://doi.org/10.5281/zenodo.3333365</a>
45.	Alternative Treatments for Minor GI Ailments	INNOVATIONS in pharmacy	Mohiuddin AK. Alternative Treatments for Minor GI Ailments. INNOVATIONS in pharmacy Vol 10, No 3, (2019) / Insights. DOI: <a href="https://doi.org/10.24926/iip.v10i3.1659">https://doi.org/10.24926/iip.v10i3.1659</a>
46.	Domination of gastric Complications Among Diabetic Patients	Biomedical Journal of Technical & Scientific Research	Abdul Kader Mohiuddin. Domination of gastric Complications Among Diabetic Patients. Biomed J Sci & Tech Res 19(4)-2019. BJSTR. MS.ID.003331. DOI: 10.26717/BJSTR.2019.19.003331
47.	Safety Issues of Biosimilar Products	Advances in Clinical Toxicology (ISSN: 2577-4328)	Mohiuddin AK. Safety Issues of Biosimilar Products. Adv Clin Toxicol 2019, 4(3):000158. DOI: 10.23880/act-16000158
48.	An Extensive Review on Sunscreen and Suntan Preparations	OSP Journal of Clinical Trials	Mohiuddin AK (2019) An Extensive Review on Sunscreen and Suntan Preparations. OSP J Clin Trials. Volume 1, Issue 1, Page 1-25: JCT-1-105
49.	Nutritional Value and Associated Potentials Risks of Seafood Consumption	Advances in Clinical Toxicology ISSN: 2577 - 4328	Mohiuddin AK. Nutritional Value and Associated Potentials Risks of Seafood Consumption. Adv Clin Toxicol 2019, 4(3): 000159. DOI: 10.23880/act-16000159
50.	Cost of Biotech Drug Development and Affordability Issues in LMICs	Archives in Biomedical Engineering & Biotechnology	Abdul Kader Mohiuddin. Cost of Biotech Drug Development and Affordability Issues in LMICs. Arch Biomed Eng & Biotechnol. 2(3): 2019. DOI: 10.33552/ABEB.2019.02.000538.
51.	Psychiatric Pharmacy: New Role of Pharmacists in Mental Health	Scholarly Journal of Psychology and Behavioral Sciences	Abdul Kader Mohiuddin. Psychiatric Pharmacy: New Role of Pharmacists in Mental Health. Sch J Psychol & Behav Sci. 2(4)-2019. SJPBS MS.ID.000144. DOI: 10.32474/SJPBS.2019.02.000144.
52.	Chemistry of Secondary Metabolites	Annals of Clinical Toxicology	Mohiuddin AK. Chemistry of Secondary Metabolites. Ann Clin Toxicol. 2019; 2(1): 1014. DOI: <a href="http://dx.doi.org/10.25107/2641-905X-v2-id1014">http://dx.doi.org/10.25107/2641-905X-v2-id1014</a>
53.	Acne Protection: Measures & Miseries	Annals of Clinical Toxicology	Mohiuddin AK. Acne Protection: Measures & Miseries. Ann Clin Toxicol. 2019; 2(2): 1017. <a href="http://dx.doi.org/10.25107/2641-905X-v2-id1017">http://dx.doi.org/10.25107/2641-905X-v2-id1017</a>



54.	The Mysterious Domination of Food/Drinking Water Contaminants and Adulterants in Bangladesh	Agriculture and Food Sciences Research	Mohiuddin, A. K. "The Mysterious Domination of Food/Drinking Water Contaminants and Adulterants in Bangladesh". Agriculture and Food Sciences Research, Vol. 6, no. 1, June 2019, pp. 30-40, doi:10.20448/journal.512.2019.61.30.40.
55.	Getting Rid of "Bomb Pushing the Womb": Dysmenorrhea Management	Journal of Gynecology and Women's Health	Abdul Kader Mohiuddin. Getting Rid of "Bomb Pushing the Womb": Dysmenorrhea Management. J Gynecol Women's Health. 2019; 16(1): 555929. DOI: 10.19080/JGWH.2019.14.555929
56.	Arts and Science of Athletic Performance	Internal Journal of Sports Medicine and Rehabilitation	Abdul Kader Mohiuddin. Arts and Science of Athletic Performance. Internal Journal of Sports Medicine and Rehabilitation, 2019; 2:8
57.	Heavy Metals: The Notorious Daredevils of Daily Personal Care Products	International Journal of Pharmacy and Pharmacology Research	Abdul Kader Mohiuddin (2019). Heavy Metals: The Notorious Daredevils of Daily Personal Care Products. IJPPR 2(1).008-018. DOI: 10.14412/IJPPR2019.018
58.	Sunscreen and coral reef (Letter to the editor)	MOJ Ecology & Environmental Sciences	Mohiuddin AK. Sunscreen and coral reef: letter to the editor. MOJ Eco Environ Sci. 2019;4(4):166 – 167. DOI: 10.15406/mojes.2019.04.00149
59.	Supplements and Enhancement Drugs: Athletes Torment Themselves with Potential Risks.	International Journal of Pharmacy and Pharmacology Research	Abdul Kader Mohiuddin (2019). Supplements and Enhancement Drugs: Athletes Torment Themselves with Potential Risks. IJPPR 2(1).019 – 025. DOI: 10.14412/IJPPR2019.025
60.	Patient Safety: A Deep Concern to Caregivers	INNOVATIONS in pharmacy	Mohiuddin AK. Patient Safety: A Deep Concern to Caregivers. INNOVATIONS in pharmacy Vol 10 No 1 (2019) pp 1-11. DOI: <a href="https://doi.org/10.24926/iip.v10i1.1639">https://doi.org/10.24926/iip.v10i1.1639</a>
61.	Cosmetics' Safety: Gray Areas with Darker Inside	American Research Journal of Dermatology	Abdul Kader Mohiuddin. "Cosmetics' Safety: Gray Areas with Darker Inside". American Research Journal of Dermatology; 1(1): 1-7. <a href="http://dx.doi.org/10.21694/2642-2980.19006">http://dx.doi.org/10.21694/2642-2980.19006</a>
62.	Urbanization, Environmental Pollution & Skin Aging	American Research Journal of Dermatology	Abdul Kader Mohiuddin. "Urbanization, Environmental Pollution & Skin Aging". American Research Journal of Dermatology; 1(1): 1-9. <a href="http://dx.doi.org/10.21694/2642-2980.19007">http://dx.doi.org/10.21694/2642-2980.19007</a>
63.	Patient Relationship Management: Patient Care with CRM Approach	PharmaTutor	Mohiuddin, A. 2019. "Patient Relationship Management: Patient Care With CRM Approach". PharmaTutor 7 (4), 22-36. <a href="https://doi.org/10.29161/PT.v7.i4.2019.22">https://doi.org/10.29161/PT.v7.i4.2019.22</a> .
64.	Pharmacists in Ambulatory/ Outpatient Care	Journal of Pharmacology & Clinical Research ISSN: 2473-5574	AK Mohiuddin. Pharmacists in Ambulatory/ Outpatient Care. J of Pharmacol & Clin Res. 2019; 7(1): 555701. DOI: 10.19080/JPCR.2019.07.555701
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67.	Heavy Metals in Cosmetics: The Notorious Daredevils and Burning Health Issues	American Journal of Biomedical Science & Research	Abdul Kader Mohiuddin. Heavy Metals in Cosmetics: The Notorious Daredevils and Burning Health Issues. Am J Biomed Sci & Res. 2019 - 4(5). AJBSR.MS.ID.000829. DOI: 10.34297/AJBSR.2019.04.000829
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93.	An In-Depth of A Pharmacist In Prescribing	Journal of Applied Pharmaceutical Sciences and Research	Mohiuddin AK. An In-Depth Of A Pharmacist In Prescribing. Journal of Applied Pharmaceutical Sciences and Research. 2019;1(4):11-18. doi:10.31069/japsr.v1i4.2
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98.	An Extensive Review of Health and Economy of Bangladesh Amid Covid-19 Pandemic	International Journal of Reviews and Research in Social Sciences	Abdul Kader Mohiuddin. An Extensive Review of Health and Economy of Bangladesh Amid Covid-19 Pandemic. Int. J. Rev. and Res. Social Sci. 2020; 8(2):108-117. doi: 10.5958/2454-2687.2020.00011.8
99.	COVID-19 and 20 Resolutions for Bangladesh	European Journal of Sustainable Development Research	Mohiuddin AK. COVID-19 and 20 Resolutions for Bangladesh. European Journal of Sustainable Development Research. 2020;4(4). doi: 10.29333/ejosdr/8433

100.	Phytochemical Screening & Biological Investigations of <i>Ficus Racemosa</i>	Open Access Journal of Biogeneric Science and Research	Abdul Kader Mohiuddin*, Sayra Akter Lia, Phytochemical Screening & Biological Investigations of <i>Ficus Racemosa</i> . Op Acc J Bio Sci & Res 4(1)-2020. DOI: 10.46718/JBGSR.2020.03.000088
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Table 5: Published Articles in Printed/Online Newspapers

No.	Publication	Journal	Citation
1.	নীরব ঘাতক ডায়াবেটিস: বাংলাদেশে বর্তমান পরিস্থিতি	দৈনিক সিএন বাংলা	আব্দুল কাদের মহিউদ্দিন. নীরব ঘাতক ডায়াবেটিস: বাংলাদেশে বর্তমান পরিস্থিতি. দৈনিক সিএন বাংলা / স্বাস্থ্য ও জীবন, জুলাই ১৯, ২০২০. <a href="https://www.dailycnbangla.com/print?id=1080">https://www.dailycnbangla.com/print?id=1080</a>
2.	কোভিড -১৯ এবং ২০টি সমাধান	আজ সারাবেলা	আব্দুল কাদের মহিউদ্দিন. কোভিড -১৯ এবং ২০ টি সমাধান. আজ সারাবেলা/ মত প্রকাশ, জুন ১, ২০২০. Available in: <a href="https://www.ajsarabela.com/2020/06/01/কোভিড-১৯-এবং-২০-টি-সমাধান.html">https://www.ajsarabela.com/2020/06/01/কোভিড-১৯-এবং-২০-টি-সমাধান.html</a>
3.	মহামারী পরিস্থিতিতে টেলিফার্মাসি	আজ সারাবেলা	আব্দুল কাদের মহিউদ্দিন. মহামারী পরিস্থিতিতে টেলিফার্মাসি. আজ সারাবেলা/ মত প্রকাশ, মে ১৫, ২০২০. Available in: <a href="https://www.ajsarabela.com/2020/05/15/মহামারী-পরিস্থিতিতে-টেলি.html">https://www.ajsarabela.com/2020/05/15/মহামারী-পরিস্থিতিতে-টেলি.html</a>
4.	Drug addiction, a consequence of social ills rather than individual flaws	The Independent	Abdul kader Mohiuddin. Drug addiction, a consequence of social ills rather than individual flaws. The Independent/Editorial, 27 November, 2019.
5.	Drug addiction: Causes and consequences	The Independent	Abdul kader Mohiuddin. Drug addiction: Causes and consequences. The Independent/Editorial, 4 December, 2019.
6.	Public health: Chemical residues in food grains	The Independent	Mohiuddin AK. Public health: Chemical residues in food grains. The Independent (OP-ED), 30 August, 2019.
7.	Risk-benefit issues of seafood consumption	The Independent	AK Mohiuddin. Risk-benefit issues of seafood consumption. The Independent, Op-ed, 19 September, 2019. Available in: <a href="http://www.theindependentbd.com/printversion/details/215966">http://www.theindependentbd.com/printversion/details/215966</a>
8.	The diabetes TRACK and the track records	The Independent	AK Mohiuddin. The diabetes TRACK and the track records. The Independent, Op-ed, 02 November, 2019. Available in: <a href="http://www.theindependentbd.com/printversion/details/222026">http://www.theindependentbd.com/printversion/details/222026</a>
9.	Health hazards with adulterated spices: Save the 'onion tears'	The Independent	Abdul Kader Mohiuddin. Health hazards with adulterated spices: Save the 'onion tears. The Independent (Op-ed), 22 November, 2019
10.	In search of an effective programme for dengue prevention	The Independent	AK Mohiuddin. In search of an effective programme for dengue prevention. The Independent, 04 September, 2019.

## CONCLUSION

Universal-Publishers seek authors who are experts in their field, and whose work addresses a specialized audience. Our mission is to expose new ideas and important scholarship. In exchange for distribution rights, we offer major distribution, fair compensation, multiple media editions, and personal attention. The esteem book was under editing and improvisation from the beginning of year 2019, after copyright agreement signing. The book is eligible to provide learning to both Pharmacy apprentices (mainstream and diploma pharmacists) for their regular courses related to Hospital and Community Pharmacy, Pharmacy Compounding and Dispensing as well as to the allied health professionals who are close to patients in their day-to-day activities.

Major limitation of the book lies with the continuous improvement in different aspect of healthcare services around the world that cannot be detailed in a single frame. However, further reading references are given so that a reader can have an idea of sources that can benefit their future learnings. Also, a comparison table is added in **Annexure 26 of the said book (Table 2 of the article)**, showing a few points that makes the book superior to similar other available books, which is further mentioned that those books obviously have their unique superiority over this book, **The Role of the Pharmacist in Patient Care (Achieving High Quality, Cost-Effective and Accessible Healthcare Through a Team-Based, Patient-Centered Approach)** in terms of their focus on respective subject matter(s). The book solely claims its superiority in terms of focus in detailing Pharmacists' major roles and responsibilities in patient care.

**Web:**

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**Amazon link:**

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**Barnes & Noble:**

<https://www.barnesandnoble.com/w/the-role-of-the-pharmacist-in-patient-care-abdul-kader-mohiuddin/1137309577>

**Sample Chapter:**

<https://www.docdroid.net/HPCzPeD/sample-chapter-patient-care-pdf>

**List of Contents (with sub-headings)**

<https://www.docdroid.net/WmUgghH/chapter-contents-docx>

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**PubMed Link:**

<https://www.ncbi.nlm.nih.gov/nlmcatalog/101766397>

**NLM ID: 101766397 [Book]**

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