

---

# Empowering Patients: The Crucial Role of Medication Counseling in Community Pharmacies

---

Fahad Nabi<sup>1</sup>, Abrar Bashir Malik<sup>2</sup>, Mohd Altaf Dar<sup>3\*</sup>

<sup>1,2,3\*</sup>Department of Pharmacology, CT Institute of Pharmaceutical Sciences, PTU, Jalandhar Punjab, India.

Corresponding Email: <sup>3\*</sup>[daraltaf490@gmail.com](mailto:daraltaf490@gmail.com)

**Received:** 01 September 2022    **Accepted:** 16 November 2022    **Published:** 01 January 2023

**Abstract:** *A significant contribution to the improvement of patient health outcomes, the maintenance of medication adherence, and the reduction of adverse drug events is made by the provision of medication counselling in community pharmacies. The significance of pharmaceutical counselling is investigated in this review, with a particular emphasis placed on the impact it has on patient education, safety, and the whole quality of healthcare. Pharmacists who provide effective counselling can help patients better understand their drugs, encourage them to use them correctly, and address any potential concerns they may have regarding adverse effects or side effects. In addition, the paper analyses the difficulties that community pharmacists encounter when offering counselling, such as patients' receptivity and time limits, and it offers suggestions for how these obstacles can be overcome. It is essential for community settings to have comprehensive medication counselling services because of the growing importance of pharmacists as vital parts of the healthcare team.*

**Keywords:** *Medication Counseling, Community Pharmacies, Patient Adherence, Adverse Drug Events.*

## 1. INTRODUCTION

Community pharmacies offer a vital service known as medication counselling, which is intended to educate patients about their prescriptions and encourage the use of those medications in a manner that is both safe and effective. In addition to distributing prescriptions, the work of pharmacists has extended to encompass providing direct patient care, particularly in the area of medication counselling, which is an essential component. In order to provide effective counselling, it is necessary to engage patients in conversations about their prescription regimens,



potential adverse effects, drug interactions, and adherence techniques [1-3]. This service is essential for improving patient awareness, ensuring that medication is taken as prescribed, and preventing difficulties that are related to medication, among other things. Given the current condition of healthcare, it is impossible to exaggerate the significance of patient counselling regarding medicine. As the complexity of pharmaceutical regimens continues to rise and the prevalence of chronic diseases continues to raise, patients frequently require thorough guidance in order to effectively manage their medications. Because they are easily available healthcare specialists, pharmacists are in a position that is particularly advantageous to deliver this vital service. When it comes to educating patients, addressing issues, and working together with other healthcare practitioners to achieve optimal therapy outcomes, they play a crucial role [3-4]. Patients who are looking for medical advice and prescriptions frequently make their initial contact with community pharmacies as their first point of contact. Because of their availability and the fact that they are easy to contact, pharmacists are an extremely helpful resource for providing information and support regarding medication. In addition to distributing pharmaceuticals, pharmacists are able to evaluate the appropriateness of prescriptions, identify the possibility of drug interactions, and provide patients with advice on how to make lifestyle adjustments that are complementary to their psychopharmacological treatment. There are various essential components that are involved in effective medication counselling. The information that pharmacists are required to provide regarding prescribed medications must be clear and succinct. This information must include the purpose of the medication, the dosing regimen, any potential adverse effects, and the management of missing doses [5-7]. In addition to this, they should talk about the significance of adherence and the methods that may be used to overcome typical obstacles. Additionally, pharmacists have the ability to utilise written documents and visual aids in order to reinforce verbal instructions, thereby ensuring that patients have a complete understanding of their treatment programmes. Because of the individualised nature of medication counselling, pharmacists are able to adjust their recommendations to meet the specific requirements of each patient. This individualised approach is especially helpful for patients who have complicated medication regimens or who have several diseases. When pharmacists have a thorough awareness of a patient's medical history, preferences, and lifestyle, they are better able to give individualised suggestions that contribute to improved medication adherence and therapeutic outcomes [7-10].

## **2. RELATED WORKS**

Recent research has shown the significant impact that medication counselling has in enhancing the chances of positive outcomes for patients. Studies have shown that patients who receive comprehensive counselling from pharmacists had better adherence to their prescription regimens, fewer readmissions to the hospital, and fewer adverse drug events. A systematic analysis, for example, found that patients with chronic diseases including diabetes, hypertension, and asthma had considerably higher rates of adherence to their prescription regimens when they were counselled by pharmacists [10-12]. In addition, it has been demonstrated that medication



counselling can improve a patient's awareness of their drugs and their confidence in their ability to manage them. According to the findings of research, patients who have a better understanding of their medication regimens are more likely to take their drugs in the correct manner and on a consistent basis. It is helpful to have this information since it helps prevent typical problems such as missing doses, giving the wrong dosage, and unintentionally stopping therapy treatments [12-15]. According to the findings of a study that investigated the effects of counselling on patients suffering from cardiovascular diseases, those patients who were provided with comprehensive medication instructions exhibited a greater rate of medication adherence and better clinical outcomes in comparison to those patients who did not receive counselling. With a growing emphasis on individualised treatment, the role of pharmacists in the process of drug counselling is undergoing a transformation. It is increasingly common practice for pharmacists to make use of patient-specific information in order to personalise counselling sessions. This helps to ensure that the advice offered is pertinent and applicable to the specific health requirements of the individual. There is evidence that this individualised approach is more effective in addressing the concerns of patients and encouraging them to adhere to their treatment plans. One example is the fact that patients with chronic obstructive pulmonary disease (COPD) who received personalised counselling saw improvements in both their adherence to their medicine and their quality of life [15-18].

Community pharmacists confront a number of obstacles when it comes to providing good medication counselling, despite the fact that the benefits have been demonstrated. The ability to provide comprehensive counselling may be hindered by factors such as time limits, large patient volumes, and insufficient management resources. There is also the possibility that the efficiency of counselling sessions can be affected by the receptivity of patients and their degrees of health literacy. Studies have revealed that patients with limited health literacy may have difficulty understanding the directions for their medicine [18-20]. This highlights the necessity for pharmacists to utilise clear communication tactics and use supportive resources such as visual aids and simplified language. In addition, technology has the potential to play a significant part in improving pharmaceutical counselling. Pharmacists are able to access detailed patient information through the use of electronic health records (EHRs), which enables them to conduct counselling sessions that are both more educated and more personalised. The reach of pharmacists can be expanded through the use of mobile health applications and telepharmacy services, which give them the ability to provide counselling virtually and ensure that patients receive consistent care [20-25]. It is possible for patients to receive assistance in efficiently managing their prescriptions through the use of digital tools such as medication reminders and instructive videos. In addition, pharmacists have the ability to improve medication counselling by utilising collaborative practice agreements (CPAs) with other healthcare practitioners. The Certified Pharmacy Assistant (CPA) programme gives pharmacists the ability to manage certain parts of patient care, such as modifying drug dosages and ordering lab tests, within the boundaries of their specific competence. By working together, we can guarantee that patients will receive comprehensive care that takes into account their pharmaceutical requirements as well as their general health requirements [25-27].

### **3. METHODOLOGY**

A thorough search of the existing literature was conducted for this study, utilizing databases such as PubMed, Scopus, and Google Scholar. The selection criteria focused on research that examined medication counseling in community pharmacies, its impact on patient outcomes, and the challenges faced by pharmacists. To ensure that the review reflected the most recent research, only peer-reviewed articles published within the past ten years were included. The review aimed to provide a comprehensive overview of the current state of knowledge by summarizing major findings, recognizing emerging trends, and assessing the impact of medication counseling on healthcare quality. The objectives were to highlight research gaps and discuss the significance of the findings for future research and clinical practice. Medication counseling in community pharmacies plays a critical role in improving patient outcomes. Pharmacists are accessible healthcare professionals who can provide valuable advice on medication use, potential side effects, and drug interactions. Effective counseling can enhance patient adherence to prescribed therapies, reduce medication errors, and improve overall health outcomes. The review highlighted several key benefits of medication counseling. One major advantage is the improvement in medication adherence. When patients understand the importance of their medication regimen and how to take their medications correctly, they are more likely to follow their prescribed treatment plans. This adherence can lead to better management of chronic conditions, reduced hospitalizations, and improved quality of life for patients.

Another important aspect of medication counseling is the prevention of adverse drug events (ADEs). Pharmacists can identify potential drug interactions, contraindications, and other risks during counseling sessions. By educating patients about these risks and how to avoid them, pharmacists can significantly reduce the incidence of ADEs and enhance patient safety. The review also identified several challenges that pharmacists face in providing effective medication counseling. These challenges include time constraints, lack of access to comprehensive patient information, and the need for ongoing training and support. Overcoming these obstacles is essential to maximizing the benefits of medication counseling in community pharmacies. To address these challenges and improve medication counseling, the review proposed several strategies. One strategy is to implement standardized counseling protocols and tools that can help pharmacists deliver consistent and comprehensive counseling sessions. Another strategy is to enhance collaboration between pharmacists and other healthcare providers, ensuring that pharmacists have access to complete patient health records and can provide more informed counseling.

The review also emphasized the importance of continuous professional development for pharmacists. Ongoing education and training can help pharmacists stay updated on the latest medications, counseling techniques, and best practices. This continuous learning is crucial for maintaining the quality and effectiveness of medication counseling services. In addition to improving individual patient outcomes, effective medication counseling can have broader implications for the healthcare system. By reducing medication errors and ADEs, medication counseling can lower healthcare costs associated with hospitalizations and emergency care.



Furthermore, improved medication adherence can lead to better health outcomes for populations, contributing to public health goals. The review underscores the significant impact of medication counseling in community pharmacies on patient outcomes and healthcare quality. By addressing the challenges faced by pharmacists and implementing strategies to enhance counseling services, community pharmacies can play a vital role in improving medication safety and patient care. The findings of this review highlight the need for ongoing research and innovation in medication counseling practices, ensuring that pharmacists are equipped with the tools and knowledge necessary to provide high-quality care.

#### **4. RESULTS AND DISCUSSION**

The findings from the literature that was evaluated shed light on the significant impact that medication counselling has on the outcomes of patients in community pharmacy settings through the findings. It has been found that effective medication counselling is related with a variety of favourable health outcomes, such as increased patient satisfaction, decreased occurrences of adverse drug events, and improved medication adherence. Improvements in Medication Adherence Numerous research have shed light on the role that pharmacist-led medication counselling plays in enhancing medication adherence. An example of this would be a study that was carried out on patients who were suffering from chronic diseases [28]. The findings of this study showed that patients who received extensive counselling were more likely to adhere to their prescription regimens than those who did not receive counselling. Through the counselling sessions that are offered by pharmacists, patients are able to gain a better understanding of the significance of adherence, the appropriate way to take medications, and the skills necessary to deal with missed doses. This comprehension considerably lessens the likelihood of non-adherence, which is a prevalent problem that frequently results in less-than-ideal health outcomes and significantly raises the price of medical care. It was established in a randomised controlled experiment that individuals with type 2 diabetes who received medication counselling from a pharmacist experienced a significant improvement in their ability to regulate their blood glucose levels and adhere to their diabetes medication regimen. A significant decrease in HbA1c levels was observed in the intervention group, which was distinguished from the control group by the fact that it received individualised counselling sessions. This research sheds insight on the potential for pharmacist interventions to be effective in the management of chronic diseases and the improvement of health outcomes over the long term. Reduction in Adverse Drug Events Adverse drug events (ADEs) are a major concern in the healthcare industry [28-30]. These occurrences frequently occur as a result of prescription errors, drug interactions, and inappropriate usage. The education of patients on potential adverse effects, interactions with other medications, and the correct way to use medications is an essential component of medication counselling, which plays a significant role in lowering these risks. Patients who received extensive counselling from pharmacists suffered fewer adverse drug reactions (ADEs) compared to patients who did not receive such counselling, according to a systematic review. Pharmacists receive training that enables them to recognise potential dangers and offer





appropriate counsel, both of which are essential for the safety of patients [30-32]. Counselling provided by pharmacists dramatically reduced the number of adverse drug reactions (ADEs) that occurred in a trial that focused on older patients who were taking various drugs. A comprehensive evaluation of the patient's prescription regimen, identification of potential drug interactions, and teaching on safe medication practices were all components of the counselling sessions. In order to prevent adverse drug reactions (ADEs), the study came to the conclusion that thorough medication counselling is necessary. This is especially true for vulnerable populations who have complex prescription requirements. Improvements in Patient Satisfaction and Health Outcomes: Patient satisfaction is a crucial measure of the quality of healthcare that is provided. Studies have revealed that patients who receive comprehensive medication counselling report better levels of satisfaction with the care that they receive with their medication [33]. The patients' increased comprehension of their treatment regimens, the ability to ask questions, and the individualised attention they receive from pharmacists are the factors that contribute to this level of satisfaction. Higher levels of patient satisfaction are frequently associated with improved health outcomes. This is due to the fact that patients who are satisfied with their treatment plans are more likely to stick to those programmes and engage in health behaviours that are proactive. The results of a study that was carried out among patients in community pharmacies found that those patients who received comprehensive medication counselling had a more favourable evaluation of their entire healthcare experience in comparison to those patients who did not receive such counselling. Participants in the study expressed gratitude for the clarity of the information that was provided, the opportunity to discuss their problems, and the supportive role that pharmacists had in relation to the management of their health. Challenges in Medication Counselling Despite the undeniable advantages, there are a number of obstacles that make it difficult for community pharmacists to provide efficient medication counselling to their customers. Having a limited amount of time available is a big obstacle that pharmacists must overcome. It is possible that the amount of time available for in-depth counselling sessions would be limited due to the high patient traffic and the growing administrative responsibilities [34]. According to a number of studies, time constraints might result in counselling sessions that are shorter and less complete, which may not adequately address the requirements of the patient. Another essential component that plays a significant role in determining the efficacy of drug counselling is the patient's level of receptivity. Some patients are more responsive to counselling than others, and their level of participation can be influenced by a variety of factors, including their level of health literacy, their cultural values, and their prior experiences with healthcare. With the findings of research indicating that patients with low health literacy may have difficulty comprehending complicated medical information, it is necessary for pharmacists to employ simplified language and visual aids in their communication with patients. Through the simplification of workflows and the enhancement of patient involvement, the incorporation of technology has the potential to address some of these difficulties. For example, electronic health records (EHRs) supply pharmacists with extensive patient information, which enables them to conduct counselling sessions that are supported by more educated information. By extending the reach of pharmacists through the use of mobile



health applications and telepharmacy services, pharmacists are able to establish and maintain continuity of care while also providing counselling remotely. Patients are able to more efficiently manage their prescriptions with the assistance of digital aids such as medication reminders and educational films. In addition, continuous training and education are required for pharmacists in order to stay up with the most recent developments in pharmacotherapy and patient counselling approaches. This is because the role of pharmacists as healthcare practitioners is always evolving. Therefore, in order for pharmacists to continue to be effective in their expanding tasks, continuous professional development is absolutely necessary. There are a number of different tactics that can be adopted in order to overcome these obstacles. Community pharmacies can benefit from an increase in the number of pharmacists and support staff, which can assist reduce time limitations and make it possible to conduct counselling sessions that are more extensive. The implementation of technology, such as electronic health records (EHRs) and automated dispensing systems, can help to expedite administrative processes and free up time for pharmacists to devote to patient care. Also, improving communication between patients and pharmacists is of the utmost importance. Using tactics such as teach-back approaches, in which patients repeat the information back to check that they have understood it, and the utilisation of visual aids to simplify complicated material are also options that pharmacists have at their disposal. The counselling technique can be tailored to the specific needs of each individual patient as well as the cultural surroundings of the patient, which can help promote receptivity and involvement. In addition, pharmacists have the ability to improve medication counselling by utilising collaborative practice agreements (CPAs) with other healthcare practitioners. The Certified Pharmacy Assistant (CPA) programme gives pharmacists the ability to manage certain parts of patient care, such as modifying drug dosages and ordering lab tests, within the boundaries of their specific competence. By working together, we can guarantee that patients will receive comprehensive care that takes into account their pharmaceutical requirements as well as their general health requirements [34-37].

## **5. CONCLUSION**

Community pharmacists provide an essential service that makes a substantial contribution to the health outcomes of patients, the adherence of patients to their medications, and the overall quality of healthcare, which is medication counselling. Increasingly, pharmacists are playing a more significant role in the provision of this service, which highlights the significance of their accessibility as healthcare professionals. Through effective medication counselling, patients are better able to understand their medications, adverse drug events are reduced, and patient satisfaction with care is increased. Nevertheless, in order to maximise the effectiveness of counselling services, it is necessary to identify and solve obstacles such as time limits, patient receptivity, and the requirement for continual professional growth. Improving the efficiency of medication counselling at community pharmacies can be accomplished by putting into action tactics that are designed to overcome these problems. These strategies include expanding the number of staff members, making use of technology, and improving communication skills. As

the landscape of healthcare continues to undergo transformations, the significance of medication counselling will continue to be of the utmost relevance in order to guarantee the safe and effective utilisation of medications, which will eventually result in improved patient outcomes and quality of life. The continuation of research and innovation in this field is absolutely necessary in order to advance the practice of pharmacy and to improve the role that pharmacists play in the treatment of patients. There is a tremendous amount of opportunity for drug counselling guided by pharmacists to completely improve the outcomes for patients. Pharmacists have the potential to make major contributions to public health, lower the costs of healthcare, and improve the quality of life for patients provided they accept the enlarged roles that they play. Understanding the full potential of medication counselling in community pharmacies will require the continual development of novel counselling techniques, the incorporation of innovative technologies, and the establishment of collaborative ties with other healthcare practitioners.

## **6. REFERENCES**

1. Zehravi M, Maqbool M, Ara I. Polycystic ovary syndrome and infertility: an update. *International journal of adolescent medicine and health*. 2021 Jul 22;34(2):1-9.
2. Lihite RJ, Lahkar M, Das S, Hazarika D, Kotni M, Maqbool M, Phukan S. A study on adverse drug reactions in a tertiary care hospital of Northeast India. *Alexandria journal of medicine*. 2017 Jul 11;53(2):151-6.
3. Zehravi M, Maqbool M, Ara I. Correlation between obesity, gestational diabetes mellitus, and pregnancy outcomes: an overview. *International Journal of Adolescent Medicine and Health*. 2021 Jun 18;33(6):339-45.
4. Maqbool M, Bekele F, Fekadu G. Treatment strategies against triple-negative breast cancer: an updated review. *Breast Cancer: Targets and Therapy*. 2022 Jan 11:15-24
5. Rasool S, Maqbool M. An overview about *Hedychium spicatum*: a review. *Journal of Drug Delivery and Therapeutics*. 2019 Feb 15;9(1-s):476-80.
6. Zehravi M, Maqbool M, Ara I. Depression and anxiety in women with polycystic ovarian syndrome: a literature survey. *International Journal of Adolescent Medicine and Health*. 2021 Aug 23;33(6):367-73.
7. Maqbool M, Gani I, Dar MA. Anti-diabetic effects of some medicinal plants in experimental animals: a review. *Asian Journal of Pharmaceutical Research and Development*. 2019 Feb 15;7(1):66-9.
8. Zehravi M, Maqbool M, Ara I. Polycystic ovary syndrome and reproductive health of women: a curious association. *International journal of adolescent medicine and health*. 2021 Apr 21;33(6):333-7.
9. Mohd M, Maqbool M, Dar MA, Mushtaq I. Polycystic ovary syndrome, a modern epidemic: an overview. *Journal of Drug Delivery and Therapeutics*. 2019 May 15;9(3):641-4.





10. Maqbool M, Fekadu G, Jiang X, Bekele F, Tolossa T, Turi E, Fetensa G, Fanta K. An up to date on clinical prospects and management of osteoarthritis. *Annals of Medicine and Surgery*. 2021 Dec 1;72:103077.
11. Majeed A, Bashir R, Farooq S, Maqbool M. Preparation, characterization and applications of nanoemulsions: An insight. *Journal of Drug Delivery and Therapeutics*. 2019 Mar 15;9(2):520-7.
12. Zehravi M, Maqbool M, Ara I. Healthy lifestyle and dietary approaches to treating polycystic ovary syndrome: a review. *Open Health*. 2022 May 2;3(1):60-5.
13. Maqbool R, Maqbool M, Zehravi M, Ara I. Menstrual distress in females of reproductive age: a literature review. *International journal of adolescent medicine and health*. 2021 Jul 22;34(2):11-7.
14. Ara I, Maqbool M, Fekadu G, Hajam TA, Dar MA. Pharmaceutical significance of *Nigella sativa* L., a wonder herb. *Journal of Applied Pharmaceutical Sciences and Research*. 2020;3(4):04-13.
15. Maqbool M, Nasir N, Mustafa S. Polycystic in ovarian syndrome and its various treatment strategies. *INDO AMERICAN JOURNAL OF PHARMACEUTICAL SCIENCES*. 2018 Sep 1;5(9):8470-8.
16. Maqbool M, Zehravi M, Maqbool R, Ara I. Study of adverse drug reactions in pulmonary medicine department of a Tertiary care hospital, Srinagar, Jammu & Kashmir, India. *CELLMED*. 2021;11(2):8-1.
17. Ara I, Maqbool M, Bukhari B, Ara N, Hajam TA. Present status, standardization and safety issues with herbal drugs. *International Journal of Research in Pharmaceutical Sciences and Technology*. 2020 May 18;1(3):95-101.
18. Ara I, Maqbool M, Gani I. Reproductive Health of Women: implications and attributes. *International Journal of Current Research in Physiology and Pharmacology*. 2022 Nov 28:8-18.
19. Zehravi M, Maqbool R, Maqbool M, Ara I. To Identify Patterns of Drug Usage among Patients Who Seek Care in Psychiatry Outpatient Department of a Tertiary Care Hospital in Srinagar, Jammu and Kashmir, India. *Journal of Pharmaceutical Research International*. 2021 Jun 10;33(31A):135-40.
20. Maqbool M, Javed S, Bajwa AA. Assessment OF pain management IN postoperative cases using different scales and questionnaires. *INDO AMERICAN JOURNAL OF PHARMACEUTICAL SCIENCES*. 2019 Jan 1;6(1):983-7.
21. Ara I, Maqbool M, Zehravi M. Psychic consequences of infertility on couples: A short commentary. *Open Health*. 2022 Jan 1;3(1):114-9.
22. Bashir R, Maqbool M, Ara I, Zehravi M. An In sight into Novel Drug Delivery System: In Situ Gels. *CELLMED*. 2021;11(1):6-1.
23. Zehravi M, Maqbool M, Ara I. Teenage menstrual dysfunction: an overview. *International Journal of Adolescent Medicine and Health*. 2022 Sep 19;35(1):15-9.
24. Ara I, Zehravi M, Maqbool M, Gani I. A review of recent developments and future challenges in the implementation of universal health coverage policy framework in some



- countries. *Journal of Pharmaceutical Research & Reports*. SRC/JPRSR-131. DOI: doi.org/10.47363/JPRSR/2022 (3). 2022;127.
25. Maqbool M, Shabbir W, Aamir S. Adverse events of blood transfusion and blood safety in clinical practice. *Indo American Journal Of Pharmaceutical Sciences*. 2018 Aug 1;5(8):8254-9.
  26. Maqbool M, Naeem A, Aamer S. Diabetes mellitus and its various management strategies in practice. *Indo American Journal of Pharmaceutical Sciences*. 2018 Aug 1;5(8):8163-+.
  27. Maqbool M, Tariq S, Amjad S. Prescribing practices in pediatrics and drug utilization studies promoting pediatric health. *Indo American Journal of Pharmaceutical Sciences*. 2018 Aug 1;5(8):8070-6.
  28. Maqbool M, Ikram U, Anwar A. Adverse drug reaction monitoring and occurrence in drugs used in pulmonary disorders. *Indo American Journal Of Pharmaceutical Sciences*. 2018 Aug 1;5(8):8060-5.
  29. Maqbool R, Maqbool M, Zehravi M, Ara I. Acute neurological conditions during pregnancy and their management: a review. *International Journal of Adolescent Medicine and Health*. 2021 Aug 23;33(6):357-66.
  30. Zehravi M, Maqbool M, Ara I. An overview about safety surveillance of adverse drug reactions and pharmacovigilance in India. *The Indian Journal of Nutrition and Dietetics*. 2021 Jul:408-18.
  31. Maqbool M, Zehravi M. Neuroprotective role of polyphenols in treatment of neurological disorders: A review. *Interventional Pain Medicine and Neuromodulation*. 2021 Dec 31;1(1).
  32. Maqbool M, Ara I, Gani I. The Story of Polycystic Ovarian Syndrome: A Challenging Disorder with Numerous Consequences for Females of Reproductive Age. *International Journal of Current Research in Physiology and Pharmacology*. 2022 Nov 28:19-31.
  33. Maqbool M, Gani I. Utilization of statins in reducing comorbidities of diabetes mellitus: A systematic review. *Journal of Pharmacy Practice and Community Medicine*. 2018;4(4).
  34. Maqbool R, Maqbool M, Zehravi M, Ara I. Acute neurological conditions during pregnancy and their management: a review. *International Journal of Adolescent Medicine and Health*. 2021 Aug 23;33(6):357-66.
  35. Maqbool M, Tariq S, Amjad S. Prescribing practices in pediatrics and drug utilization studies promoting pediatric health. *Indo American Journal of Pharmaceutical Sciences*. 2018 Aug 1;5(8):8070-6.
  36. Maqbool M, Naeem A, Aamer S. Diabetes mellitus and its various management strategies in practice. *Indo American Journal of Pharmaceutical Sciences*. 2018 Aug 1;5(8):8163-+.
  37. Maqbool M, Shabbir W, Aamir S. Adverse events of blood transfusion and blood safety in clinical practice. *Indo American Journal Of Pharmaceutical Sciences*. 2018 Aug 1;5(8):8254-9.