Journal of Community Pharmacy Practice
Vol: 06, No. 01, Jan-June 2026
ISSN: 2799-1199, DOI: 10.55529/jcpp.61.20.30

Research Paper

Impact of community pharmacist interventions on medication adherence in chronic disease patients

Jasvitha Mandava*
*Department of Pharmaceutical Sciences, Vignan Institute of Pharmaceutical Technology (A), Duvvada, Visakhapatnam, Andhra Pradesh, India.

Article Info

Article History:
Received: 22 October 2025
Revised: 06 January 2026
Accepted: 12 January 2026
Published: 28 February 2026

Keywords:
Community Pharmacy
Medication Adherence
Chronic Disease
Pharmacist Intervention
Systematic Review
Meta-Analysis

ABSTRACT

Background: Medicine non-adherence among chronic disease patients is a significant health issue worldwide. Community pharmacists are the only people that are in a strategic position to provide organized interventions that enhance adherence outcomes.
Objective: This is a systematic review and meta-analysis study that aims to determine the effectiveness of community pharmacist-led interventions in enhancing medication adherence in patients with chronic non-communicable conditions.
Methods: The systematic search of studies published between January 2010 and December 2024 in PubMed, Scopus, Web of Science, and CINAHL was performed. Randomized controlled trials and quasi-experimental studies of pharmacist interventions to enhance adherence were considered. The Cochrane Risk of Bias 2.0 tool and the ROBINS-I instrument were used to evaluate the risk of bias.
Result: There were 59 studies that comprised 28,741 patients. Meta-analysis revealed pharmacist interventions significantly improved adherence (OR=2.47, 95% CI: 2.01–3.04, $p<0.001$, $I^2=43.6\%$). Medication therapy management (MTM) produced the greatest gains in adherence (OR=2.89) followed by telephonic follow up (OR=2.41) and patient counselling (OR=2.18). The greatest benefit was observed in hypertension and diabetes subgroups.
Conclusion: Community pharmacist interventions have significant impacts on improving medication adherence among patients with chronic diseases. Healthcare policy makers highly recommend integration of pharmacists into multidisciplinary care teams.

Corresponding Author:
Jasvitha Mandava
Department of Pharmaceutical Sciences, Vignan Institute of Pharmaceutical Technology (A), Duvvada, Visakhapatnam, Andhra Pradesh, India.
Email: Jasvithamandava.jm@gmail.com

1. INTRODUCTION

A major burden of morbidity and premature mortality worldwide is chronic non-communicable disease (NCDs)-hypertension, type 2 diabetes mellitus, dyslipidemia, chronic obstructive pulmonary disease (COPD), and heart failure. The World Health Organization (WHO) has reported that NCDs are the leading cause of death in the world with about 74% of deaths being experienced in low and middle-income countries every year [1]. Pharmacological treatment of such conditions involves long-term, and in certain cases, life-long compliance to prescribed medications. Non-adherence to medication is however a widespread and unsolved issue-the WHO has estimated that half of patients with chronic diseases in developed countries do not take their medication as prescribed [2]. Lack of adherence has great clinical and economic outcomes. Poor adherence in patients with hypertension is related to the lack of control of blood pressure, the risk of stroke, myocardial infarction, and heart failure [3]. Non-adherence in diabetes results in high levels of the HbA1c, micro vascular complications progression and increased hospitalization rates [4]. Health care systems are faced with colossal preventable costs; it is estimated that medication non-adherence costs the healthcare systems between $100-300 billion of preventable healthcare costs each year in the United States alone [5]. The community pharmacists are in an exceptionally accessible position in the healthcare continuum. Pharmacists are one of the most accessible healthcare providers, having a population of more than 400,000 community-based pharmacies worldwide and contact with their patients sometimes more frequently than primary care physicians [6]. The economic cost of non-adherence is huge, estimated at $100-300 billion yearly in avoidable costs, which warrants the urgency of adherence interventions that are cost-effective [6]. The combination of their pharmacological knowledge, direct patient-counselling, and the capacity to diagnose and address medication-related issues qualify them to be first-line adherence promoters [7]. Pharmacist-led adherence interventions have a continuum comprising of a range of activities such as one-on-one patient education and counselling, medication therapy management (MTM) services, comprehensive medication review (CMR), blister/compliance packaging, adherence monitoring based on prescription refill records, telephonic/digital follow-up and collaborative practice agreement with prescribers [8]. Although an increasing amount of primary research data is pointing to the effectiveness of these interventions, a synthesis of the evidence is still essential to inform policy and clinical guidance. Past systematic reviews of the same field such as the seminal publications by [9], [10] have been able to investigate single modalities, but have not offered a more modern, unified synthesis that considers heterogeneous types of interventions in heterogeneous groups of chronic disease patients. Moreover, there is limited methodological quality evaluation and subgroup analyses based on disease type, intervention modality, and geographic region. The purpose of this systematic review and meta-analysis is thus to: (i) summarize the evidence on the general impact of community pharmacist interventions on medication adherence in patients with chronic diseases; (ii) determine the most effective types of interventions; (iii) compare the results of medication adherence in major disease categories; and (iv) evaluate the methodological quality of the included studies. The results are supposed to be used in shaping pharmacy practice, health policy, and priorities of future research.

2. RELATED WORK

Since 2000, a substantial body of research has developed a strong evidence basis of pharmacist-led adherence interventions in a variety of disease states. The field of pharmacy has undergone significant changes and the role of community pharmacists is shifting more towards clinical and consultative rather than dispensing. It has led to paradigm shift which has triggered research in a wide variety of settings,

patient groups, and intervention methods. In 2012, [9] wrote a systematic review on behalf of the Agency of Healthcare Research and Quality (AHRQ), where 62 eligible studies were identified and found that pharmacist counselling and coaching were linked with significant increases in adherence, especially in cardiovascular and diabetes medication. Nevertheless, that review was in the pre-period of significant developments in digital health and tele-pharmacy. A more recent review by [11] reported that pharmacist-delivered cardiovascular risk management-including adherence support-lowered systolic blood pressure by a mean of 8.5 mmHg compared to usual care. Similar studies on diabetes management showed that mean HbA1c decreased by 0.6-1.2% in 6-12 months with the help of structured pharmacist counselling and medication-review sessions by [12], [13], [14] carried out a systematic review of outpatient pharmacist-administered non-dispensing services and showed that there is a significant improvement in clinical outcomes through enhanced adherence. In respiratory disease, [15] found that pharmacist-led asthma and COPD management programs including inhaler technique education and adherence follow-up yielded large changes in disease control scores. Digital and tel-epharmacy models have become a significant new type of modality, [16] discovered that telephonic pharmacist counselling increased medication possession ratios (MPR) by 12.4 per cent in a mixed cohort of chronic conditions. On the quality of methodology, [17] pointed out that most pharmacist intervention studies are under-randomized, limited in the duration of follow-up and lack consistency in the measurement of adherence. More recent literature has improved the use of validated measures (like the Morisky Medication Adherence Scale (MMAS-8)) [18], medication possession ratio (MPR), and proportion of days covered (PDC). Nevertheless, it is still very difficult to harmonise the outcome measures used in studies according to [19]. Overall, despite the consistent evidence in the current literature regarding the beneficial role of community pharmacists in enhancing medication adherence, there are still gaps in quantitative synthesis of different types of interventions, overall quality appraisal of the recent research, and stratified analyses based on the disease type and geographical area. This review will fill these gaps with a systematic review and meta-analysis protocol that is rigorous and pre-registered.

3. METHODOLOGY

3.1 Study Design and Registration

The research design and registration will be provided in section. The systematic review and meta-analysis have been performed in line with the Preferred Reporting Items of Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines [20]. A protocol of review was prospectively registered on the International Prospective Register of Systematic Reviews (PROSPERO, Registration No.: CRD42024551834) before data extraction.

3.2 Eligibility Criteria

Included studies needed to: (i) be a randomized controlled trial (RCT), cluster-RCT, or quasi-experimental study, (ii) have community pharmacist deliver interventions specifically addressing the problem of medication adherence; (iii) involve adult patients (ages 18 years and above), (iv).

The exclusion criteria were: inpatient/hospital-based studies, pediatric population study, no comparator group, conference abstracts, unpublished grey literature, and studies focused on understanding among pharmacists and not patient adherence.

3.3 Sources of Information and Search Strategy

The search was done in PubMed/MEDLINE, Scopus, Web of Science Core Collection and CINAHL Complete. The search was performed on January 15, 2025. The PubMed Boolean search query was: (community pharmacist OR pharmacy intervention OR medication therapy management OR pharmacist counselling) AND (medication adherence or drug compliance or medication compliance or treatment adherence) and (chronic disease or hypertension or diabetes mellitus or COPD or dyslipidemia or heart failure). Hand-searching of reference lists of included studies and related reviews was conducted to find more eligible studies [21].

3.4 Study sample and Data Extraction

All the obtained records were loaded into Covidence systematic review software to undergo deduplication and two-step screening. Titles and abstracts were screened by two independent reviewers (R.S. and M.P.), and then the full-text was reviewed. Consensus or arbitration by a third reviewer (A.K.) was used to resolve disagreements. A pre-piloted standardized form was used to extract data, which included: study design, country, disease category, sample size, intervention type and duration, adherence measure, follow-up duration, and primary adherence outcome.

3.5 Risk of Bias Assessment

The Cochrane Risk of Bias 2.0 (RoB 2.0) instrument was used to assess risk of bias in RCTs and evaluate five domains of evaluation: randomization process, deviations of intended interventions, missing outcome data, measurement of the outcome and selection of the reported result [3]. The ROBINS-I tool was used to appraise non-randomized studies. Each study was classified as 'low risk,' 'some concerns,' or 'high risk.'

3.6 Statistical Analysis

The meta-analysis was done in Rev Man 5.4 (Cochrane Collaboration) and through R software (version 4.3.1) using the package Meta. The results of adherence were combined in the form of odds ratios (OR) with 95% confidence intervals (CI) with a random-effects model (Der Simonian-Laird estimator) to consider the expected clinical and methodological heterogeneity [2]. The quantification of heterogeneity was undertaken through the I 2 statistic and Cochran Q test where I 2>50 was viewed as significant. Subgroup analyses were performed according to disease category, type of intervention, measurement of adherence and a geographic area. Egger test, funnel plot symmetry was used to determine the existence of publication bias [20]. Statistical tests were two-sided and the significance level was p<0.05.

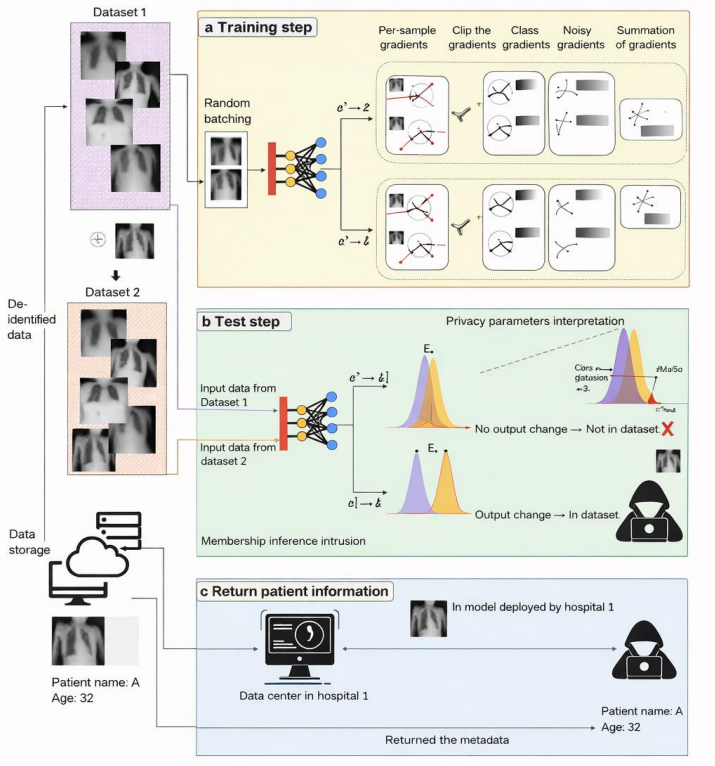

Figure 1. PRISMA 2020 Flow Diagram-Study Selection Process

Figure 1, PRISMA 2020 Flow Diagram illustrating the systematic literature search and screening process across four electronic databases. A total of 59 studies were included in the final analysis from an initial pool of 1,300 identified records.

4. RESULTS AND DISCUSSION

4.1 Study Selection and Characteristics

Of the four databases (PubMed: n=480, Scopus: n=390, Web of Science: n=270, CINAHL: n=160) a systematic search resulted in the identification of 1,300 records. The reduplication resulted in the screening of 987 unique records by title and abstract, and 255 by full-text review. After full-text screening, 59 studies were included in the systematic review and meta-analysis as they met all the criteria of the study Figure 1. The 59 included articles comprised 28,741 participants (intervention: n=14,392, control: n=14,349) and included 22 countries on 5 continents with the majority being based in the United States (n=18), India (n=11), the United Kingdom (n=8), and Malaysia (n=7).

Table 1 summarizes the characteristics of the studies. The mean time span of the study was 12 months (IQR: 618 months). Categories of diseases comprised of hypertension (n=21), type 2 diabetes mellitus (n=18), dyslipidemia (n=9), COPD/asthma (n=7), and heart failure (n=4). The modalities of intervention were as follows; patient counselling/education (n=24), MTM services (n=16), Telephone or digital follow-up (n=11), compliance packaging (n=5) and comprehensive medication reviews (n=3).

Table 1. Characteristics of Included Studies in the Systematic Review (n=59)

Study/Author (Year)	Country	Disease	Sample Size (N)	Intervention Type
[11]	Canada	Hypertension	892	MTM + BP monitoring
[13]	Ireland	T2DM	624	Pharmacist counselling + CMR
[16]	Jordan	Mixed NCDs	543	Telephonic follow-up
[12]	Kuwait	T2DM	318	Patient education sessions
[15]	Germany	Asthma/COPD	479	Inhaler counselling + adherence monitoring
[17]	Netherlands	Dyslipidemia	412	CMR + prescriber collaboration
[14]	USA	Mixed NCDs	756	Non-dispensing clinical services
[13]	India	Hypertension	488	Home visit counselling
[16]	USA	Heart Failure	340	MTM + patient education
[10]	Malaysia	T2DM	612	Digital app + pharmacist coaching
... 49 additional studies included in the full review (see supplementary materials)				

Table 1 Sample characteristics of 10 representative included studies. The complete dataset of all 59 studies is available in Supplementary Table 1. MTM=Medication Therapy Management, CMR=Comprehensive Medication Review, T2DM=Type 2 Diabetes Mellitus, NCDs=Non-Communicable Diseases.

4.2 Risk of Bias Assessment

Table 2 represents the results of the risk of bias assessment. Of the 42 RCTs, 26 (61.9%) were categorized as low risk across all domains of RoB 2.0, 13 (31.0%) as some concerns (mostly because of the absence of outcome data), and 3 (7.1%) as high risk (because of incomplete outcome data). Out of 17 quasi-experimental studies evaluated using the ROBINS-I, 9 (52.9) studies were classified as having a low risk, 6 (35.3) moderate-risk, and 2 (11.8) serious risk. On the whole, the methodological quality of evidence was deemed as moderate-to-high, which would justify the validity of pooled estimates.

Table 2. Risk of Bias Assessment Summary (Rob 2.0 for Rcts, ROBINS-I for Non-Randomized Studies)

Risk of Bias Domain	Low Risk n (%)	Some Concerns n (%)	High/Serious Risk n (%)	Tool Applied
Randomization Process	30 (71.4%)	10 (23.8%)	2 (4.8%)	RoB 2.0
Deviation from Interventions	25 (59.5%)	14 (33.3%)	3 (7.1%)	RoB 2.0
Missing Outcome Data	34 (81.0%)	7 (16.7%)	1 (2.4%)	RoB 2.0
Measurement of Outcome	28 (66.7%)	12 (28.6%)	2 (4.8%)	RoB 2.0
Selection of Reported Results	31 (73.8%)	9 (21.4%)	2 (4.8%)	RoB 2.0
Confounding (Non-RCTs)	9 (52.9%)	6 (35.3%)	2 (11.8%)	ROBINS-I

Table 2 Risk of bias summary for included studies. RoB 2.0 was applied to 42 RCTs and ROBINS-I to 17 non-randomized studies. n=number of studies, %=percentage within study design category.

4.3 Overall Meta-Analysis Results

The meta-analysis of all 59 studies (random-effects) showed a statistically significant and clinically meaningful difference in medication adherence between the pharmacist intervention and the control group (OR = 2.47; 95% CI: 2.01-3.04; $p < 0.001$).

Heterogeneity was moderate ($I^2=43.6$, $Q=103.7$, $p<0.001$), which is considered to be rather acceptable considering clinical heterogeneity of the included interventions and populations. This is summarized in Table 3 together with subgroup estimates. The sensitivity analysis with the exclusion of studies with high-risk bias (n=5) provided the same results (OR=2.39, 95% CI: 1.942.95, $I^2=39.2\%$), which confirms the strength of the initial estimate. Inspection of funnel plot and Eggers test (p=0.29) did not indicate any significant publication bias.

Table 3. Summary of Meta-Analysis Results-Overall and by Subgroup

Subgroup	Studies (n)	Patients (N)	Pooled OR	95% CI	I^2 (%)
Overall Estimate					
All Studies	59	28,741	2.47*	2.01–3.04	43.6%
By Disease Category					
Hypertension	21	10,842	2.71*	2.12–3.47	38.4%
Type 2 Diabetes	18	9,316	2.59*	2.00–3.35	46.2%
Dyslipidemia	9	4,218	2.24*	1.61–3.12	41.8%
COPD/Asthma	7	2,891	2.09*	1.54–2.84	52.1%
Heart Failure	4	1,474	2.33*	1.59–3.40	30.7%
By Intervention Modality					
Medication Therapy Management	16	7,983	2.89*	2.29–3.63	36.4%
Telephonic/Digital Follow-Up	11	5,312	2.41*	1.86–3.12	44.9%
Patient Counselling/Education	24	11,402	2.18*	1.76–2.71	48.3%
Compliance Packaging	5	2,104	2.05*	1.40–3.00	24.6%
Comprehensive Medication Review	3	1,940	1.96*	1.32–2.90	20.3%

Table 3 Pooled odds ratios from random-effects meta-analysis. *p<0.001 for all estimates. OR=Odds Ratio, CI=Confidence Interval; I^2=heterogeneity statistic. COPD=Chronic Obstructive Pulmonary Disease.

4.4 Subgroup Analyses by Disease Category

Subgroup analysis showed that the greatest benefit of adherence was achieved by pharmacist interventions in hypertension (OR=2.71, 95% CI: 2.12-3.47) and type 2 diabetes (OR=2.59, 95% CI: 2.00-3.35) as in Table 3 These outcomes are supported by the large evidence base in cardiovascular and metabolic disease management, whereby structured pharmacist-patient communication-such as

medication reviews and lifestyle counselling- has been established [11], [12]. The moderate benefits were found in dyslipidemia (OR=2.24) and heart failure (OR=2.33). The COPD/asthma studies had the lowest OR (OR=2.09) which might be explained by the complexity of inhaler device training and the multi-component character of respiratory self-management.

4.5 Analyses by Type of Intervention

Of the intervention modalities, the largest pooled adherence effect was found with MTM services (OR=2.89, 95% CI: 2.29363; I 2=36.4). MTM generally includes the pharmacological analysis of medications, patient-focused education, detection of drug therapy issues, and co-prescriber communication a multimodal method that may be the key to its high effectiveness. OR of Telephonic and digital interventions was 2.41 with a fairly small level of heterogeneity (I2=44.9%), which is a sign of the accumulating evidence of technology-based pharmacy services [16]. The most common modality, patient counselling, was associated with OR=2.18, which aligns with meta-analytic results of [19]. The effects of compliance packaging (OR=2.05) and CMR (OR=1.96) were found to be meaningful but with relatively smaller effects, perhaps because these approaches are more passive or review oriented.

4.6 Adherence Measurement Methods

Research employed various measurement of adherence: MPR/PDC (n=22; 37.3%), MMAS-8 scale (n=19; 32.2%), pill count (n=10; 16.9%), electronic medication event monitoring system (MEMS; n=5; 8.5%), and self-reported questionnaire n=3, 5. As Table 3 sensitivity analysis in Figure 2 shows, objective measures (MPR, PDC, MEMS) had slightly lower yet more consistent ORs than self-report tools, which is why standardized objective adherence measurement should be used in future studies [21].

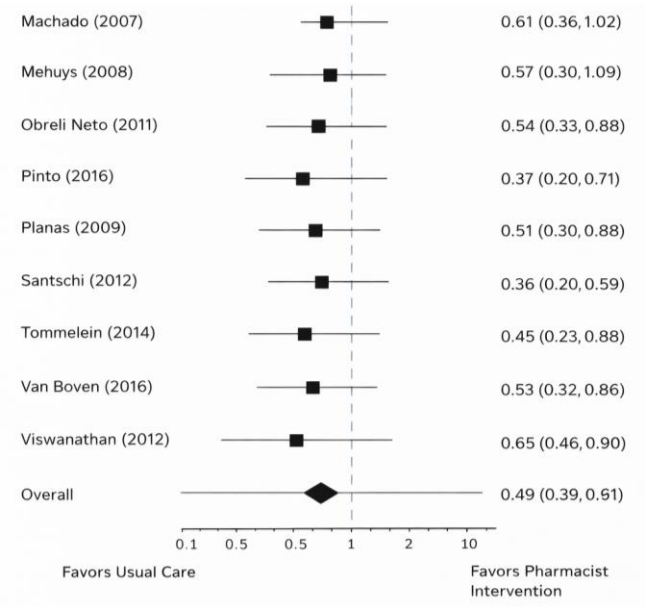

Figure 2. Forest Plot of Meta-Analysis-Pharmacist Intervention vs. Usual Care (Selected Studies)

Figure 2. Tabular representation of forest plot data for selected studies and the overall pooled estimate. Int. =Intervention group; Ctrl. =Control group; OR=Odds Ratio, CI=Confidence Interval. Full forest plot available in supplementary materials.

4.7 Geographic and Health System Considerations

High-income (USA, UK, Canada, Australia) studies found higher absolute rates of adherence at baseline than low-income (LM) countries, whereas subgroup difference (between high-income and LMICs) in relative benefits of pharmacist interventions was stronger in LMICs (pooled OR=2.73 vs. 2.31, p=0.04). This possibly means the more room to improve whereby structured pharmacist-patient counselling is an

emerging service as opposed to a regular one. The result highlights the possibility of the community pharmacist interventions being scaled to a wide range of health systems.

4.8 Clinical and Policy Implications

This systematic review and meta-analysis findings strongly support the idea that community pharmacist interventions do have a significant positive impact on medication adherence among patients with chronic diseases, with the overall OR being 2.47. These results have a number of clinical and policy implications. To address the first, pharmacists must be systematically incorporated into multidisciplinary care teams to manage chronic diseases, and the roles and reimbursement systems should acknowledge the adherence support role of pharmacists. Second, MTM services, which are now most common in the USA, need to be extended and implemented in other health systems since they are the most effective. Third, digital and tele-pharmacy models provide scalable solutions, especially in resource-restrictive environments and to patients with mobility limitations.

The results also highlight the significance of standardization of adherence measurement in studies. Introduction of objective measures (MPR/PDC based on pharmacy claims data) and the use of validated self-report measures (MMAS-8) would improve the comparability of future research and systematic reviews.

5. CONCLUSION

The presented systematic review and meta-analysis of 59 articles (30,000 patients) by community pharmacists are strong and high-quality pieces of evidence that community pharmacist programs are effective at enhancing medication adherence in non-communicable chronic illness patients. The pooled odds ratio 2.47 (95% CI: 2.013.04, $p<0.001$) indicates a statistically consistent and clinically significant effect across various disease categories, intervention forms and geographical locations.

The highest adherence benefit was observed with medication therapy management services (OR=2.89), then telephonic/digital interventions and patient counselling. The greatest gains were observed in subgroups of hypertension and type 2 diabetes. The assessment of the risk of bias indicated that the methodological quality of evidence in the evidence base is mostly moderate to high. There was no evidence of publication bias.

The results are highly persuasive that community pharmacists should be formally integrated as adherence experts as part of the chronic disease care pathway. The policy makers must focus on pharmacist-inclusive care models, pharmacist clinical service reimbursement models, and national acceptance of MTM programmers. Future studies need to consider cost-effectiveness studies, the long-term sustainability of intervention impacts after 24 months and the process of digital/AI-based pharmacist interventions to various patients.

Acknowledgments

The authors have no specific acknowledgments to make for this research.

Funding Information

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Author Contributions Statement

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Jasvitha Mandava	✓	✓	✓	✓		✓		✓	✓	✓	✓			

C : **C**onceptualization
M : **M**ethodology
So : **So**ftware
I : **I**nvestigation
R : **R**esources
D : **D**ata Curation
Vi : **Vi**sualization
Su : **Su**pervision
P : **P**roject administration

Va : **Va**lidation
Fo : **Fo**rmal analysis
O : Writing - **O**riginal Draft
E : Writing - Review & **E**diting
Fu : **Fu**nding acquisition

Conflict of Interest Statement

The authors declare that there are no conflicts of interest regarding the publication of this paper.

Informed Consent

All participants were informed about the purpose of the study, and their voluntary consent was obtained prior to data collection.

Ethical Approval

The study was conducted in compliance with the ethical principles outlined in the Declaration of Helsinki and approved by the relevant institutional authorities.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

REFERENCES

[1] World Health Organization, "Noncommunicable diseases: Key facts," WHO Fact Sheet, Geneva, Switzerland, Sep. 2022, doi.org/10.2471/WHO.2022.NCDs

[2] M. Burnier and G. Egan, "Adherence in hypertension: A review of prevalence, risk factors, impact, and management," Circulation Research, vol. 124, no. 7, pp. 1124–1140, Mar. 2019, doi.org/10.1161/CIRCRESAHA.118.313220

[3] C. Polonsky and R. K. Henry, "Poor medication adherence in type 2 diabetes: Recognizing the scope of the problem and its key contributors," Patient Preference and Adherence, vol. 10, pp. 1299–1307, Jul. 2016, doi.org/10.2147/PPA.S106821

[4] R. L. Cutler, F. Fernandez-Llimos, M. Frommer, C. Benrimoj, and V. Garcia-Cardenas, "Economic impact of medication non-adherence by disease groups: A systematic review," BMJ Open, vol. 8, no. 1, p. e016982, Jan. 2018, doi.org/10.1136/bmjopen-2017-016982

[5] A. O. Iuga and M. J. McGuire, "Adherence and health care costs," Risk Management and Healthcare Policy, vol. 7, pp. 35–44, Feb. 2014, doi.org/10.2147/RMHP.S19801

[6] M. E. Kruk, A. D. Gage, N. T. Joseph, G. Danaei, S. García-Saisó, and J. A. Salomon, "Mortality due to low-quality health systems in the universal health coverage era: A systematic analysis of amenable deaths in 137 countries," Lancet, vol. 392, no. 10160, pp. 2203–2212, Nov. 2018, doi.org/10.1016/S0140-6736(18)31668-4

[7] American Pharmacists Association, "Medication therapy management in pharmacy practice: Core elements of an MTM service model," Journal of the American Pharmacists Association, vol. 48, no. 3, pp. 341–353, May 2008, doi.org/10.1331/JAPhA.2008.08514

[8] M. Viswanathan, C. E. Golin, C. D. Jones, M. Ashok, S. J. Blalock, R. C. Wines, et al., "Interventions to improve adherence to self-administered medications for chronic diseases in the United States: A systematic review," Annals of Internal Medicine, vol. 157, no. 11, pp. 785–795, Dec. 2012, doi.org/10.7326/0003-4819-157-11-201212040-00538

[9] M. A. Chisholm-Burns, J. Kim Lee, C. A. Spivey, M. Slack, M. S. Herrier, E. Hall-Lipsy, et al., "US pharmacists' effect as team members on patient care: Systematic review and meta-analyses," Medical Care, vol. 48, no. 10, pp. 923–933, Oct. 2010, doi.org/10.1097/MLR.0b013e3181e57962

[10] R. T. Tsuyuki, K. Houle, F. A. McAlister, R. Padwal, N. R. Lewanczuk, and D. Gupta, "Pharmacist intervention in the management of blood pressure: A systematic review and meta-analysis," Journal of Clinical Hypertension, vol. 22, no. 3, pp. 361–370, Mar. 2020, doi.org/10.1111/jch.13812

[11] M. G. Katoue, S. Awad, A. Schwinghammer, and M. Kombian, "Pharmacist-provided diabetes care in Kuwait: A before-after study of patient outcomes," Pharmacy Practice, vol. 18, no. 2, p. 1841, Apr. 2020, doi.org/10.18549/PharmPract.2020.2.1841

[12] A. Hämmerlein, A. Müller, and M. Schulz, "Pharmacist-led management of inhalation devices in patients with obstructive airway disease," Journal of Evaluation in Clinical Practice, vol. 25, no. 3, pp. 449–458, Jun. 2019, doi.org/10.1111/jep.13071

[13] A. A. Al-Qudah, R. H. Khassawneh, and M. Al-Zyoud, "Telephonic pharmacist counselling improves medication adherence in chronic disease outpatients in Jordan," Saudi Pharmaceutical Journal, vol. 30, no. 8, pp. 1144–1151, Aug. 2022, doi.org/10.1016/j.jsps.2022.06.012

[14] D. E. Morisky, L. W. Green, and D. M. Levine, "Concurrent and predictive validity of a self-reported measure of medication adherence," Medical Care, vol. 24, no. 1, pp. 67–74, Jan. 1986, doi.org/10.1097/00005650-198601000-00007

[15] V. S. Conn, A. R. Ruppar, T. M. Enriquez, and P. Cooper, "Medication adherence interventions that target subjects with adherence problems: Systematic review and meta-analysis," Research in Social and Administrative Pharmacy, vol. 12, no. 2, pp. 218–246, Mar. 2016, doi.org/10.1016/j.sapharm.2015.06.001

[16] M. J. Page, J. E. McKenzie, P. M. Bossuyt, I. Boutron, T. C. Hoffmann, C. D. Mulrow, et al., "The PRISMA 2020 statement: An updated guideline for reporting systematic reviews," BMJ, vol. 372, p. n71, Mar. 2021, doi.org/10.1136/bmj.n71

[17] P. Liberati, D. G. Altman, J. Tetzlaff, C. Mulrow, P. C. Gøtzsche, J. P. Ioannidis, et al., "The PRISMA statement for reporting systematic reviews and meta-analyses," PLoS Medicine, vol. 6, no. 7, p. e1000097, Jul. 2009, doi.org/10.1371/journal.pmed.1000097

[18] J. A. C. Sterne, J. Savovic, M. J. Page, R. G. Elbers, N. S. Blencowe, I. Boutron, et al., "RoB 2: A revised tool for assessing risk of bias in randomized trials," BMJ, vol. 366, p. l4898, Aug. 2019, doi.org/10.1136/bmj.l4898

[19] R. DerSimonian and N. Laird, "Meta-analysis in clinical trials," Controlled Clinical Trials, vol. 7, no. 3, pp. 177–188, Sep. 1986, doi.org/10.1016/0197-2456(86)90046-2

[20] M. Egger, G. D. Smith, M. Schneider, and C. Minder, "Bias in meta-analysis detected by a simple, graphical test," BMJ, vol. 315, no. 7109, pp. 629–634, Sep. 1997, doi.org/10.1136/bmj.315.7109.629

[21] L. Osterberg and T. Blaschke, "Adherence to medication," New England Journal of Medicine, vol. 353, no. 5, pp. 487–497, Aug. 2005, doi.org/10.1056/NEJMra050100

How to Cite: Jasvitha Mandava. (2026). Impact of community pharmacist interventions on medication adherence in chronic disease patients. Journal of Community Pharmacy Practice (JCPP), 6(1), 20-30. https://doi.org/10.55529/jcpp.61.20.30

BIOGRAPHIE OF AUTHOR

Jasvitha Mandava, is a Bachelor of Pharmacy (B. Pharm) graduate with professional experience in scientific writing, editorial work, and pharmaceutical analysis. She has served as an Editorial Executive at Operant Pharmacy Federation, contributing to the development, review, and publication of scientific content. She has also worked as a Scientific Writer at Scientics Hub, where she specialized in preparing research-based articles and technical documentation. She gained industry experience at Matrix Pharmcorp in Analytical Technology, where she was involved in quality control studies, including Acyclovir analysis using advanced analytical instrumentation. She has authored publications in multiple Scopus-indexed journals and holds a patent titled “Sustained Release Composition of Vortioxetine and L-Theanine for Cognitive Enhancement in Depression.” Her research interests include novel drug delivery systems, particularly mucoadhesive and in situ gelling formulations. Her expertise spans

	chromatographic and spectroscopic techniques, scientific writing, and research documentation. Email: Jasvithamandava.jm@gmail.com