Original Article

Financial Toxicity and Socioeconomic Barriers to Medication Adherence Among Outpatients with Type 2 Diabetes Mellitus in Bangladesh

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Abstract

Background: *Medication non-adherence remains a major barrier to optimal glycemic control among patients with Type 2 Diabetes Mellitus (T2DM). Although behavioral and treatment-related causes of non-adherence have been extensively studied, the contribution of financial toxicity—the objective and subjective financial burden imposed by healthcare expenditures—remains insufficiently characterized in lower-middle-income settings such as Bangladesh. This study evaluated socioeconomic determinants and risk subgroups associated with cost-driven medication non-adherence among outpatients with T2DM.* ***Materials and Methods:*** *A cross-sectional study was conducted among 213 adults with T2DM attending the outpatient department of Ad-din Sakina Women's Medical College Hospital. Demographic, socioeconomic, and treatment-related data were collected using a structured questionnaire. Bivariate associations were examined using Pearson's Chi-square tests, and independent predictors of cost-driven medication non-adherence were identified through multivariable binary logistic regression, reported as Adjusted Odds Ratios (AORs) with 95% confidence intervals.* ***Results:*** *Participants had a mean age of 56.77±11.81 years; 54.5% were male and 62.0% resided in rural areas. Financial toxicity was highly prevalent: 56.3% reported financial difficulty related to treatment costs, while 60.1% reported running out of medications before scheduled follow-up visits. Rural residence independently predicted medication skipping (AOR=7.97, 95% CI: 2.98–21.34). Household income below 20,000 BDT was strongly associated with non-adherence, particularly among those earning 10,000–20,000 BDT (AOR=10.00) and <10,000 BDT (AOR=8.94). Low educational attainment also markedly increased risk (AOR=26.72).* ***Conclusion:*** *Financial toxicity is a major structural determinant of diabetes medication non-adherence in Bangladesh. Policies addressing affordability, rural access, and socioeconomic inequities are essential to improve long-term diabetes outcomes.*

Keywords: Type 2 diabetes mellitus; Medication adherence; Healthcare costs; Socioeconomic factors; Rural population; Bangladesh; Financial toxicity.

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Introduction

Type 2 Diabetes Mellitus (T2DM) has emerged as a major public health crisis globally, with its burden disproportionately rising across low- and middle-income countries (LMICs).[1] In South Asia, and specifically in Bangladesh, the prevalence of diabetes has grown sharply over the last few decades, driven by rapid urbanization, metabolic shifts, and demographic transitions.[1] Effective management of T2DM commonly demands lifetime adherence to multi-drug pharmacotherapy regimens, regular clinical checkups, and routine metabolic monitoring. Despite the proven benefits of consistent therapy in avoiding microvascular and macrovascular complications, medication non-adherence remains a pervasive challenge in clinical practice.[2]

While clinical research traditionally attributes non-adherence to psychological forgetfulness, complex dosing regimens, or medication-related adverse effects, there is increasing recognition that structural socioeconomic barriers substantially influence treatment adherence.[3] In Bangladesh, where healthcare financing remains predominantly dependent on out-of-pocket expenditure, the economic burden of chronic disease management is often transferred directly to households.[4] Consequently, many patients face difficult decisions regarding the allocation of limited financial resources among healthcare, food, education, and other essential needs.

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The concept of financial toxicity has gained increasing attention in chronic disease research. Originally developed within oncology literature, the term describes the objective financial burden and subjective financial distress experienced by patients as a consequence of medical treatment costs.[5] More recently, investigators have highlighted the relevance of financial toxicity in diabetes care because of the lifelong nature of treatment and the recurring costs associated with medications, laboratory investigations, transportation, physician consultations, and management of complications.[6]

Diabetes imposes a particularly challenging economic burden because successful disease control depends on uninterrupted treatment. Even short interruptions in medication availability can lead to poor glycemic control, increased risk of acute metabolic events, accelerated progression of microvascular complications, and higher long-term healthcare expenditures.[7,8] Cost-related non-adherence therefore represents both a clinical and economic concern. International evidence suggests that patients facing financial hardship frequently engage in coping behaviors such as delaying prescription refills, reducing doses, sharing medications, or completely foregoing treatment.[9]

In LMIC settings, these challenges are amplified by limited social protection mechanisms and inadequate insurance coverage. Bangladesh has made substantial progress in improving population health indicators; however, financial risk protection for chronic disease care remains insufficient.[4,8] Several studies have shown that households affected by chronic illnesses are at increased risk of catastrophic health expenditure and financial hardship.[10,11] The burden is especially pronounced among individuals requiring long-term pharmacotherapy, including patients with diabetes, hypertension, and cardiovascular disease.

Socioeconomic disparities further shape the experience of financial toxicity. Educational attainment may influence health literacy, treatment-seeking behavior, and the ability to navigate healthcare systems effectively.[7] Individuals with higher education levels are often better equipped to understand the consequences of treatment interruption, compare therapeutic alternatives, and communicate financial concerns with healthcare providers. Conversely, lower educational attainment may compound the adverse effects of poverty and restricted access to health information.[12]

Geographic inequities also remain highly relevant in Bangladesh. Rural residents frequently encounter additional barriers beyond medication prices themselves, including transportation costs, reduced availability of specialized services, fewer pharmacy options, and longer travel times to healthcare facilities.[13,14] These factors may increase the total cost of care and contribute to treatment discontinuation even when prescribed medicines are theoretically affordable.

Although the relationship between socioeconomic disadvantage and adverse health outcomes is well established, relatively few Bangladeshi studies have specifically examined cost-driven medication non-adherence through a financial toxicity framework while simultaneously evaluating income, education, and geographic residence using multivariable modeling approaches. Existing studies often focus on general adherence behaviors without isolating the independent contributions of these structural determinants.[2,3]

Therefore, the present study sought to evaluate the prevalence of financial toxicity and identify socioeconomic predictors of cost-driven medication non-adherence among Bangladeshi outpatients with T2DM. By examining both subjective financial distress and objective medication-purchasing behaviors, this investigation aims to provide evidence capable of informing targeted policy interventions. Identifying vulnerable populations is essential for

designing equitable strategies that improve medication access, reduce preventable complications, and strengthen chronic disease management systems in resource-constrained settings.[8,15]

Materials and Methods

Study Design and Setting: This cross-sectional study was carried out among patients with diagnosed Type 2 Diabetes Mellitus attending the outpatient department (OPD) in Ad-din Sakina Women's Medical College Hospital, Jashore, Bangladesh. Data collection spanned a period of 6 months (January to June 2026) to evaluate the real-world treatment adherence behaviors of chronic disease patients navigating routine outpatient care.

Participant Selection and Sample Size: A total of 213 participants were recruited using a purposive sampling method based on their presentation at the OPD. Eligible participants met the following inclusion criteria: (1) an established clinical diagnosis of T2DM for at least 6 months, (2) current prescription for active pharmacological management [oral anti-diabetic drugs (OADs), insulin, or combination therapy], and (3) age $\geq$ 18 years. Patients with cognitive impairments, those presenting with acute medical emergencies requiring immediate intensive care, or those who declined to provide informed oral or written consent were excluded from the study.

Data Collection Tool and Variables: Data were gathered using a structured survey instrument administered through face-to-face interviews by trained data collectors. The survey tool was divided into three main components:

1) **Socioeconomic and Demographic Characteristics:** Age (analyzed continuously and grouped into brackets), Gender (Male/Female), Geographic Residence (Urban/Rural), Educational Qualification (Categorized into No Formal Education, Primary, Secondary, Higher Secondary Certificate [HSC], and University), Employment Status (Unemployed, Homemaker, Retired, Employed), and Monthly Family Income (divided into brackets: <10,000 BDT, 10,000–20,000 BDT, and >20,000 BDT).
2) **Subjective and Behavioral Financial Indicators:** To capture multiple dimensions of financial toxicity, variables included:
   - Subjective Financial Distress: "Do treatment costs cause financial difficulty for you?" (Yes/No).
   - Supply Gaps Before Follow-up: "Do you sometimes run out of medicines before your next visit?" (Yes/No).
   - Frequency of Medication Depletion: "How often do you run out of your medicines?" (None/Some/Most/All of the time).
   - Prescription Refill Latency: "How often do you forget to get prescriptions filled?" (None/Some/Most of the time).
3) **Primary Outcome Measure:** The primary dependent variable for this article was cost-driven medication non-adherence, operationalized through the binary question: "Do you sometimes skip purchasing medicines due to cost?" (Yes/No).

Statistical Analysis: All statistical analyses were executed using IBM SPSS Statistics for macOS (Version 30.0). First, descriptive statistics were generated to describe the baseline demographic and socioeconomic characteristics of the 213 participants. Categorical variables were expressed as absolute frequencies (*n*) and relative percentages (%) while continuous age data was summarized as Mean Standard Deviation (SD). Second, bivariate analysis was performed using Pearson's Chi-Square Test of Independence to examine associations between socioeconomic characteristics and the primary outcome (cost-driven medication skipping). Row percentages were computed to evaluate the distribution across specific subcategories.
Finally, to isolate independent predictors of

cost-driven non-adherence and control for confounding variables, a multivariate binary logistic regression model was constructed. The primary outcome variable ("Do you sometimes skip purchasing medicines due to cost?" [0=No, 1=Yes]) was entered as the dependent variable. Socioeconomic and demographic characteristics including age, gender, geographic residence, monthly family income, and educational level were entered simultaneously as independent predictors (covariates). To optimize model stability and ensure adequate cell counts within the regression matrix, adjacent subcategories with matching risk profiles identified in bivariate cross-tabulations were collapsed (Education collapsed into: University [Reference], Secondary/HSC, and No Formal Education/Primary). Adjusted Odds Ratios (AOR) alongside their 95% Confidence Intervals (CI) and regression coefficients (beta) was derived. Model fitness was confirmed utilizing the Omnibus Tests of Model Coefficients. For all tests, statistical significance was strictly defined as a two-tailed *p*-value < 0.05.

Results

Baseline socioeconomic and demographic characteristics: The complete baseline demographic and socioeconomic profile of the 213 surveyed T2DM outpatients is detailed in Table 1.

The mean age of the study population was 56.77 ± 11.81 years, with the largest age bracket falling between 51 and 60 years (*n*=69, 32.4%). Males comprised 54.5% (*n*=116) of the cohort, while females represented 45.5% (*n*=97). More than three-fifths of the participants resided in rural regions (*n*=132, 62.0%), with the remaining 38.0% (*n*=81) based in urban areas. Educational background was highly varied: 28.2% (*n*=60) had no formal education, 18.3% (*n*=39) completed primary school, 20.7% (*n*=44) completed secondary schooling, 12.2% (*n*=26) achieved an HSC, and 20.7% (*n*=44) had attained a university-level education. Regarding occupational distribution, 39.0 (*n*=83) were actively employed, 39.0% (*n*=83) identified as homemakers, 17.8% (*n*=38) were retired, and 4.2% (*n*=9) were unemployed. Half of the participants reported a monthly family income exceeding 20,000 BDT (*n*=107, 50.2%), while 35.7% (*n*=76) earned between 10,000 and 20,000 BDT, and 14.1% (*n*=30) survived on a monthly income below 10,000 BDT.

Table 1: Baseline demographic and socioeconomic characteristics of participants (*n* = 213)

Characteristics	*Frequency (n)*	*Percentage (%)*
Age		
21-30	4	1.9
31-40	14	6.6
41-50	50	23.5
51-60	69	32.4
61-70	52	24.4
71-80	23	10.8
>80	1	0.5
Gender		
Female	97	45.5
Male	116	54.5
Residence		
Rural	132	62
Urban	81	38
Educational qualification		
No formal education	60	28.2
Primary	39	18.3
Secondary	44	20.7
HSC	26	12.2
University	44	20.7
Employment status		
Unemployed	9	4.2
Homemaker	83	39
Retired	38	17.8
Employed	83	39
Monthly family income (BDT)		
<10,000	30	14.1
10,000-20,000	76	35.7
>20,000	107	50.2

Bivariate associations with cost-driven non-adherence: Table 2 displays the bivariate

cross-tabulations between socioeconomic markers and the explicit behavior of skipping medicine purchases due to financial constraints. Age (χ^2= 1.638, p = 0.950) and Gender (χ^2= 0.251, p = 0.616) did not show statistically significant associations with cost-driven skipping.

Table 2: Bivariate association between socioeconomic characteristics and cost-driven medication non-adherence (n = 213)

Socioeconomic factor	Total sample (n)	Skipped purchase due to cost (n,%)	Did not skip purchase (n,%)	χ^2 value	p-value
Residence				78.92	<0.001
Rural	132	105 (79.5%)	27 (20.5%)		
Urban	81	14 (17.3%)	67 (82.7%)		
Monthly Income (BDT)				81.84	<0.001
< 10,000	30	26 (86.7%)	4 (13.3%)		
10,000 - 20,000	76	66 (86.8%)	10 (13.2%)		
> 20,000	107	27 (25.2%)	80 (74.8%)		
Education Level				92.01	<0.001
No formal education	60	52 (86.7%)	8 (13.3%)		
Primary	39	33 (84.6%)	6 (15.4%)		
Secondary	44	25 (56.8%)	19 (43.2%)		
HSC	26	7 (26.9%)	19 (73.1%)		
University	44	2 (4.5%)	42 (95.5%)		

Conversely, geographic residence, monthly income, and educational attainment demonstrated highly powerful associations (p<0.001). Rural residents were disproportionately affected, with 79.5% (n=105) admitting to cost-driven medication skipping compared to only 17.3% (n=14) of urban residents (χ^2= 78.923, p < 0.001). Unpacking the income subcategories revealed an clear economic threshold: patients in the lowest income bracket (<10,000 BDT) and the moderate income bracket (10,000–20,000 BDT) showed nearly identical, high rates of medication skipping (86.6% and 86.8%, respectively). This behavior dropped substantially to 25.2% (n=27) among patients earning above 20,000 BDT (χ^2= 81.842, p<0.001). Educational background showed a strong protective gradient: 86.7% of patients with no formal education and 84.6% of those with primary education skipped purchases due to costs, whereas only 4.5% (n=2) of university-educated individuals reported doing so (χ^2= 92.013, p < 0.001).

Indicators of overall financial burden: The secondary behavioral parameters of financial toxicity are presented in Table 3. Subjective financial distress was highly prevalent, with 56.3% (n=120) of the total sample stating that treatment costs caused them clear financial difficulty. This financial pressure translated into objective gaps in medication supply: 60.1% (n=128) of the 213 patients reported running out of their medications before their next scheduled clinical follow-up visit. Furthermore, 69.5% (n=148) reported running out of their medicines at least "some" or "most" of the time, and 64.8% (n=138) regularly experienced delays or failed to get their medical prescriptions filled due to cost-related barriers.

Multivariate predictors of financial non-adherence: The independent structural drivers of cost-driven medication non-adherence were isolated using multivariate binary logistic regression, as compiled in Table 4. The regression model was highly significant (χ^2= 152.81, df = 7,

Table 3: Indicators of financial burden and medication non-adherence (*n* = 213)

Adherence & Cost Indicator	Frequency (*n*)	Percentage (%)
Subjective Financial Distress		
Do treatment costs cause financial difficulty for you?		
Yes	120	56.3%
No	93	43.7%
Supply Gaps Before Follow-up		
Do you sometimes run out of medicines before your next visit?		
Yes	128	60.1%
No	85	39.9%
Frequency of Running Out of Medication		
None of the time	65	30.5%
Some of the time	108	50.7%
Most of the time / All of the time	40	18.8%
Frequency of Delays in Filling Prescriptions		
None of the time	75	35.2%
Some of the time	98	46.0%
Most of the time	40	18.8%

$p < 0.001$). After adjusting for all demographic and socioeconomic covariates simultaneously, Age remained non-significant (β = -0.027, AOR = 0.97, $p = 0.208$). Gender reached the threshold of statistical significance, indicating that male patients had 2.82 times higher adjusted odds of skipping purchases compared to female patients (AOR = 2.82, 95% CI: 1.00–7.96, $p = 0.050$).

Geographic residence emerged as a powerful structural predictor: rural residents exhibited a nearly eightfold increase in the adjusted odds of cost-driven medication skipping compared to urban peers (β = 2.08, AOR = 7.97, 95% CI: 2.98–21.34, $p < 0.001$).

The household income ceiling effect was also confirmed. Compared to the highest earning reference tier (>20,000 BDT), patients earning 10,000–20,000 BDT had ten times higher adjusted odds of skipping purchases (β = 2.30, AOR= 10.00, 95% CI: 3.67–27.21, $p < 0.001$), and those earning <10,000 BDT had nearly nine times higher odds (β = 2.19, AOR= 8.94, 95% CI: 2.12–37.60, $p < 0.001$).

Finally, lower educational attainment was an independent driver of non-adherence. Compared to university-educated patients, those with mid-level education (Secondary/HSC) had 7.53 times higher odds of non-adherence (AOR= 7.53, $p = 0.022$), while patients with low-level education (No Formal Education/Primary) exhibited a massive increase in risk (β = 3.29, AOR= 26.72, 95% CI: 4.16–171.65, $p < 0.001$).

Discussion

The findings of this study provide clear evidence of the profound impact of financial toxicity on diabetes care in Bangladesh. They show that cost-driven medication non-adherence is not an isolated issue of personal neglect, but is structurally determined by specific socioeconomic thresholds.[3] As demonstrated in Table 3, over half of the study population (56.3%) experienced subjective financial distress due to treatment costs, and a striking 60.1% physically ran out of their medications before their next clinical follow-up.[3] These figures expose a systemic vulnerability in chronic disease management

Table 4: Multivariate logistic regression of factors associated with cost-driven medication non-adherence (*n* = 213)

Predictor Variable	β Coefficient	Adjusted Odds Ratio (AOR)	95% Confidence Interval (CI)	*p*-value
Age (Continuous)	-0.027	0.97	0.93 – 1.02	0.208
Gender				
Female	—	1.00 (Reference)	—	—
Male	1.04	2.82	1.00 – 7.96	0.050
Residence				
Urban	—	1.00 (Reference)	—	—
Rural	2.08	7.97	2.98 – 21.34	<0.001
Monthly family income (BDT)				
> 20,000	—	1.00 (Reference)	—	—
10,000 - 20,000	2.30	10.00	3.67 – 27.21	<0.001
< 10,000	2.19	8.94	2.12 – 37.60	<0.001
Education level				
University	—	1.00 (Reference)	—	—
Secondary and HSC	2.02	7.53	1.34 – 42.45	0.022
No formal education and Primary	3.29	26.72	4.16 – 171.65	<0.001

within out-of-pocket healthcare systems, demonstrating how economic barriers frequently interrupt vital long-term pharmacotherapy, which mirrors patterns observed broadly across the country's private healthcare sector.[5]

The most notable finding from our multivariate analysis is the exceptionally strong independent impact of rural residence. Rural patients were found to be 7.97 times more likely to skip purchasing medications due to cost compared to urban patients, even when holding family income and education levels constant.[3] This indicates that the rural-urban adherence gap is not merely a reflection of rural poverty. Instead, it highlights deep structural inequalities in the healthcare delivery system of Bangladesh, where rural regions historically face supply disparities.[4] Urban patients benefit from concentrated, highly competitive pharmaceutical markets where multiple generic options are available, and pharmacies frequently compete on pricing.

In contrast, rural patients face a less competitive supply chain, longer travel distances to well-stocked urban center pharmacies, and higher indirect transport expenses.[5] These factors stack atop the baseline cost of the medicine, creating cumulative cost barriers documented in broader prescription cost-sharing literature.[6] When a rural family must balance these cumulative costs against a limited monthly budget, skipping purchases becomes a common, unfortunate outcome.[3]

Our detailed analysis of monthly family income brackets revealed a clear economic threshold. As shown in Table 2, bivariate and multivariate models both showed that patients earning between 10,000 and 20,000 BDT faced a risk profile almost identical to those in the absolute lowest income tier (<10,000 BDT), with skipping rates reaching 86.8% and 86.7% respectively.[3] The protection against cost-driven medication skipping only becomes apparent when a household's income crosses the 20,000 BDT threshold, where skipping dropped sharply to 25.2%.[3] This observation carries major policy implications for health equity in Bangladesh, as general systemic

gaps continually fail to protect middle-to-low income brackets.[4] It indicates that financial vulnerability in diabetes care extends well beyond those living in extreme poverty; it impacts a broad layer of low-to-moderate-income families. For households earning less than 20,000 BDT, the cumulative monthly cost of multiple anti-diabetic agents represents a major economic burden that regularly triggers cost-driven skipping, reinforcing patterns of socioeconomic adherence disparities highlighted in regional reviews.[2]

Our study also highlights educational attainment as a key protective asset against financial non-adherence. Patients with no formal education or only primary schooling were 26.72 times more likely to skip medication purchases due to costs compared to university-educated counterparts.[3] Education serves as a key proxy for health literacy and health navigation skills, which are crucial for managing chronic diseases.[7] Highly educated individuals are often better equipped to communicate with clinicians regarding financial constraints, request lower-cost generic alternatives, understand the long-term clinical dangers of skipping doses, or seek out subsidized care channels.[3] Conversely, patients with lower formal education face a dual disadvantage: they lack the financial resources to easily afford care, and they navigate a complex healthcare market with less health literacy, leaving them highly vulnerable to cost-driven non-adherence, an independent vulnerability seen across varied global cohorts.[7]

Interestingly, while age was non-significant, gender reached the margin of statistical significance in the multivariate regression model.[3] Male patients exhibited 2.82 times higher adjusted odds of cost-driven medication skipping than female patients (p = 0.050).[3] In the socio-cultural context of Bangladesh, men traditionally act as the primary financial providers for extended households, which profoundly shapes how family healthcare resources are distributed.[4] This economic responsibility can lead male patients to intentionally deprioritize their own chronic medical needs and skip purchasing their medications to preserve limited household funds for their children's education, food, or other immediate family demands.[3] This gendered finding underscores the value of factoring socio-cultural dynamics into the study of financial toxicity.

Beyond the individual-level implications, the findings reinforce the growing understanding that medication adherence should be viewed through a health-systems lens rather than solely as a patient behavior. Financial toxicity represents a multidimensional phenomenon encompassing direct medical expenditures, indirect costs such as transportation and lost wages, and the psychological stress associated with maintaining long-term treatment.[9,11] The high prevalence of subjective financial distress observed in this study suggests that many patients experience substantial economic strain even before overt treatment interruption occurs. This observation is important because perceived financial hardship itself has been linked to poorer self-management behaviors, lower quality of life, and reduced engagement with healthcare services.[16]

The observed rural disadvantage is consistent with evidence from other LMIC settings where geographic inequities contribute significantly to chronic disease outcomes. Rural communities frequently experience reduced healthcare accessibility, fewer specialized providers, and weaker pharmaceutical distribution networks.[14] Even when medication prices are identical, the cumulative costs associated with travel, missed workdays, and repeated healthcare visits may substantially increase the effective cost of treatment. Consequently, interventions focused exclusively on reducing medication prices may be insufficient unless accompanied by broader efforts to improve healthcare accessibility in underserved regions.

The income-related findings are particularly noteworthy because they suggest the existence of a practical affordability threshold. Rather than demonstrating a simple linear relationship between income and adherence, the results indicate that households earning below 20,000 BDT share a similarly elevated risk profile. This pattern aligns with international research demonstrating that moderate-income households may remain vulnerable to treatment interruption when chronic disease expenditures consume a substantial proportion of disposable income.[12] Such findings emphasize the importance of targeting assistance programs according to financial vulnerability rather than extreme poverty alone.

Our findings also support the growing literature linking health literacy and educational attainment with medication adherence. Education may influence not only knowledge of disease management but also the ability to evaluate treatment options, access trustworthy health information, and communicate effectively with healthcare providers.[7,13] Patients with limited education may be less aware of lower-cost generic alternatives or available support services, thereby increasing their vulnerability to financial toxicity. Educational interventions designed to improve treatment literacy may therefore complement economic support measures.

From a policy perspective, the results support the development of integrated strategies addressing both affordability and accessibility. Potential approaches include expansion of essential medicine subsidy programs, strengthening public-sector medicine supply chains, increasing availability of low-cost generic medications, and improving chronic disease services at primary healthcare facilities.[15] Furthermore, incorporation of financial hardship screening into routine diabetes care may allow clinicians to identify patients at risk of cost-related non-adherence before treatment interruption occurs.[9]

Several limitations of our study should be acknowledged. The cross-sectional design precludes causal inference, and self-reported adherence measures may be subject to recall or social desirability bias. Additionally, participants were recruited from a single tertiary-care outpatient setting, which may limit generalizability to all regions of Bangladesh. Nevertheless, the study provides valuable evidence regarding the structural determinants of medication non-adherence and highlights the importance of financial toxicity as a public health concern in diabetes management.

Conclusion and Recommendations

In conclusion, cost-driven medication non-adherence among Type 2 Diabetes patients in Bangladesh is a structural problem driven by geographic inequalities, an income vulnerability threshold beneath 20,000 BDT, and low formal education. Currently, non-communicable disease corners in government hospitals across the nation is serving a crucial role to provide the much needed chronic care support among diabetic patients. Unfortunately though, the drug dispensing is frequently unregulated and unsynchronised to individual cases. To shield chronic disease patients from the clinical risks of financial toxicity, structural public health reforms are urgently required:

1. Mandatory price standardization and caps: The government should expand price control mechanisms for all essential anti-diabetic medications (both oral hypoglycemic agents and insulins) to prevent pricing volatility in private retail markets.

2. Decentralized rural pharmacy networks: Government-subsidized community clinics and public upazila health complexes must be stocked with consistent supplies of free or highly subsidized generic anti-diabetic agents. This will help eliminate the transport cost barriers faced by rural residents.

3. Targeted subsidies for vulnerable households: Public health programs should introduce targeted medical voucher systems or social safety nets for chronic disease patients whose household incomes fall below the critical 20,000 BDT threshold.

4. Health literacy campaigns: Clinical institutions should design accessible, low-literacy health communication tools that educate patients on the vital clinical importance of continuous therapy and empower them to actively request affordable generic options from their healthcare providers.

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