

EXPLORING MEDICATION ADHERENCE IN JUNAGADH: A SHORT SURVEY-BASED RESEARCH**Rahul Shankarlal Cheinani^{*1}, Kaushal Ashokbhai Joshi², Naisargi Vinodbhai Dudhat² and Bhuvnesh Manoj Kumar Thakar³**¹Dept. of Pharmaceutics, Faculty of Pharmacy, Noble University, Parth Vatika, Bhesan Road, Junagadh, 362310.²Noble Pharmacy College, Noble Group of Institutions, Parth Vatika, Bhesan Road, Junagadh, 362310.³Department of Pharmacology, Faculty of Pharmacy, Noble University, Parth Vatika, Bhesan Road, Junagadh, 362310.***Corresponding Author: Rahul Shankarlal Cheinani**

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ABSTRACT

Medication adherence is essential for achieving optimal health outcomes, particularly in areas such as Junagadh, where healthcare challenges are prevalent. A survey conducted among patients and healthcare providers revealed significant barriers, such as financial constraints, negligence, confusion regarding medication schedules, and inadequate communication. Vulnerable populations, including the elderly, pediatric, and psychiatric patients, encounter increased challenges. The research highlights the necessity for cost-effective healthcare policies, patient education regarding adherence, and improved communication among patients, providers, and caregivers. Technological tools, including reminder applications and tele health services, can enhance adherence; however, they necessitate designs that are accessible and user-friendly. Collaboration among healthcare professionals, policymakers, and community stakeholders is essential for addressing these barriers. Enhanced adherence can mitigate complications, improve health outcomes, and elevate the quality of life for residents in Junagadh.

KEYWORDS: Medication adherence, Medication compliance, Survey, Healthcare communication, Patient behavior.**INTRODUCTION**

Inadequate medication compliance and persistence are age-old problems. When taken in varying degrees of deviation from the prescribed dosing regimen, medications have situation-specific alterations in benefit/risk ratios, either because of reduced benefits, increased risks, or both. Numerous studies have demonstrated that inadequate compliance and non-persistence with prescribed medication regimens result in increased morbidity and mortality from a wide variety of illnesses, as well as increased healthcare costs.^[1] In 2003, the World Health Organization identified that only 50% of chronically ill patients take their medication as prescribed in developed countries.^[2]

Despite the critical nature of this issue, adherence remains a complex and multifaceted challenge. A scoping review revealed that patients often lack the necessary knowledge and support to make informed decisions about their treatment, highlighting the importance of trust-based communication with healthcare providers. Barriers to adherence, such as fear of side effects, financial constraints, and difficulty integrating medication regimens into daily routines, are

well-documented, but facilitators remain poorly understood.^[3]

Some patients fully adhere to the diet aspect of the treatment but do not take the medication, whereas others take the medication and do not assist with the medical control sessions, and so on.^[4] Previous studies mention diet and exercise changes lead to poorer adherence than medication intake. Yearly expenditures for the consequences of nonadherence have been estimated to be in the hundreds of billions of US dollars. In addition to the most obvious direct costs, nonadherence is also a risk factor for a variety of subsequent poor health outcomes, including as many as 125000 deaths each year.^[5] A study conducted in 2016 concluded that the patient-prescriber relationship also impacts the adherence of patients with chronic diseases. Shared decision-making should be more focused on designing the patient's treatment regimen.^[6] Medication non-adherence places a significant cost burden on healthcare systems. Current research assessing the economic impact of medication non-adherence is limited and of varying quality, failing to provide adaptable data to influence health policy.^[7] This survey was undertaken in Junagadh to address

major healthcare concerns originating from prescription non-adherence, a significant factor contributing to poor health outcomes and unnecessary consequences. Junagadh's distinctive socio-economic and cultural milieu and limited access to affordable healthcare and education make comprehending these constraints extremely crucial.

MATERIALS AND METHODS

A survey was conducted in Junagadh using structured questionnaires tailored for patients and healthcare providers. The study involved 50 patients and 10 doctors from various disciplines. The survey consisted of closed-

ended (Yes/No) and open-ended questions mentioned in Table 1 and Table 2. Patients were asked about medication adherence, barriers, and coping strategies, while doctors were questioned about common challenges and their perspectives on improving adherence. The patient questionnaire covered medication costs, side effects, adherence schedules, and emotional factors. Doctors were queried on adherence issues among specific populations, technological solutions, and family involvement. Data collection involved direct interviews where responses were recorded by the interviewer or self-filled by participants with assistance as needed. The data was analyzed and results were presented in tables.

Table 1: Questionnaire for test subjects.

Sr. No.	Questionnaire (For test subjects)	Yes	No
1	Do you frequently miss to take your medication as prescribed?		
2	Do you ever feel confused about how to take your medication correctly?		
3	Have you ever stopped taking your medication without consulting your healthcare provider?		
4	Do you experience any side effects from your medication that make you hesitant to take it?		
5	Have you ever run out of your medication before getting a refill?		
6	Do you find it difficult to stick to your medication schedule?		
7	Have you ever felt that your medication is too expensive to continue taking regularly?		
8	Do you ever feel embarrassed or ashamed to take your medication in front of others? If yes, kindly mention the type of such medicines.		
9	Have you ever felt that taking your medication is not worth the hassle?		
10	Do you ever modify the dosage of your medication without consulting your healthcare provider?		
11	Have you ever intentionally avoided taking your medication due to its taste or texture?		
12	Do you ever feel frustrated/mentally exhausted because of the number of medications that you are taking?		

Table 2: Questionnaire for doctors.

Sr. No	Questionnaire (For doctors)
1	How frequently do you encounter patients who struggle with medication adherence in your practice?
2	In your experience, what are the most common barriers to medication adherence that your patients face?
3	How do you educate patients about the importance of medication adherence during appointments?
4	How do you address concerns about medication side effects that may impact adherence?
5	Do you involve family members or caregivers in supporting a patient's medication adherence? If so, how?
6	What role do you think technology plays in supporting medication adherence, such as reminder apps or telehealth services?
7	Are there any specific patient populations or medical conditions for which medication adherence is particularly challenging in your practice?

RESULTS: The response of the survey recorded from patients and doctors is given in Table 3 and Table 4.

A) Response from patients

Table 3: Participant Responses and Percentages for Medication Adherence Survey Questions.

Question No.	Response from patients		Percentage (%)	
	Yes	No	Yes	No
1	40	10	80	20
2	15	35	30	70
3	45	5	90	10
4	2	48	4	96
5	33	17	66	34
6	4	46	8	92
7	48	2	96	4
8	6	44	12	88

9	8	42	16	84
10	42	8	84	16
11	14	36	28	72
12	30	20	60	40

B) Response recorded from doctors

Table 4

No.	Problem statements
Q.1	How frequently do you encounter patients who struggle with medication adherence in your practice?
Ans.	Many times, we encounter such issues, especially with elderly patients who do not follow the medication schedule due to many medications. Many times, patients with a short course of medication for temporary illness or conditions, skip their medicines on their own without consulting us.
Q.2	In your experience, what are the most common barriers to medication adherence that your patients face?
Ans.	Frequently, patients do not follow medication schedules due to their occupancy in their routine activity, lifestyle, and negligence.
Q.3	How do you educate patients about the importance of medication adherence during appointments?
Ans.	While talking and prescribing the medication, we explain the importance of medication adherence for the best outcome during treatment.
Q.4	How do you address concerns about medication side effects that may impact adherence?
Ans.	While consultation, we aware the patients about the side effects that may occur during their course of medication. We also convince them to not to get hesitated about taking their medicines due to this side effects.
Q.5	Do you involve family members or caregivers in supporting a patient's medication adherence? If so, how?
Ans.	Yes. Most of the times we involve, educate and aware the family members about the line of treatment, importance of medication adherence and the consequences in case of non-adherence.
Q.6	What role do you think technology plays in supporting medication adherence, such as reminder apps or telehealth services?
Ans.	Such applications and services serve as a useful tool for patients, but they have a limitation of acceptance as all the patients are not able to effectively use the technology.
Q.7	Are there any specific patient populations or medical conditions for which medication adherence is particularly challenging in your practice?
Ans.	For pediatric patients, adherence is the most challenging factor due to their non-cooperation. It is also difficult for psychiatric patients as many of times patients assume themselves healthy and hence medication non-adherence is common.

DISCUSSION

The study revealed several critical insights into the barriers, challenges, and factors influencing medication adherence.

1. Medication adherence issues among patients

- **Confusion about usage:** Approximately 30% of patients, especially geriatric ones, experienced confusion regarding proper medication usage, likely due to complex prescriptions or unclear instructions. This finding correlates with the study conducted in 2005, where it was reported that older patients had significantly more problems in understanding their regimens than younger patients.^[5]
- **Skipping medication without consultation:** A staggering 90% of patients admitted to stopping their medication without consulting a healthcare provider. Adults with subsiding symptoms were particularly prone to this behavior due to high costs, inconvenience of consultations, and negligence.

- **Cost as a barrier:** Nearly 96% of patients felt that high medication costs hindered regular adherence, making it one of the most significant barriers.
- **Dependence on caregivers for refills:** About 66% of geriatric patients ran out of medication because of reliance on family members for refills, compounded by negligence and lack of planning.
- **Dosage modification:** Around 84% of patients, particularly those with short-term prescriptions, admitted to modifying their dosage without consulting their doctors.

2. Emotional and behavioral factors

- **Frustration with multiple medications:** Nearly 60% of patients, especially elderly ones, reported mental exhaustion from managing numerous medications.
- **Embarrassment or social stigma:** About 12% of patients, especially those with psychiatric or

stigmatized conditions, felt embarrassed to take medication publicly.

- **Taste or texture issues:** Around 28% of patients avoided medication due to unpleasant taste or texture.

3. Doctor's perspectives on patient adherence

- **Frequent adherence issues:** Doctors noted that adherence challenges were particularly common among elderly patients and those prescribed short-term medication.
- **Barriers to adherence:** Doctors identified lifestyle factors, negligence, and disruptions in routines as the main barriers.
- **Role of family and caregivers:** Family members were often involved by doctors to support adherence, especially for elderly and pediatric patients.
- **Challenges with technology:** While reminder apps and telehealth services have potential, their adoption is limited due to low digital literacy and patient reluctance.

4. Population-specific challenges

- **Pediatric patients:** Adherence is challenging due to non-cooperation and complete reliance on caregivers for medication management.
- **Psychiatric patients:** Many psychiatric patients discontinue medication because they believe they are healthy, leading to significant non-adherence.

5. Socioeconomic and systemic barriers

- **High costs:** Medication costs were identified as a barrier by 96% of patients, while frequent consultations also added financial strain.
- **Access to healthcare:** Patients reported difficulties in accessing healthcare services, particularly for obtaining refills, due to high costs and inconvenience.

The findings demonstrate that medication adherence is influenced by a complex interplay of personal, emotional, financial, and systemic factors. Confusion about medication usage, particularly among geriatric patients, points to the need for clearer instructions and simpler regimens. Patients who skip medication due to subsiding symptoms often fail to understand the importance of completing their course, underscoring the need for targeted education campaigns.

Lifestyle barriers such as negligence disrupted routines, and frustration with multiple medications demand innovative solutions. Simplified regimens, medication organizers, and tools like alarms can help patients better manage their medication schedules. Additionally, emotional factors like embarrassment or stigma require supportive interventions. Pharmaceutical advancements, such as flavor masking and alternative formulations, can address taste and texture concerns.

Doctors play a pivotal role in patient adherence through education and family involvement. However, verbal instructions during consultations are insufficient for many patients. Providing written instructions, visual aids, or follow-up messages can reinforce adherence. Addressing side effects proactively through communication and offering alternative treatments where necessary can help patients stay consistent.

For vulnerable populations like pediatric and psychiatric patients, tailored approaches are essential. Pediatric adherence can be improved using playful or incentivized strategies, while psychiatric patients require continuous education, counseling, and frequent follow-ups to ensure adherence.

The socioeconomic challenges of high medication costs and limited healthcare access are among the most pressing issues. Affordable medication, subsidized healthcare programs, and government policies that support vulnerable populations financially are critical steps toward improving adherence. Simplified processes for obtaining refills and adopting low-cost adherence aids, such as SMS reminders, can further bridge gaps in access and compliance.

CONCLUSION

In conclusion, medication adherence in Junagadh faces substantial problems, including financial limits, patient neglect, inadequate communication, and emotional variables including perplexity and dissatisfaction. Systemic concerns, such as restricted access to inexpensive healthcare, and challenges among vulnerable populations like the elderly, pediatric, and mental patients compound the situation. Improving adherence entails minimizing financial burdens, boosting awareness, enhancing communication, streamlining regimens, and harnessing patient-friendly technology. Collaborative efforts from healthcare professionals, policymakers, caregivers, and community stakeholders are vital. A holistic approach can lead to better health outcomes, fewer preventable problems, and an improved quality of life for Junagadh's population.

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