# Health-Related Quality of Life and Barriers to Healthcare Access in Newly Diagnosed Multiple Myeloma Patients in a Low- and Middle-Income Country

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## Introduction

Multiple myeloma (MM) significantly affects patients' quality of life (QoL). However, data on QoL metrics and barriers to healthcare access in low- and middle-income countries remain scarce

## Aim

This study aimed to assess health-related quality of life using the EQ-5D-5L tool and to explore patient-reported barriers to accessing healthcare among individuals newly diagnosed with multiple myeloma at a tertiary care center in northern India.

## Objectives

- Assess health-related quality of life (HRQoL) in newly diagnosed multiple myeloma patients using the EQ-5D-5L tool.
- Identify patient-reported barriers that hinder timely access to specialised healthcare services.
- Explore the impact of these barriers on overall quality of life.

## Methods

- One hundred sixty-five consecutive patients with newly diagnosed multiple myeloma (NDMM) were prospectively enrolled over one year.
- Ethical clearance was obtained, and written informed consent was provided by all participants.
- Diagnosis was confirmed according to the International Myeloma Working Group (IMWG) criteria.
- Health-related quality of life was assessed using the EQ-5D-5L questionnaire and a Visual Analogue Scale (VAS).
- Patient-perceived barriers to healthcare access were evaluated using a pre-designed structured questionnaire.

## Results

•Age distribution: <40 years -10%, 40–60 years -46%, >60 years -44%

•Gender: 63% male, 37% female

•Education: 54% secondary or higher, 46% below secondary

•Employment: 61% employed, 22% unemployed, 16% retired

•Comorbidities: 40% cardiovascular, 26% other, 34% none

•Myeloma features: RISS I (26.9%), RISS II (54.7%), RISS III (18.3%)

•Organ involvement: Renal 28.5%, Bone 60.6%, Anemia 52.1%, Hypercalcemia 19.4%

•**Diagnostic delay:** Avg. 1.8 months

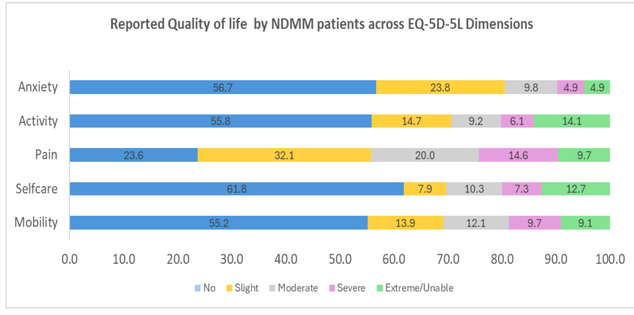
**Barriers to care**

Financial barriers: 42%

Delayed recognition: 90% did not perceive symptoms as serious

Self-medication: 56% OTC use; 55% regular analgesics

Travel burden: 56% >2 hrs; 10% ≥1 da




- The mean EQ-5D-5L index score was 0.58 (SD = 0.55; median 0.88; range –0.92 to 1). Approximately 60% of patients reported good health states (EQindex >0.80).
- The mean EQ-VAS score was 57.8 (SD = 22.3), indicating moderate impairment, and was considerably lower than population norms. Females had slightly higher mean EQ-5D index scores compared to males (0.62 vs. 0.55), although median scores were comparable (0.85 vs. 0.87).
- Males reported higher EQ-VAS scores (59.7 vs. 54.5) with a higher median (65 vs. 50).

**Table -1: Significant Associations Between Sociodemographic Factors and QoL Domains (EQ-5D-5L)**

| Domain | Variable | Category | No Problem n (%) | Any Problem n (%) | p-value |
|---|---|---|---|---|---|
| **Activity** | Income | ≤20,000 INR | 47 (51.6%) | 52 (72.2%) | 0.01 |
| | | >20,000 INR | 44 (48.4%) | 20 (27.8%) | |
| **Pain** | Employment | Employed | 21 (53.8%) | 43 (34.1%) | 0.02 |
| | | Unemployed | 18 (46.2%) | 83 (65.9%) | |
| **Anxiety** | Income | ≤20,000 INR | 48 (51.6%) | 51 (71.8%) | 0.01 |
| | | >20,000 INR | 45 (48.4%) | 20 (28.2%) | |
| | Travel time | <2 hours | 26 (28.0%) | 31 (43.7%) | 0.03 |
| | | >2 hours | 67 (72.0%) | 40 (56.3%) | |
| | Marital status | Unmarried | 0 (0%) | 3 (4.2%) | 0.04 |
| | | Married | 93 (100.0%) | 68 (95.8%) | |
| | Employment | Employed | 43 (46.2%) | 21 (29.6%) | 0.03 |
| | | Unemployed | 50 (53.8%) | 50 (70.4%) | |
| **Self-care** | Income | ≤20,000 INR | 52 (51.0%) | 48 (76.2%) | 0.01 |
| | | >20,000 INR | 50 (49.0%) | 15 (23.8%) | |
| | Employment | Employed | 46 (45.1%) | 18 (28.6%) | 0.03 |
| | | Unemployed | 56 (54.9%) | 45 (71.4%) | |

## Summary

Newly diagnosed multiple myeloma patients reported high rates of anxiety (43%), pain (76%), and mobility or activity limitations (44%). Financial barriers (42%), delayed symptom recognition (90%), and prolonged travel time (>2 hours in 56%) were major contributors to diagnostic delays, with a mean lag of 1.8 months from first medical contact to confirmed diagnosis. These findings underscore the dual burden of impaired quality of life and structural barriers that hinder timely care delivery.