Patient Perspectives on Mild-to-Moderate Infection Burden in Multiple Myeloma and Chronic Lymphocytic/Small Lymphocytic Leukemia

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INTRODUCTION

- Secondary immunodeficiency (SID)-related infections are major drivers of morbidity and mortality in patients with hematological malignancies such as multiple myeloma (MM) and chronic lymphocytic leukemia/small lymphocytic lymphoma (CLL/SLL). [1, 2]
- Immunoglobulin replacement therapy (IgRT) can be administered to reduce infection risks in individuals with SID and hematologic malignancies. [3]
- Current IgRT treatment guidelines include severe or recurrent bacterial infections as criteria for treatment initiation. [4]
- Frequent mild-to-moderate infections likely significantly impact the quality of life of individuals with SID but are not recognized as meaningful treatment outcomes or criteria for IgRT initiation.
- Understanding patient perspectives on the burden of SID-related infections of differing severities is essential to ensure treatment outcomes are relevant and meaningful to patients.

OBJECTIVE

- To explore perspectives on the burden of mild-to-moderate infections, including upper respiratory tract infections, among people with MM or CLL/SLL in the context of SID.

METHODS

Participant eligibility

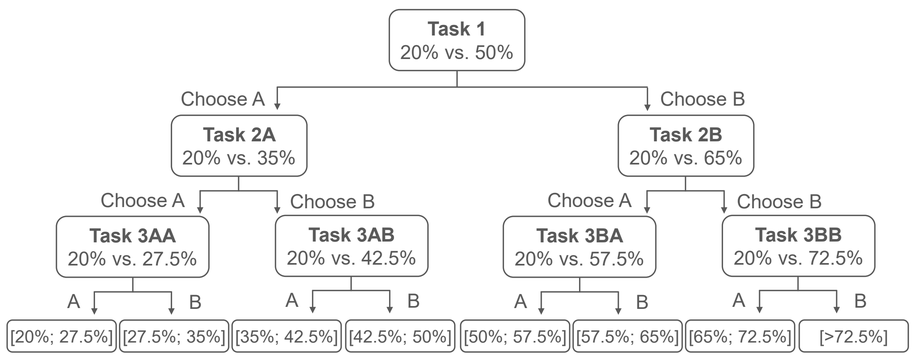
- Eligible participants:
  - US residents ≥ 18 years old and able to read, speak, and write in English
  - Healthcare practitioner confirmation of their MM or CLL/SLL diagnosis
  - Had initiated cancer therapy or were at least 3 months post-stem cell transplant or chimeric antigen receptor T-cell therapy.

Study design

- This was a qualitative interview study conducted between March 03 and April 07, 2025.
- Participants were recruited in collaboration with the market research subcontractor MedPanel (www.medpanel.com) via physician referrals and database searches.
- Web-assisted 60-minute interviews were conducted in English, followed a semi-structured interview guide, and covered three main topics:

1) Participants' experiences with SID and SID-related infections
2) Participants' perceptions of mild-to-moderate and severe infections
   - Mild-to-moderate: every couple of months, for which one would need to consult a doctor
   - Severe: every couple of years, for which one would need to be hospitalized for a few nights
3) Participants' experiences with and preferences for SID treatments, including IgRT.

- Participants completed a thresholding exercise to estimate the percentage-point increase in mild or moderate infection risk they considered equivalent to a 15 percentage-point increase (from 5% to 20%) in severe infection risk (Figure 1).



Choice Task 1	Scenario A	Scenario B
Chance of a mild or moderate infection over 2 years *E.g., a respiratory infection requiring oral antibiotics*	20 out of 100 (20%)	50 out of 100 (50%)
Chance of a severe infection over 2 years *E.g., pneumonia requiring hospitalization and intravenous antibiotics*	20 out of 100 (20%)	5 out of 100 (5%)

Figure 1. Thresholding exercise design (top) and example task (bottom). All participants were presented with Example Task 1. Based on the 1st choice made (Scenario A or Scenario B), participants were presented with Task 2A or 2B. Depending on the 2nd choice made, participants were presented with Task 3AA, 3AB, 3BA, or 3BB.

Analyses

- Data were analyzed descriptively and by matrix analysis, and a conceptual map was generated.

CONCLUSIONS

- Mild-to-moderate infections significantly impacted the daily lives of people with MM and CLL/SLL. The impacts were comparable to those of severe infections, with the exception of hospitalizations.
- These findings reinforce the need for improved prevention of mild-to-moderate infections and management strategies in the context of SID and hematological malignancies.

RESULTS

Participant characteristics

- Sixteen people with MM (n=8) or CLL/SLL (n=8) participated in the study (Table 1).
- The mean age of the participants was 66.6 years; most participants were female (63%), not Hispanic or Latino (94%) and White (75%).
- Nearly half of the participants (44%) had previously received IgRT.
- Two participants had been diagnosed with SID (13%), and four (25%) self-reported increased susceptibility to infections.

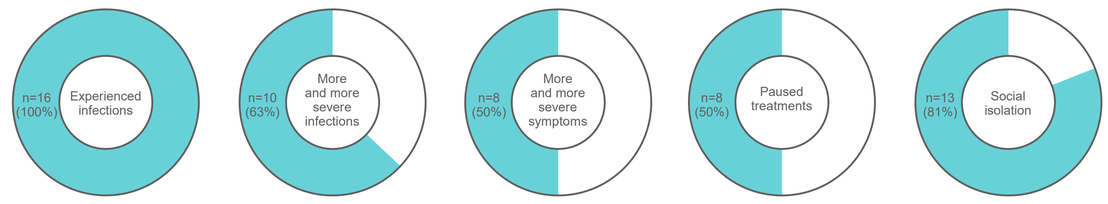
Table 1. Demographic and clinical characteristics

Characteristic	Total (N=16)
Age (years)	
Mean (Min – Max)	66.6 (52-81)
Sex, n (%)	
Female	10 (63)
Ethnicity, n (%)	
Not Hispanic or Latino	15 (94)
Race, n (%)	
White	12 (75)
Black/African American	2 (13)
Asian/Asian American	1 (6)
Other	1 (6)
Diagnosed with, n (%)	
MM	8 (50)
CLL/SLL	8 (50)
Diagnosed with SID, n (%)	
Yes (confirmed via blood tests)	2 (13)
Yes (not formally diagnosed[1])	4 (25)
No	5 (31)
Not sure	5 (31)
Previously treated with IgRT	
Yes	7 (44)
No	8 (50)
Not sure	1 (6)

Abbreviations: CLL/SLL, chronic lymphocytic leukemia/small lymphocytic lymphoma; IgRT, immunoglobulin replacement therapy; MM, multiple myeloma; SID, secondary immunodeficiency.
[1] increased susceptibility to infections

Qualitative interview results

- All participants (100%) had experienced infections since initiating cancer treatment.
- Most (n=10, 63%) believed that since initiating cancer treatment, they experienced more infections overall and more severe infections than previously; half of the participants (n=8, 50%) felt that infection symptoms were more frequent and more severe.
- Half of the participants (n=8, 50%) had paused cancer treatments due to intercurrent infections.
- Thirteen (81%) reported social distancing (leading to self-isolation), avoidance of public spaces, or avoidance of social activities for fear of contracting an infection.



- Mild-to-moderate infections impacted patients' daily lives significantly and in comparable ways to severe infections.
- The main difference between mild to moderate infections and severe infections was the impact of hospitalization, which participants wanted to avoid.
- The conceptual map shows the major interview themes (Figure 2).

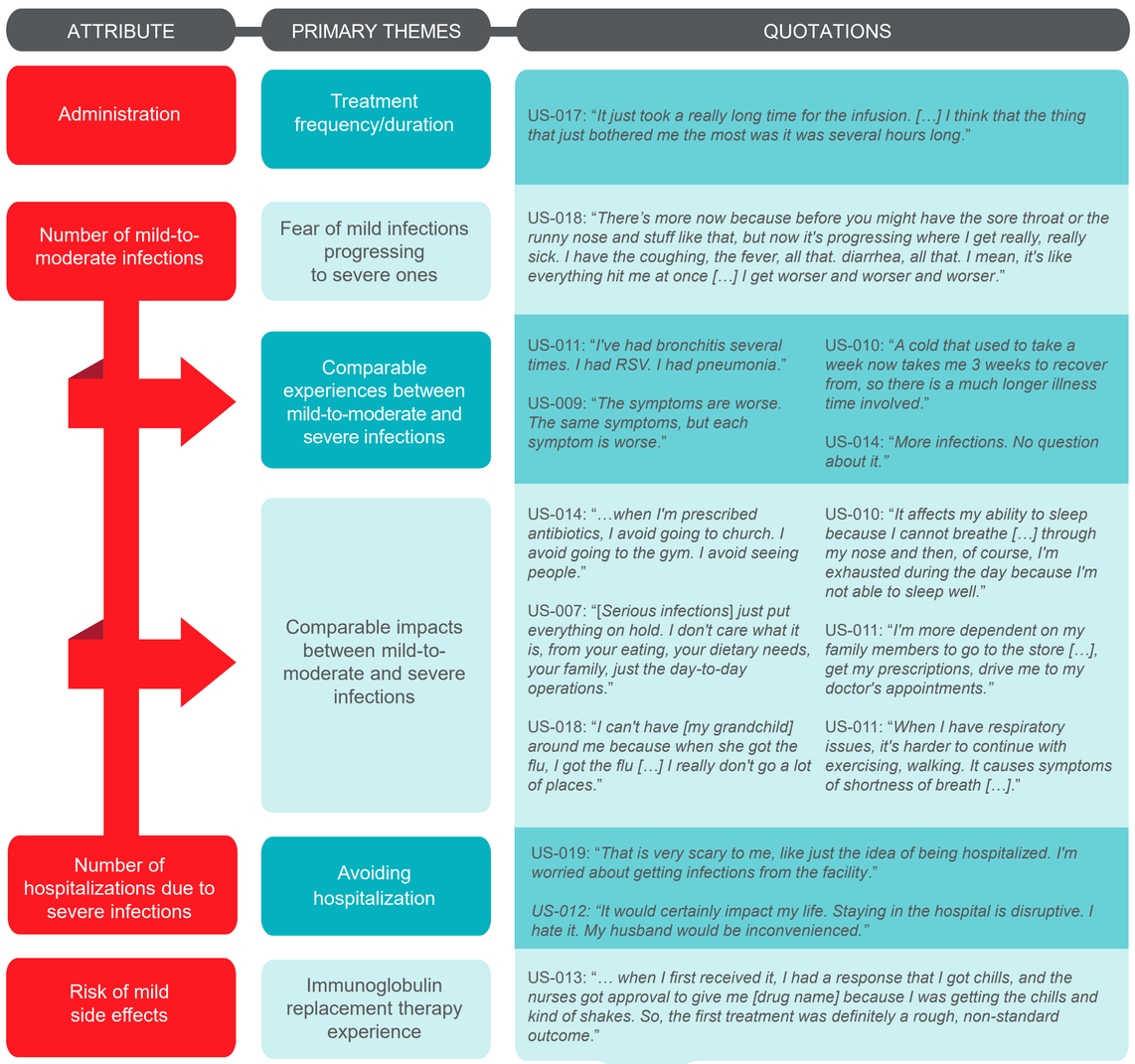


Figure 2. Conceptual map of major themes emerging during the qualitative interviews. Abbreviation: RSV, respiratory syncytial virus

Thresholding exercise

- Participants valued mild or moderate risks around a third as much as severe risks; they considered a 49 percentage-point increase in mild or moderate infection risk over two years equivalent to a 15 percentage-point increase in risk of severe infection.

References: 1. Blimark C et al., *Haematologica*, 2014. 100(1). **2.** Nosari A et al., *Mediterr J Hematol Infect Dis*, 2012. 4(1). **3.** Mihara K, et al., *EJHaem*, 2025. 6(4).**4.** European Medicines Agency, Guideline on the clinical investigation of human normal immunoglobulin for intravenous administration EMA/CHMP/BPWP/344788/2020.

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