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THE IMPACT OF ACTIVE LUPUS NEPHRITIS ON WORK PRODUCTIVITY IN PATIENTS FROM A LATIN AMERICAN LUPUS COHORT

Romina Nieto, Rosana Quintana, Diana Carolina Fernández Ávila, Rosa Serrano, Guillermina Harvey, Lucia Hernandez, Karen Roberts, Luis Catoggio, Gisela Subils, Carla Gobbi, Florencia Bordón, Pablo David Ibáñez Peña, Leonel Ariel Berbotto, María C. Bertolaccini, Diego O. Riseni, María de los Ángeles Gargiulo, Cecilia Pisoni, Joaquín Martínez Serventi, Emilio Buschiazzo, Vitalina de Souza Barbosa, Odirlei Andre Monticielo, Carolina Albanez de A. Da C. Andrade, Francinne Machado Ribeiro, Eloisa Bonfa, Eduardo Borba, Emilia I. Sato, Alexis Peralta Bondi, Silvana Donoso, Gustavo Aroca Martínez, Hellen Medina, Alex Echeverri, Sebastián Molina-Rios, Manuela Rubio, Rafael López, Mario Moreno, Olga Lidia Vera Lastra, Mario Pérez Cristóbal, Carlos Núñez Álvarez, Luis M. Amezcua-Guerra, Ignacio García-Valladares, Carlos Abud Mendoza, Dionicio A. Galarza Delgado, Marcos Vázquez, Astrid Paats, Jorge N. Cieza Calderón, Ana Mabel Quiroz Alva, Roberto Muñoz Louis, Carina Pizzarossa, Adriana Carlomagno, Rocío Gamboa, Graciela S. Alarcón, Urbano Sbarigia, Federico Zazzetti, Ashley Orillion, Guillermo Pons-Estel,* Bernardo Pons-Estel; on behalf of Grupo Latino Americano de Estudio del Lupus (GLADEL)

*Presenting author.

GLADEL LATIN AMERICA
SCIENCE & EDUCATION

BACKGROUND

- Systemic lupus erythematosus (SLE), a systemic heterogeneous autoimmune disease, is associated with worsened quality of life and increased economic burden for patients[1,2]
- Lupus nephritis (LN) is a kidney disease caused by SLE that affects up to 65% of patients with SLE[3]
- There are limited data on the impact of active LN on the daily activities and work productivity of patients with LN and how achieving renal clinical response with current treatments affects these activities
- The Latin American Lupus Study Group (Grupo Latino Americano De Estudio del Lupus [GLADEL]) was created to explore disease features, the clinical course, and outcomes in Latin American patients with SLE[4]
  - GLADEL 2.0 is an observational prevalent and incident cohort that was initiated in 2019 in Argentina, Brazil, Chile, Colombia, the Dominican Republic, Ecuador, Mexico, Paraguay, Peru, and Uruguay[5]
- This study aimed to evaluate work productivity and activity impairment in patients from the GLADEL 2.0 cohort with active LN, at cohort entry and 12 months after treatment initiation, according to their renal response

METHODS

Study population

- A total of 44 centers from 10 Latin American countries enrolled patients aged ≥18 years who fulfilled the 1982/1997 American College of Rheumatology (ACR) and/or 2012 Systemic Lupus International Collaborating Clinics (SLICC) classification criteria
- Patients were categorized into 4 subsets according to the presence of LN, as follows:
  - Group I: no LN
  - Group II: prevalent and inactive LN
  - Group III: prevalent and active LN
  - Group IV: incident LN with an onset of <3 months and renal biopsy
- For this analysis, patients in Groups II, III, and IV with sufficient follow-up data at 12 months were included

Study assessments

- Baseline demographics, clinical manifestations, and disease activity based on Systemic Lupus Erythematosus Disease Activity Index (SLEDAI) and SLICC/ACR Damage Index were assessed
- At baseline, Work Productivity and Activity Impairment questionnaire (WPAI) scores were assessed and stratified by the presence of active or inactive LN
- At the 12-month follow-up, absenteeism, presenteeism, global work impairment in employed patients, and activity impairment in patients with active LN were assessed and stratified according to their renal response
- Renal response at the 12-month follow-up was assessed and categorized according to European Alliance of Associations for Rheumatology/Kidney Disease: Improving Global Outcomes criteria, as follows:
  - Complete response (CR): <0.5 g/g reduction in proteinuria, measured as urine protein-to-creatinine ratio (UPCR) from a 24-hour urine collection
  - Partial response (PR): ≥50% reduction in proteinuria, measured as UPCR from a 24-hour urine collection
  - No response (NR): <50% reduction in proteinuria

Statistical analysis

- Continuous variables were reported as medians (interquartile ranges), and categorical variables were reported as frequencies (percentages)
- Baseline WPAI scores were compared between patients in Group II and Groups III + IV using a Kruskal-Wallis test
- WPAI scores at the 12-month follow-up were compared between patients with NR and PR + CR using a Kruskal-Wallis test

RESULTS

Patient characteristics

- Of the 1081 patients included in the GLADEL 2.0 cohort, 651 with a history of LN were evaluated (423 with active LN and 228 with inactive LN)
- Of the 423 patients with active LN, 369 (87.2%) were female; patients with active LN were younger, had a lower socioeconomic status, and had a higher unemployment rate and a higher SLEDAI score than patients with inactive LN
- A total of 257/423 (60.8%) patients with active LN were employed (salaried work) at cohort entry and were included in this analysis

Baseline WPAI

- Patients with active LN showed higher rates of impairment across all WPAI score domains than patients with inactive LN (**Table 1**)

TABLE 1: WPAI scores at baseline in patients with inactive LN versus active and incident LN

WPAI score, median (IQR)	Total	Group II: prevalent and inactive LN	Groups III + IV: prevalent and active + incident LN	*P* value
	(N = 257)	**(n = 109)**	**(n = 148)**	
Absenteeism[a]	0 (0–54.5)	0	26.5 (0–100.0)	<0.0001
Presenteeism[b]	20.0 (0–60.0)	0 (0–30.0)	50.0 (0–80.0)	<0.0001
Overall work impairment[c]	40.0 (0–89.6)	0 (0–34.4)	70.3 (21.4–100.0)	<0.0001
	(N = 651)	**(n = 228)**	**(n = 423)**	
Activity impairment[d]	40.0 (10.0–70.0)	20.0 (0–50.0)	50.0 (20.0–80.0)	<0.0001

[a]Time missed from work due to health. [b]Impairment of productivity while working due to health. [c]Overall work impairment due to health. [d]Impairment in activities of daily living outside of work due to health. IQR=Interquartile range; LN=Lupus nephritis; WPAI=Work Productivity and Activity Impairment questionnaire.

Impact of achieving renal response on WPAI

- At the 12-month follow-up, achievement of renal response was not associated with a positive impact on work productivity or activity as measured by WPAI (**Table 2**)

TABLE 2: Impact of achieving renal response at 12 months on WPAI in patients with active LN

WPAI score, median (IQR)	Total	NR	PR + CR	*P* value
	(N = 84)	**(n = 26)**	**(n = 58)**	
Absenteeism[a]	0 (0–6.3)	0 (0–20.0)	0	0.212
Presenteeism[b]	0 (0–30.0)	5.0 (0–30.0)	10.0 (0–30.0)	0.950
Overall work impairment[c]	10.0 (0–50.0)	20.0 (0–60.0)	10.0 (0–40.0)	0.465
	(N = 225)	**(n = 75)**	**(n = 150)**	
Activity impairment[d]	30.0 (0–50.0)	30.0 (10.0–60.0)	20.0 (0–50.0)	0.075

[a]Time missed from work due to health. [b]Impairment of productivity while working due to health. [c]Overall work impairment due to health. [d]Impairment in activities of daily living outside of work due to health. CR=Complete response; IQR=Interquartile range; LN=Lupus nephritis; NR=No response; PR=Partial response; WPAI=Work Productivity and Activity Impairment questionnaire.

KEY TAKEAWAY

- **In the GLADEL 2.0 cohort, active LN significantly impacted work productivity and activity as measured by WPAI; further evaluation is warranted to confirm the impact of renal clinical response on WPAI in patients with LN**

CONCLUSIONS

- **Patients with active LN presented greater work productivity and activity impairment compared to patients with inactive LN**
- **There was no evidence of a positive impact on work productivity and activity in patients who achieved a complete or partial renal response after 12 months of treatment**
- **Future analyses with a larger number of patients and a longer follow-up would be necessary to provide more definitive data**

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