

Objectives

To explore the relationship between **health literacy (HL)** and the expression of **unmet needs (UN)** in people with multiple sclerosis (pwMS), considering clinical and sociodemographic variables (age, sex, education).

Materials

Data were obtained from the **Italian Multiple Sclerosis Registry (RISM)** and routine clinical visits.

Inclusion criteria: diagnosed MS, age ≥ 18 years, informed consent, and ability to complete smartphone-based questionnaires. Participants completed a validated **HL scale (0–100)** and a **29-item UN scale** covering five domains: informational, ambulation, physical, neuropsychological, and interpersonal.

Methods

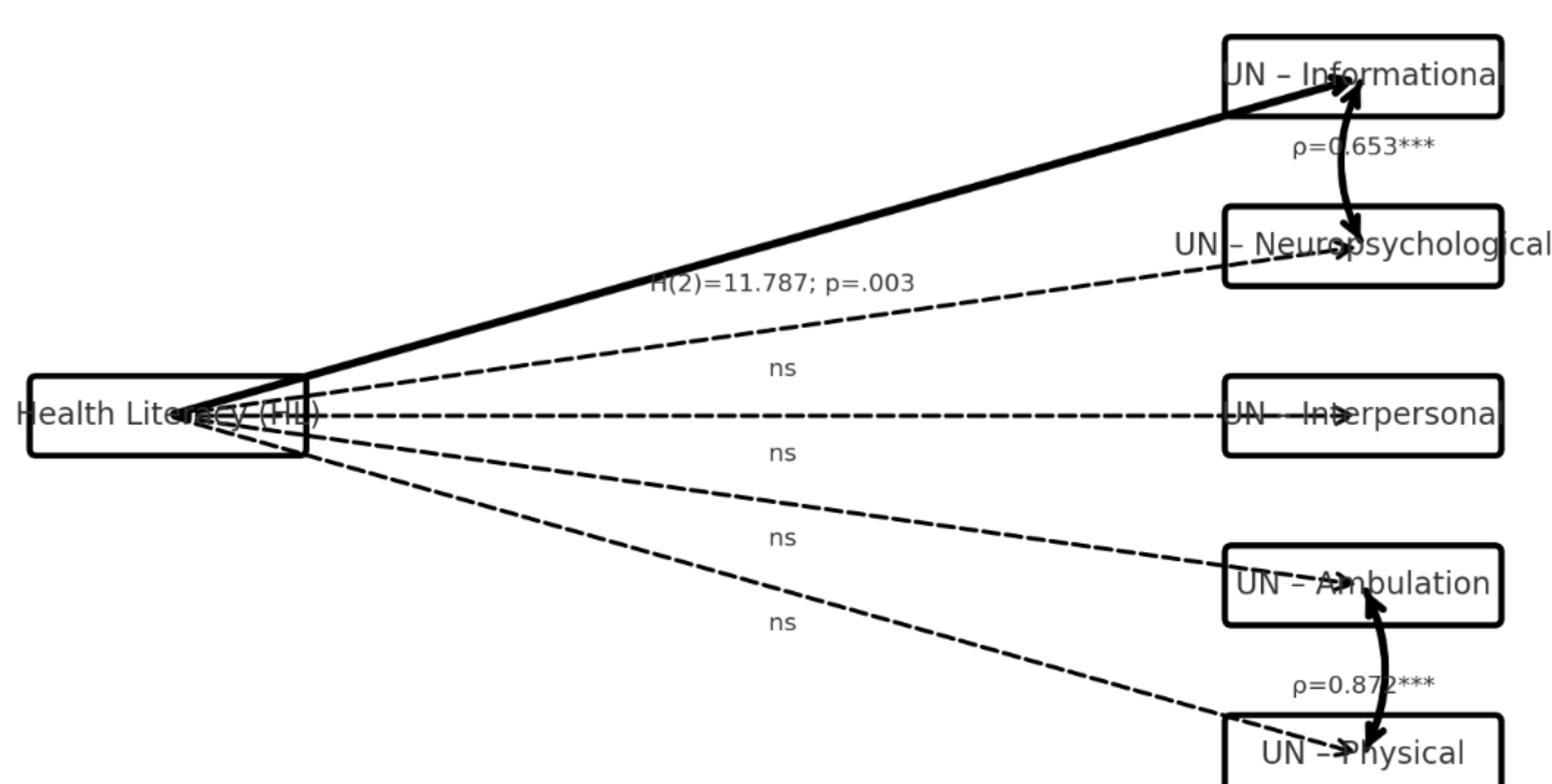
Group differences in HL across UN categories and sociodemographic strata were tested using **Kruskal–Wallis** and **Mann–Whitney U** tests. **Spearman's ρ** assessed associations between HL and the UN domains, and inter-domain relationships.

Results

A total of **116 pwMS** were enrolled (RRMS **95.7%**; female **73.5%**). Mean age at analysis was **44.18 \pm 11.93** years; mean age at onset **28.75 \pm 9.38** years. Median time from symptom onset to diagnosis was **1.70 years**, and from diagnosis to first disease-modifying treatment (DMT) **0.27 years**. Median follow-up was **11.57 years**. A significant difference in HL emerged **only in the informational domain** ($H(2) = 11.787$; $p = .003$), with the **highest HL ranks among those reporting an informational need**. Other domains (ambulation, physical, neuropsychological, interpersonal) showed no significant HL differences, although a trend toward **higher HL in those acknowledging needs** was observed. Regarding sociodemographic variables, **education** was significantly associated with **neuropsychological needs** ($H(3) = 11.935$; $p = .008$), with higher-educated participants reporting greater awareness. No significant HL differences were found by **age** or **sex**, though **males** and those aged **30–39** showed slightly higher HL ranks.

Aspect	Key Results
Sample	N = 116 pwMS (RRMS 95.7%; females 73.5%; mean age 44.18 \pm 11.93 y; onset 28.75 \pm 9.38 y)
Timing	Median onset \rightarrow diagnosis: 1.70 y; diagnosis \rightarrow first DMT: 0.27 y; follow-up: 11.57 y
HL differences across UN	Significant only for INFORMATIONAL domain ($H(2)=11.787$; $p=.003$); highest HL ranks among those reporting the need
Sociodemographic effects	Education associated with NEUROPSYCHOLOGICAL needs ($H(3)=11.935$; $p=.008$)
Age / Sex	No significant HL differences; slight rank \uparrow in males and in 30–39 y
HL \leftrightarrow UN domains	No significant correlations between HL and individual UN domains
Inter-domain correlations	Strong co-occurrence: Ambulation–Physical $\rho=0.872^{***}$; Informational–Neuropsychological $\rho=0.653^{***}$ (all $p<.001$)
Implication	HL may aid recognition of informational needs; integrate HL-sensitive pathways for tailored care

Table 1. Health Literacy (HL) and unmet needs (UN) in pwMS (N = 116).



Discussion

HL alone may not predict unmet needs across all domains, but it appears to be associated with better recognition of informational needs. Educational level seems to influence the ability to articulate cognitive-related needs

Conclusions

Enhancing HL may support early identification of specific needs and improve individualized MS care. HL-sensitive approaches should be integrated into clinical pathways to promote patient empowerment and tailored interventions.

Figure 1. Concept map: Health literacy (HL) and unmet needs (UN) domains in multiple sclerosis (MS). Legend: solid arrows = significant; dashed = not significant (ns); curved double arrows = inter-domain correlations.