Exploring Artificial Intelligence Literacy and Quality of Life in Patients with Multiple Sclerosis: A Cross-Sectional Study

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Objective

To assess Artificial Intelligence Literacy (AIL) and Quality of Life (QoL) in people with Multiple Sclerosis (pwMS).

Materials

PwMS were recruited at multiple sclerosis (MS) centres in Northern, Central, and Southern Italy during routine neurological follow-up visits or on infusion days. Data were collected via an online survey including:

(I) sociodemographic and clinical variables;

(II) the *Artificial Intelligence Literacy Scale* (AILS) (range 12–84, higher scores = greater AIL);

(III) the *EuroQol-5 Dimension* (EQ-5D) (index 0–1, 1 = perfect health).

Methods

- It was employed a cross-sectional design (September 2024–January 2025).
- Statistical analyses were performed using the SPSS software (version 2.6).

Results

Among 300 participants, 78.7 % (n=236) were female; the mean age was 34.25 (±7.02); regarding education levels, 43.7% (n=131) achieved a higher secondary school (**Tab. 1**). The median scores of the AILS and EQ-5D questionnaires were 56.91 (±12.64) and 0.83 (±0.13), respectively. A statistically significant differences was found in AILS scores according to educational level (H=16.4, p=0.001) (**Fig. 1**) and in EQ-5D scores according to AILS score (U=4144, Z=-3.91, p=0.000) (**Fig. 2**).

Variables	
Overall sample, N (%)	300 (100.0)
Gender, n (%)	
Male	64 (21.3)
Female	236 (78.7)
Mean age (years) ± standard deviation	34.25 ±7.02
Education, n (%)	
Lower secondary school	20 (6.7)
Higher secondary school	131 (43.7)
Bachelor's degree	128 (42.6)
Postgraduate degree	21 (7.0)

Table 1. Sociodemographic characteristics of the sample

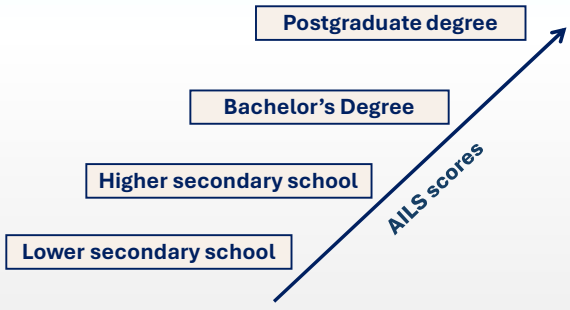

Figure 1. AILS scores by educational level

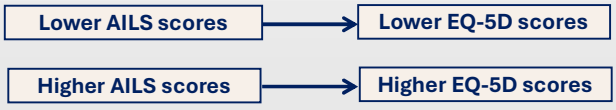

Figure 2. EQ-5D scores by AILS scores

Discussion

Participants with higher education reported higher AIL, highlighting education's positive role in understanding and evaluating AI-based technologies. Higher AILS scores were associated with better QoL, suggesting that pwMS who can understand, apply, and critically appraise AI-derived information tend to perceive their health more positively.

Conclusion

Targeted educational strategies integrating AI-related content into health education may foster informed and competent AI use among pwMS, thereby supporting improvements in QoL.