

ASSESSMENT OF ORAL-HEALTH LITERACY AMONG PARENTS OF CHILDREN WITH RHEUMATOLOGIC DISEASE

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Article Received: 18 March 2026 | Article Revised: 9 April 2026 | Article Accepted: 29 April 2026

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DOI: <https://doi.org/10.5281/zenodo.19996813>

How to cite this Article: Nasrin Bazgir, Maryam Kazem Pour (2026) ASSESSMENT OF ORAL-HEALTH LITERACY AMONG PARENTS OF CHILDREN WITH RHEUMATOLOGIC DISEASE. World Journal of Pharmaceutical Science and Research, 5(5), 459-465.



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ABSTRACT

Introduction: Oral health is particularly important in certain vulnerable groups, including children and patients with rheumatologic diseases, due to the need to maintain their overall health. Therefore, the present study was conducted. **Methods:**

In this cross-sectional study, 90 parents of children with rheumatologic diseases were examined. The sampling method was such that patients who met the eligibility and inclusion criteria and who visited a rheumatology subspecialty clinic or a pediatric dentistry specialist were enrolled in the study. The data collection tool consisted of 24 questions covering five domains: knowledge, comprehension, decision making, practice, and access. Ultimately, the overall parental health literacy score was categorized into four levels: high health literacy (scores 58–72), moderate health literacy (scores 43–57), low health literacy (scores 28–42), and very low health literacy (scores below 28). Data analysis was performed using SPSS software version 16.

Result: Result showed, most participants were female (59; 53.6%), aged 41–45 years (37; 33.6%), had a high school diploma (52; 47.3%), and lived in urban areas (74; 67.3%). A significant relationship was observed between health literacy and gender, age, and place of residence. Health literacy was higher among women than men ($P = 0.000$), higher in the 31–35-year age group compared with other age groups ($P = 0.04$), and higher among urban residents than rural residents ($P = 0.000$). The mean (SD) overall health literacy score of parents was 44.39 (7.69), with a minimum score of 29 and a maximum score of 62. Based on the categorization of health literacy scores, 55.5% of parents had low health literacy and 34.5% had moderate health literacy.

Conclusion: Considering that the health literacy of most parents regarding rheumatologic diseases was reported to be at moderate to low levels, conducting interventional studies aimed at improving their health literacy is recommended.

KEYWORDS: Oral health, Rheumatology, Children.

INTRODUCTION

Rheumatologic diseases are chronic systemic conditions of unknown etiology. The global prevalence of rheumatoid diseases is considerable. These disorders include a variety of conditions such as rheumatoid arthritis, systemic lupus erythematosus, vasculitis in children, Kawasaki disease, and others.^[1,2]

Rheumatologic diseases follow a chronic course, meaning they persist over many years. Alternating periods of symptom exacerbation and remission are referred to as flare and quiescent phases of the disease. In some patients, symptoms may be consistently present, and the disease may progress rapidly. Under normal circumstances, the immune system responds to external agents such as microbes and viruses; however, in these diseases it becomes dysregulated and causes inflammation in the synovial membrane.^[3,4] In rheumatoid arthritis, joint involvement manifests as symmetrical inflammatory destructive polyarthritis, and symptoms typically begin with morning stiffness, pain, and swelling of the small joints of the hands. As the inflammatory process advances, additional joints may become affected, accompanied by extra-articular manifestations such as fatigue, weight loss, low-grade fever, skin involvement, hematologic disorders, hepatic abnormalities, pulmonary involvement, neurological complications, muscular disorders, cardiac involvement, ocular manifestations, and renal complications.^[5-7]

Rheumatologic diseases significantly impact quality of life. Quality of life is influenced by disease activity and symptoms such as fatigue, pain, sleep disturbances, and impaired cognitive function. Regardless of disease duration or activity level, the damages caused by rheumatologic disorders reduce patients' quality of life, and many patients experience involvement of vital organs.^[8-10]

Adequate health literacy can improve quality of life in affected individuals. The concept of health literacy, defined as a cognitive skill, has become an important and influential factor within healthcare systems. Its impact on health outcomes is well recognized, and it plays a key role in individuals' decision-making regarding their health needs.^[11-13] Health literacy encompasses the cognitive and social skills that determine individuals' motivation and ability to access, understand, and use information for the maintenance and promotion of health. It also determines one's ability to obtain, comprehend, and utilize health-related information.^[14-16]

Health literacy is not solely related to educational level or general reading ability; rather, it includes a set of skills such as reading, listening, analysis, decision-making, and applying acquired information. Health literacy is a global concern, and the World Health Organization recognizes it as one of the strongest determinants of health. Low health literacy is associated with reduced preventive behaviors, development of chronic diseases, increased mortality, and higher healthcare costs.^[17-19]

Oral health is particularly important among various vulnerable groups, including children and patients with rheumatologic diseases, because it plays a crucial role in maintaining their general health. Failure to maintain proper oral hygiene may lead to oral discomfort and complications.^[20-22] Considering the importance of health literacy and its effect on patient outcomes, the present study was conducted to assess the oral-health-related health literacy of parents with children suffering from rheumatologic diseases in Ilam in 2026.

METHODS

This cross-sectional study examined 90 parents (father, mother, or both) of children diagnosed with rheumatologic diseases. Inclusion criteria consisted of having a child with one of the rheumatologic disorders, providing informed consent to participate, the ability of at least one parent to communicate and respond to questions, and the absence of known cognitive impairments or psychiatric disorders in the parents. Lack of willingness to participate or incomplete questionnaires were considered exclusion criteria.

Sampling was conducted by enrolling eligible patients who visited a pediatric rheumatology subspecialty clinic or a pediatric dentistry specialist. First, the study objectives were explained to the parents, and informed consent was obtained. Then, data collection was performed through structured interviews, and the information was entered into SPSS software.

The data collection tool consisted of 24 questions covering five domains:

- Knowledge (8 questions; response options: correct = 1, incorrect = 0, "I don't know" = 0)
- Comprehension (4 questions; responses: strongly agree / agree / neutral / disagree / strongly disagree)
- Decision-making (4 questions; responses: always = 4, often = 3, sometimes = 2, rarely = 1, never = 0)
- Practice (oral-health-related behaviors) (6 questions; responses: always / often / sometimes / rarely / never)
- Access (2 questions; responses: always / often / sometimes / rarely / never)

For the Comprehension, Practice, and Access domains, response scoring ranged from strongly agree = 4 to strongly disagree = 0. The score ranges for each domain were as follows: Knowledge 0–8, Comprehension 0–16, Decision-making 0–16, Practice 0–24, Access 0–8. The maximum total score was 72.

Based on the total score, parental health literacy was categorized into four levels:

- High health literacy: 58–72
- Moderate health literacy: 43–57
- Low health literacy: 28–42
- Very low health literacy: below 28

Because this was a researcher-designed questionnaire, its validity and reliability were evaluated and confirmed by the research team. Data analysis was performed using SPSS version 16.

RESULTS

Result showed, most participants were women (59; 53.6%), aged 41–45 years (37; 33.6%), had a high school diploma (52; 47.3%), and lived in urban areas (74; 67.3%). A significant relationship was found between health literacy and gender, age, and place of residence. Health literacy was higher in women compared to men ($P = 0.000$), higher in the 31–35 age group than in other age groups ($P = 0.04$), and higher among urban residents compared to rural residents ($P = 0.000$) (Table 1).

Table 1: Parental health literacy scores based on demographic characteristics.

Domains		N (%)	M(SD)	P-Value
Gender	Female	51(46.4)	48.79(7.18)	0.000
	Male	59(53.6)	39.29(4.44)	
Age	25-30	7(6.4)	41.14(2.11)	0.04
	31-35	19(17.3)	48.42(8.27)	
	36-40	36(32.7)	45.22(7.36)	
	41-45	37(33.6)	42.21(6.93)	
	>45	11(10)	44.09(9.88)	
Education	Illiterate	5(4.5)	42.76(5.00)	0.75
	Literate	32(29.1)	44.68(9.40)	
	High school diploma	52(47.3)	44.90(6.83)	
	University-educated / Higher education	21(19.1)	44.00(13.69)	
Number of children	1	52(47.3)	45.69(7.20)	0.24
	2	53(48.2)	43.22(8.03)	
	3 or more	5(4.5)	43.20(8.31)	
Location	Urban	74(67.3)	46.35(7.99)	0.000
	Rural	36(32.7)	40.36(5.11)	

Result showed, the mean (SD) overall health literacy score of the parents was 44.39 (7.69). The minimum score obtained was 29, while the maximum score was 62 (Table 2).

Table 2: Distribution of health literacy scores according to the assessed domains.

-	Domains	Minimum score	Maximum score	M(SD)
1	Knowledge	3	8	5.35(1.09)
2	Comprehension	7	16	10.12(2.12)
3	Decision-making	8	31	11.00(2.85)
4	Practice	7	20	13.55(4.09)
5	Access	1	7	4.35(1.47)
-	Total	29	62	44.39(7.69)

Result showed, regarding the categorization of health literacy scores, 55.5% of the parents had low health literacy, while 34.5% had moderate health literacy (Table 3).

Table 3: Classification of health literacy scores based on the obtained scores.

-	Domains	N	%
1	High health literacy	11	10
2	Moderate health literacy	38	34.5
3	Low health literacy	61	55.5
4	Very low health literacy	0	0

DISCUSSION

Poor oral health can negatively affect children's quality of life, their performance at school, and their success in future life. In addition, oral problems, through the pain they cause, can lead to changes in patients' diet, speech, and overall quality of life.^[23] Therefore, the present study was conducted in 2026 to assess oral health-related health literacy among parents of children with rheumatologic diseases in Ilam.

Result showed, a significant relationship was observed between health literacy and parents' gender, age, and place of residence. Mozafari et al. conducted a study aimed at determining the health literacy of parents with school-aged children (6–12 years) using a researcher-made questionnaire. The questionnaire domains included skin hygiene, oral and dental health, nutrition, education, physical activity, eye care, ear care, sleep, and computer and internet use, which were completed by the parents. According to their findings, a significant relationship was found between health literacy in the domain of oral and dental health and the father's level of education, while no association was observed with the mother's education. In addition, health literacy was higher among parents of older age, and this difference was statistically significant.^[24] Emami et al. assessed the oral health literacy of 45 mothers who had children with disabilities using the Adult Oral Health Literacy Questionnaire (OHL-AQ). The findings showed no association between oral health literacy and marital status or number of children; however, a relationship was found with educational level.^[25] Salajegheh et al. conducted a study among parents in Kerman, Iran. According to the findings, among the 332 parents examined, a significant relationship was observed between children's oral health and the health literacy status of their parents.^[26]

According to the findings regarding the classification of health literacy scores, 55.5% of parents had low health literacy and 34.5% had moderate health literacy. Salarian et al. conducted a study to assess mothers' health literacy and its relationship with the DMFT index in children aged 3–6 years. Health literacy was measured using the OHL-AQ questionnaire, and the DMFT index was assessed based on WHO criteria. The results indicated a moderate level of health literacy among mothers; specifically, 41.5% had inadequate health literacy, 31.8% had borderline health literacy, and 26.7% had adequate health literacy.^[27] In the study by Sheikhi et al., the mothers' health literacy score was 63.2 out of 100, which is higher than the score obtained by parents in the present study.^[28] One possible reason for this difference may be the variation in the questionnaires used. In that study, the OHL-AQ questionnaire was used, whereas the present study employed a researcher-designed questionnaire specifically focused on children with rheumatologic diseases. The questions in this questionnaire were more specialized, which may explain why lower scores were reported among parents in the current study.

CONCLUSION

Considering that the health literacy of most parents regarding rheumatologic diseases was reported to be at moderate and low levels, conducting interventional studies aimed at improving their health literacy is recommended.

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