Exploring the Nexus between Maternal Health Literacy, Children's Sleep Habits, and Their Quality of Life: A Descriptive Correlational Study

ABSTRACT

Background and Objectives: Maternal health literacy significantly impacts children's development, influencing sleep habits and overall quality of life. By enhancing maternal understanding of health information, better health outcomes can be achieved, especially for hospitalized children. This study aims to explore the relationship between maternal health literacy, children's sleep habits, and their quality of life.

Materials and Methods: A descriptive correlational study was conducted in the pediatric wards of Be'sat Hospital in Hamedan, Iran. One hundred mothers and children who were hospitalized in the pediatric wards were recruited using a convenience sampling method. The mothers had a mean age of 32 years, and the children had a mean age of 10 years. Maternal health literacy was assessed using the Health Literacy Scale for Adults (HLSA), while sleep habits and quality of life were assessed using the Pediatric Sleep Habits Questionnaire (PSHQ) and the Child Health Questionnaire (CHQ), respectively. The data were analyzed using SPSS v23 with descriptive statistical methods and correlational tests.

Results: The results of this descriptive correlational study indicate a statistically significant association between maternal health literacy and children's sleep habits ($p > 0.05$). However, no statistically significant association was found between maternal health literacy and children's quality of life ($p < 0.05$). In contrast, a statistically significant association was observed between children's sleep habits and their quality of life ($p > 0.05$).

Conclusion: Recommendations include enhancing maternal health literacy through targeted programs to improve children's sleep habits and developing educational interventions on sleep health for parents. Further research is needed to investigate the mediating factors influencing the relationship between maternal health literacy and children's quality of life.

Paper Type: Research Article

Keywords: Maternal Health Literacy, Children's Sleep Habits, Children's Quality of Life.

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Arash Khalili
Phd Candidate, Mother and Child Care Research Center, Hamadan University of Medical Sciences, Hamadan, Iran.

Firooze Beiranvand
Instructor, Faculty of Nursing and Midwifery Hamadan University of Medical Sciences, Hamadan, Iran.

Zohreh Fateh
Msc of pediatric Nursing, Student Research Committee, Hamadan University of Medical Sciences, Hamadan, Iran.

Afsaneh Parvin
* MSC of Psychiatric nursing, Department of School of Nursing, Fasa University of Medical Sciences, Fasa, Iran.
(Corresponding author): afsanhprwyn3@gmail.com
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Introduction

Sleep is a fundamental need for human survival and health (1) as it impacts recovery, growth, and energy storage for metabolism, mental performance, neural maturation, learning skills, and memory (2). Brain processes associated with sleep affect physical, emotional, and cognitive functioning throughout the day. Therefore, sleep is crucial for humans. (3, 4) The National Sleep Foundation recommends that school-age children get 9-11 hours of sleep and adolescents get 8-10 hours of sleep (3). Improving sleep quality, known as sleep hygiene, involves establishing rules and regulations related to various aspects of sleep, including sleep duration and adherence to a sleep schedule (5). However, not following proper sleep habits, whether due to physical, psychological, environmental, or genetic conditions, can reduce the amount of optimal sleep and endanger the child's health (6). This reduction in the quality and quantity of optimal sleep can cause physical symptoms such as headaches and stomach aches, as well as behavioral and psychological effects such as irritability and aggression (7). However, sleep problems have become a rising public health concern, afecting 20%–60% of all children globally (8). Common sleep disorders include difficulty in initiation or maintenance of sleep, abnormal behaviours or movements, snoring or abnormal breathing, and excessive daytime sleepiness (9). A 2024 systematic review by Liu et al. summarizes many risk factors for childhood sleep problems, including biological (e.g., genetics, gender, age and puberty, prenatal factors, postnatal factors); nutritional (e.g., macronutrients, micronutrients, omega-3 fatty acids, obesity); environmental (e.g., heavy metals, noise, light, air pollution); interpersonal (e.g., family, exposure to violence, screen media use, physical injury); and community/socioeconomic variables (e.g., racial/ethnicity and cultural factors, neighbourhood conditions and socioeconomic status, school factors, public health disasters/emergencies) (8).

However, contemporary challenges have arisen regarding the public's knowledge and awareness of their health, which can significantly impact an individual's well-being. This has led to the emergence of the term 'health literacy' in the present era (10). The World Health Organization has identified health literacy as one of the most significant determinants of health (11). Health literacy refers to the ability to receive and understand important information needed to make informed decisions regarding one's health (12). It is particularly important for mothers in their role of promoting their children's health and participating in preventive measures and care (10). Therefore, an essential indicator of health literacy in the children's sector is parents' awareness of their children's sleep habits, the stages of their growth and development, the characteristics of each stage of their life, and strategies to enhance their abilities to cope with diseases. Additionally, it is important for parents to be able to communicate effectively with healthcare personnel to improve the healthcare services provided to their children (13).

Additionally, children are a demographic with unique habits and health concerns. Their behavior and lifestyle, as well as their

adherence to healthy habits, can significantly impact their overall quality of life (10). One reason to prioritize the quality of life for this group is the potential for reduced living costs and increased life expectancy (14). This can be achieved through improved health literacy among parents, particularly mothers, who have more interaction with this age group and spend more time with them (10). The quality of life of patients is a measure of their overall health, including their ability to participate in daily activities, interact with others, and cope with physical, emotional, and cognitive challenges. This includes their perception of their illness experience (15). Therefore, a child's quality of life can be endangered due to illness, invasive treatment methods, reduced energy for daily activities, incapacity to establish social contacts with friends at school and in society, and fear of the future (16). The findings from this study will provide valuable insights into the role of maternal health literacy in influencing children's sleep habits and overall quality of life. These results can inform healthcare practitioners and policymakers in developing targeted interventions aimed at improving health literacy, particularly among mothers, which may lead to better sleep hygiene and quality of life for children. Additionally, the study's outcomes can guide future research exploring the mediating factors between health literacy and child well-being. Therefore, the researcher designed the present study to determine the relationship between maternal health literacy and children's sleep habits and quality of life in hospitalized children in the pediatric wards of Hamedan in 2023.

Materials and Methods

This is a descriptive correlational study conducted in from September 2023 to December 2023 on 100 mothers and children who were hospitalized in the pediatric wards of Hamedan Besat Hospital. The sample size was estimated using the initial data from the study by Mashhadi et al. (17). At least 45 patients are required in each ward (Children 1 and Children 2) to achieve a 95% confidence level, a 10% type II error rate, and a 90% power. Approximately 50 patients were selected in each ward, totaling 100 mothers and children, considering a 10% dropout rate. The inclusion criteria for children were hospitalization for at least five days (The selection of a minimum of 5 days of hospitalization was made to ensure the stability and reliability of the data, to identify and diagnose serious health problems, and to provide sufficient hospital experience for an accurate assessment of the impact on quality of life), age between 5 and 18, absence of intellectual disability, no use of sleep medications, no pain, and no sleep disorders or sleep-related diseases. The study's exclusion criteria consisted of the child's refusal to cooperate with necessary nursing interventions, the parents' unwillingness to participate in routine nursing care, and the child's development of pain or a change in medical diagnosis during the study.

Sampling was conducted using convenience sampling after obtaining the necessary permits. The researchers visited the wards during the morning and afternoon shifts to sample mothers and children who met the inclusion criteria for the study. After identifying the samples, the researchers explained the research objectives and

obtained consent from the children and their parents. The data were collected using standardized questionnaires that evaluated maternal health literacy, children's sleep habits, and children's quality of life.

Instruments

The study utilized various data collection tools, such as a demographic questionnaire, a children's sleep habits questionnaire, a child health-related quality of life questionnaire, and an Iranian adult health literacy questionnaire. The parental demographic questionnaire included inquiries about household size, number of children, age of both parents, their education and employment status, as well as their place of residence. The demographic questions for children included their age, birth order, gender, living conditions, type of treatment, health insurance status, type, and duration of illness, and type and duration of treatment.

The Children's Sleep Habits Questionnaire (CSHQ)

Consists of 50 questions, each rated on a 4-point Likert scale: usually (5-7 times a week), sometimes (2-4 times a week), or rarely (1-2 times a week). The questionnaire comprises 12 questions related to the child's sleep habits, 18 questions related to parasomnia, 4 questions related to waking up at night, 7 questions related to waking up in the morning, and 3 questions related to daytime sleepiness. A score above 41 in a child indicates the presence of a sleep disorder. To classify sleep disorders, each score was converted into a percentage and categorized as weak (0-33%), moderate (34-66%), or severe (67-100%). Wang et al. (2013) established the questionnaire's validity and homogeneity with an alpha coefficient of 0.80. In their study, Ezgoli et al. (18) evaluated the questionnaire's content validity and calculated its internal consistency with an alpha coefficient of 0.82.

The Quality of Life Questionnaire Related to Child Health

Is a 22-question survey that was developed and assessed by Quaid Amini Haroni and colleagues in 2015 in Tehran? The survey was initially administered to 200 children aged 5 to 18 years old in Mashhad. The questionnaire demonstrated good reliability, with internal consistency ranging from α=0.68-0.85 and consistency between instruments ranging from r=0.566-0.721. The table below presents the conditions for interpreting the questionnaire (19) and specifies the coding method for each question. Questions are coded on a scale of 1 to 5 or 1 to 4 (Table 1).

The study assessed the health literacy of Iranian adults using the HELIA self-report questionnaire. This questionnaire includes an interpretation system for indices and evaluates health-related quality of life (HRQL). Montazeri developed the HELIA-QOL questionnaire in 2015 to provide a culturally-appropriate and indigenous measure of health literacy for urban adults aged 18-65. The HELIA-QOL questionnaire has been well-received due to its comprehensive coverage of health literacy domains, its relatively short length, and its broad applicability to a range of population groups. It assesses health literacy in five domains: health information access, reading skills, understanding, evaluation, and decision-making. Each item is scored on a five-point Likert scale, with responses ranging from 'Never' (1) to 'Always' (5).

Table 1. The questionnaire for measuring child health-related quality of life (CHRQL): Coding and Interpretation of Indices

Method of interpretation	Possible grade range	Questions	Number of items	Dimensions / total score
The higher the score , the better mental health	5 - 25	1 , 2 , 3 , 4 , 5	5	Mental health of the child
The higher the score , the more satisfaction	3 - 15	6 , 7 , 8	3	Child satisfaction with oneself
The higher the score , the more mobility	3 - 12	9 , 10 , 11	3	Child mobility status
The higher the score , the better performance	4 - 18	12 , 13 , 14 , 15	4	Child performance
The higher the score , the higher worries ,	2 - 10	16 , 17	2	Parental concern
Higher score , parental limitation	2 - 10	18 , 19	2	Parental restraint
The higher the score , the better general health	3 - 15	20 , 21 , 22	3	Child public health
The higher the score , the better the health of the child	22 - 105	Total 22 questions	22	Total child health questionnaire

Items 1-4 have five possible responses, ranging from 'Extremely difficult' (1) to 'Very easy' (5). The individual's raw score for each health domain is calculated by summing the scores. The score is then converted to a scale of 0 to 100 using the following formula:

To calculate the total score, sum the scores in each health domain (on a scale of 0 to 100) and divide by the number of domains. Health literacy is categorized into four levels: inadequate (score of 0 to 50), somewhat inadequate (score of 50 to 66), and adequate (score of 66 to 84), and excellent (score of 84 to 100).

In a study by Montazeri et al., the validity of the questionnaire was evaluated using qualitative content analysis and exploratory factor analysis, and its reliability was evaluated using an appropriate internal consistency coefficient. Cronbach's alpha coefficient was in the range of 0.72 to 0.89 for the relevant constructs (20). In a study by Ebrahimpour et al., to determine the reliability of the questionnaire in the study population, after 20 questionnaires were completed by mothers whose children were hospitalized at the Holy Educational-Therapeutic Hospital, Cronbach's alpha coefficient was 94% (21).

Data analysis

Data were analyzed using descriptive statistical methods (frequency, percentage, mean, and standard deviation) and inferential statistical methods (correlational tests) using SPSS version 23.

Ethical considerations

This study was approved by the Ethics Committee of the University of Medical Sciences of Hamadan (with project number 140103171740 and ethics code IR.UMSHA.REC.1401.156) and all ethical principles, including obtaining permits, written consent, stating the objectives, confidentiality of information, and use of information for research purposes, were observed.

Results

The findings showed that the mean age of mothers was 33.94 ± 6.73 years, while the mean age of fathers was 39.19 ± 7.05 years. Children had a mean age of 7.32 ± 3.82 years. About 50% of the families had two children. Among parents, 82% of mothers and 77% of fathers had less than a high school education. Additionally, 45% of fathers were self-employed, while 88% of mothers were housewives. Household income was reported as moderate in 61% of cases. Fifty-eight percent of the hospitalized children were male, and 91% lived with both parents.

The mean sleep habits score for children was 73.26±5.46, suggesting a high prevalence of sleep disorders. Within the sleep domains, the highest mean score was observed for behavioral sleep problems (62.31±5.51), while the night waking domain had the lowest (9.52±1.89). As noted in Table 1, a higher mean score indicated a more severe sleep disorder, while a lower one reflected less sleep disruption. To explore the relationships between demographic characteristics and health literacy, independent t-tests and analyses of variance were conducted. These analyses revealed a statistically significant association between both Child's living conditions and duration of treatment and sleep habits score ($p < 0.05$) (Table 3).

The mean children's quality of life score was 77.93±15.54 (Table 2).

Table 2. The average score of research variables in the studied units

Variable	Mean ± SD	Min	Max
Children's sleep habits	73.26 ±5.46	53.5	84
Bedtime	40.31 ± 3.42	28	46
sleeping behavior	31.62 ±5.51	44	72
Waking up at night	9.52 ± 1.89	3	12
waking up in the morning	24.32±2.68	15	28
Drowsiness during the day	10.07±1.94	3	12
Children's quality of life	77.93±15.54	35	100
Maternal health literacy	58.76±18.06	33	100

The findings revealed a statistically significant correlation between certain demographic characteristics and children's quality of life scores ($p < 0.05$). Specifically, economic status, duration of illness, duration of treatment, and child's gender were all associated with quality of life. Notably, girls tended to have higher mean quality of life scores, as shown in Table 3.

The mean maternal health literacy score was 58.76±18.06, suggesting a relatively insufficient level of health literacy among mothers (Table 2). To explore the relationships between demographic characteristics and health literacy, independent t-tests and analyses of variance were conducted. These analyses revealed a statistically significant association between both maternal education level and economic status and maternal health literacy score ($p < 0.05$) (Table 4).

The Pearson correlation test revealed a statistically significant relationship between maternal health literacy and children's sleep habits ($p < 0.05$). However, no significant association was found between maternal

health literacy and children's quality of life ($p > 0.05$). Interestingly, a positive correlation was observed between children's sleep habits and quality of life ($p < 0.05$) (Table 5).

Table 3.Relationship between demographic characteristics and sleep habits and quality of life of the studied children

Variable		Sleep habits			Quality of life		
		Mean ± sd	Statistic	P*	Mean ± sd	Statistic	P*
Mother's education	Elementary Cycle Diploma College education	71.51±6.49 75.16±3.78 73.12±4.78 72.91±6.40	2.24	0.088	76.66±15.96 81.06±13.74 73.04±19.27 81.38±10.11	1.62	0.190
Mother's employment status	Employee Housewife Other	74.93±3.53 73.10±5.65 73.50±4.45	0.41	0.663	82.5±10.91 77.31±16.14 82.25±6.89	0.56	0.571
Address	The middle area of the city South of the city Village	72.84±6.48 73.84±3.60 73.63±4.44	0.32	0.725	76.90±15.19 75.94±16.52 81.06±15.59	0.86	0.428
The economic situation	Good Medium Bad	74.09±5.32 73.09±5.96 73.32±4.41	0.16	0.856	80.27±14.76 81.11±12.73 70.07±18.86	5.43	0.006
Gender of the child	Girl Boy	73.19±5.50 73.31±5.47	0.01	0.908	81.59±14.11 75.25±16.10	4.15	0.044
Child's living conditions	With mother and father With a single father With a single mother	73.69±4.89 70.8±8.93 66.62±9.20	3.97	0.022	78.84±15.04 71.00±20.45 65.75±17.82	1.92	0.152
The duration of the disease	Less than a year More than a year	73.70±5.26 71.61±5.98	2.45	0.121	80.02±14.43 70.04±17.33	7.27	0.008
Duration of treatment	Less than a year More than a year	73.92±4.89 70.90±6.71	5.49	0.021	80.11±14.50 70.18±16.93	7.47	0.008
Mother's age	30 30-40 40-50	74.09±3.65 73.34±6.07 71.67±5.67	1.04	0.359	81.40±13.65 75.57±16.41 80.17±14.85	1.51	0.225
Father's age	35 35-50 >50	72.80±5.52 73.67±5.50 72.29±5.26	0.45	0.636	78.03±14.79 78.10±15.36 76.83±19.20	0.03	0.967
Age of the child	8 >8	73.27±4.89 73.24±6.25	0.00	0.975	77.57±15.24 78.43±16.14	0.07	0.786

Table 4. Relationship between demographic characteristics and health literacy of the studied mothers

Variable			Mean ± sd	Statistic	P*
Maternal health literacy	Mother's education	Elementary	20.14± 70.00	5.98	0.0009
		Cycle	14.86± 55.76		
		Diploma	15.94± 56.2		
		College education	15.67 ± 50.44		
	Address	The middle area of the city	17.54± 57.05	0.94	0.395
		South of the city	13.54 ± 57.52		
		Village	62.62 ±21.30		
	The economic situation	Good	49.18±9.46	4.90	0.009
		Medium	56.86±17.81		
		Bad	66.64±18.86		
	Gender of the child	Girl	60.92±17.92	1.04	0.309
		Boy	57.18±18.16		
	Child's living conditions	With mother and father	57.45±17.69	2.86	0.062
		With a single father	69.6±19.34		
		With a single mother	75.00±16.79		
	The duration of the disease	Less than a year	58.63±17.55	0.02	0.892
		More than a year	59.23±20.33		
	Duration of treatment	Less than a year	58.71±17.65	0.00	0.965
		More than a year	58.90±19.90		
	Mother's age	30<	57.85±15.32	1.72	0.185
		30-40	56.98±18.29		
		40-50	66.05±20.46		
	Father's age	35<	60.53±17.07	1.92	0.152
		35-50	56.31±17.57		
		>50	66.83±21.29		
	Age of the child	8<	58.57±17.80	0.01	0.903
		>8	59.02±18.65		

Table 5. Relationship between the variables of maternal health literacy, sleep habits and children's quality of life

Variable	Maternal health literacy	Children's sleep habits	Children's quality of life
Maternal health literacy	1.0000	-	-
Children's sleep habits	R=-0.236	1.0000	-
	P= 0.017		
Children's quality of life	R= 0.104	R= -0.221	1.0000
	P= 0.299	P= 0.026	

Discussion

Sleep is a fundamental component of healthy childhood development, significantly contributing to children's physical and mental well-being. Sleep patterns in childhood naturally evolve as children's brains mature. However, when children are sick and hospitalized, their sleep may be significantly impaired or disrupted due to a multitude of factors: constant noise and light, medication side effects, frequent nurse monitoring, stress, and pain (22). The present study's results indicate a high prevalence of sleep disorders in children, as evidenced by the mean and standard deviation of their sleep habits: 5.46 ± 7.36. Notably, the behavioral sleep subscale exhibited the highest average (5.51 ± 6.21), while the night waking subscale

had the lowest (1.89 ± 0.95). These findings align with Shamsaeei et al.'s (2018) study, where students' average sleep habit score was 64.72 ± 9.33, with similar patterns regarding subscale scores: the highest for behavioral sleep (26.87 ± 4.75) and the lowest for night waking (4.35 ± 1.48). These findings reinforce those of the present study (23). Notably, a 2019 study by Samanta et al. titled "Sleep disturbances and associated factors in 2- to 6-year-old autistic boys" in India yielded comparable results. Specifically, their analysis revealed a mean sleep habit score of 14.77 ± 66.86, echoing our findings. Furthermore, their research identified significant associations between sleep habit scores and several contributing factors: autism severity, maternal age, child age, birth weight, physical activity, caffeine intake, and mobile phone/computer usage (24). A 2021 systematic review by Chen et al. in China mirrors the present study's findings: sleep problems have surged among Chinese children over the past two decades, impacting a significant two-fifths of school-aged children. Notably, their research revealed a disproportionately high occurrence of hyperhidrosis, restless sleep, and difficulty falling asleep compared to other sleep issues (25).

Our study reveals a mean quality of life score of 15.54 ± 77.93 in children, highlighting a crucial link: a statistically significant correlation between sleep habits and children's well-being. This finding aligns with existing research, as evidenced by Yurumez et al.'s (2016) study titled "The relationship between sleep problems and quality of life in children with ADHD." Their work demonstrates that addressing sleep issues in children with ADHD can significantly improve quality of life for both child and family, even mitigating the severity of ADHD symptoms. These findings are consistent with the present study (26). Oz et al. (2022) conducted a study titled "Assessment of sleep habits, sleep chronotype, and quality of life in children with drug-resistant epilepsy" in Turkey. The findings of their study showed that sleep disorders have a negative impact on the quality of life and behavioral problems of children, which is consistent with the present study (27). In the study by Wu et al. (2022), titled "The Relationship between Fatigue, Sleep Disturbances, Physical Activity, and Quality of Life in Cancer-Affected Children," the results showed that fatigue and sleep disturbances were significantly associated with quality of life distress, which is consistent with the present study (28).

Maternal health literacy is crucial for high-quality maternal and child health (29). Our study reveals suboptimal health literacy levels among mothers, with a mean score of 18.06 ± 58.76. Specifically, 41% had insufficient literacy, 29% somewhat insufficient, 18% sufficient, and 12% excellent. These findings align with other research demonstrating widespread low health literacy among mothers. Phommachanh et al. (2021) found only 17.4% with sufficient literacy and 3.5% with excellent, while 80% had insufficient or problematic levels (30). This trend holds true across income levels: 39% of Indian mothers, 34% of Iranian mothers, and 83% of rural African-American prenatal mothers have insufficient literacy, as do 72% of mothers in Texas and 24% in Philadelphia (31-34).

The relationship between health literacy and health status is well established (35). The findings of the present study indicate that there is a statistically significant inverse correlation between mothers' health literacy and children's sleep habits, suggesting that higher maternal health literacy corresponds to lower scores in children's sleep habits. The study by Ono et al. (2021) revealed that the mean sleep habit scores of children with parents possessing high health literacy were significantly lower than those of children with parents exhibiting low health literacy. In a multiple regression analysis, parental health literacy was independently linked to children's sleep habit scores, even after adjusting for all confounding factors, which aligns with the findings of the present study (36). Ogi et al. (2018) discovered in their study that the average sleep duration of children with parents having high health literacy was notably longer than that of children with parents having low health literacy (35). Similarly, a study by Bathory et al. (2016) demonstrated that low parental health literacy was associated with having a television in the bedroom and shorter nocturnal sleep duration in infants (1).

The findings of the present study showed that there was no statistically significant association between mothers' health literacy and children's quality of life. It seems that children's quality of life is influenced by multiple factors with stronger effects, which may lead to the fact that mothers' health literacy has little effect on improving children's quality of life. Limited research has been conducted on the relationship between mothers' health literacy and children's quality of life. In line with the present study, a study by Kazemi et al. (2019) found that there was no statistically significant association between health literacy and quality of life (37). In a systematic review study, Zheng et al. (2018) found that there was a moderate correlation between health literacy and quality of life, but the authors suggested that this finding should be supported by more evidence (38). A study by Rostami et al. (2018) found that the mean health literacy score of mothers was 17.85 ± 42.43 and the mean quality of life score of children was 11.27 ± 65.89. 89.3% of mothers had insufficient or suboptimal health literacy. Also, there is a positive and significant relationship between maternal health literacy and the quality of life of their children, which is inconsistent with the present study (39). The reason for such a contradiction may be the difference in the data collection tools and the research sample. In their study, the Landgraf and Abetz Child Health Questionnaire was used to measure quality of life. Also, the children in their study were healthy, while in the present study, hospitalized children were investigated.

we acknowledge that results from studies conducted in different countries may introduce potential bias due to varying geographical and cultural factors. Sleep duration and habits of children vary widely across countries with different cultural backgrounds (9). also, Over time, studies have indicated wide disparities in the level of access and use of health information by various individuals and groups. Several studies also indicate that women have a greater tendency than men to seek health information. However, due to demographic, personal, and cultural factors in many

developing countries, the likelihood that a woman will eventually obtain the health information she needs seems to be inversely related to the desire for such information. For instance, child rearing, age, access to media and hospitals, income, and spousal attitudes may affect the possibility of access to health information (40). To account for this, we stress that while international comparisons provide valuable context, cultural adaptations of health interventions and further localized research are essential to ensure the relevance and accuracy of findings in specific regions. Future studies should consider cross-cultural comparisons to explore how these factors may influence the generalizability of findings.

Conclusion

Based on the findings, 70% of mothers had insufficient or suboptimal health literacy. There is a statistically significant association between maternal health literacy and children's sleep habits. Given the importance of sleep habits for children's health and the role of maternal health literacy in it, it is suggested that policymakers develop policies and plans to provide the necessary training to improve maternal health literacy. Hospitals and community health centers can offer tailored educational programs focused on key aspects of child health, such as sleep hygiene, nutrition, and disease prevention. These programs should particularly target mothers from lower educational or socioeconomic backgrounds, where health literacy is often lower. Additionally, providing accessible, easy-to-understand, and culturally sensitive health information through digital platforms, brochures, and mobile apps can empower mothers to make informed decisions regarding their children's health. Integrating health literacy training into routine prenatal and postnatal visits is also essential to ensure that mothers receive consistent support in managing their children's health needs from birth onwards. No statistically significant association was found between maternal health literacy and quality of life, so further studies are needed to understand the mediating factors that may affect children's quality of life.

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Conflict of interest: The authors declare that they have no competing interests.

Consent for publication: Not applicable.

Ethics approval and consent to participate: This study was approved by the Ethics Committee of the University of Medical Sciences of Hamadan (with project number 140103171740 and ethics code IR.UMSHA.REC.1401.156) and all ethical principles, including obtaining permits, written consent, stating the objectives, confidentiality of information, and use of information for research purposes, were observed. The present study was conducted in terms of the principles of the revised Declaration of Helsinki, which is a statement of ethical principles that directs physicians

and other participants in medical research involving human subjects.

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