Jurnal Keterapian Fisik
Vol. 9, No. 2, November 2024
https://doi.org/10.37341/jkf.v9i2.481

Original Research

Parenting Experiences in Shaping Sleep Routines for Children with Attention-Deficit Hyperactivity Disorder (ADHD): A Phenomenological Study

Ainulia Salsabila Rahmaningrum[1]*, Tri Budi Santoso[2], Tri Winarno[3]

[1] Applied Bachelor's Program in Occupational Therapy, Department of Occupational Therapy, Poltekkes Kemenkes Surakarta, Indonesia
[2,3] Department of Occupational Therapy, Poltekkes Kemenkes Surakarta, Indonesia

ABSTRACT

***Background**: Parenting styles influence sleep routines and problems in children with Attention-Deficit/Hyperactivity Disorder (ADHD); sleep quality includes efficiency, latency, duration, and wakefulness after onset. This study explores the experience of implementing bedtime routines based on caregiver parenting styles and their implications for the quality of sleep for children with ADHD.*

***Methods**: Qualitative study with a phenomenological approach; non-probability sampling (purposive sampling). Participants consisted of 8 caregivers (mothers, aunts, grandmothers) of children with ADHD at YPAC Surakarta; semi-structured in-depth interviews were conducted 2–3 times per participant and analyzed thematically with credibility and confirmability tests.*

***Results**: Three main themes emerged: (1) Caregiver parenting styles (implementation and influence on sleep), (2) Types of parenting styles based on Baumrind's aspects, (3) Sleep quality of children with ADHD (sleep quality, sleep problems, supporting factors). Authoritarian parenting was linked to a stable sleep schedule but had no impact on efficiency; democratic parenting influenced emotional regulation; permissive parenting had no apparent effect on sleep quality; neglectful parenting was associated with sleep-onset insomnia without a clear cause.*

***Conclusion:** Variations in parenting styles result in different profiles of impact on sleep quality indicators. Education and harmonization of parenting styles are recommended in pediatric occupational therapy services.*

ARTICLE HISTORY
Received: June 5th, 2024
Accepted: November 5th, 2025

KEYWORDS
caregivers, parenting styles, sleep routines;

CONTACT
Ainulia Salsabila Rahmaningrum
✉ ainuliasalsabilarahmaningrum@gmail.com
Department of Occupational Therapy, Poltekkes Kemenkes Surakarta, Jln. Letjen Sutoyo, Mojosongo, Surakarta, Indonesia.

Cite this as: Rahmaningrum, A.S., Santoso, T.B., & Winarno, T. (2024). Parenting Experiences in Shaping Sleep Routines for Children with Attention-Deficit/Hyperactivity Disorder (ADHD): A Phenomenological Study. *Journal of Physical Therapy*, *9*(2), 127–135. https://doi.org/10.37341/jkf.v9i2.481

INTRODUCTION

Children's sleep quality is influenced by biological factors, including circadian rhythms, homeostasis, brain activity, and hormone secretion. In addition, socio-environmental factors such as culture, interaction, parenting style, bedtime routines, and

screen time also play a role. Operationally, sleep quality is assessed based on four elements: efficiency, latency, duration, and wakefulness after sleep onset (WASO) (Lönn et al., 2024).

In children with Attention-Deficit/Hyperactivity Disorder (ADHD), disturbances in one of the elements of sleep quality often stem from behavior, parenting style, pre-sleep routines, child-caregiver interactions, and the home environment. The literature you cite shows that sleep latency tends to be longer in highly permissive parenting styles, democratic parenting reduces anxiety but is not always directly related to improved sleep quality, while neglectful parenting is associated with internalization-externalization problems that can worsen sleep. Overly rigid authoritative/authoritarian parenting styles can also increase pre-sleep stress and ultimately affect sleep efficiency (French et al., 2023; Larsson et al., 2023).

Globally, ADHD has a prevalence of about 5% in school-aged children. In the group of children with ADHD, sleep disorders are reported in up to ±70%, which is much higher than in healthy children (±20–30%). Common problems include resistance at bedtime, difficulty initiating sleep, fragmented sleep with episodes of wakefulness during the night, and shorter sleep duration of approximately 30–60 minutes compared to peers (French et al., 2023).

Specifically related to parenting, bedtime routines are a tangible vehicle that manifests parenting values and strategies. In democratic and authoritarian parenting styles, caregivers tend to set more fixed schedules; however, an emphasis on discipline without sensitivity to the child's emotions can trigger resistance or pre-sleep stress, which impacts efficiency and WASO. Conversely, permissive parenting provides comfort but is often inconsistent in establishing sleep habits; neglectful parenting is associated with irregular schedules and a lack of facilitation when children wake up at night. You have outlined these patterns in the foundation section and will link them to the real experiences of caregivers (Cortese et al., 2024).

The novelty of this study lies in exploring the lived experiences of caregivers—including non-maternal figures such as aunts and grandmothers—within an Indonesian cultural context, a setting rarely examined in ADHD sleep studies. The research was conducted at YPAC Surakarta with in-depth interviews of 8 caregiver participants (aunts, mothers, and grandmothers) to map the variations in the application of parenting patterns and their implications for children's sleep. In line with this description of the phenomenon, the purpose of this study is to explore the experience of implementing bedtime routines based on caregiver parenting patterns and their impact on the sleep quality of children with ADHD.

MATERIALS AND METHODS

Design

This study used a qualitative design with a realist phenomenological approach to deeply understand caregivers' conscious experiences when implementing parenting styles and bedtime routines and their impact on the sleep quality of children with ADHD. The research design was chosen because the research questions focused on "how the experience" and the meaning attached by caregivers to parenting practices and bedtime routines (Hays & McKibben, 2021; Zapata-Berrero & Yalaz, 2020).

Setting and Time

The research was conducted at YPAC Surakarta (child therapy service). Data collection was carried out from September 5 to October 29, 2022, in the consultation or therapy room and or the participant's home as agreed.

Participants and Criteria

Participants were 8 primary caregivers (mothers, grandmothers, aunts) of children with ADHD who were currently receiving or had previously received therapy services at YPAC Surakarta. Inclusion criteria: (1) primary caregiver with an interaction intensity of ≥10–12 hours/day; (2) living in the same house or being a daily caregiver; (3) able to communicate well verbally; (4) willing to sign a consent form to participate. Exclusion criteria: (1) occasional caregivers (not primary caregivers); (2) conditions that hinder in-depth interviews (e.g., hearing/speech impairments that cannot be facilitated); (3) withdrawal before the interview is completed.

Non-probability technique, purposive sampling, with consideration of role variations (mother/grandmother/aunt) and parenting style variations (democratic, authoritarian, permissive, neglectful) so that a variety of experiences are represented. The sample size was set at 8 participants based on data saturation: themes and subthemes began to repeat, and no new information emerged from the 7th participant; the 8th participant was used for confirmation and consolidation of categories. Sampling was purposive and ended when data saturation occurred—no new codes emerged after the 7th participant; this was confirmed by two independent coders during iterative analysis.

Data Collection Techniques

Data collection was conducted through semi-structured in-depth interviews conducted 2–3 times per participant, lasting ±45–60 minutes/session, audio recorded with permission, accompanied by field notes (reflective memos). Supporting observations of pre-sleep routines (e.g., bedtime setting, calming strategies, responses when children wake up at night) were made using a brief observation sheet. Documentation: when available, photos/recordings of sleep schedules posted at home, family rule sheets, or therapy notes (without identifying data) (LaMarre & Chamberlain, 2022).

Interview Guidelines and Validity

The primary instrument is a semi-structured interview guide, developed from the following framework: (1) parenting practices (rules, consistency, communication, consequences); (2) pre-sleep routines (bedtime, wind-down activities, screen exposure, calming strategies); (3) sleep quality indicators (efficiency, latency, duration, wakefulness after sleep onset); and (4) supporting or inhibiting factors.

Content validity was assessed by experts (pediatric occupational therapists and/or sleep health specialists) who provided feedback on clarity, relevance, and language accessibility. Expert input was used to revise the order of questions, clarify technical terms, and add probes to explore the depth of the narrative. A pilot test of the guidelines was conducted on one caregiver outside the study sample to ensure comprehensibility and interview flow; the results were used to refine the wording of questions and adjust the duration.

Data Analysis

Audio data were transcribed verbatim and spot-checked against the recordings. Analysis used thematic analysis with the following steps: (1) open coding (initial coding close to the data); (2) grouping codes into categories; (3) axial coding (connecting categories—causal conditions, context, strategies, consequences); and (4) formulation of themes and subthemes. The mapping of parenting styles referred to Baumrind's framework to maintain the objectivity of the categorization (Abfalter et al., 2021; Bannister-Tyrrell & Meiqari, 2020).

Data Validity (Trustworthiness)

Credibility: brief member checking (clarification of meaning at the end/beginning of the following session), triangulation of methods (interviews–observations–field notes), and peer debriefing on codes/themes. Dependability: audit trail (protocol, guideline versions, analytical decisions), codebook with definitions and sample quotations, and code–recode on transcript subsets. Confirmability: researcher reflection (reflective memos on researcher assumptions/positions), storage of raw data and traceable analytical decisions. Transferability: thick description of context (parenting profiles, home dynamics, sleep habits) to help readers assess transferability to similar contexts (Zapata-Berrero & Yalaz, 2020).

Ethical Feasibility

All participants signed a written consent form (informed consent); confidentiality was maintained using anonymous codes (P1–P8), and data were stored securely. Participation was voluntary, with the right to withdraw at any time without consequences for therapy services. This study has received ethical approval from the Health Research Ethics Committee of the Surakarta Ministry of Health Polytechnic (KEPK).

RESULTS

The number of participants in this study was 8 people, consisting of caregivers, mothers, grandmothers, and aunts. All participants were primary caregivers of children with a minimum of 10-12 hours of interaction with the child per day. The main occupations of the participants (primary caregivers) were domestic helpers, housewives, and office workers. Data on the 8 participants can be seen in the following table:

Table 1. Participant Characteristics

Participant	Gender	Age Caregiver (Years)	Caregiver	Diagnosis Child	Occupation	Education
P1	Female	58	Aunt	ADHD	Housewife	High School
P2	Female	59	Aunt	ADHD	Worker	High school
P3	Female	40	Mother	ADHD	Housewife	Bachelor
P4	Female	32	Mother	ADHD	Housewife	D3
P5	Female	43	Mother	ADHD	Housewife	D3
P6	Female	39	Mother	ADHD	Housewife	D3
P7	Female	65	Grandmother	ADHD	Housewife	High school
P8	Female	67	Grandmother	ADHD	Housewife	High School

Based on the thematic analysis conducted in this study, three general themes emerged, consisting of (1) *Caregiver* Parenting Styles with the sub-themes of Application of Parenting Styles and Caregivers Applying Parenting Styles (2) Types of *Caregiver* Parenting Styles, with sub-themes: Types of *Caregiver* Parenting Styles Based on Baumrind's Parenting Style Aspects (3) Sleep Quality of Children with ADHD, with sub-themes: Sleep Quality, Sleep Problems, and Supporting Aspects of Sleep Quality. In detail, the themes and sub-themes are outlined in the following table:

Table 2. Research Themes and Subthemes

Theme	Sub-Theme
Caregiver parenting style	Application of parenting styles The effect of parenting style implementation on sleep quality
Types of *Caregiver* Parenting Styles	Types of *Caregiver* Parenting Styles Based on Aspects Baumrind Parenting Style
Sleep quality of children with ADHD	Sleep Quality Sleep problems Supporting aspects of sleep quality

Theme 1: Caregiver Parenting Style

Application of Parenting Styles

The analysis shows variations in the application of parenting styles by primary caregivers (mothers, grandmothers, aunts) with the aim of shaping children's behavior; democratic and authoritarian styles tend to emphasize rules and discipline, while permissive and neglectful styles show lower consistency in rules because they tend to follow the children's wishes. Consistency in rules is evident in children's responses and changes in daily behavior, for example, as stated below:

"...Yes, firm but following the child..." (P3)

The Influence of Parenting Styles on Sleep Quality

Caregivers assess the impact of parenting styles on sleep primarily through pre-sleep routines and adherence to schedules. In authoritarian parenting, sleep schedules tend to be more stable; democratic parenting has a more noticeable effect when children are able to communicate bidirectionally; permissive parenting often faces pre-sleep emotional instability even though soothing helps; neglectful parenting often does not provide comfort when children wake up at night, resulting in reduced sleep duration.

"...Sometimes they go to sleep at 10, wake up at 11, and wake up again at 3..." (P4)

Theme 2: Types of Caregiver Parenting Styles (Baumrind Framework)

Distribution of Parenting Styles and Classification Based on Objectivity Tests

Parenting style types were determined using Baumrind's aspects and objectivity tests at different times to improve accuracy. The final distribution showed 5 democratic caregivers, 1 authoritarian caregiver, and 2 caregivers who added a variety of perspectives. Thus, the majority of practices emphasized firmness accompanied by

reasoning or negotiation, while a small number displayed strict one-way control or high flexibility that reduced consistency.

"Yes, firm but follows the child." (P3)

Characteristics of Parenting Practices by Type

In authoritarian practices, communication is more one-way with an emphasis on obedience; some caregivers mentioned the use of reprimands or punishment when behavior was inappropriate. In democratic practices, two-way communication and negotiation are emphasized to build understanding with the child. In permissive practices, caregivers prioritize the child's comfort and avoid enforcing rules. Neglectful practices are characterized by low emotional involvement and the delegation of responsibility to others.

"…no yelling… no pinching…" (P4)
"…explained logically…" (P3)
"…not forced… their emotions are unstable…" (P5)
"…don't hand them over to the nanny…" (P7)

Theme 3. Sleep Quality in Children with ADHD

Sleep Quality (Efficiency, Latency, Duration, and WASO)

In general, democratic parenting is associated with longer wakefulness and adherence to schedules; authoritarian parenting is often accompanied by difficulty falling asleep despite strict schedules; permissive/neglectful parenting shows great variability depending on the child's condition. WASO (waking after sleep onset) is reflected in repeated waking patterns as described in the following statements:

"…at 10 PM, slept at 11 PM, woke up… at 3 AM…" (P3)

Sleep Problems

Issues include resistance to sleep, difficulty initiating sleep, restless or active sleep, and nighttime awakenings that reduce sleep quality. A number of caregivers linked these difficulties to hyperactivity and unstable emotional regulation; this study did not find severe nightmares as reported in some psychiatric comorbidity literature. These findings emphasize the need for consistent routines and calming responses, especially in children with high hyperactivity.

"…so they can't sleep because they're addicted to their phones…" (P2)
"…even though we turn off the TV at 9 or 10 PM, their reactions still go all over the place" (P7)

Supporting Aspects of Sleep Quality (Routines and Environment)

Wind-down practices such as turning off the lights, rocking or cuddling, gentle pats, prayers or songs, and temperature/ventilation adjustments were reported to be helpful, as stated below:

"…at the beginning… the lights are turned off… sleep…" (P6)
"...Often on their stomach because they're used to it there. Later, they go back to lying on their back and then on their stomach again" (P8)

DISCUSSION

The findings of this study reveal three themes, namely: (1) Caregiver parenting patterns; (2) Types of caregiver parenting patterns; (3) Sleep quality of children with ADHD. The discussion is outlined in the following paragraphs.

The first theme, Caregiver Parenting Patterns, shows that consistency in rules and pre-sleep calming strategies are key. Caregivers with warm- -firm practices (negotiation accompanied by clear boundaries) tend to be successful in reducing resistance to sleep and stabilizing nighttime routines. Conversely, inconsistent practices—such as indulging children's desires without limits—are associated with prolonged sleep latency and more frequent nighttime awakenings (Kalaskar et al., 2021; Lewis et al., 2023).

The second theme, Caregiver Parenting Styles, highlights democratic parenting in fostering children's emotional regulation, leading to a calmer pre-sleep environment. Authoritarian parenting does organize schedules, but rigid control can increase pre-sleep stress, so its benefits are not always reflected in objective indicators. Permissive and neglectful practices tend to result in irregular routines, minimal soothing, and ultimately disrupt the consistency of family sleep habits (Kim et al., 2023; Zubedat et al., 2022).

The third theme of ADHD Children's Sleep Quality is that subjective improvements, such as children being more cooperative, do not automatically increase efficiency, shorten latency, increase duration, or reduce awakenings after sleep onset. The dominant issues are difficulty initiating sleep, restless/active sleep, and repeated nighttime awakenings that fragment sleep (Bruni et al., 2021). Supporting aspects—such as screen-free wind-down, consistent calming techniques, room light/temperature regulation, and consistency in rules across caregivers—need to be implemented simultaneously so that findings at the experiential level are truly converted into measurable improvements in sleep indicators (Cortese et al., 2024; Marten et al., 2023).

The clinical implications of this research for occupational therapy are the need for a layered caregiver education package: (1) agreeing on a fixed sleep schedule and a brief screen-free wind-down ritual; (2) training in calming strategies appropriate to the child's profile (e.g., rhythmic touch, short stories, breathing techniques); and (3) encouraging consistency in rules across caregivers so that messages do not conflict. This practice should be accompanied by simple monitoring, e.g., a daily log card containing sleep times, latency, number of awakenings, and trigger notes—so that families and therapists can observe changes over time. In service delivery, therapists can integrate emotion regulation training and routine skills as measurable occupational goals, rather than just general counseling (Liang et al., 2022).

At the program and service policy level, study results support the development of clinic-community modules that combine parenting education with sleep hygiene for families of children with ADHD. Modules can be short and repetitive (e.g., three weekly sessions) with online boosters to maintain compliance. Additionally, collaboration with schools/other therapists is important to align day-night expectations (physical activity, nap duration, device shutdown). This multi-agency approach is expected to reduce WASO and latency through cross-environmental consistency (Checa-Ros et al., 2023; Larsson et al., 2023).

Limitations of this study include data primarily derived from interviews, making it susceptible to recall bias and social bias; observations are supplementary and may not fully capture nighttime dynamics. Without objective sleep measures (e.g., actigraphy) or standardized instruments (e.g., Children’s Sleep Habits Questionnaire), changes in efficiency/latency/duration/WASO cannot be quantitatively confirmed. These findings

should therefore be interpreted as contextual qualitative evidence mapping mechanisms and intervention points, not broad generalizations. Further research is recommended using a mixed-methods design: in-depth phenomenology combined with objective/standardized measures (actigraphy/sleep diary/CSHQ) to verify changes in efficiency, latency, duration, and WASO.

CONCLUSION

The research findings indicate that parenting styles influence the effects of sleep routines on children with ADHD. Authoritarian parenting tends to result in stable schedules, but there is no strong evidence of improved sleep efficiency. Democratic parenting styles are more consistent in supporting emotional regulation, thereby facilitating the sleep initiation process, although the objective impact remains dependent on environmental management and routine consistency. Conversely, permissive parenting styles are often associated with low consistency and less structured sleep habits, while neglectful tendencies are associated with insomnia onset and sleep fragmentation. Occupational therapy interventions need to target parenting education that is aligned with the family context and the establishment of consistent sleep routines, so that changes in the caregiver's experience can be converted into measurable improvements in sleep quality indicators.

ACKNOWLEDGEMENT

The authors would like to thank the Director of Poltekkes Kemenkes Surakarta.

REFERENCES

Abfalter, D., Mueller-Seeger, J., & Raich, M. (2021). Translation decisions in qualitative research: A systematic framework. *International Journal of Social Research Methodology*, 24(4), 469–486. https://doi.org/10.1080/13645579.2020.1805549

Bannister-Tyrrell, M., & Meiqari, L. (2020). Qualitative research in epidemiology: theoretical and methodological perspectives. *Annals of Epidemiology*, 49, 27–35. https://doi.org/10.1016/j.annepidem.2020.07.008

Bruni, O., Giallonardo, M., Sacco, R., Ferri, R., & Melegari, M. G. (2021). The impact of lockdown on sleep patterns of children and adolescents with ADHD. *Journal of Clinical Sleep Medicine*, 17(9), 1759–1765. https://doi.org/10.5664/jcsm.9296

Checa-Ros, A., Muñoz-Hoyos, A., Molina-Carballo, A., Viejo-Boyano, I., Chacín, M., Bermúdez, V., & D'Marco, L. (2023). Low doses of melatonin to improve sleep in children with ADHD: An open-label trial. *Children,* 10(7), 1–1. https://doi.org/10.3390/children10071121

Cortese, S., Fusetto Veronesi, G., Gabellone, A., Margari, A., Marzulli, L., Matera, E., Petruzelli, M. G., Piarulli, F. M., Tarantino, F., Bellato, A., Parlatini, V., Rietz, E. Du, Larsson, H., Hornsey, S., Hill, C., & Margari, L. (2024). The management of sleep disturbances in children with attention-deficit/hyperactivity disorder (ADHD): An update of the literature. *In Expert Review of Neurotherapeutics,* 24, (6), 585–596). https://doi.org/10.1080/14737175.2024.2353692

French, B., Quain, E., Kilgariff, J., Lockwood, J., & Daley, D. (2023). The impact of sleep difficulties in children with attention deficit hyperactivity disorder on the family: A thematic analysis. *Journal of Clinical Sleep Medicine*, 19(10), 1735–1741. https://doi.org/10.5664/JCSM.10662

Hays, D. G., & McKibben, W. B. (2021). Promoting rigorous research: Generalizability and qualitative Research. *Journal of Counseling and Development*, 99(2), 178–188. https://doi.org/10.1002/jcad.12365

Kalaskar, R., Bhaje, P., Kalaskar, A., & Faye, A. (2021). Sleep difficulties and symptoms of attention-deficit hyperactivity disorder in children with mouth breathing. *International Journal of Clinical Pediatric Dentistry*, 14(5), 604–609. https://doi.org/10.5005/jp-journals-10005-1987

Kim, W. P., Kim, H. J., Pack, S. P., Lim, J. H., Cho, C. H., & Lee, H. J. (2023). Machine learning-based prediction of attention-deficit/hyperactivity disorder and sleep problems with wearable data in children. *JAMA Network Open*, 6(3), E233502. https://doi.org/10.1001/jamanetworkopen.2023.3502

LaMarre, A., & Chamberlain, K. (2022). Innovating qualitative research methods: Proposals and possibilities. *Methods in Psychology*, 6(November 2021), 100083. https://doi.org/10.1016/j.metip.2021.100083

Larsson, I., Aili, K., Lönn, M., Svedberg, P., Nygren, J. M., Ivarsson, A., & Johansson, P. (2023). Sleep interventions for children with attention deficit hyperactivity disorder (ADHD): A systematic literature review. *Sleep Medicine*, 102, 64–75. https://doi.org/10.1016/j.sleep.2022.12.021

Lewis, K. J. S., Martin, J., Gregory, A. M., Anney, R., Thapar, A., & Langley, K. (2023). Sleep disturbances in ADHD: Investigating the contribution of polygenic liability for ADHD and sleep-related phenotypes. *European Child and Adolescent Psychiatry,* 32(7), 1253–1261. https://doi.org/10.1007/s00787-021-01931-2

Liang, X., Qiu, H., Wang, P., & Sit, C. H. P. (2022). The impacts of a combined exercise on executive function in children with ADHD: A randomized controlled trial. *Scandinavian Journal of Medicine and Science in Sports*, 32(8), 1297–1312. https://doi.org/10.1111/sms.14192

Lönn, M., Svedberg, P., Nygren, J., Jarbin, H., Aili, K., & Larsson, I. (2024). The efficacy of weighted blankets for sleep in children with attention-deficit/hyperactivity disorder—A randomized controlled crossover trial. *Journal of Sleep Research,* 33(2), 1. https://doi.org/10.1111/jsr.13990

Marten, F., Keuppens, L., Baeyens, D., Boyer, B. E., Danckaerts, M., Cortese, S., & Van der Oord, S. (2023). Sleep parameters and problems in adolescents with and without ADHD: A systematic review and meta-analysis. *JCPP Advances,* 3(3), 1. https://doi.org/10.1002/jcv2.12151

Zapata-Berrero, R., & Yalaz, E. (2020). *Qualitative research journal: The practice of qualitative research in migration studies: Ethical issues as a methodological challenge*. Emerald Publishing.

Zubedat, S., Natale, V., Filardi, M., Wu, G., Yin, H., Yang, D., & Yang, L. (2022). Relationship between sleep disorders and attention-deficit-hyperactivity disorder in children. *Frontiers in Pediatrics*, 1–7. https://doi.org/10.3389/fped.2022.919572