

# The quality of life of sibling of children with attention deficit/hyperactivity disorder

Mariska Johana Heryputri<sup>1</sup>, Laila Qodariah<sup>2</sup>, and Fredrick Dermawan Purba<sup>3</sup>

## Abstract

Siblings of children with ADHD have experiencing anxiety for various reason, including parents who focus more on caring for children with ADHD, experiencing pressure to take care of their siblings, and feeling concerned about their that had impact on their quality of life. The goal of this research was to get an overview of the quality of life of adolescents who have siblings with ADHD. 6 adolescents aged 13-17 years who have siblings with ADHD participated in this research. This study used the descriptive qualitative method. The data collection technique used semi-structured interviews using an interview guide created using The Interview Protocol Refinement Framework. Data collection was carried out during the COVID-19 pandemic so that interviews were conducted using the Google Meet and Zoom platform. The data analysis technique used thematic analysis. The results showed that there are 20 themes of four domains (physical, psychological, social, and environmental health) describe the quality of life in adolescents who have siblings with ADHD. Every adolescence's quality of life domains is impacted by siblings with ADHD.

## Keywords

ADHD, adolescents, qualitative research, quality of life, unaffected siblings

## Introduction

Attention Deficit Hyperactivity Disorder (ADHD) refers to neurodevelopmental disorder mainly related to the frontal lobe and prefrontal cortex dysfunction. This condition causes executive function deficit, resulting in non-adaptive behaviors regarding self-regulation of children with ADHD (Mash & Wolfe, 2015). Children with ADHD usually lack attention and are hyperactive and impulsive, which do not suit their developmental stages and hamper their activity (American Psychiatric Association, 2013).

They usually lack attention, are argumentative, unpredictable, and often exhibit explosive behaviors. Therefore, children with ADHD often have a conflict with other people. Children with ADHD tend not to follow the rules like other people do and often fail to adjust to others socially. They appear to be reckless, exhibiting behaviors their environment does not expect (Mash & Wolfe, 2015).

Thus, parents and siblings of children with ADHD often see their behavior as annoying. These irritating behaviors are often associated with poor family functions (particularly interpersonal conflict), parents' and siblings' stress, negative communication, and parenting style (Anastopoulos *et al.*, 2009). Siblings of children with ADHD in Kendall (1999) study identify seven types of behaviors exhibited by children with ADHD: aggressive behavior (physical and verbal aggression, self-harming behaviors, and passive resistance), uncontrolled hyperactivity, socioemotional immaturity, academic problems, family conflict, poor peer relationship, and complicated relationship with the big family (Kendall, 1999).

Kendall (1999) describes three adverse impacts of children with ADHD on their siblings: victimization, caretaking, and sorrow and loss. Siblings of children with ADHD see

themselves as victims when facing aggressive behaviors from children with ADHD, physical or verbal violence, or manipulative and controlling behaviors. They also see that their parents expect them to take care of children with ADHD. Lastly, consistent disturbance and symptoms of ADHD may result in siblings' anxiety and depression as they compare their lives to others. In Mikami & Pffner (2008) study, the relationship of siblings of children with ADHD indicates high conflict yet exhibits an insignificant difference in warmth compared to the control group. The friendship quality of children with ADHD is positively associated with their relationship with their siblings (Kouvava & Antonopoulou, 2020). A warm, supportive relationship with siblings may improve well-being, affection, and self-esteem (Sherman *et al.*, 2006).

Sibling relationships constitute one of the longest and most meaningful relationships in an individual's life. This relationship is vital for children with ADHD since they heavily depend on their siblings to gain social support (Lamsal & Ungar, 2019). Siblings are known to positively affect the social support of children with ADHD. Siblings showing prosocial behavior (e.g., sharing, asking for help, compromising) can be helpful in improving social skill of children with ADHD (Daffner *et al.*). However, as some parents and families are likely to focus more on children with ADHD, their siblings tend to receive less attention from parents and other family members. In this regard, siblings of

<sup>1,2,3</sup> Faculty of Psychology Universitas Padjadjaran

## Corresponding author:

Heryputri, Faculty of Psychology Universitas Padjadjaran  
Email: mariskajohanah@gmail.com

children with ADHD may suffer from anxiety and depression due to a lack of parental presence. On the other hand, having a sibling with ADHD may positively affect individuals' life quality, such as having a more caring characteristic, warmer social competence, prosocial behavior, and psychological well-being (Lamsal & Ungar, 2019).

Adolescence denotes a transitional period between childhood and adulthood. The developmental tasks of adolescents mainly involve biological, cognitive, and socioemotional changes (Santrock, 2016). Siblings of children with ADHD should face behavioral symptoms of ADHD while accomplishing their own adolescence developmental tasks. Adolescents uphold a high value in family relationships related to their quality of life. The number of family conflicts an adolescent encounter can significantly affect their life quality (Helseth & Misvær, 2010).

WHO (1996) defines life quality as "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concern." Life quality can also be affected by a range of factors, including physical health, psychological condition, autonomy, social relationship, environmental factors, and personal belief, among others. Quality of life comprises four domains: physical health, psychological health, social relationship, and environment (WHO, 1996).

Many studies have been conducted to investigate the effect of children with ADHD on parents' or caretaker's quality of life. However, its effect on siblings is relatively under-researched. In this regard, we are interested in studying the experience of siblings of children with ADHD and its impact on their quality of life. In the present study, we conduct a phenomenological study aiming to scrutinize adolescents' experience whose siblings are diagnosed with ADHD, particularly related to their quality of life. We attempted to picture the adolescents' view and perception of their social relationship and quality of life through this study. The result of this study is expected to extend our knowledge of life quality of adolescents with ADHD siblings.

## Method

The present study was categorized as a phenomenological study (Creswell et al., 2007), an inquiry design stemming from the field of philosophy and psychology, where researchers describe individuals' life experiences related to a phenomenon (Creswell & Creswell, 2018). Applying this design, we attempted to picture the life quality of six siblings (13-17 years of age) of children with ADHD.

The number of participants in this study has met the number suggested by Creswell & Creswell (2018). The participants lived with their siblings with ADHD in the same house. All participants' siblings with ADHD were male and were diagnosed with ADHD by physicians and psychologists. We obtained consent from the participants' parents to conduct the interview and study, and the participants' parents have given informed consent. Participants were recruited using a purposive sampling technique following several characteristics helpful for us to understand the study's issue, phenomenon, and questions (Creswell & Creswell, 2018; Etikan et al., 2016). In our study, participants were adolescents

aged 12-18 years old with a sibling diagnosed with ADHD by a psychologist and psychiatrist/ doctor.

The data were collected through a semi-structured interview online via Google meet and zoom, considering that we conducted the study during the Covid-19 to maintain participants' health, convenience, and safety. Each interview session lasted for 60-90 minutes. The interview protocol was designed following The Interview Protocol Refinement Framework (Castillo-Montoya, 2016), comprising four stages; 1) Making a list of questions that suits the research question, 2) building the question-based dialog, 3) Receiving feedback on the protocol, 4) Testing the protocol. We designed the interview protocol and questions based on the four domains of life quality: physical, psychological, social relationship, and environmental health. Two experts reviewed the interview protocol. Feedbacks were given for non-understandable questions and incomplete protocols.

The data were analyzed using the thematic analysis technique, a method specifically developed to analyze and capture the themes and subthemes of the data (Braun & Clarke, 2006). This technique comprises six phases: 1) familiarization, 2) coding, 3) generating themes, 4) reviewing themes, 5) defining and naming themes, and 6) writing up. The data trustworthiness was determined using the credibility, transferability, dependability, and confirmability criteria, which are parallel with the validity and reliability criteria in quantitative study (Korstjens & Moser, 2018).

## Result

This study involved six siblings (13-17 years of age) of children with ADHD. Their parents have consented their children to participate in the study. One participant was female while the other five participants were male, and their siblings with ADHD were male aged 5-17 years old.

The data analysis result demonstrated twenty themes depicting quality of life of siblings of children with ADHD in terms of physical, psychological, social relation, and environmental domain. The following table displays the themes, definitions, and participants' excerpt.

### Theme 1: Daily Activities

Participants stated during the interview that their daily activities are affected by siblings with ADHD. The affected daily activities vary, including gadget time and online school activities, among others. In this regard, participants stated as follows:

"My brother often refuses to go by the school bus. he was at elementary school that time, and refused going to school, and held up the school bus schedule." (Participant 1).

"He likes to disturb me, like when I was in zoom meeting class, in the middle of material presentation, he bangs on the door" (Participant 2).

### Theme 2: Physical Health of adolescents with sibling with ADHD

Participants see that they have a good physical health. In this regard, participants stated as follows:

**Table 1.** Participants' Demographics

Subjects	1	2	3	4	5	6
Gender	Male	Female	Male	Male	Male	Male
Age	16 years	17 years	14 years	13 years	13 years	14 years
Current grade	11th grade	12th grade	8th grade	7th grade	7th grade	8th grade
Birth order	2 of 2	1 of 2	1 of 2	1 of 3	1 of 2	1 of 3
Age of Siblings with ADHD	17 years	12 years	5 years	7 years	10 years	8 years

**Table 2.** Domains, Themes, and Sub-themes

Domain	No.	Theme	Sub-theme
Physical	1	Daily Activities	Daily activity condition
	2	Health of sibling with ADHD	Health condition in last two weeks Effect of sibling with ADHD on physical health
	3	Mobility	Going outside the house Mobility inside the house
	4	Fatigue and Energy	Response to one's energy Factors leading to fatigue
	5	Physical Harm	Sibling's behaviors leading to physical harms Sibling's behaviors leading to physical discomfort
	6	Sleep and Rest	Sleeping quality Sibling's behaviors disturbing one's sleep
	7	Assignment	Academic achievement Sibling's behaviors disturbing assignment work
Psychological	8	Feeling related to having a sibling with ADHD.	Negative feeling emerging when get along with ADHD sibling Positive feeling emerging when get along with ADHD sibling
	9	Self-care and physical appearance	Sibling's behavior affecting physical appearance Self-care condition
	10	Self-confidence	
	11	Spirituality and Religiosity	Prayer condition Religious efforts made related to sibling's condition.
	12	Thinking, learning, memorizing skills and concentration	Learning skills condition Concentrating ability
Social relationship	13	Social relationship of siblings of children with ADHD.	Social relationship with parents Social relationship with sibling Social relationship with friends
	14	Social Support	Parents' responses when being asked for help Types of help needed from friends Help and support for siblings
Environment	15	Family financial condition	Family financial condition Needs for siblings with ADHD
	16	Healthcare facility for sibling with ADHD	
	17	Home environment condition	Home environment condition Privacy at home Environments' physical condition Home noisiness Home safety Sibling's behaviors on the home safety and comfort
	18	Opportunities to obtain and learn new information and experiences	Ability to obtain and learn new information and experiences ADHD-related information
	19	Recreation	Holiday experience together with siblings Attending parties with siblings
	20	Transport	Experience in private vehicle Experience in public transport

"It's good, no problem. Perhaps just a cold or cough." (Participant 2).

"Ah, no health problem." (Participant 6).

### *Theme 3: Mobility*

Some participants find it difficult to be mobile, particularly because they have to safeguard their siblings with ADHD. In this regard, participants stated as follows:

“When my mother or father is not at home, I can’t go hang out With my friends, I have to stay at home and taking care of R.” (Participant 1)

“When I want to go hang out with friends, I have to watch for my brother at home.” (Participant 4)

Some subjects also find it difficult to move from one room to another, especially from the bedroom, due to behaviors of their siblings with ADHD. Participants must lock his bedroom door every time they want to leave their room for being afraid of using their possessions without permission.

“I have a pen collection in my room, and plenty of stationary, and A love to mess them out. So, I always lock my door.” (Participant 2)

#### *Theme 4: Fatigue and Energy*

Participants feel that they have enough energy to live their daily activities. In this regard, participants stated as follows:

“Enough, I have enough energy to do my daily activities” (Participant 4).

Some participants stated that they sometimes exhausted due to their sibling’s behaviors.

“I was exhausted after bicycling, running, and for a long time. (Participant 3).

#### *Theme 5: Physical Harm*

Some participants stated that they were physically harmed by their sibling with ADHD (e.g., punched, hit, scratching, etc.). In this regard, participants stated as follows:

“... Because he is often reckless when doing something. It hurts when get hit” (participant 2).

“My head often get hit, when taking care of him.” (Participant 3)

“He often got hit. When he is angry, he throws many things.” (Participant 6).

#### *Theme 6: Sleep and Rest*

Four of six participants said during the interview that they suffered from sleeping difficulties due to their siblings’ behavior. Participants stated that their siblings often make noises and disturbing movements. In this regard, participants stated as follows:

“I don’t know what sound that he makes, but I can’t sleep because of it.” (Participant 4).

“For instance, when I was sleeping, he can’t stop moving, keep poking or kicking me.” (Participant 5).

#### *Theme 7: Assignment*

Some participants stated that their works on assignment are affected by their siblings with ADHD. Their siblings sometimes whine, scrawl the notebook, or force participants to play with them.

“It was online assignment, and I was not in my room. He took my book and scrawled it.” (Participant 4)

“It is sometime annoying when I am doing my homework and he insisted to play something together.” (Participant 5).

#### *Theme 8: Feeling related to having a sibling with ADHD*

Participants’ feelings vary when doing activities together with their siblings with ADHD, both positive and negative feelings. The positive feeling perceived by the participants include being happy for having a companion, entertained when playing together, and being able to respect others.

“ I am happy for having a friend. I am not bored for we can play every time. (Participant 4)

“I think I can improve myself as I have more responsibility, it teaches me to be more considerate, respectful individual.” (Participant 6)

However, negative feelings also emerge, including being irritated, annoyed, and worried.

“I think about how we will treat him when he grows up, where will he live, its quite burdening” (Participant 1).

“He has difficulty to understand something, and it is annoying to explain to him repeatedly. (Participant 6)

#### *Theme 9: Self-care and physical appearance*

Participants see that their physical appearance is not affected by their siblings with ADHD. Furthermore, participants also have a time for self-caring activities while doing activities with their sibling.

“No problem, I usually do the scrub and use facial mask at night, I have plenty of time for self-care.” (Participant 6)

#### *Theme 10: Self-confidence*

Siblings with ADHD do not affect participants’ self-confidence, as they convey during the interview:

“No, I never have confidence issue because of R.” (Participant 1)

“It does not affect my confidence.” (Participant 6)

#### *Theme 11: Spirituality and Religiosity*

Participants’ religious activities are never disturbed by their siblings with ADHD. as they convey during the interview:

“Never, I told him before performing prayers, like... “Go play with car at front.” (Participant 4)

“ No, A plays in the front, and I am at the back. We recite in the praying room, and when performing prayers, I usually do it in my room.” (Participant 5)

### **Theme 12: Thinking, learning, memorizing skills and concentration**

Participants state that their siblings with ADHD do not affect their learning ability since they have separated room. However, participants' concentration and focus are often distracted when their siblings throw questions or make noises.

"Sometimes I am disturbed. When he asks questions continuously to mom and I hear it, and it annoys me." (Participant 1)

"He likes to make noises, and it makes me difficult to concentrate and focus." (Participant 3)

### **Theme 13: Social Relationship of adolescents with sibling with ADHD**

Some participants view that the presence of sibling with ADHD affects their relationship with parents. Participants feel that their parents pay attention more to their siblings with ADHD.

"As R needs therapy and more treatments, they seem to pay more attention to him. Since I don't need any treatment, they just leave me alone. While R is often fussy, so he needs more attention. (Participant 1)

One of the participants see her relationship with her ADHD sibling is like a best friend.

"He is like a best friend to me, sometimes when A focuses with his toys or playing with his friends, I do not know what should I do" (Participant 5).

### **Theme 14: Social Support**

Participants perceive a social support from their surroundings (e.g., parents, friend, and relatives). Participants' parents show their support directly and indirectly.

"Sometimes I have to wait my mom to finish her work before helping me doing the assignments." (Participant 3)

"They never think twice when I need helps." (Participant 6)

Participants also receive supports from their friends. The support is usually related to assignment, or listening to their problem,

"I often ask for their help to do the assignment." (Participant 1)

"I need someone to talk to, To be understood. They even sometimes help me doing my homework." (Participant 2)

"It is cheering up, just playing the gadgets, or the say "be patient." (Participant 3)

### **Theme 15: Expense for sibling with ADHD**

Participants perceive and understand that their siblings need more spending for various treatments, special school, psychiatry and psychologist visit, and medications, among others.

"We pay for therapy, his school, and the aid teacher facility." (Participant 1)

"We proportionally divide the portion, A maybe needs more He has a private courses, and psychiatry visit. (Participant 5)

### **Theme 16: Healthcare facility for sibling with ADHD**

Participants implied that they find it difficult to find a facility that is capable of treating their siblings with ADHD properly. This difficulty was accounted for by limited professional workers, unaffordable professional cost, difficulty to find the suitable ones, and small therapy sites.

"First, it is difficult to find, second, it is expensive. Only few professionals are reputable to handle children with special needs like R in this area. And because there are only few of them, the cost is expensive." (Participant 1)

Perhaps like fit or not fit. For instance, like looking for private course, it is difficult to find the ones that fit the child. (Participant 2)

"One of the places offers many facilities, its good, but the place is too small." (Participant 6)

### **Theme 17: Environments' physical condition**

Participants in this study perceives the comfort and privacy at their home are good. However, some of them stated that their siblings with ADHD affects the comfort and safety of their homes. In this regard, they were worried when their siblings recklessly using the stove, forget to lock the door or turn off the lamp. as they convey during the interview:

"The most concerning, for me, is when he cooks. R can cook and he does it often. I am afraid he is reckless or forget to turn of the stove, ended with setting our house on fire. That is what I am afraid the most. (Participant 1)

"At night, when he is the last person in the downstairs, I have to check again whether or not the door has been locked and the lamp turned off, because when he forgets, dad will be mad at me." (Participant 2)

### **Theme 18: Opportunities to obtain and learn new information and experiences**

Participants stated that their siblings with ADHD do not affect their ability to obtain new information and experiences.

"Its easy to find information, what makes me worry is Indonesian people literacy. There are many information spread, yet our people find it difficult to obtain the information. (Participant 1)

"No, there is no obstacles." (Participant 3)



### Theme 19: Daily Activities

Some participants told about going holiday along with siblings with ADHD. Siblings with ADD whine for toys when going for holiday, destroying the holiday atmosphere.

He sees toys, then he asked for it as it is a MUST, when he does not get what he wants He is angry or rolling on the floor. “ (Participant 4)

Sometimes he said “I don’t want to be here,” “I want to play in the hotel,” or “I want to go there.” (Participant 6)

Participants also feel the effect of their siblings misbehavior when attending the party. Children with ADHD often began to fuss, asking to go home and many other things.

“ M whines for going home, to avoid getting worse so we leave the party.” (Participant 3)

“Sometimes he cannot be quiet, so when I want to go, for instance, to take other foods, I have to stay with him first.” (Participant 4)

### Theme 20: Transport

When going by public transport, participants said that their siblings Often play only the their favorite music, actively move, and talk loudly, disturbing other passengers.

“No problem, perhaps he is more active than other passenger, but he is not difficult to control. He is usually quiet when I told him. (Participant 1)

“Sometimes he speak loudly, and it seems disturbing because intercity train usually more quiet. We are just afraid to disturb others” (participant 2).

“Once we went by busway, and V looked happy. When he began to fuss, we just gave him a phone and he was quiet again. (Participant 6)

## Discussion

### Physical Domain

Having a sibling with ADHD may affect one’s daily activities such as online school activities, gadget use, or personal time because children with ADHD require attention from parents and siblings. Participants’ schoolwork is often interrupted due to behaviors of children with ADHD. Participants’ daily activities are often annoyed by noise made by their siblings with ADHD. In addition, they also have a sleeping difficulty due to their siblings with ADHD (e.g., banging on the door, making noise, asking for help or attention, etc.) According to Kendall (1999), misbehavior of children with ADHD emerges mostly when they need attention from others. Moreover, impulsive and hyperactive behaviors of children with ADHD affect their interaction with their surroundings. Children with ADHD often disturb, interrupt, talk, make noise, and find it difficult to wait, making them appear annoying to their surroundings (Armstrong, 1991).

Siblings of children with ADHD find it difficult to go outside the house because they should help their parents take

care of children with ADHD. This finding supports Kendall (1999), who found that parents expect individuals to take care of their sibling with ADHD. Some individuals see it as their responsibility to take care of their sibling with ADHD when their parents are busy (Kendall, 1999). However, they do not see it as maturation or pride to acquire caring skills. They do not see themselves being involved in deciding on taking care of their ADHD sibling but are expected to take on many responsibilities related to their ADHD sibling.

Since children with ADHD often have sleeping difficulty and actively move during the evening, other family members’ sleeping quality and quantity are also affected. In this study, participants stated that having siblings with ADHD affects their sleep. Children with ADHD often become actively move and talk during the sleeping time of others. This condition is similar to those in Zendarski & Mulraney (2019) study, asserting that children with ADHD and other family members have sleeping difficulty. The poor sleep quality affects the life quality of other family member.

Siblings of children with ADHD are also often hit by their brother/sisters. They also often feel itchy or hot due to their siblings’ behaviors. Peasgood et al. (2016) state that siblings of children with ADHD are more prone to intimidation (e.g., being physically harmed or verbally abused). This is in line with Kendall (1999), who report that individuals see themselves as a victim of physical violence, verbal aggression, manipulation, and control done by their sibling with ADHD. The physical violence includes kicking, punching, and wrestling on the floor, among others.

Participants stated that their school works are affected by their siblings’ behaviors (e.g., siblings with ADHD take participants workbook and write it off). Similarly, Breining (2014) report that children’s achievement at school significantly decline due to the presence of of sibling with ADHD. Behaviors of children with ADHD may negatively affect their siblings’ achievement. However, in this study, siblings of children with ADHD manage to achieve satisfactory result despite affected by the online school activities.

### Psychological Health

Among the negative feelings of siblings of children with ADHD are being annoyed because their siblings do not stop talking or they find it difficult to do their daily activities, worried about the future of their sibling with ADHD, envy for other people who do not have siblings with ADHD. This is in line with Kendall (1999) study, in which the participants report worry, anxiety, and sadness. During the interview, participants mention several kinds of activities they cannot experience due to their siblings with ADHD. These activities include holiday, private time, and identity unrelated to their siblings with ADHD (Kendall, 1999).

Siblings of children with ADHD also perceives positive feelings, including happiness for being able to improve one’s self, responsible, and respectful. Siblings of children with ADHD are happy because their brother/sister often help them get rid of their boredom. Siblings of children with ADHD are sometimes worried and feeling responsible for their brother/sister. According to Broadhurst (2018), in contrast with negative reports regarding interactions of siblings with ADHD, there is a positive effect like compassion for a long

time. Siblings possess parental instinct, i.e., to protect sibling with ADHD who is considered more prone.

A sibling can play a role to provide emotional support and communication (Armstrong, 1991). Adolescents with positive view on siblings may see their siblings as a friend to trust. Meanwhile, adolescents who see their siblinghood negatively may define sibling as an obligation to share, a competition, and criticism (Oliva & Arranz, 2005).

Regarding the psychological domain, Listug-Lunde *et al.* (2008) shows that siblings of children with ADHD exhibit poor emotional and behavioral functions, compared to siblings of children without neurodevelopmental disorder. Siblings of children with ADHD exhibited higher anxiety and depression than those of typically developed children.

Some participants even consider the behaviors of their siblings with ADHD normal. Overtime, individuals understand the condition of their siblings with ADHD. As Broadhurst (2018) suggest, overtime, siblings can understand the condition of their brother/sister with ADHD.

### Social Relationship

Siblings of children with ADHD usually view their parents giving more attention to their ADHD sibling, supporting previous study finding that siblings of children with ADHD perceive different treatment from their parents (King *et al.*, 2016). However, participants in this study report an adequate parental supports, unaffected by their ADHD siblings' behaviors. They also see no difference in parents' rule. This finding is slightly in contrast with King *et al.* (2016) who suggest that siblings of children with ADHD usually perceive parental absence and different rules. Interaction between parents and children with ADHD often results in high parenting stress level, which eventually increase the possibility of authoritarian parenting style toward children with ADHD (Armstrong, 1991) Some participants feel that their parents set more rules for their ADHD siblings than for themselves.

Participants in this study see their relationship with ADHD siblings like a close friendship. Despite the conflicts with ADHD siblings, their proximity and warm relationship are not affected. Similar finding was also reported by Mikami & Pfiffner (2008), that despite numerous conflicts between the individual and their ADHD siblings, no significant difference was found regarding proximity and warm relationship of those with typically developing children.

Participants' relationships with their friends are not affected by their ADHD siblings since They provide the necessary social support. Friends of siblings of children with ADHD tend not to pay attention to the condition of children with ADHD. They do not give any negative comment and accept the condition of siblings of children with ADHD.

### Immediate Environment

Participants see that although their home is comfortable, its tidiness and cleanliness are affected by their ADHD siblings. Their privacy are also affected by their ADHD siblings due to their high curiosity and needs for attention. Participants' private time is also interrupted by their ADHD siblings' behavior. In this regard, they also concern with their house

safety. They are afraid that their ADHD sibling recklessly use the stove or forget to turn off the light and lock the door.

Participants are aware that their ADHD siblings have specific needs such as therapy and aid teacher, among others. They also realize that most of their families' finance is allocated for their ADHD siblings' needs. As stated by Zhao *et al.* (2019), children with ADHD bring a specific material and nonmaterial burden for their family. In this study, participants stated that their family financial condition is still sufficient to meet their needs.

Family holiday is among the activities affected by children with ADHD. The holiday can be disturbed as children with ADHD whine for something, or whine for going home when brought to a party. When going by public transport, children with ADHD talk loudly or play , any song they want, disturbing other passengers.

This is consistent with Kendall (1999) who state that siblings of children with ADHD are often dejected since they do not obtain a childhood like others, fun family holiday, private time, privacy, and other activities a normal family has.

In the present study, since most participants were elder siblings of children with ADHD, it is difficult to see the difference in adolescents' quality of life with regard to the elder and younger siblings' role. Furthermore, severity of children with ADHD was not investigated further in this study, preventing us from associating the adolescents' quality of life with ADHD severity.

### Conclusion

The quality of life of siblings of children with ADHD are depicted using twenty themes covering four domains: physical health, psychological health, social relationship, and immediate environment.

Future studies are recommended to examine the elder and younger siblings' role in children with ADHD to extend the current knowledge of difference in Adolescents quality of life as a younger and older sibling of children with ADHD. This study found that children with ADHD affects their siblings' quality of life. Thus, parents' intervention is highly required not only by the ADHD child but also their siblings. A psychologist can develop such an intervention program to improve the quality of life of an adolescent with ADHD siblings. Having better quality of life, siblings of children with ADHD are expected to optimally and efficiently help treating their ADHD sibling.

### References

- American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed). American Psychiatric Publishing, Inc.. <https://doi.org/10.1176/appi.books.9780890425596>
- Anastopoulos, A. D., Sommer, J. L., & Schatz, N. K. (2009). ADHD and family functioning. *Current Attention Disorders Reports*, 1(4), 167–170. <https://doi.org/10.1007/s12618-009-0023-2>
- Armstrong, F. D. (1991). Attention deficit hyperactivity disorder: A handbook for diagnosis and treatment (Book). *Journal of Clinical Child Psychology*, 20(4), 453–454. [https://doi.org/10.1207/s15374424jccp2004\\_16](https://doi.org/10.1207/s15374424jccp2004_16)

- Braun, V., & Clarke, V. (2006). Qualitative research in psychology using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://www.tandfonline.com/doi/citedby/10.1191/1478088706qp0630a?scroll=top&needAccess=true>
- Breining, S. N. (2014). The presence of ADHD: Spillovers between siblings. *Economics Letters*, 124(3), 469–473. <https://doi.org/10.1016/j.econlet.2014.07.010>
- Broadhurst, C. (2018). *A phenomenological study to explore the social and emotional impact of having a sibling with Attention-Deficit Hyperactivity Disorder (ADHD)*. Manchester Metropolitan University, 121.
- Castillo-Montoya, M. (2016). Preparing for interview research: The interview protocol refinement framework. *Qualitative Report*, 21(5), 811–831. <https://doi.org/10.46743/2160-3715/2016.2337>
- Creswell, J. W., Hanson, W. E., Clark Plano, V. L., & Morales, A. (2007). Qualitative research designs: Selection and implementation. *The Counseling Psychologist*, 35(2), 236–264. <https://doi.org/10.1177/0011000006287390>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches (5th ed)*. UK: SAGE Publications Ltd
- Daffner, M. S., DuPaul, G. J., Kern, L., Cole, C. L., & Clemminshaw, C. L. (2020). Enhancing Social Skills of Young Children With ADHD: Effects of a Sibling-Mediated Intervention. *Behavior Modification*, 44(5), 698–726. <https://doi.org/10.1177/0145445519843473>
- Etikan, I., Musa, S.A., & Alkassim. R.S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*. 5(1),1-4. <https://doi.org/10.11648/j.ajtas.20160501.11>
- Helseth, S., & Misvær, N. (2010). Adolescents' perceptions of quality of life: What it is and what matters. *Journal of Clinical Nursing*, 19(9–10), 1454–1461. <https://doi.org/10.1111/j.1365-2702.2009.03069.x>
- Kendall, J. (1999). Sibling accounts of attention deficit hyperactivity disorder (adhd). *Family Process*, 38(1), 117–136. <https://doi.org/10.1111/j.1545-5300.1999.00117.x>
- King, K., Alexander, D., & Seabi, J. (2016). Siblings' perceptions of their adhd-diagnosed sibling's impact on the family system. *International Journal of Environmental Research and Public Health*, 13(9), 10–13. <https://doi.org/10.3390/ijerph13090910>
- Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. Part 4: Trustworthiness and publishing. *European Journal of General Practice*, 24(1), 120–124. <https://doi.org/10.1080/13814788.2017.1375092>
- Kouvava, S., & Antonopoulou, K. (2020). Sibling and friendship relationships of children with attention-deficit/hyperactivity disorder and typical development. *Early Child Development and Care*, 190(6), 935–947. <https://doi.org/10.1080/03004430.2018.1503255>
- Lamsal, R., & Ungar, W. J. (2019). Impact of growing up with a sibling with a neurodevelopmental disorder on the quality of life of an unaffected sibling: a scoping review. *Disability and Rehabilitation*, 0(0), 1–9. <https://doi.org/10.1080/09638288.2019.1615563>
- Listug-Lunde, L., Zevenbergen, A. A., & Petros, T. V. (2008). Psychological symptomatology in siblings of children with ADHD. *Journal of Attention Disorders*, 12(3), 239–247. <https://doi.org/10.1177/1087054708316253>
- Mash, E. J., & Wolfe, D. A. (2015). *Abnormal child psychology*. USA: Cengage learning.
- Mikami, A. Y., & Piffner, L. J. (2008). Sibling relationships among children with ADHD. *Journal of Attention Disorders*, 11(4), 482–492. <https://doi.org/10.1177/1087054706295670>
- Oliva, A., & Arranz, E. (2005). Sibling relationships during adolescence. *European Journal of Developmental Psychology*, 253–270. <https://doi.org/10.1080/17405620544000002>
- Peasgood, T., Bhardwaj, A., Biggs, K., Brazier, J. E., Coghill, D., Cooper, C. L., Daley, D., De Silva, C., Harpin, V., Hodgkins, P., Nadkarni, A., Setyawan, J., & Sonuga-Barke, E. J. S. (2016). The impact of ADHD on the health and well-being of ADHD children and their siblings. *European Child and Adolescent Psychiatry*, 25(11), 1217–1231. <https://doi.org/10.1007/s00787-016-0841-6>
- Santrock, J. W. (2016). *Adolescence (16th ed.)*. UK: McGraw-Hill Education.
- Sherman, A. M., Lansford, J. E., & Volling, B. L. (2006). Sibling relationships and best friendships in young adulthood: Warmth, conflict, and well-being. *Personal Relationships*, 13(2), 151–165. <https://doi.org/10.1111/j.1475-6811.2006.00110.x>
- WHO. (1996). WHOQOL-BREF: Introduction, administration and generic version. In World Health Organization (pp. 1–4). <http://apps.who.int/iris/bitstream/handle/10665/63529/WHOQOL-BREF.pdf?sequence=1&isAllowed=y>
- Zendarski, N. J., & Mulraney, M. (2019). Child and family impacts of sleep problems in children and adolescents with adhd. In Sleep and ADHD. Elsevier Inc. <https://doi.org/10.1016/b978-0-12-814180-9.00007-7>
- Zhao, X., Page, T. F., Altszuler, A. R., Pelham, W. E., Kipp, H., Gnagy, E. M., Coxe, S., Schatz, N. K., Merrill, B. M., Macphee, F. L., & Pelham, W. E. (2019). Family burden of raising a child with adhd. *Journal of Abnormal Child Psychology*, 47(8), 1327–1338. <https://doi.org/10.1007/s10802-019-00518-5>