



University of Kerbala /Collage of Nursing

**Effect of Excessive Use of Electronic Media on Sleep Disturbances and Body Mass Index Among Adolescents: A Cross-sectional Study**

**Thesis Submitted**

**by**

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**to**

**CouncillingCollege of Nursing /University of Kerbala**

**in**

**Partial Fulfillment of the Requirements for the Master's Degree in the Nursing Sciences**

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**July, 2023 A.D.Dhu al-Hijjah, 1444 A.H.**

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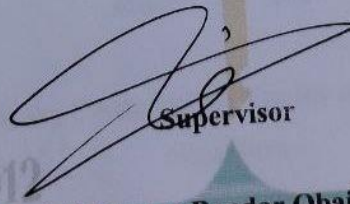
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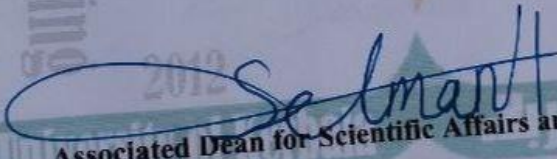
  
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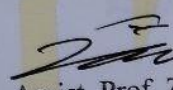
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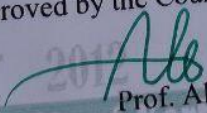
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# Dedication

*With a great love and respect I dedicate this*

*work to my:*

*Parents for always being there for help and*

*endless support.*

*Husband for his love .*

*Sisters and brothers for their love .*

*For every one help me*

*Wafaa*



## Acknowledgments

Before all, great thanks to Almighty Allah, the Most Merciful, and the most Kindly.

I wish to express my deepest and most sincere thanks and gratitude to the Dean of the College of Nursing / University of Kerbela, **Prof. Dr. Ali Kareem Al-Juboori**, and the Associated Dean for Scientific Affairs and Higher Studies, **Assist. Prof. Dr. Selman Hussain** Faris, for their kindness and support.

My thanks are presented to my supervisor **Prof. Dr. Khamees Bandar Obaid** for his scientific advice, encouragement, assistance, and time, throughout the study.

My appreciation and profound thanks are extended to experts and all doctors who offered me advice and fruitful information about scientific research.

My thanks to all the educator staff and students who participated in this study for their patience and cooperation during their interviews and filling the questionnaire format who helped me in my research project.

Finally, special thanks are extended to my friends and colleagues who have been cooperative and helpful.

## **Abstract**

The use of electronic media is growing at an unprecedented pace all over the world. In present times, not only adults but also children are overly invested in electronic media, which raises questions and concerns about their effects on children in terms of physical and mental development. The objective of the study aimed to assess adolescents sleep disturbance and BMI, to find out differences between EUEM and sleep disturbance among socio-demographic characteristics of adolescents.

A descriptive study was conducted on adolescents using the instrument of the study. The study was carried out in different secondary schools in Holy Kerbala City. A non-probability "convenience" sample of 382. The study results reveal that the sleep hours negatively predict sleep disturbance, on the other hand, excessive use of electronic media positively predict sleep disturbance. BMI does not predict EUEM

The results of the current study showed that sleep disturbances are closely related to excessive use of electronic media and that use causes increases the occurrence of sleep disturbances and unaffected on body mass index. Increase adolescents awareness about the negative effects of electronic media use by launching preventative advisory services on the risks associated with excessive use of electronic media. Setting up local and worldwide forums to discuss the risks associated with using electronic media.



## List of contents

No.	Subject	Page No.
A	Acknowledgment	I
B	Abstract	II
C	List of Contents	III-IV
D	List of Appendices	VI
E	List of Tables	VI- VII
F	List of Abbreviations	VIII- IX
<b>Chapter One: Introduction</b>		
1.1	Introduction	2-5
1.2	Importance of the Study	5-7
1.3	Problem Statement	7-8
1.4	Objectives of the Study	8-9
1.5	Research Question	8
1.6	Definitions of Terms	9-10
<b>Chapter Two: Review of Literature</b>		
2.1	Overview of Adolescents' Electronic Media Use	12-17
2.2	Concept of Electronic Media	17
2.3	Types of Electronic Media	17-18
2.4	Advantages of Electronic Media	18
2.5	Disadvantages of Electronic Media	19-20
2.6	Strategies to Decrease Negative Impact of Electronic Media Side Effect	20-21
2.7	Electronic Media Use and Adolescent's Sleep	21-23
2.8	Concept of Sleeping	24-25

2.9	Pathophysiology of Adolescent's Sleep Disturbance	25-27
2.10	Stages of Adolescent's Sleep	28-29
2.11	Sleep Mechanisms	29-30
2.12	Types of Sleep Disturbances Related to Electronic Media Use	30-32
2.13	Causes of Sleep Disturbance in Adolescents	32-33
2.14	Signs of Sleep Disturbance in Adolescents	33-34
2.15	Risk factors associated with adolescents sleep deficiency	34-39
2.16	Strategies for Sleep Disturbance Adolescent Use Media	40-41
2.17	Management of Sleep Disturbance in Adolescents	41-43
2.18	Body Mass Index Overview	44-45
2.19	Body Mass Index (BMI) and Electronic Media	45-46
2.20.1	Definition of Body Mass Index	46
2.20.2	Importance of Body Mass Index	46
2.20.3	Body Mass Index Formula	46
2.20.4	Body Mass Index Classification	47
2.21	Nursing Roles for Sleep disturbances Related Excessive Use Electronic Media Adolescents	47-49
2.22	Previous Studies	50-53
<b>Chapter Three: Methodology</b>		
3.1	Study Design	55
3.2	Administrative Arrangements	55
3.3	Ethical Issues	55-56
3.4	The Sample of the Study	56
3.5	Setting of the Study	56-57
3.6	Methods of the collection of data	57
3.7	Study Instrument	57-59

3.8	Questionnaire Validity	59
3.9	Pilot Study	59-60
3.10	Reliability of the Questionnaire:	60
3.11	Statistical Analysis Approach	60
3.11.1	Descriptive Approach	61
3.11.2	Inferential Approach	61
3.12	Limitation of The Study	61
<b>Chapter Four: The Results &amp; Findings</b>		
4	Results of the Study	63-70
<b>Chapter Five: Discussion of the Results</b>		
5.1	Discussion of Demographical Characteristics	72
5.2.	Discussion of the Body mass index classes	72-74
5.3	Discussion of the factors that predict excessive use of electronic media	74
5.4.	Discussion of the factors that predict sleep disturbance	74-75
5.5.	Discussion of the Differences in Electronic Media Excessive Use and Sleep Disturbance between the Groups of Students' Gender	75-76
5.6.	Discussion of the Differences in Electronic Media Excessive Use and Sleep Disturbance between the Groups of Students' Educational Levels	76-77
5.7.	Discussion of Differences in electronic media excessive use and sleep disturbance among the groups of socioeconomic status	77-78

<b>Chapter Six: Conclusions&amp;Recommendations</b>		
6.1	Conclusions	80
6.2	Recommendations	80-81
<b>References</b>		
	References of the Study	83-114

### **List of Appendices**

<b>Appendix</b>	<b>Title</b>	<b>Page No.</b>
A	Administrative Agreements	116-118
B	Ethical Considerations	119
C	Research Questionnaire	120-130
D	Expert's Panel	131-133
E	Authors Permission	134
F	The statistician' opinion	135
G	The linguists' opinion	136

### **List of Tables**

<b>Table No.</b>	<b>Title</b>	<b>Page No.</b>
2.1	Recommended Hours of Sleep	25
2.2	Body Mass Index Classification	47
3.1	School of the Study	56-57
3.2	Reliability of the Studied Questionnaire	60
4.1	Participants' sociodemographic characteristics	63
4.2	Number of hours students spend in electronic media use	64
4.3	Body mass index classification	65

4.4	Devices used in internet use	65
4.5	Excessive use of electronic media severity	65
4.6	Sleep disturbances severity	66
4.7	Linear regression for factors that predict excessive use of social media	66
4.8	Linear regression for factors that predict sleep disorder	67
4.9	Differences in excessive use of electronic media and sleep disturbance between the groups of students' gender	68
4.10	Differences in excessive use of electronic media and sleep disturbance between the groups of study stage	69
4.11	Differences in excessive use of electronic media and sleep disturbance among the groups of socioeconomic status	70

### **List of Figures**

<b>Figure No.</b>	<b>Title</b>	<b>Page No.</b>
2.1	The synthesis of melatonin	26
2.2	Sleep Weak Cycle	27
2.3	Cycle Stages of Sleep	29
2.4	Circadian Rhythm and Sleep-Wake Cycle	30

## List of Abbreviations

Items	Meaning
&	And
Fig	Figure
BMI	Body Mass Index
SNSs	social networking services
UNICEF	United Nations International Children's Emergency Fund
et al.	et alias
ex	Example
F	Frequency
Fig	Figure
EM	Electronic media
DES	digital eye strain
SOL	sleep onset latency
AAP	American Academy of Pediatrics
EUEM	Excessive use of electronic media
APP	application
TST	total sleep time
WASO	Wakefulness after sleep onset
TV	Television
BZD	benzodiazepines drug
FDA	Food and Drug Administration
Kg	Kilogram
RLS	Restless leg syndrome
AASM	The American Academy of Sleep Medicine
REM	Raped Eyes Movement

NREM	Non-Raped Eyes Movement
EEG	electroencephalogram
CDC	Centers for Disease Control and Prevention
LED	light-emitting diode
M.S	Mean of Score
<i>M</i>	Statistical Mean
SCN	suprachiasmatic nucleus
LBW	Low birth weight
NIGMS	National Institute of General Medical Sciences
CBT	cognitive behavioral therapy
SD	Standard Deviation
NISC	Neonatal Intensive Special Care
NS	Non-significant
SPSS	statistical package for social sciences
WT	weight
HT	height
SES	Socioeconomic status
SSD	Scale of Sleep Disturbances
SIA	Scale of Internet Addiction
P value	Probability Value
S	Significant
S.D	Standard Deviation
Sig	Level of Significance
WOA	World Obesity Atlas
WHO	World Health Organization



# **Chapter One**

## **Introduction**

## **Chapter One**

### **1.1. Introduction**

Adolescence is a distinct period of transition from dependent childhood to independent adulthood that outlines the basis of a person's health. Additionally, adolescents grow quickly in terms of their physical, mental, and emotional development (Maurya et al., 2022).

Electronic media (EM) is so prevalent today, especially among adolescents, that no one can imagine life without it. The audience has access to content via electronic media by employing electronic or electromechanical equipment. There are many of them, including radio, television, movies, the internet, mobile devices, Social Networking Services (SNSs), and video or online games (Anand et al., 2022).

The physiological and psychological changes that occur in adolescence have a negative impact on sleep, but it is also possible that access to electronic media and other outside factors like early school starts and unfavorable bedroom conditions contribute to poor sleep (Lund et al., 2021).

Adolescents comprise one of the largest consumer groups in technology. Electronic media is used for sharing information and knowledge among students. The use of electronic media is growing at an unprecedented pace all over the world. In present times, not only adults but also children are overly invested in electronic media, which raises questions and concerns about their effects on children in terms of physical and mental development (Andriyaniet al., 2020; Latif et al., 2019; Jamir et al., 2019; Fuller et al., 2017).

Adolescents frequently engage in physical activities like watching television that are associated with electronic media use, especially in advanced countries; Adolescents are thought to spend about 3 hours a day using electronic media for enjoyment. Adolescents perform a lot of screen-

## **Chapter One: Introduction** --- --- ---

related activities and watch a lot of television (Haghjoo et al., 2022; Domoff et al., 2021).

Sleep is a dynamic neurophysiological process that serves as the nervous system's embryonic role. Excessive screen time can have a variety of negative effects on adolescent development, including negative effects on attention and learning skills, an increase in risk behaviors, an influence on other lifestyle choices, and a connection to health problems like obesity, depression, and sleep disturbances (Vézina et al., 2022; Fuller et al., 2017; Spencer, 2013).

The sleep disturbance that causes additional problems in adolescents and adolescents are one of the main adverse effects. Problematic smartphone use has been linked to time dilation, such as use that extends to bedtime delays owing to media content browsing that awakens users and prevents them from falling asleep. Additionally, it has physiologic effects due to the blue light that the device emits, which suppresses melatonin and makes it more difficult to fall asleep and have restorative sleep (Maurya et al., 2022).

Physiological and environmental changes, sleep significantly changes during adolescence. Adolescents' reduced sleep duration requirements, increased tolerance to sleep deprivation, and later sleep and waking hours because of a typical delayed circadian rhythm are all physiological considerations. Melatonin, a hormone that the body releases in the evening to get ready for sleep, causes this to happen (Al-Wandi & Shorbagi, 2020).

Important changes take place in individuals' sleep and wake cycle patterns, including a delay in the sleep phase characterized by later sleeping and waking times. Sleep acts as an important component of physical growth and biological and mental development and is considered a source of revitalization for organic functions associated with health indicators.

## Chapter One: Introduction4

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Moreover, proper sleep stimulates the immune system, helping it fight infections and thus reducing the risk of disease (Silva et al., 2022).

Insufficient physical activity and higher calorie consumption while using electronic media are two factors that have been linked to an increased risk of obesity when watching television and other electronic media on screens (such as cellphones, tablets, and computers)(Cha et al., 2018).

The body mass index (BMI), which takes into account a ratio of adolescents height and weight ( $\text{kg}/\text{m}^2$ ), is the most commonly used measurement. BMI has been determined to be a reliable reference for determining the weight status of the population, which is closely associated with body fat measures and chronic disease (Yang et al., 2021).

Increased electronic media use has also been linked to unhealthy eating habits, a high body mass index, a low level of physical activity, and a higher chance of developing metabolic syndrome. Electronic media use has been linked to detrimental effects on a number of adolescent health behaviors, such as irregular sleep patterns and unhealthy nighttime eating, which can ultimately raise the chance of becoming overweight or obese (Cha et al., 2018; Kann et al., 2018).

Over the course of a person's life, excessive media consumption is associated with obesity and an increased risk of cardiovascular disease, but these correlations can be seen as early as childhood. For instance, media use in preschool is linked to modest but significant BMI increases, which pave the way for higher weight gain later in adolescence(Reid et al., 2016). Adolescents risk factors for overweight and obesity include prolonged use of electronic media, internet access on mobile devices, and video games (Shen et al., 2021).

Sleep disturbances may not be the only factor mediating the link between electronic media use and health. It has been suggested that adolescent use of electronic media may lead to decreased physical activity,

## **Chapter One: Introduction****5**

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increased nighttime eating, an increase in body mass index (BMI), or media addiction as additional causes for a variety of health issues (Foerster et al., 2019).

### **1.2. Importance of the Study**

Today, 4,439,986 adolescents live in Iraq. Of these female 2,162,473, male 2,277,513. More adolescents than ever before make up 1.3 billion people worldwide, or 16% of the total population (World Bank Group, 2023; UNICEF, 2023).

Adolescents' psychological development may be in danger from excessive usage of electronic devices for activities like problematic media consumption and online gaming. According to a narrative review, there is strong evidence that excessive use of electronic media by adolescents might cause psychiatric issues, sleep disorders, and delays in social development (Griffiths et al., 2019).

Adolescents have been consuming electronic media more frequently while also getting less sleep overall. Both activities have been linked to being overweight, and it's probable that they work together to make people gain weight, leading to a 13–20% rise in the prevalence of overweight or obesity (Guzmán et al., 2022).

Regarding a previous study that included six Asian countries, it was found that, on average, 62% of adolescents between the ages of 13 and 18 possessed cellphones. Due to the current ease of access to the internet and electronic media, this generation has a strong desire to use them, which has now turned into an addiction. Adolescents are the group most likely to own electronic devices, with a prevalence of 73% and 25% of adolescents exhibiting indicators of media addiction, respectively (Baruffati, 2023; Mak et al., 2014).

Sleep disruptions are one of the top ten warning signs of youth suicide, and even one night of bad sleep can affect one's mood, executive function,

## **Chapter One: Introduction**

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and memory. Chronic sleep problems have been associated with an increased risk for anxiety, bipolar disorder, and depression (Harris et al., 2020).

The National Sleep Foundation reports that 62% of adolescents sleep less than 8 hours on weeknights. According to public health recommendations, children and adolescents are utilizing electronic media more and more, and the amount of time they spend sleeping has been progressively decreasing. Additionally, it has been argued that excessive use of electronic devices and little sleep may be behaviors that reinforce each other and cause weight gain (American Academy of Pediatrics, 2022; Lissak, 2018; Bucksch et al., 2016).

The widespread use of handheld smart devices is growing; however, according to various studies, the use has varied from 50% to more than 90%. Long-term usage of electronic media has led to a young generation experiencing a range of health issues, including musculoskeletal and visual issues. A group of symptoms known as digital eye strain (DES) are caused by extended exposure to electronic media and include headaches, sleep disturbances, and other symptoms like neck and back pain (Babu et al., 2021; Bhat et al., 2018).

Biddle et al., (2017) explained, Adolescent samples have more frequently shown connections between the body mass index and electronic media, and these linkages have also been shown to be more frequent than connections between BMI and sedentary behavior.

American Academy of Pediatrics (AAP) estimates that sleep problems affect 40 percent of adolescents. According to BMI, almost 36 million children and adolescents in the Eastern Mediterranean region will be affected by obesity by 2030, or 13.08% of all adolescents. By 2030, over 1 million children in the following countries will be obese: Iraq (3.4 million), Iran (3.3 million), Saudi Arabia (2.1 million), Yemen (1.8 million),

## **Chapter One: Introduction** --- --- ---

Morocco (1.7 million), Afghanistan (1.5 million), Syria (1.5 million), and Sudan (1.4 million), are the countries with largest populations after Egypt (9.3 million). In the area, adolescents with rising BMIs will also give birth to approximately 1 million obese children. In 2020, there will be 7% of people worldwide who are obese. By 2030, that number is expected to rise to 11% (Sleep Foundation, 2023; World Obesity Atlas, 2022).

According to a significant global study including about 300,000 adolescents and children, watching between one and three hours of TV every day increased the risk of obesity by 10% to 27%. These more recent studies indicate that restricting TV viewing to between 1 and 1.5 hours per day may be more effective than the 2 hours per day norm outlined in earlier AAP recommendations for preventing obesity (Reid et al., 2016).

Various studies have suggested that the use of electronic media (EM) may contribute to overweight and obesity through the displacement of physical activity, a reduction in resting energy expenditure relative to other activities, an increase in sleep deprivation, exposure to advertising and subsequent consumption of commonly advertised foods on television, and increased calorie intake (Melkevik et al., 2015).

The increasing prevalence of obesity is an alarming problem, and lack of sleep is believed to be contributing to obesity. There is definitely a global worry over the prevalence of childhood overweight and obesity (WHO, 2022).

### **1.3.Problem Statement**

Lack of knowledge on the effects of excessive use of electronic media on sleep disturbance and body mass index among adolescents in Iraq was the problem that this study attempted to solve.

Excessive usage of electronic media (EUEM) by adolescents across a variety of devices for communication or information gathering. Sleep, as a key factor in adolescents' development, contributes to their physical and



## **Chapter One: Introduction**

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mental health. Over the past decades, sleep disturbances and obesity among adolescents have been widely spread, and one of their contributing factors is the increased availability of electronic media.

Adolescents who use electronic devices excessively in their bedrooms sleep less and fall asleep later in the evening. Sleep can be delayed or disrupted by exposure to light, especially blue light, and stimulating content from screens, which can also affect body mass index.

Consequence of excessive use of electronic media in adolescence may include non-adaptive and negative thought processes, higher physiological stress, decreased life satisfaction, lower social support systems, and higher risk of mental, emotional and physical health issues into adulthood that may lead to numerous consequence , including safety risks and poor interpersonal relationships.

While numerous researchers have studied the relationships between electronic media use, sleep disturbances, and body mass index, there remains a lack of insight into these relationships among adolescents specifically concerning electronic media use.

According to Suggestions for the study, Parents should limit electronic media use, not allow electronic devices in bedtime, and replace physical activity with activities beneficial to a child's well-being for adolescents in free time to prevent the accumulation of fat and obtain a healthy body.

### **1.4. Research Question:**

Does excessive use of electronic media devices negative or positive affect on sleep disturbances and body mass index among adolescents?

### **1.5. The Objective of the Study**

1. To assess adolescents sleep disturbances and body mass index.
2. To find out the differences in sleep disturbance and body mass index among socio-demographic characteristics of adolescents.

3. To find out differences in sleep disturbance and body mass index with regarding to the use of electronic media among the group of study participants.

## **1.6. Definition of the Terms**

### **1.6.1. Electronic Media**

#### **A. Theoretical Definition:**

Electronic media refers to actions carried out directly by using a computer, playing video games, or watching television, all of which involve spending time in direct contact with a screen. Television and computer usage use very little energy (Baum et al., 2020).

#### **B. Operational Definition:**

Refer to devices or electronic media that are frequently used by adolescents to interaction with others to share information and knowledge. Electronic media include laptops, mobile phones, smart phones, and video games.

### **1.6.2. Body Mass Index**

#### **A. Theoretical Definition:**

Body mass index (BMI) is determined by dividing a student's square weight in kilograms by their height in meters. A high BMI may indicate that a student has a lot of body fat. The body mass index is a technique for distinguishing weight classifications that might be linked to medical conditions, but it does not offer a thorough evaluation of a student's health or amount of body fat (Thompson & Gallagher, 2021).

#### **B. Operational Definition:**

The body mass index is a formula-based measurement of a person's weight in relation to their height weight-to-height ratio. Using electronic media, unhealthy eating habits, and daily inactivities lead to a high body mass index

### **1.6.3. Sleep Disturbance**

#### **A. Theoretical Definition:**

Sleep disturbances are regular sleep patterns are disrupted by a variety of conditions known as sleep disturbances. Sleep disturbances are among the most prevalent medical problems. Normal physical, mental, social, and emotional functioning can be impaired by inadequate or non-restorative sleep. A person's entire health, safety, and quality of life may be impacted by sleep issues (Karnaet al.,2022).

#### **B. Operational Definition:**

Sleep disturbances are a group of sleep disorders such as narcolepsy, snoring, and insomnia, as well as irregularities in the sleep-wake cycle, problems with different sleep stages by excessive use of electronic media.

# **Chapter Two**

## **Review of Literature**

## **Review of Literature**

### **2.1. Overview of Adolescents' Electronic Media Use**

Between puberty and adult independence, adolescence is identified as the period through which adolescents actively develop their personalities. Adolescents compare to adults in the way they are more open-minded, sociologically oriented, less agreeable and conscientious, more reactive, unable to control their actions, more risk-taking, and more interested in sensation than adults. Additionally, they get a greater percentage of their happiness and fulfillment in life from their peers (Dienlin & Johannes, 2020; Blakemore, 2019; Balluerka et al., 2016; Hammond et al., 2012).

The general levels of life satisfaction and self-esteem reduce during adolescence and frequently remain at an all-time low. Media use also improves and increases in late adolescence at the same time. Thus, given that adolescence is an important period of life that is characterized by serious personal connections and changes associated with wellbeing, today's generation fails to show that it is carrying out any differently than those that preceded it (Przybylski & Weinstein, 2017; Orth et al., 2015; Livingstone, 2014).

Focusing on adolescents may not be necessary to fully understand how their usage of electronic media affects their wellbeing. Both teenagers and adults may have similar consequences. Adolescents may find the results to be clearer than adults given that they often experience lower levels of happiness and greater suggestibility, but it doesn't seem likely that these differences are fundamental (Livingstone, 2019).

Paternalization has often been a common reaction to anxiety regarding the way a new technology could influence a particularly disadvantaged group. For example, despite common opinion, adolescents currently possess an elevated degree of knowledge regarding media or privacy literacy. Recent

philosophical developments reject such a unidirectional worldview and advocate for questioning what adolescents do with electronic media, including how they use it (Tobias & Niklas, 2020; Livingstone, 2014; Valkenburg & Peter, 2013).

The most important period to address concerns including self-image, mental health, interest tendencies, and experience is during adolescence. Adolescents have to make the necessary modifications to the transition process for them to develop a healthy and productive lifestyle. Parents, schools, homes, and friends are some of the traditional socialization agents that have a major effect on how adolescents establish their personalities (Rose et al., 2022).

The use of electronic devices is a broad document that includes a wide variety of devices, offerings, and patterns of use. Most current adolescents electronic device usage occurs on mobile phones and tablets. Smartphones are considered "meta media" because they play an important role in adolescent media use and provide the benefits and advantages common to many other media (Dienlin & Johannes 2020; Humphreys et al., 2018).

There are two separate groups of social media: instant messengers like WhatsApp or Signal and social networking sites like Instagram or TikTok. Every device and service includes a range of features and advantages that lead to many different applications (Dienlin & Johannes, 2022).

Adolescents are able to interact with others, release, like, and share on social media. They are usually considered active users. Adolescents can actually also lurk quietly, merely watching the content of others. However, it is still unknown by the binary distinction between active and passive use whether a behavior is goal-directed or symptoms of procrastination. Finally, the most important difference between different applications is whether they are social or nonsocial (Clark et al., 2018; Reinecke et al., 2018).

Electronic media use involves all types of active interpersonal communication, such as messages and speaking, as well as involving and sharing posts and pictures. Reading and playing certain types, in addition to listening to music or watching movies, are examples of nonsocial use (Saana et al., 2022).

There are major challenges in understanding and quantifying these various uses of digital technology. Precision will surely decline if all electronic tasks are combined into a single predictor of pleasure, both logically and experimentally. Conceptually, grouping all of those actions and usage habits under one category ignores the fact that they serve multiple purposes and have different results (Przybylski et al., 2019).

Self-reported technology use for the majority of work. However, because of their lack of association with measurable indicators of technology use, self-reported data have been shown to be incorrect and of low validity. Self-reported smartphone use duration is slightly at best connected with objectively logged use (Ellis et al., 2019; Boase & Ling, 2013).

Adolescents routinely utilize electronic media, with the majority of them utilizing their smartphones, tablets, gaming consoles, laptops, and televisions on a regular basis. While Canada, Australia, and New Zealand express a more specific suggestion of no more than two hours of recreational screen time per day (Pearson et al., 2019).

Strategies that embrace and integrate screens such as social media groups, smartphone apps, etc. have the potential to support positive behavior change, including encouraging teens to be physically active and powering down their devices when their use might conflict with more healthy lifestyle activities. Due to the links between having access to devices, utilizing them in bedrooms, and staying alone after school (Fairclough, 2021; Haycraft et al., 2020).



Regardless of beliefs, electronic media is changing rapidly and is going to continue to play an essential part in everyday activities. A Pew Research Center survey from 2018 indicated that 95% of adolescents now report having a smartphone or access to one. In turn, more frequent electronic mediums are being supported by these mobile connections: Nowadays, 45% of adolescents estimate being online almost all the time (Anderson & Jiang, 2018).

The utilize it as a platform for education, entertainment, social interactions, and sportseven though the relationship that developed was rather casualadolescents need to stay uptodate on the newest electronic trends. The use of technology by adolescents has several benefits, including increasing their connections to electronic media, enhancing their visual reasoning, and contributing to virtual learning environments(Odgers& Jensen, 2020; Mishra et al., 2018).

To decrease the negative effects of technology usage, it needs to be regulated. It is essential to recognize that electronic media use is a fantastic tool for supporting adolescents in their education, growth, and development. Before electronic media takes over their lives, adolescents need to discover how to deal with it. Human beings evolve and develop during adolescence in terms of their physical, cognitive, emotional, and psychological characteristics (Rose et al., 2022).

Adolescents utilize digital media for satisfaction, learning, and communication. This encompasses virtual reality, augmented reality, social networking, streaming, and video games. Additionally, certain adolescent users of websites, video games, mobile applications, and social media platforms participate in online gambling (King et al., 2014).

These initiatives and platforms utilize electronic media in the most advantageous ways to provide benefits and happiness. Adolescents who

engage in excessive media use run the danger of having sleep issues, obesity, muscle issues, and other health issues (Mustafaoğlu et al., 2018).

Electronic media still have a negative reputation, despite the fact that it has contributed to removing geographical constraints and increasing access to information. Today's population is living a sedentary, unhealthy lifestyle that increases their chance of developing significant illnesses and mental disorders (e.g., obesity and sleep difficulties). According to the American Academy of Pediatrics, between 25 and 50 percent of children and 40 percent of adolescents have sleep disturbances (Sleep Foundation, 2023; Hegde et al., 2019; Hoque, 2018).

Several studies looked into the connection between adolescent obesity and the use of electronic media for sleep, sleep duration, and sleep quality; however, the results were mixed. Globally, both the ownership of electronic media (EM) and the amount of time spent using it are rising. Over the past 20 years, there has been a global trend of increased incidences of overweight and obesity, which goes hand in hand with an increase in the use of electronic media (Pauw et al., 2022; Rafique et al., 2022).

An extensive national study in Japan in 2020 found that adolescents spend excessive amounts of time on electronic media, social media, and online gaming, respectively. In addition, time spent on electronic media use-related activities had increased significantly compared to 2019, noted a rise in the trend of adolescents using excessive amounts of electronic media. Adolescents have also spent more time on electronic media websites and online games as a result of smartphones' greater access to the Internet (Huang et al., 2022).

An epidemiologic study found that eating the majority of one's daily calorie consumption in the evening was associated with an increased risk of obesity and the metabolic syndrome, as well as an increased body mass

index (BMI). Overall, electronic media use is associated with negative impacts on some adolescents health behaviors, such as nighttime eating disorders and insufficient sleep, which can increase the probability of becoming overweight or obese (Chaet al., 2018).

## **2.2. Concept of Electronic Media**

Electronic media is growing in everyone life today, that too much electronic media excessive use harms both adults and children, the family's health can be improved by cutting back on the time spent using electronic media. Know how to restrict the use of electronic media devices and the drawbacks of excessive use of electronics(Pacheco et al., 2022; Mosley , 2020).

## **2.3.Types of Electronic Media**

Print and broadcast media are considered traditional media. Newspapers, magazines, and books are considered print media, whereas radio and television are considered broadcast media. One-way communication, in which information is sent from the sender to the person receiving it without any response from the latter, is the defining feature of traditional media. In contrast, new media is characterized by interaction in both directions, in which recipients can provide the sender with feedback (Valencia, 2022).

**2.3.1. Audio:**Electronic audio can be packaged in a variety of ways, but the quality can be decreased by compression or it can be lossless, which usually requires more memory on a device (Drew, 2020 ).

**2.3.2. Video:** A lot of electronic media is visual, from realistic oral simulators used in hospitals to streaming television and movie services, including Netflix. YouTube, which houses billions of videos, is one of the most significant participants in the visual digital media business (Lewis, 2021).

**2.3.3. Social media:** Social media (online interaction) A website or app called social media enables users to easily and quickly generate and share evidence with others worldwide. Because its significance is frequently changing, it is an "evolving" media. Shared media can be described as content that has been posted on social media networks like Pinterest, Twitter, Instagram, Facebook, and LinkedIn regarding a company (Ellicott, 2021).

**2.3.4. News, literature, and more:** In previous years, people read books, printed newspapers, journal articles, and other written content. The desire for specific types of reading experiences continues to increase, even though digital media has become increasingly accessible. 38% of American adults, according to Pew Research Center research, read news online (Maryville University, 2020).

## **2.4. Advantages of Electronic Media**

Presents adolescents with a sense of connection and belonging, especially those with shy personalities who are uninterested in making contact with people in person. Encourages creativity through visuals and movies exhibiting the abilities and successes of adolescents, as well as collaborative learning by encouraging the sharing of educational content on the internet. provides a platform for social support for both adults and children with chronic illnesses such as thalassemia, diabetes, and uncommon disorders. proposes a platform for adolescents to advocate, for instance, for child rights and climate change (Chaitraet al., 2023).

## **2.5. Disadvantages of Electronic Media**

### **2.5.1. Sleep problems:**

Even though several parents use television (TV) for relaxation before bed, viewing electronic devices right before bed can be detrimental. The light emitted from screens disturbs the brain's sleep cycle and can lead to insomnia. Being unable to stay awake during the day is termed "hypersomnia. Narcolepsy, which causes serious daytime sleepiness, is one such condition. Disorders of the circadian rhythm, or the sleep-wake cycle Acting strangely while sleeping off, dropping off, or waking up from sleep, such as walking, chatting, or eating (Morin, 2020).

### **2.5.2. Obesity:**

Spending too much time doing sedentary activities, such as watching TV and playing video games, is risky for people who are overweight (Stiglic& Viner, 2019).

### **2.5.3. Chronic neck and back pain:**

Chronic neck and back pain may occur from incorrect posture carried on by excessive screen usage, which may lead to chronic neck, shoulder, and back pain as well. Instead, get up from your position sometimes to stretch, stand, or walk about. Try to keep the electronics at eye level, and make sure your chair provides adequate back support (Al-Naami et al., 2023).

### **2.5.4. Exposure to inappropriate content in electronic media such as pornographic websites and fake news:**

Social media anxiety happens when adolescents develop worry and evaluate their worth based on the number of "likes" or reviews they receive on their posts. Establishing friendships with sexual predators is one example of a harmful online action (Gupta & Deepak, 2022).

### **2.5.5. Depression and anxiety:**

Psychological and emotional well-being may be badly affected by spending an excessive amount of time in front of electronic media devices. According to experts, more electronic media use and sadness may be linked, as may an increase in suicidal behaviors and a general reduction in a person's capability to read emotions (Mosley, 2020).

### **2.5.6. Cyber bullying, which is the repeated, deliberate publishing of judging posts and/or photos:**

Transferring inappropriate material on chat services is known as sexting and exposure to specialized marketing and advertising (Gupta et al., 2021).

## **2.6. Strategies to decrease negative impact of electronic media side effect:**

To decrease electronic media use must do following :

### **2.6.1. Create areas for family time that are device-free:**

Distraction-free dining is encouraged. Check out Common Sense Media's Device-Free Dinner initiative. Avoid using electronics while driving. With our children, car rides create an excellent chance for interactions (American Academy of Pediatrics, 2021).

### **2.6.2. Set time limits for using electronic media:**

Set time limits for using electronic media, including desktops and cellphones. Install applications that record the amount of time spend using those devices. Consider looking at the overall time at the end of the day. Look for areas where can cut back and fill the time with different activities. Stop checking the mail and social media frequently (Zulfiqar, 2021).

Choose media-free, unplugged areas of the house, such as the bedroom. Take advantage of family activities that enhance wellbeing, such as sports, reading, and discussion. Leading by example. Put the phone on do not

disturb and turn off the TV when playing with your family in a media-free setting (American Academy of Pediatrics, 2021).

### **2.6.3. Get outdoors:**

They won't need or have time for electronics while being too involved in camping, hiking, skiing, skating, and other outdoor activities. Even if are not very imaginative, just leave your room without using your phone and go outside to look around. Observe the surroundings, the movement of traffic, or people walking around(Zulfiqar, 2021).

### **2.6.4. Avoid using electronic media an hour before bedtime:**

Put electronic media away when it's almost time for bed. Technology can have a negative effect on sleep, despite the fact that it may be comforting and provide company in bed (Suni, 2022).

### **2.6.5. Limit consumption; set a timer for usage:**

To limit smartphone usage, suggestion use an app blocker or time tracker like App Detox or Forest. Each app lets establish limitations that how much time they spend using your phone and aids in keeping to those limits by locking out after passing over them (Raz, 2018) .

## **2.7. Electronic Media Use and Adolescent's Sleep**

The development of adolescents depends heavily on sleep. Lack of sleep has been associated with poorer cognitive performance, a higher risk of obesity, and lower indicators of wellbeing, including depressive symptoms and a perception of stress (Owens, 2014).

Sleep has an impact on numerous aspects of health and is crucial for children's development. First off, getting less sleep is associated with worse self-reported general health (Pacheco, 2020; Garmy et al., 2020).

Second, less sleep appears to be associated with an increased chance of developing or already having hypertension, as well as an



increased risk of being overweight or obese in children and adolescents (Sparano et al., 2019).

Third, there is proof that adolescent mental health issues like emotional stability or depression and sleep duration are related. A fourth element linked to shorter sleep duration is an immune condition with no clear definition. Numerous studies have shown that adolescents' sleep duration is related to indicators of human performance, such as a tendency to feel tired at school, issues with attention, a lack of desire, or poor cognitive function (Ojio et al., 2016).

Sleep-related issues become more prevalent from late childhood to early adolescence, with students in their senior year of high school sleeping less than eight hours on average, compared to only 16% of sixth graders (McMakin&Alfano, 2015).

Given the need for sleep for normal psychological and physical development, it is alarming that so many teenagers nowadays experience sleep deprivation. Particularly among adolescents, electronic media is frequently credited with inadequate sleep and other sleep difficulties (Bruce et al., 2017; Owens, 2014).

Adolescents use their mobile devices and electronic media extensively, frequently before they go to sleep or even in the middle of the night. There is general agreement in the scientific community that adolescent use of digital media and inadequate sleep are related. This idea is supported by numerous reviews and meta-analyses (Scott & Woods, 2019; Varghese et al., 2021).

Electronic media use among adolescents was linked to later bedtimes, more time to fall asleep, waking up at night, indications of sleep disturbances, and daytime fatigue (Hale et al., 2018).

These effects have been demonstrated for teenage media use in general, but notably for media use before bedtime, and they are consistent across different nations and cultural backgrounds (Scott et al., 2019).

Only a few longitudinal and experimental studies have been conducted, and the outcomes from these studies are relatively conflicted despite significant evidence for cross-sectional associations between electronic media use and sleep. One or two years later, some longitudinal studies identified a link between using digital media and obtaining less sleep (Baumgartner, 2022).

Negative consequence of adolescent media use is its effect on sleep. As media becomes lighter, smaller, wireless and generally more accessible, adolescents are bringing media into their bedrooms, media multitasking was only associated with an increase in problems with sleep among both male and female adolescents reported using their computer within the last hour before bed (Davies-van et al., 2018; Tavernier & Willoughby, 2014).

There are a few intervention studies that encouraged teenagers or young adults to cut back on the usage of certain media before bed to see whether this increased the duration and quality of their sleep in order to further establish the causality of the relationship. In these studies, interventional sleep quality usually improves. For instance, compared to utilizing social media before bed, adopting a smartphone app-based deep breathing exercise improved subsequent sleep (Hale et al., 2018).

Changes in circadian rhythms and sleep patterns the adolescents have a propensity for later sleep and wake times. Adolescents did not get enough sleep, according to a recent study that included a representative sample of them (Giovanelli et al., 2022; Ryan, 2018 ).

**2.8. Concept of Sleeping**

Even experts can't agree on a reason why humans sleep, but a number of signs point to the idea that it fulfills a vital biological need. From an evolutionary standpoint, it is clear that sleep is essential to wellbeing because it is found in almost all creatures species, even though it makes creatures vulnerable and diverts their attention from feeding or reproducing (Suni, 2020).

Sleep appears to be crucial for the physical and mental development of young children, infants, and adolescents in humans. Adolescents who don't get enough sleep are at an increased risk of developing type II diabetes, obesity, cardiovascular problems, immune system decline, poor thinking and memory, and mental health problems like depression and anxiety (Breus, 2022).

There are nine age categories with recommended bedtimes. The recommendations give a healthy person's suggested range of nightly sleep durations for each group. Depending on a person's circumstances, Sometimes it's acceptable to sleep an hour more (Chattu et al., 2018).

**Table 1. Recommended Hours of Sleep (Chattu et al., 2018)**

<b>Age Group</b>	<b>Age Range</b>	<b>Recommended Hours of Sleep</b>
Newborn	0-3 months old	14-17 hours
Infant	4-11 months old	12-15 hours
Toddler	1-2 years old	11-14 hours
Preschool	3-5 years old	10-13 hours
School-age	6-13 years old	9-11 hours
Adolescent	14-17 years old	8-10 hours
Young Adult	18-25 years old	7-9 hours

Adult	26-64 years old	7-9 hours
Older Adult	65 or more years old	7-8 hours

## **2.9. Pathophysiology of Adolescent's Sleep Disturbance**

The circadian alerting system and the mechanics of sleep-wake balance are regulated by a variety of substances and hormones. Advanced communication system and hundreds of neurons in the brain undergo modifications as the body alternates between being awake and sleeping(Chattu et al., 2018).

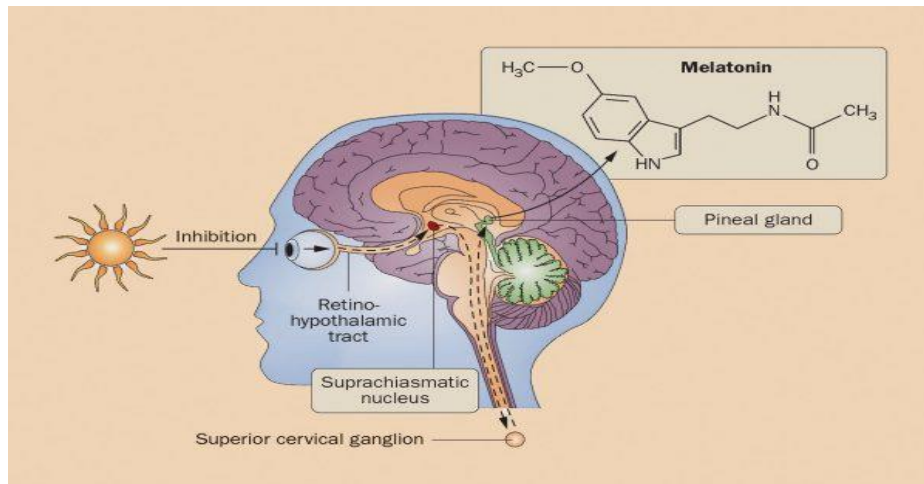
An inhibitory neurotransmitter is adenosine. Adenosine can therefore have a depressive effect on the central nervous system. Under typical circumstances, it encourages sleep and reduces alertness. Adenosine levels in the brain increase hourly when awake (Mandal, 2019).

Over the course of the day, adenosine builds up and is degraded at night. As a result, adenosine levels are lower in the morning. Adenosine regulates how tired you feel and how long and deep your next sleep will be based on how long you were awake (BS, 2019).

Adenosine levels steadily rise while awake in regions of the brain that are crucial for fostering alertness, particularly the reticular activating system in the brainstem. Adenosine decreases arousal at increasing concentrations and makes people feel sleepy. Then, as you sleep, adenosine levels drop. Therefore, scientists have long concluded that adenosine at high doses actually induces sleep (Fiani et al., 2021; Wise &Robble, 2020).

A hormone produced by the pineal gland is melatonin. It assists the body in determining when to sleep and wake up. The body often produces more melatonin at night. Once the sun has set in the evening, levels typically begin to rise. When the sun rises in the morning, they fall. The

daily exposure to light and internal body clock determine how much the body produces (Fuller, 2023).



**Fig 1. The synthesis of melatonin. (Harper, 2014)**

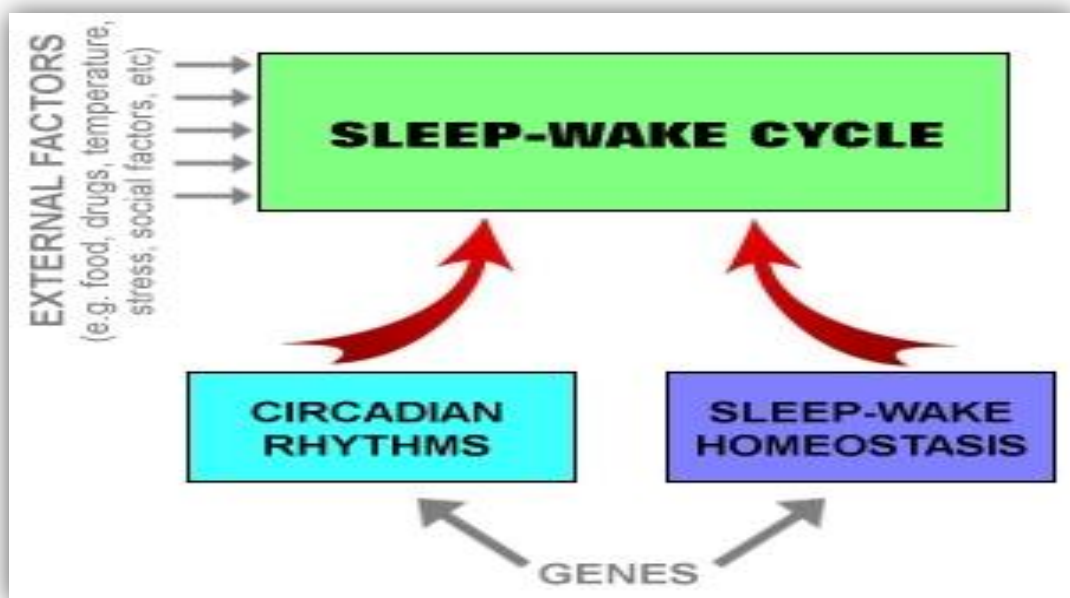
Sleep-wake homeostasis and the circadian alerting system are two major factors that the body uses to regulate sleep. The body's internal processes and degrees of alertness including the circadian drive for arousal and circadian alerting system, which are controlled by the internal biological or circadian clock and second rhythm, are regulated by the first circadian rhythm, also known as Process C. The accumulation of hypnogenicsleep-inducing chemicals in the brain, also known as Process S or sleep-wake homeostasis, produces a homeostatic sleep drive (Deboer , 2018).

Even in the absence of light changes day and night, the circadian rhythm is a constantly occurring 24hour cycle made up of various biological processes. Our hormones are significantly regulated by light. Over this 24-hour period, we experience physiological changes both throughout the day and at night (National Institute of General Medical Sciences, 2022).

As spend more time awake, the pressure to sleep (homeostatic sleep drive) increases in the body. After a full night of high-quality sleep, the pressure reaches a low point. The pressure increases the longer we are awake and decreases during sleep. Awaken, and the homeostatic

mechanism starts to build again. In some situations, our body produces a stronger desire to sleep (Deboer, 2018).

More immune mediators are produced while the immune system is battling an infection, which increases drowsiness. Additionally, activities that are physically taxing or mentally demanding (like sightseeing) may add to the pressure on the body to sleep. As a result, following those events, our sleep may be deeper and longer (Besedovsky, 2019).



**Fig 2. Sleep Weak Cycle (Bullock, 2022).**

The brain and body begin to change noticeably a minute after falling asleep. Heart rate and respiration slow down, body temperature declines, and brain activity decreases. Unsurprisingly, the body uses less energy while sleeping (Suni, 2020).

Important to understand that sleep is a dynamic process. Actually go through a number of sleep cycles in a single night. Each of which consists of various stages of sleep and lasts between 70 and 120 minutes. These sleep stages form the basis of how sleep functions (Patel & Araujo, 2018).

## 2.10. Stages of Sleep

**2.10.1. Stage 1: Non-REM sleep**

When the first fall asleep, you are at stage 1. The brain waves, heart rate, and eye movements slow down when your body enters a light slumber. Approximately 7 minutes pass during this stage (Lockett, 2020).

**2.10.2. Stage 2: Non-REM sleep**

Initially lasting 10 to 25 minutes, NREM stage 2 gradually lengthens to take up 50% of the overall sleep cycle later in the night. Stage 2 sleep is deeper than stage 1, yet people are still abruptly awakened by strong stimuli. The EEG shows low voltage "sleep spindles and K-complexes" as brain wave activity (Brinkman et al., 2021) .

**2.10.3. Stage 3: Non-REM sleep**

Initially, NREM stage 3 lasts for 20 to 40 minutes. EEG is characterized by sluggish, high-voltage waves. Dreaming occurs during the REM stage of sleep. Except for the extraocular muscles, it is characterized by entire-body voluntary muscular paralysis. This paralysis is supposed to be a defense mechanism to stop dreams from triggering real muscular impulses while you're asleep. "Sawtooth waveforms," theta waves, and slow, alpha waves are present in the EEG during REM in a desynchronized pattern set (Blumberg et al., 2020).

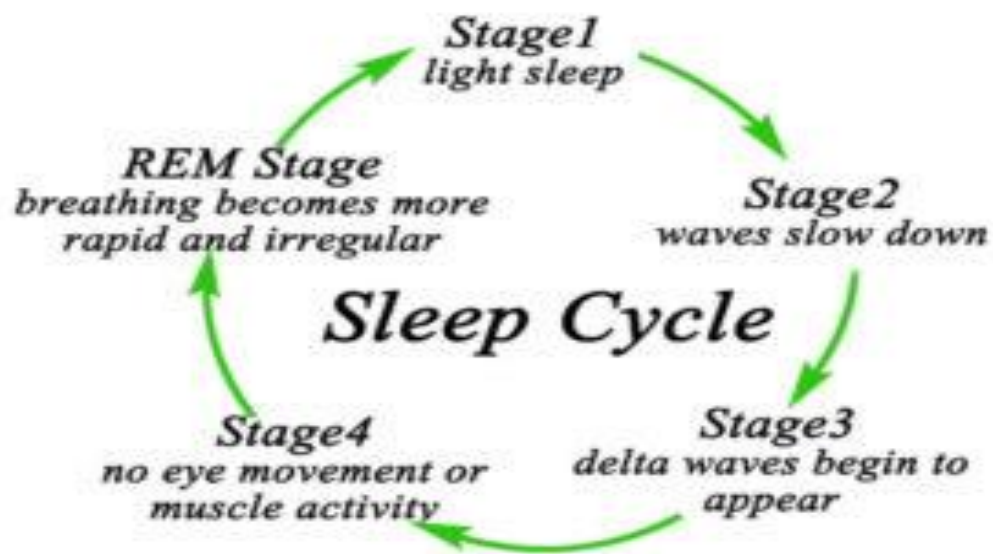
**2.10.4. Stage 4: Non-REM sleep**

Stage 4 is an even deeper sleep where the brain waves further slow and sleepers are very difficult to wake. It's believed that tissue repair occurs during the stage of sleep and that hormones are also released to help with growth (Taysia, 2020).

**2.10.5. Stage 5: REM sleep**

The final stage of sleep is REM and this is the cycle where we dream. The eyes move rapidly behind the lids and breathing becomes shallow and rapid. Blood pressure and heart rate also increase during REM sleep and

the arms and legs are paralyzed so that sleepers can't act out their dreams. The purpose of this stage (and of dreams) is thought to stimulate the sections of the brain that are needed for memory and learning and a way for the brain to store and sort information. REM sleep occurs approximately 90 minutes into the sleep cycle (Patel & Araujo, 2018).



**Fig 3. Cycle Stages of Sleep (Wescott, 2020)**

### **2.11. Mechanisms of Sleep**

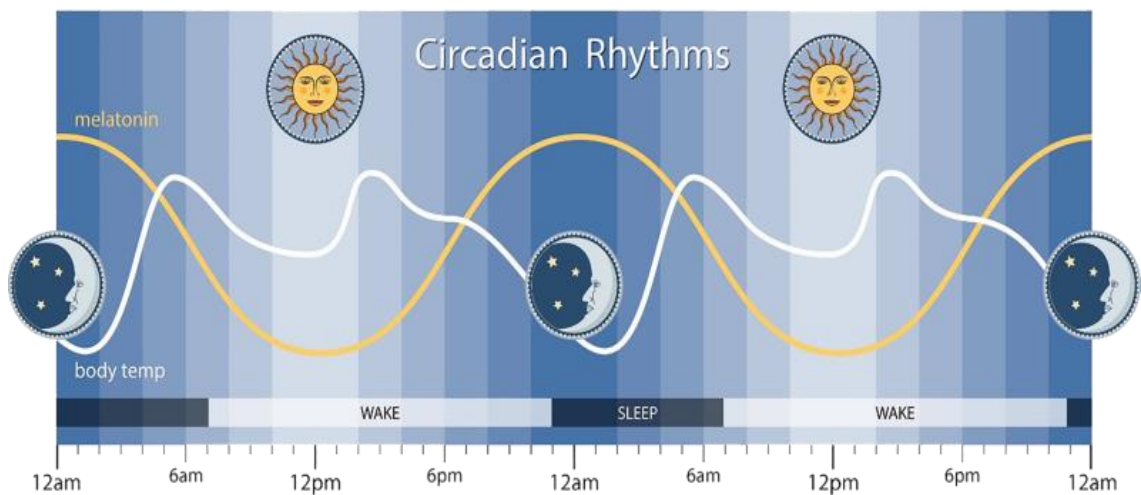
Internal biological mechanisms of homeostasis and circadian rhythm work together to regulate when individuals are awake and asleep. Circadian rhythms regulate a variety of physiological functions, such as changes in daytime alertness, body temperature, metabolism, and hormone release. They control when you go to sleep, keep you awake all night, and increase your likelihood of waking up in the morning without an alarm (Foster, 2020).

The balance between sleep and wakefulness monitors the need for sleep. The homeostatic sleep drive controls the length and intensity of sleep by telling the body when to fall asleep. After a period of sleep deprivation,



this sleep drive becomes stronger with each hour that one is awake and causes one to sleep longer and deeper (Deboer , 2018).

The natural circadian rhythm and sleep-wake cycle are disrupted, night shift employees frequently struggle to fall asleep at night and struggle to stay awake at work. When individuals go to a foreign time zone, their circadian rhythms become out of phase with the time of day, resulting in a discrepancy between their internal and external clocks and causing jet lag (Pacheco, 2022; Suni, 2021).



**Fig 4. Circadian Rhythm and Sleep-Wake Cycle (NINDS, 2022)**

## **2.12. Types of Sleep Disturbances Related to Electronic Media Use**

### **2.12.1. Insomnia:**

The amount of time you spend sleeping is typically shorter when use electronics. The brain is impacted by technology, which stimulates the mind and makes it difficult to fall asleep. When lying next to electronics, you might experience unwelcome awakenings due to sounds and blinking lights (Sleep Foundation, 2022).

Parents and children may find insomnia to be a very frustrating disorder. The inability to obtain enough sleep is one of its hallmarks. Anger, difficulty focusing, difficulty falling asleep, numerous nighttime awakenings, and an early wake-up call are all symptoms. Adolescents' lives can be significantly impacted by insomnia when use excessive electronic media, which can be either chronic or transient. Numerous factors, such as aselectronic media use, stress, depression, and anxiety, as well as chronic pain, can contribute to insomnia. Factors such as consumption of sugar and caffeine, as well as excessive screen time, might make symptoms worse (Crosta, 2020).

### **2.12.2. Narcolepsy:**

The defining symptoms of narcolepsy are excessive daytime drowsiness including periods of uncontrollable sleepiness and unexpected muscle weakness. Strong emotion or surprise may cause the rapid muscular paralysis associated with narcolepsy. Narcolepsy episodes have been referred to assleep attacksand can happen in strange situations, such as when walking or engaging in other types of physical activity (Cleveland Clinic, 2022).

### **2.12.3. Parasomnias:**

A variety of strange sleep behaviors known as parasomnias might happen before going to sleep, while the adolescents are sleeping, or as they wake up. Although adults can also experience insomnia, adolescents experience it more frequently. They include bedwetting, night terrors, sleepwalking, and more unusual conditions like exploding head syndrome. Up to 20% of adolescents have insomnia. Based on the stage of the sleep cycle they appear in, many types of insomnia are classified. Maintaining the security of the sleeper and any bedmates while also ensuring enough restful sleep are standard management strategies for parasomnias(CDC, 2019).

Confusional arousals, sleepwalking, night terrors, and sleep-related sexual abnormal behaviors known colloquially as "sexsomnia," this parasomnia is characterized by sexual behaviors during sleep, such as masturbation, initiation of sexual intercourse, and sexual noises (Pacheco, 2020).

#### **2.12.4. Sleep-Related Movement Disorder:**

Disorders of motor control, such as excitement or dis-inhibition, are frequently linked to sleep disturbances and can cause abnormal movements while you sleep. Depending on the disease, different conditions that cause sleep-related movements have different etiologies. For instance, the etiology of restless leg syndrome (RLS) could be secondary to iron deficiency or predominantly owing to familial and genetic susceptibility. The etiology of RLS is covered in more detail in a different article (Karna& Gupta, 2022).

According to the kind of movement, other sleep-related movement disorders can be classified as simple, periodic, rhythmic, or complicated conditions (some of which are linked to parasomnias) (Pham et al., 2022).

#### **2.12.5. Circadian rhythm disorders:**

Issues with the sleep-wake cycle that prevent from falling asleep or waking up on time (MedlinePlus, 2018) .

### **2.13. Causes of Sleep Disturbance in Adolescents**

#### **2.13.1. Electronic media devices:**

Adolescents frequently use their smartphones or the internet. To text or post on social media, they stay up late. Even after turning the electronic devices off, the screen light from smartphones and tablets makes it difficult to fall asleep (Pacheco, 2021).

#### **2.13.2. Schedule, school, and stress:**

Stress, a busy schedule, and school Schedules and schoolwork may also have an impact on teens' sleep. If children have to get ready for school at 6

a.m., they must go to bed by 9 or 10 p.m. It's possible that many teenagers can't go to bed so early. Adolescents may feel more pressure in high school to stay up late to do their homework or study for tests. Adolescents are susceptible to stress. They can be worried about dating or school. Insomnia frequently results from stress (Suni, 2022).

### **2.13.3. Caffeine:**

Adolescents who consume caffeine-containing beverages to stay awake through-out the day may have trouble falling or staying asleep at night. Caffeine can be found in colas, tea, cappuccino, coffee, and energy beverages that affected on sleep of students (Watson et al., 2017).

### **2.13.4. Medications:**

Adolescents' sleep habits may be disturbed by prescription stimulants, sedatives, and steroids (Cole, 2020).

## **2.14. Signs of Sleep Disturbance in Adolescents**

### **2.14.1. Daytime sleepiness:**

Adolescents who use electronic devices excessively at night and don't get enough sleep may find it difficult to get out of bed in the morning, have trouble concentrating, or fall asleep throughout the day (Summer, 2022).

### **2.14.2. Academic difficulties:**

When adolescents use electronic media excessively and don't get adequate sleep, their grades may suffer and their use of sick days may rise (Uccella et al., 2023).

### **2.14.3. Poor decision-making:**

Impulsive or irrational behavior may indicate that a teen is not getting enough sleep due to excessive use of electronics. Lack of sleep can cause disputes, bullying, and school absences. Additionally, it can encourage

risk-taking behaviors such as driving while intoxicated, texting while driving, and not buckled up (Summer, 2022).

**2.14.4.Changes in mood adolescents:**Adolescents who use electronic media excessively and don't get enough sleep may be more agitated, unhappy, and anxious. Additionally, they might feel less confident. The relationships and general wellbeing of a teen may be impacted by all of these (Pietro, 2016).

**2.14.5. Health Concerns:**Adolescents' excessive use of electronic media and lack of sleep impair their physical and mental health. Science has connected insufficient sleep to a variety of health issues, including immune system deterioration and weight increase (Watson &Cherney, 2020).

## **2.15. The majority of risk factors for adolescents' sleepdisturbances**

Adolescence is a crucial time for the development of a regular sleep-wake cycle. Children who don't get enough sleep may be exposed to bio-behavioral, psychological, and environmental risk factors in their early years. Bedtime resistance in children may effect sleep onset delay, or the duration it takes to let go (Liu et al., 2022).

Adolescents may experience difficulty sleeping for a variety of reasons, including pubertal changes in intrinsic sleep regulation (such as a delayed melatonin onset phase), increasing educational requirements, and substance usage(Kwon et al., 2022).

### **2.15.1. Biological factors**

#### **2.15.1.1. Gender:**

Although gender disparities in children's sleep outcomes have been extensively researched, the findings are still controversial. The majority of

studies demonstrate that girls sleep better than boys, as research has revealed that males spend less time in bed, are more likely to experience sleep disorders, and engage in more activity when they sleep (Galan-Lopez et al., 2021).

### **2.15.1.2. Age and puberty:**

Early stages of development reveal major changes in sleep behavior, from infants through school-age children to adolescents. Children sleep more sooner and for longer periods of time than teenagers do due to biological, psychological, and environmental factors that change with age (Liu et al., 2022).

Pubertal status was associated with modifications in intrinsic sleep regulation, such as a delayed melatonin start phase. In addition to age-specific social and behavioral factors, high school students typically exhibit > 1-h differences in their sleep and wake patterns between school and non-school days, with up to 68.9% of adolescents reporting inadequate nighttime sleep duration and poor sleep quality (Hosokawa et al., 2022; Stone et al., 2022).

### **2.15.1.3. Prenatal factors**

Sleep deprivation in children has been linked to both prenatal maternal obesity and maternal exposure to psychoactive substances, including alcohol (Gilbert et al., 2022; Hetea et al., 2019).

The signs of sleep disturbances caused by these prenatal exposures include insomnia, short sleep duration, short sleep efficiency, and increased nightly awakenings. The fetal hypothalamic pituitary adrenal axis, a system involved in the management of sleep infrastructure, may be effected in how it functions as a result of the mother's alcohol usage (Liu et al., 2022).

### **2.15.1.4. Postnatal factors:**

Postnatal factors that affect the infant's physical health could affect sleep habits, as well as a greater probability of growing up with sleep and breathing problems. Low birth weight (LBW) and shorter length at birth, into childhood, and into adolescence are associated with less efficient sleep. Young people with LBW are more prone to snoring and other respiratory-related sleep problems, which can have long-term implications (Liu et al., 2018).

### **2.15.2. Weight, dietary intake, and nutrition:**

Although previous work has mainly concentrated on how sleep deficiency may be associated with subsequent dietary intake and metabolic outcomes, a growing body of research suggests the potential impact of macronutrients and micronutrients as well as dietary intake factors, such as regularity and timing of eating, on sleep health (Sejbuk et al., 2022; Farabi et al., 2020).

Macronutrients like carbs and amino acids like tryptophan are metabolized by the body that affect neurotransmitters that promote sleep, like serotonin. One hour before bedtime, for example, eating such a meal was linked to more frequent awakenings and poorer quality sleep (Sejbuk et al., 2022).

Sleep disturbances have also been connected to micronutrient deficiencies in iron and zinc, two examples of which. Because they are antagonists of excitatory neurotransmitters wakefulness promoters in the brain, such as the N-methyl-d-aspartate receptor and dopaminergic neurons, and agonists of inhibitory neurotransmitters (sleep promoters), micronutrients have the potential to affect the intrinsic sleep regulation process (Liu et al., 2022).

### **2.15.3. Obesity:**

Most research has concentrated on how sleep deficits contribute to obesity as a result of the rising prevalence of obesity in children. In contrast to their

classmates who are of normal weight, obese adolescents had significantly worse results in sleep, including duration, consistency, and daytime somnolence. Uncertain underlying biological and environmental factors (including dietary choices, media consumption, and physical exercise) are at play (Lister et al., 2023; Liang et al., 2022).

#### **2.15.4. Exposure to the physical environment:**

Due to their still-developing physiology, children are particularly susceptible to environmental exposure. Although the connection between environmental exposures and sleep health is still not fully understood, new studies are starting to point in that direction. Various antagonistic exposures, including lead, pesticides, noise such as from road traffic, light, and airborne pollutants, predispose children to sleep deficiency during the prenatal and postnatal periods, according to a recent comprehensive review of the empirical data (Gladieux et al., 2023).

Adolescents' later bedtimes have been linked to exposure during the night, in addition to reduced sleep duration and other sleep deficit signs. In the pediatric intensive care unit, noise is present all the time. This is one instance of how these disturbances to the duration and onset of sleep led to adolescents' poor sleep quality (Mayne et al., 2021).

The release of melatonin is suppressed, sleep onset is delayed, sleep length is shortened, and morning alertness is decreased when people are exposed to light, especially artificial light. An in-depth analysis of the impacts of air pollution exposure on sleep health across the lifespan has recently focused on the consequences for children (Haim&Zubidat, 2015).

#### **2.15.5. Friendships, familial relationships, conduct, and other people's behavior are interpersonal influences:**

Biological and early-life risk factors, a child's immediate home environment, as well as social relationships inside and beyond the home,



may have a substantial impact on sleep outcomes. Numerous of these aspects may be modifiable, making them viable targets for enhancing kids' sleeping patterns. Co-sleeping, or sleeping in the same bed as a parent, is a family practice that interferes with a child's sleep (National Research Council & Institute of Medicine, 2015).

Children who cosleep may endure sleep deprivation for a number of reasons, including socioeconomic status and a lack of suitable beds. Cosleeping may also be the result of parental behaviors, such as poor sleep hygiene (Mason et al., 2021) .

#### **2.15.6. Violence and abuse:**

It has been discovered that exposure to interpersonal violence, physical abuse, and/or sexual abuse is linked to a lack of sleep throughout childhood. In particular, there is a connection between domestic violence and issues with nighttime bedwetting in children and newborns, and increased maternal psychopathology may act as a mediating factor (Liu et al., 2022).

The link between childhood domestic violence exposure and adolescent depression may also be mediated by sleep problems. According to studies, addressing sleep issues initially may help reduce the link between experiencing domestic violence among family members and subsequent depression (Matos & Gonçalves, 2019).

#### **2.15.7. Electronic media use:**

According to recent research, using a screen device while sleeping, particularly a mobile phone, has a negative impact on how long you sleep. The association between extended phone use and adolescent depression is mediated by sleep problems, and children and adolescents who spend more

time on screens are also more likely to report sleep deprivation (Hale et al., 2018).

Potential mechanisms of action include heightened physiological arousal and decreased melatonin synthesis, which delay the circadian cycle. Notably, there is a bidirectional relationship between media use and sleep duration, which may be brought on by shorter sleep durations that result in exhaustion or low energy and promote sedentary activities like utilizing electronic media (Zisapel et al., 2018; Lunsford et al., 2016).

On the other hand, the increased use of screens and electronic media has been found to enhance nervous system arousal and attentiveness, which affect sleep patterns and the overall health of the sleep system (Hale, 2018).

### **2.15.8. Factors related to school**

Children spend a large percentage of their waking hours in school, which may also affect their sleep habits as they get older. Notably, the start time of the school day is commonly cited as a crucial element in determining the quantity and quality of children's sleep. Earlier school start times are linked to less sleep overall, more daytime tiredness, and more tardiness (Alfonsi et al., 2020).

## **2.16. Strategies for Sleep Disturbance Adolescent Who Use Media**

### **2.16.1. Do not allow electronics in the bedroom:**

The main explanation given by students who participated in a survey for their teens' sleep issues was their inability to put electronic media down, including social media and telephones. Some research suggests that

traditional cues sent to the brain to wind down are also disrupted by the light exposure from screens. We therefore advise uninstalling the gadget by hand (Mostafavi, 2018).

### **2.16.2. Encourage daily exercise and time outside:**

Adolescents may sleep better if they exercise. All children need to move around and exercise frequently during the day. So that you have time to unwind, try to avoid sports activities and other forms of exercise that take place too late in the day. A healthy sleep-wake cycle can also be supported by daily outdoor time (Gavin, 2018).

### **2.16.3. Limit late meals and caffeine:**

Dinner should be consumed a few hours before bedtime, and whole meals that are simpler to digest should be used. Due to the intimate connection between the gut and the brain, food allergies or substances that cause indigestion may disturb your child's sleep. It's crucial to keep in mind that, depending on an individual's metabolism, caffeine might linger in the bloodstream for longer than eight hours (Esparham, 2021) .

### **2.16.4. Optimize the Adolescent's sleep environment:**

Ideas include furnishing the bedroom with a comfortable mattress, blankets, and pillows. Encourage your teen to avoid doing homework or other activities in bed and to reserve it for sleeping. This facilitates your teen's ability to associate lying in bed with sleeping. Install heavy or blackout curtains or blinds if light irritates your teen. Turn on a fan, some soothing music, or some nature sounds if the noise outside your teen's bedroom is a concern (Sutter, 2022).

## **2.17. Management of Sleep Disturbances**

### **2.17.1. Non-Pharmacological Management**

#### **2.17.1.1. Sleep Hygiene:**

Sleep hygiene involves educating individuals about lifestyle changes, such as limiting afternoon naps and avoiding late-night dinners or nighttime consumption of alcohol, caffeine, or tobacco. Additionally, it entails urging them to establish a healthy eating and exercise routine as well as keep consistent sleep and wake intervals. Evaluate sleep hygiene using the sleep hygiene index and the awareness and practice scales. Sleep hygiene should be used in conjunction with other aspects of cognitive behavior therapy, as it is ineffective on its own for treating patients with chronic insomnia (Praharaj et al., 2018).

#### **2.17.1.2. Sleep Restriction Therapy:**

This treatment relies on limiting the amount of sleep time with the presumption that less sleep will increase the sleep urge and lead to consolidated sleep. Due to the sleep loss associated with this medication, the likelihood of daytime sleepiness may increase. The duration of the night's sleep might thereafter be gradually increased in accordance with the findings (Holland, 2022).

#### **2.17.1.3. Therapy for Stimulus Control:**

Adolescents should be advised to limit unhealthy routines, including eating or reading in bed, using electronic devices late at night in bed, and only going to bed to sleep when they are truly weary (Rosenberg, 2020).

#### **2.17.1.4. Relaxation Therapy:**

Relaxation Therapy: Regularly engaging in breathing exercises, meditation, or yoga might improve sleep quality and ease tension and underlying worry (Robinson, 2019).

#### **2.17.1.5. Cognitive Behavioral Therapy for insomnia (CBTi):**

Cognitive-behavioral therapy (CBT) for insomnia An excellent therapeutic strategy for the treatment of insomnia is cognitive-behavioral therapy. Wakefulness after sleep onset (WASO), total sleep time (TST), and sleep onset latency (SOL) can all be significantly reduced with effective CBT. Studies have shown that when it comes to treating insomnia, CBT is more effective than medicine (Rosenberg, 2020).

### **2.17.2. Pharmacological Management**

#### **2.17.2.1. Drugs acting on Gamma-Aminobutyric Acid (GABA) receptors:**

The GABA receptor sites are where the benzodiazepines (BZD) and benzodiazepine receptor agonists (BzRA or non-BZD) act to have sedative, anxiolytic, muscle relaxing, and hypnotic effects (Kaur et al., 2020).

#### **2.17.2.2. Drugs Acting on Melatonin Receptors:**

The pineal gland naturally produces the hormone melatonin. The levels of this hormone are controlled by the circadian clock in the hypothalamus and suprachiasmatic nucleus during the day and night (Masters et al., 2014).

Melatonin supplements should be taken a few hours before bed with the advice and supervision of a sleep specialist. A normal dose is 0.5 milligrams. Before taking any supplements, always get medical advice (Nierenberg, 2022).

#### **2.17.2.3. Orexin receptor antagonists:**

Suvorexant and orexin receptor antagonists are not advised for narcolepsy patients. Rare side effects could include being unable to move or talk for several minutes when falling asleep or waking up or engaging in activities while asleep, including eating, driving, or walking (Dubey et al., 2015).

#### **2.17.2.4. Drugs Acting as Histamine-1 Receptor Antagonist**

Doxepin is a tricyclic antidepressant, although it is beneficial in treating sleep maintenance insomnia when used at modest doses of 3 mg and 6 mg. Overall sleep time, wakefulness following the onset of sleep, and sleep efficiency all improve as a result (Bollu&Kaur, 2019).

#### **2.17.2.5. Antidepressants:**

Due to their antihistaminic effects, trazodone, mirtazapine, and amitriptyline are the antidepressants that are most frequently used to treat insomnia in low doses. According to studies, using trazodone 50 mg once a day has been proven to improve sleep latency, alertness after sleep initiation, and sleep length (Everitt et al., 2018).

#### **2.17.2.6. Atypical antipsychotics:**

Sleep disturbances with coexisting psychotic disorders may benefit from therapy with olanzapine and quetiapine. Because of their antihistaminic, anti-adrenergic, and antidopaminergic characteristics, they have a sedative effect at low doses when the individuals take this medications (Kaur et al., 2020).

#### **2.17.2.7. Anticonvulsants:**

Gabapentin has been demonstrated to increase the quality of sleep and reduce alertness following sleep onset (Bollu&Kaur, 2019).

### **2.18. Body Mass Index (BMI)**

Body mass index which is the most widely used technique to link the risk of health issues with weight at the population level, is simple to measure and compute. Adolphe Quetelet created it in the nineteenth century. Researchers found that BMI seemed to be a fair proxy for issues connected to obesity and being overweight in the 1970s, particularly based on the data and report from the Seven Countries study (Zierle& Jan, 2022).

Body mass index cannot reliably predict the health of various racial and demographic groups. Blood pressure, waist circumference, and cholesterol levels are measurements that are more reliable than BMI for predicting health outcomes (Ali & Mir, 2021).

Studies on obesity employ many metrics, including BMI, fat mass, and waist circumference. While it has been stated that BMI is one of the most accurate and widely utilized screening tools for identifying childhood obesity, In addition to being used as an end measure to determine obesity, it is also used as a useful anthropometric index for assessing the risk of cardiovascular disease. Additionally, according to the WHO, BMI is a standard technique for diagnosing overweight or obesity due to its ease of use (Wu et al., 2022; Paladugu et al., 2021).

High body fat may contribute to type 2 diabetes, heart disease, and stroke. Low body fat may be related to malnutrition. A healthy amount of body fat helps the body absorb vitamins and minerals. In addition, it supplies your body with energy, helps you maintain a comfortable body temperature, and protects the organs (Cleveland Clinic, 2022).

A person's true body fat percentage cannot be determined using BMI with great accuracy. A BMI calculation could classify someone as fat even when they are incredibly strong and extremely thin. Adolescents may also come across someone who is within the range for their height in terms of weight but who has a lot more body fat than muscle on their body. Despite being clinically obese, this person may appear to be of "normal" weight. Because BMI just considers height and weight, it frequently does not provide a complete picture (Livingston & Castro-Sloboda, 2023).

### **2.19. Body Mass Index (BMI) and Electronic Media**

A major public health issue that has contributed to several health issues and social burdens is obesity. Recent studies have shown that obesity has

spread to young and elderly people as well as adolescents (Tiwari&Balasundaram, 2021).

A person's body mass index can be calculated using their height and weight plus some basic math. The BMI is determined as follows: kg stands for weight in kg/m<sup>2</sup>, where m<sup>2</sup> is height in square meters. A BMI of 25.0 or more is considered overweight, whereas a healthy range is 18.5 to 24.9 (Centers for Disease Control and Prevention, 2022).

Through increased calorie intake, exposure to food and beverage advertisements, decreased energy expenditure, and shorter sleep duration, screen media exposure have an impact on body weight. Additionally, children from lower socioeconomic backgrounds are significantly more exposed to screen media than are children from higher socioeconomic backgrounds. Lower socioeconomic status households are likely to have more screen media exposure due to a lack of financial means to partake in more expensive leisure activities (Oude et al., 2023).

The rapid increase in obesity, it is possible that both biological predisposition and environmental factors contribute to weight gain in humans. The widespread obesity may be caused by environmental variables such as ubiquitous information and communication technologies and extensive media consumption. The fact that time spent on electronic media or electronic media has taken the place of physical activity or outdoor sports is one of the possible factors (Liu & Li, 2021).

One is more likely to become obese the more often or for how long they utilize these media. Nearly all media types, including television, video games, the internet, computers, social media, and digital media, have been included in the scope of these studies (Kracht et al., 2020).

### **2.20.1. Body Mass Index Definition**



By dividing a person's weight in kilograms by their height in meters (or feet), squared, one can determine their body mass index (BMI). A high BMI could be a sign of significant body fat. Although BMI is a screening tool for weight categories that may be linked to health problems, it does not offer a thorough evaluation of a person's health or body fatness (Brazier, 2018).

### **2.20.2. Importance of Body Mass Index**

A person's BMI is a crucial indicator of how much tissue mass is present in them. Individuals are classified as underweight, normal weight, overweight, or obese depending on how much tissue mass they have (Zierle-Ghosh& Jan, 2018).

Both genetic and non-genetic variables affect an individual's BMI value, which aids in identifying and preventing health risk factors. Based on each person's BMI result, the BMI value aids in maintaining their daily diet. Diets for underweight and overweight people will differ from one another (Golubnitschaja et al., 2021).

### **2.20.3. Body Mass Index Formula:-**

Metric units: weight (kilograms) divided by height squared (meters)  $BMI = \text{kg/m}^2$  (Ghosh& Jan, 2022).

### **2.20.4. Body Mass Index Classification**

**Table 2. Body Mass Index Classification (Weir & Jan, 2022).**

<b>BMI value</b>	<b>Categories</b>
Less than 18.5	Underweight
18.5-24.9	Healthy weight

25-29.9	Overweight
30 and above	Obese

## **2.21. Nursing Roles for Sleep disturbances Related Excessive Use Electronic Media Adolescents**

### **2.21.1. Manage electronic media use:**

Advise adolescents to make and regularly review, including individualized time and content limits. Continue to be present and engaged when screens are used and, whenever possible, co-view and talk about content with adolescents (Canadian Paediatric Society, 2019).

Discourage media multitasking, especially during homework. Learn about parental controls and privacy settings. Obtain their child's or teen's passwords and login information for devices and social media accounts, to help ensure safety online, and to follow online profiles and activities if concerns arise. Speak proactively with children and teens about acceptable and unacceptable online behaviors (Morawska et al., 2023).

### **2.20.2. Model healthy electronic media use:**

Encourage parents to review their own media habits, and plan time for alternative hobbies, outdoor play, and activities. Remind parents and adolescents of the dangers of texting or using headphones while driving, walking, jogging, or biking. Encourage daily 'screen-free' times, especially for family meals and socializing. Ask whether screens are 'off' when not in use, including background TVs. Remind parents and teens to avoid screens at least 1 hour before bedtime and discourage recreational screen use in bedrooms (Lopatin, 2022).

### **2.20.3. Monitor for signs of problematic electronic media use in adolescents, including the following:**

Complaints about being bored or unhappy without access to electronic media devices. Oppositional behavior in response to electronic media use. Electronic media use that interferes with sleep, school, or face-to-face interactions. Electronic media use that interferes with offline play, physical activity, or socializing face to face. Negative emotions following online interactions or video games or while texting (Brooks & Lasser, 2018).

Take an interest in adolescent's online activities. Don't demonize electronic media use or social media, which actually have many benefits for adolescents. Instead, examine the reasons that adolescents are using them. Participate in teen's online activities; watch some of the content together and then talk about it in an open, non-judgmental way. Encourage adolescents to take responsibility for their electronic media use. Support adolescents in setting boundaries for their electronic media use (Dufour, 2022).

#### **2.20.4. Educate on basic sleep hygiene behaviors:**

Instruct to establish a bedtime routine and stick to it. Restrict napping during the day if possible. Get up at the same time each day. Make the bedroom a place of relaxation only for sleeping, not working or watching tv. Getting adequate exercise is important, just not within a few hours of bedtime (Wagner, 2021).

#### **2.20.5. Suggest ways to improve the environment:**

Room-darkening curtains can keep out bright light if needing to sleep during the day. Sleep occurs best when the room is kept cool; use a fan if needed. While quiet is usually recommended, if background noise is needed, a white noise machine or other soothing sounds can help (Brianna, 2022).

#### **2.20.6. Recommend keeping a sleep log or using a tracker:**

Keeping a journal of the lights off time, wake time, number of hours slept, number of sleep interruptions, and the perceived quality of sleep can help identify patterns. There are also many digital sleep trackers and apps that can track these details (De-Zambotti et al., 2019).

**2.20.7. Do not consume large meals before bed:**

Consuming large meals too close to bedtime can impede digestion and lead to acid reflux which can prevent falling and staying asleep. Studies show caffeine should not be consumed within six hours of bedtime (Jenkins, 2018).

**2.20.8. Recommend relaxing activities:**

Part of a healthy bedtime routine is signaling to the mind and body that it's time to shut down. Help the adolescents decide what's best for them. This can include easy yoga and meditation, drinking chamomile tea, reading a relaxing book, or taking a warm bath (Pacheco, 2021).

**2.20.9. Refer to a mental health professional for mindful sleep techniques:**

Emotional challenges affecting sleep may require counseling. The use of techniques such as biofeedback, hypnosis, and guided meditations can be effective in thought training (Sophie et al., 2021).

**2.22. Previous Studies****First study:**

De-Sá et al., (2023) performed the study "The Influence of Smartphones on Adolescent Sleep: A Systematic Literature Review". This study aims to understand the influence of the use of smartphones on adolescent sleep quality. The results use of electronic equipment plays an

important role in adolescents' lives. There is a negative relationship between the use of electronic equipment, such as smartphones, and sleep, for reducing both the quality and quantity of sleep. There is also a relationship between nighttime smartphone use, insufficient sleep, and mental health problems. The conclusions of use of new technologies at night causes a change in the behavior of adolescents with repercussions in terms of the quality of sleep and sleep duration and consequent well-being and performance during the day.

### **Second study:**

Moreno et al., (2022) performed the study "Adolescent media use, parent involvement and health outcomes: a latent class analysis approach". The purpose of this study was to identify profiles of adolescent technology use within a large study population focusing on four evidence-based constructs: technology ownership and use, parental involvement, health outcomes, and well-being indicators. The results among the 3981 adolescent-parent dyads recruited, adolescent participants had a mean age of 15.0 years; a total of 46.3% were female, 67.8% were male, and 75% lived in a household with an income above the poverty line and founded that most participants owned personal media devices, including smartphones (81.4%), computers (64.6%) and video game systems (58.9%). The conclusions findings from this national cross-sectional survey using LCA led to 2 distinct profile groups of adolescent media use and their association with technology use and parent involvement as well as health and well-being outcomes.

### **Third study:**

(Guzmán et al., 2021) conducted a study Associations of Sleep Duration and Screen Time with Incidence of Overweight in European

Children. The study's objective was to investigate the independent, prospective relationships between screen time, sleep length, and incident overweight in a sample of young Europeans. The conclusion of incidence of overweight or obesity rose by 13–20% when screen time and sleep length were combined. To establish their causal involvement in the prevention of overweight and obesity among European children, interventions that place a strong emphasis on getting enough sleep and limiting screen time are required.

#### **Fourth study:**

Chen et al., (2022) performed a study "Associations between sleep duration, sleep quality, and weight status in Chinese children and adolescents". In order to determine whether the association between sleep duration and weight status is reliant on sleep quality, this study looked at how much, how well, and how often children and adolescents in China slept. The results study that sleep time is drastically reduced. Sleep quality and childhood and adolescent overweight or obesity were not significantly correlated. In contrast to boys, where there were no significant correlations between sleep duration, sleep quality, and overweight or obesity in girls, poor sleep quality and short sleep duration increased the risk of overweight or obesity. Conclusions in general, short sleep duration, regardless of the quality of the sleep, raised the risk of overweight or obesity in children and adolescents in China.

#### **Five study :**

Wu et al., (2022) conducted a study "Screen Time and Body Mass Index Among Children and Adolescents: A Systematic Review and Meta-Analysis". In the current meta-analysis, we methodically summed up the relationship between screen time and obesity and meta-analyzed the findings. Results those with the highest screen time categories, according to

the results. Conclusion of the study that latest systematic review and meta-analysis showed, for the first time, a positive correlation between screen usage and obesity in children and teenagers. It is impossible to draw a causal conclusion from the included studies' cross-sectional design, hence, additional research with separate analyses of the two genders is recommended in order to more fully explain gender-specific findings.

**Six Study:**

Sourtiji et al., (2018) performed a study “The Associations between Screen Time and Sleep Duration, and Body Mass Index in under Five-Year-Old Children”. The aim of the study was to investigate the relationships between screen time, sleep length, and body mass index (BMI) in children under the age of five. Results this study indicated that excessive electronic media use is related to sleep duration and BMI in under-five children. Furthermore, excessive electronic media use has an impact on sleep duration and BMI scores in children. Findings of the study suggest that sleep duration is negatively associated with BMI in under-five-year-old children.

**Seven Study:**

Lund et al. (2021) conducted a study "Electronic Media Use and Sleep in Children and Adolescents: A Systematic Review". The purpose of this study was to conduct a thorough literature evaluation on the effects of utilizing electronic media on children's and adolescents' sleep. Results 10,719 different papers were found by the search, 108 of the inclusion and exclusion requirements and passed a methodological quality test. More mixed results were found regarding the connection between using electronic media and other sleep outcomes. Conclusions in general, children and adolescents aged less than year to 15 reported sleeping less after using electronic media.

**Eight Study:**

Fanget al., (2019) conducted study "Screen time and childhood overweight/obesity: A systematic review and meta-analysis". The object of the present study was to estimate the relationship between screen time and overweight/obesity in children (<18 years) by systematically review prevalence studies. Results a total of 16 studies met the criteria and were included in the meta-analysis. When compared with the screen time <2 hr/day, an increased overweight/obesity risk among children was shown in the screen time  $\geq 2$  hr/day. The subgroup analysis showed a positive association between the different types of screen time and overweight/obesity among children. Conclusion based on our study, increasing screen time could be a risk factor for being overweight/obesity in children and adolescents.



# Chapter Three

## Methodology

### Methodology

#### 3.1. Design of Study

Descriptive study which design was conducted on adolescents by using the instrument of the study, the study was carried out through different secondary schools in Holy Kerbala City for assess effect of

excessive use of electronic media on sleep disturbances and body mass index among adolescents through period from September 29<sup>th</sup>/ 2022 to May 25<sup>th</sup>/ 2023

### **3.2. Administrative Arrangements**

Before gathering the study's data, the following official permissions were requested from the appropriate authorities: The first approval was obtained from the postgraduate program committee members from the Kerbala University Collage of Nursing are required for carry out the study.

After reviewing study tools the scale on sleep disturbances and the scale on excessive use of electronic media, the ethical committee of the College of Nursing was established as the second step in approving the research project's subject and design (see Appendix B).

A legal document requesting permission from the University of Karbala College of Nursing to gather samples, addressed to the Holy Kerbala Province's Directorate General of Education (Appendix A).

An official document from the Holy Kerbala Province's Directorate General of Education was sent to the staff members of secondary schools in the city center (see Appendix A).

### **3.3. Ethical Considerations**

Especially crucial among the majority of things the researcher must adhere to during the study is their ethical commitment. The College of Nursing's newly established Ethics Committee reviewed this study and determined that no one would be harmed by it. The researcher created the questionnaire (Appendix B).

The study gave a clear overview of the research's findings and practical foundation before beginning to collect data from the sample of participants in the study. This was done to provide them with a thorough and accurate understanding of the study that would be conducted.

The primary objective, expected result, intended sample, and research design were all described by the researcher. The researcher additionally committed to carefully maintaining the privacy of the information gleaned from the findings of the students participants and to limiting its application to the study's associated scientific objectives.

However, the study demonstrated that any student who feels embarrassed or ashamed about using certain terms in the prepared questionnaire has the option to withdraw from the study. as a tool for research or a mechanism for studies to collect data, among other things.

### **3.4. The Sample of the Study**

A non-probability convenience sample of 382 students out of a total of 4450 studentsselect statistical services was estimated to be needed for the study, and total students were chosen to obtain the data. The sample size of the study was 139 females and 243 males.

### **3.5. Setting of the Study**

The study was conducted in middle and secondary schools in the center of Holy Karbala Province.

**Table 3.1. School of the Study**

<b>School Name</b>	<b>Number of</b>
1. Maria Al-Qibtiya Preparatory School for Girls	30
2. Al Makaseb Preparatory School for Boys	40
3. Al-Shahba Preparatory School for Girls	33
4. Alshahid Muhammad Baqir al-Hakim for boys	40
5. Alshadharat school for girls	36
6. Medium Alaqdam for boys.	42
7. Hussein Mahfouz Preparatory for boys	44
8. Al-Yarmouk Preparatory School for Girls	35
9. IbnHayyan Medium for Boys	41

10. JumanaBintAbiTalib Preparatory School	41
Total number	382

### **3.6. Methods of the collection of data**

The data were gathered using the developed questionnaire and an established interview technique with students at secondary schools in Holy Kerbala City, the questionnaire using in Arabic. All of the students who formed the study sample were interviewed in a similar manner using the same questionnaire. It takes approximately 35–40 minutes for each class in the school to complete the interview with measurements of height and weight. Data collection period from December 17<sup>th</sup>, 2022, to January 24<sup>th</sup>, 2023.

### **3.7. Study Instrument**

#### **3.7.1. Questionnaire of the Study:**

To be able to achieve the objective of the project research, a special questionnaire was prepared after a comprehensive review of related literature in the field of interested phenomena. The questionnaire was divided into four parts:

#### **Part 1: Demographic Characteristics:**

It contained the following items: ( age, gender, educational level, and socioeconomic status, the type of device used as a means of electronic media, the amount of time spent watching media on electronic devices, and the duration of sleep).

#### **part 2: The questionnaire of excessive use of electronic**

**media** The second part of the instrument was the excessive use of electronic media questionnaire, which was adapted from the Internet Addiction Questionnaire (IAQ), items 12 and 14 were deleted from the

scale in its initial form, whose items were adapted to the target population, which everyone who uses it can understand, in order to be considered valid. Presenting the instrument to 19 professionals allowed for the validity. The EUEMS includes 15 items in its final form divided to three domains. All items are rated on a three-point Likert-type scale (always = 3, sometimes = 2, never = 1). The severity of electronic media use is divided into three categories: Mild (15–24), moderate (25–34), and severe (35–45) (Arnout, 2013).

### **Part 3: The questionnaire of sleep disturbances :**

The third part of the instrument was the Sleep Disturbances Scale (SDS), which was adapted from the Scale of Sleep Disturbance (SSD), Items 10, 14, 15, 16, 20, 21, 23, 25, 26, 27, and 29 were deleted from the scale in its initial form, whose items were adapted to the target population, which everyone who uses it can understand, in order to be considered valid.

The SDS includes 20 items in its final form divided in three domains. All items are rated on a three-point Likert-type scale (always = 3, sometimes = 2, never = 1). The severity of sleep disturbances is classified as mild (20–33), Moderate (34–47), and Severe (48–60) (Al-Banna, 2007).

### **Part 4: calculation body mass index:**

$$BMI = \frac{Weight (kg)}{[Height(m)]^2}$$

The body mass index of an individual can be calculated using their height and weight in addition to some basic math. The BMI is determined as follows: kg and m<sup>2</sup> represent a person's weight in kilograms and height in square meters (Blüher & Stumvoll, 2020).

### **3.8. Questionnaire Validity**

The questionnaire must have all of the components required for the analysis, as well as be written in simple phrases and terminology that of the questionnaire to be evaluated (see Appendix): Four of them were employed by Kerbela University Nursing College, three by Baghdad University Nursing faculty in many different fields, two from Al-Emeed University's nursing school in different fields, two from Al-Kufa College's nursing college, two from Babylon University Nursing College, one from Kirkuk University's nursing college, and one from Al-Mosul University's nursing college. The remaining one was a pediatrician works at Imam Hassan Al-Mojtaba Hospital, and one at Al-Hindiyah General Hospital.

According to the experts' recommendations, required notes have been taken to strengthen the validity of the data that was gathered. The instrument is adjusted as necessary, and the final product is polished to be a useful tool for performing the study and appropriate for the study population's surroundings.

### **3.9. Pilot Study**

A pilot sample consists of 38 from five secondary school students of Holy Kerbala City. Data collection for the pilot study period from November 30<sup>th</sup>, 2022, to December 5<sup>th</sup>, 2023. After excluding the students included in the pilot study from the initial study sample, a pilot study was conducted to meet the following goals. The following goals were the focus of the pilot project:

1. To assess the relevance and clearance of the questionnaire.
2. To estimate the proper time need to fill the questionnaire.
3. To calculate the reliability of the questionnaire.

### **Results of pilot study**

Findings from a pilot study:

1. Calculate the time frame during which the researcher collected the data.
2. The instrument items was clear, and they comprehended the research phenomena and the dangers of electronic media.

### **3.10. Reliability:**

The findings showed that the subjects studied had a very high level of internal consistency and stability at the level of relevant questionnaire items. The reliability of the questionnaire was used to ascertain its accuracy.

According to the alpha cronbach test, which are displayed in table3-2, the questionnaire was successfully designed and is reliable for studying the phenomenon of theeffect of excessive use of electronic media on sleep disturbances and body mass index among adolescents.

**Table (3-2): Reliability of the Studied Questionnaire**

Scale	No. items	AlphaCronbach
Excessive Use of electronic Media	15	0.780
Sleep Disturbance	20	0.863

### **3.11. Statistical Analysis Approach**

Inferential and descriptive statistical methods were used to analyze the data and produce the findings. The statistical software SPSS version 25 was utilized.

#### **3.11.1. Descriptive approach**

- A. Statistical table "Frequency and Percent" which are:
- B. Statistical Mean"*M*".
- C. Standard Deviation(SD).

D. The "Cronbach alpha" correlational coefficient, which can be determined by using the following: was utilized to estimate the internal consistency of the study instrument.

### **3.11.2. Inferential approach**

The following methods were used in the analysis of the study's data using a statistical package for social sciences (SPSS) version 25:

S: Significant at  $P < 0.05$ ; NS: Non-significant at  $P > 0.05$ .

Factors that predict excessive use on electronic media, linear regression was used to assess the effect on selected predictor variables ( sleep duration, duration of use of electronic media, and age) on sleep duration and BMI as dependent variables.

ANOVA were used to examine differences in excessive use of electronic media and sleep disturbances among the groups of socioeconomic status. Use independent samples test to founding differences in excessive use of electronic media and sleep disturbance between the groups of students' gender.

### **3.12. Limitation of Study Findings:**

This study has a number of strengths, including a large sample size and high statistical power. A major advantage of our study lies in the population-based data collection process. Nonetheless, we used a nonrandom sampling method, which decreases the generalizability of the findings. In addition, we used a self-report instrument, and data collected through such instruments are subject to social desirability bias.



# **Chapter Four**

## **Results**

**Chapter Four**

**Results of The Study Findings**

**Table 1. Participants' sociodemographic characteristics (N = 382)**

Participant Characteristic	Frequency	Percent
<b>Age groups</b>		
14-15	173	45.3
16-17	157	41.1
18-19	52	13.6
Total Number	382	100%
Mean (SD): 15.90 ± 1.36		
<b>Gender</b>		
Male	243	63.6
Female	139	36.4
Total Number	382	100%
<b>Socioeconomic status</b>		
Good	63	16.5
Fair	282	73.8
Poor	37	9.7
Total Number	382	100%
<b>Educational Level</b>		
Intermediate school	239	62.6
Secodary school	143	37.4
Total Number	382	100%

SD: Standard deviation

The study results reveal that the mean age is 15.90 ± 1.36, less than half of the sample (n = 173; 45.3%) were between the ages of 14 and 15, those between 16 and 17 (n = 157; 41.1%), and those between 18 and 19 (n = 52; 13.6%).

In regard to gender, the majority are males ( $n = 243$ ; 63.6%) as compared to females ( $n = 139$ ; 36.4%).

Regarding the families' socioeconomic status, most reported that their socioeconomic status is fair ( $n = 282$ ; 73.8%), followed by those whose socioeconomic status is good ( $n = 63$ ; 16.5%), and those who reported that their socioeconomic status is poor ( $n = 37$ ; 9.7%).

With respect to the School level, most are middle school students ( $n = 239$ ; 62.6%) compared to those high school students ( $n = 143$ ; 37.4%).

**Table 2. Number of hours students spend in electronic media use**

Number of hours of electronic media use	Frequency	Percent
≤ 1	22	5.8
2-5	180	47.4
6-10	138	36.3
11-15	35	9.2
16-20	5	1.3
Total Number	382	100%
Mean (SD): $6.18 \pm 3.82$		

SD: Standard deviation

The study results reveal that the mean of hours students spend in electronic media is  $6.18 \pm 3.82$ ; less than a half spend 2-5-hours in electronic media use ( $n = 180$ ; 47.4%), followed by those who spend 6-10hours in electronic media use ( $n = 138$ ; 36.3%), those who spend 11-15-hours ( $n = 35$ ; 9.2%), those who spend less than hour in electronic media use ( $n = 22$ ; 5.8%), and those who spend 16-20-hours in electronic media use ( $n = 5$ ; 1.3%).

**Table 3. Body mass index classes (N = 382)**

BMI Categories	Total percentage	Number
----------------	------------------	--------

Underweight	28.8%	110
Normal weight	49.0%	187
Overweight	14.7%	56
Obesity	7.5%	29

According to the study's findings, fewer than half of participants ( $n = 187$ ; 49.0%) have a normal height-to-weight ratio. Underweight participants ( $n = 110$ ; 28.8%), overweight participants ( $n = 56$ ; 14.7%), and obese participants ( $n = 29$ ; 7.5%) are next in line.

**Table 4. *Devices used in electronic media use***

Types of devices used	Frequency
Laptop	14
Tablet	28
Mobile phone	340
Total Number	382

The study results display that mobile phone is the most used device of electronic media use ( $n = 340$ ), followed by tablet ( $n = 28$ ), and laptop ( $n = 14$ ).

**Table 5. *Excessive use of electronic media severity***

electronic media severity	Frequency	Percent
Mild	96	25.1
Moderate	217	56.8
Excessive	69	18.1
Total Number	382	100%

The study results reveal that more than a half use social media moderately ( $n = 217$ ; 56.8%), followed by those who use them mildly ( $n = 96$ ; 25.1%), and those who use them severely ( $n = 69$ ; 18.1%).

**Table 6. Sleep disturbance severity**

Sleep disturbance severity	Frequency	Percent
Mild	134	35.1
Moderate	222	58.1
Excessive	26	6.8
Total Number	382	100%

The study results reveal that more than a half experience sleep disturbance moderately ( $n = 222$ ; 58.1%), followed by those who experience sleep disturbance mildly ( $n = 134$ ; 35.1%), and those who experience sleep disturbance severely ( $n = 26$ ; 6.8%).

**Table 7. Linear regression for factors that predict excessive use of electronic media**

Coefficients					
Model	unstandardized coefficients		standardize d	t	Sig.
	B	Std. Error	Beta		
Age groups	-.262	.201	-.066	-1.307	.192
Number of hours your spend on electronic media everyday	.391	.070	.276	5.601	.000
BMI	.000	.055	.000	.005	.996
Sleep hours	.287	.127	.111	2.262	.024

The study results reveal that excessive use of electronic media on number of hours students spend on electronic media every day and sleep hours positively predict (p-value = .000, .024) respectively.

**Table 8. Linear regression for factors that predict sleep disturbance**

Coefficients					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Age groups	.253	.254	.049	.996	.320
Number of hours you spend on electronic media everyday	-.011	.092	-.006	-.124	.902
BMI	.030	.070	.021	.429	.668
Sleep hours	-.470	.161	-.141	-2.919	.004
Excessive use of electronic media	.479	.065	.369	7.364	.000

The study results reveal that the sleep hours negatively predict sleep disturbance (p-value .004). On the other hand, excessive use of electronic media positively predict sleep disturbance (p-value = .000).

**Table 9. Differences in electronic media excessive use and sleep disturbance between the groups of students' gender**

Independent Samples T test										
		Levene's Test for Equality		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Differences	Std. Error Differences	95% confidence Interval of the Difference	
									Lower	Upper
Excessive use of electronic media	Equal variances assumed	.821	.366	5.860	380	.000	3.23010	.55125	2.14622	4.31397
	Equal variances not assumed			5.957	301.925	.000	3.23010	.54224	2.16306	4.29714
Sleep disturbance	Equal variances assumed	.057	.811	-2.840	380	.005	-2.09687	.73825	-3.54844	-.64530
	Equal variances not assumed			-2.776	267.853	.006	-2.09687	.75547	-3.58429	-.60946

The study's results reveal that there are high statistically significant variations on excessive use of electronic media and sleep disturbance between the groups of students' gender (p-value = .000, .005) respectively.

**Table 10. Differences in electronic media excessive use and sleep disturbance between the groups of educational levels**

Independent Samples Test										
		Levene's Test for Equality		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the	
									Lower	Upper
Excessive use of electronic media	Equal variances assumed	.926	.337	-5.620	380	.000	-3.08989	.54984	4.17100	2.00877
	Equal variances not assumed			-5.714	314.711	.000	-3.08989	.54072	4.15377	2.02600
Sleep disturbance	Equal variances assumed	.023	.880	2.451	380	.015	1.80373	.73588	.35683	3.25063
	Equal variances not assumed			2.402	280.265	.017	1.80373	.75082	.32577	3.28168

The study's results reveal that there are high statistically significant variations on excessive use of electronic media and sleep disturbance between the groups of educational levels (p-value = .000, .015) respectively.



**Table 11. Differences in electronic media excessive use and sleep disturbance among the groups of socioeconomic status**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Excessive use of electronic media	Between Groups	18.364	2	9.182	.313	.731
	Within Groups	11114.382	379	29.326		
	Total	11132.746	381			
Sleep disturbance	Between Groups	808.010	2	404.005	8.557	.000
	Within Groups	17893.467	379	47.212		
	Total	18701.476	381			

df = Degree of freedom; F = F-statistics; Sig. = Significance

The results of the study indicate that groups of individuals with different socioeconomic statuses had statistically different with levels of sleep disturbance (p-value = .000).

# **Chapter Five**

## **Discussion**

## **Chapter Five**

### **Discussion of Study Findings:**

The aim of this study was to investigate the effect of excessive use of electronic media on sleep disturbance and body mass index among adolescent. As electronic media has become the main vehicle for entertainment, education, and interaction with others, the negative effects of this particular means of communication have gone under the microscope of clinicians and researchers.

#### **5.1. Discussion of Demographical Characteristics**

The average amount of time spent on electronic media devices over 6 hours a day was spent on television, mobile devices, and laptop games, with over 2 hours of that time spent on social media.

The study found the severity of electronic media use, which is compatible with several studies that have investigated the effects of excessive use of electronic media and computer games on adolescents. For instance, in a research study, 10.8% of the adolescents had moderately excessive use of electronic media, and the risk of electronic media overuse and addiction was higher in males, including adolescents who experienced recent stressful events (Neamat et al., 2022; Pirdehghan et al., 2021).

#### **5.2. Discussion of the Body mass index classes**

Over one-fifth of the students who participated in the present study were obese or overweight, whereas only 33% of the sample was underweight. Although a sizable portion of the study population less than half are normal weight, no connection between excessive use of electronic media and elevated BMI in these adolescents was discovered. There is little evidence to support the idea that excessive use of electronic media is linked to a higher BMI, according to very identical results in their systemic evaluation and this study findings agree with present study (Chinapaw et al., 2011).

Other findings revealed that increased BMI was strongly correlated with parental body weight but unrelated to excessive use of electronic media and this study findings agree with present study (Rafique et al., 2022).

Kalirathinam et al (2019) were also not able to identify any association between excessive use of electronic media and body mass index among university students and this study findings agree with present study.

According to opinion researcher the fact that our study enrolled a sizable sample size to investigate a connection between electronic media use and BMI, There are a few drawbacks to the current study, though. For instance, because it was a cross-sectional study, it was unable to draw any conclusions about a causal link between ST and rising BMI. Additionally, other confounding factors like age, a family history of obesity, unhealthy eating patterns, and a decline in physical activity were not taken into account when analyzing the impact of BMI. Furthermore, no physical examinations or investigations were conducted; the inclusion and exclusion criteria were solely based on history (Rafique et al., 2022).

The BMI is regarded as a sign of general health. Moreover, it is often believed to be a sign of lifestyle. There are few studies that evaluate sleep patterns in relation to BMI in adolescents who are otherwise healthy, despite the fact that the association between BMI and sleep is frequently studied at a stage when disturbances or altered states of health are present (Gupta et al., 2022).

The explanation for result findings is that the number of males is higher than the number of females, and because the motor and physical activity of males is higher, they burn more energy compared to adolescent girls. Therefore, about half of the sample appeared to have an ideal weight.

The differences between genders in growth during puberty must also be taken into consideration. Males in adolescence are more likely to

have higher muscle mass than females, so they will also burn more calories while exercising. The prevalence of the behavioral patterns differs by gender and is consistent with other research that shows males spend more time engaging in screen time and physical activity than females.

### **5.3. Discussion of the factors that predict excessive use of electronic media**

According to the current study's findings, excessive use of electronic media is positively predicted by the number of hours students spend online each day and their amount of sleep (p-values = .000 and .024, respectively). The results of this study repeatedly showed that adolescents' reporting of sleep problems was unaffected by their age. Our study's findings were consistent with those of other studies in that reporting of sleep issues varied by age, with early to mid-adolescents expressing less of an issue than late adolescents (Maurya et al., 2022).

### **5.4. Discussion of the factors that predict sleep disturbance**

According to the present study's findings, more than half of participants have a moderate sleep disturbance. The quantity of time spent using electronic media had an impact on the adolescents' sleep length, which was 7 hours or less. There is overwhelming evidence linking electronic media and other electronic use with sleep disturbances, including shorter sleep duration and greater sleep latency (Lund et al., 2021).

According to the previous study's findings, the majority of students have mild to moderate sleep disturbances, followed by those who have moderate to severe sleep disturbances this study agree with our study (Herawati & Gayatri, 2019).

Numerous factors have been linked to poor adolescent sleep, including unhealthy eating habits, smoking, drinking alcohol, caffeine use, time spent with peers, participation in extracurricular activities, and

insufficient psychological state(Liu et al., 2022; Narayanan et al., 2021; Chang et al., 2014)

Many of the studies that were reviewed discovered that unrestrained electronic media use has an effect on both the quantity and quality of sleep. The longer someone uses the electronic media, the more negative the influence on sleep quality is, according to research on the association between electronic media use and sleep duration. In one investigation, a statistically significant link between the quantity of sleep and problematic electronic media use was found (Kokka et al., 2021).

Similarly, in the previous report another revealed that regular users slept for at least an hour longer than problematic users. Additionally, discovered that severely problematic internet users reported less sleep time than regular users (Canan et al., 2013).

### **5.5. Discussion of theDifferences in Electronic Media Excessive Use and Sleep Disturbance between the Groups of Students' Gender**

According to our explanation male students use electronic media more excessively than female students, according to further group statistics. This conclusion may be explained by the fact that male students may have more access to digital gadgets that enable them to access electronic media and a larger network of friends with whom they can interact via a variety of electronic media.

The study's findings showed a statistically significant variation in the prevalence of sleep disorders between the student groups' genders. Further research revealed that, compared to male students, female students have more sleep difficulties. This discovery virtually goes against this study's conclusions based on the authors' personal communication with a subset of the samplemany of the male students stayed up late at night playing mobile

phone games or checking social media, which could lead to a later bedtime and shorter sleep duration (Guimarães et al., 2022) .

### **5.6. Discussion of the Differences in Electronic Media Excessive Use and Sleep Disturbance between the Groups of Students' Educational Levels**

The study's findings showed that excessive electronic media use is positively predicted by students' daily time spent using electronic media and their amount of sleep. The increased usage of electronic media and the internet may be responsible for this conclusion. A review of the research revealed that increasing one's online time substantially disturbs their sleep-wake cycle and increases their risk of insomnia, morning fatigue, and poor sleeping habits this study agree with current study (Hamre et al., 2022; Al Shareef, 2021).

As a result of their latenight logins, they stay up later. When people are deprived of sleep, they are unable to receive a full night's rest, which leads to excessive fatigue, poor performance in school or the workplace, and a weakened immune system (Garbarino, 2021; Maheshwari&Shaukat, 2019).

However, a sleep disturbance is strongly suggested by excessive use of electronic media. Despite experts' advice that adolescents get 7 to 9 hours of sleep per day to stay healthy, a 2017 study indicated that nearly 50% of teenagers sleep for fewer than 6 hours per night this study agree with result of our study (Nasirudeen et al., 2017; Hirshkowitz et al., 2015).

Given that it is estimated that 90% of adolescents use electronic media day and night, electronic media use can be linked to the limited, frequently low-quality sleep that adolescents do get(Smith &Duggan, 2013).

Savci& Griffiths (2021) found that their finding is consistent with that of others who established a link between adolescents use of electronic media and disturbed sleep this study agree with our study.

Dhir et al. (2021) discovered that there is a link between stalking on the electronic media and poor sleep, which is mostly mediated by excessive electronic media use and sleep disturbances. The results of the study revealed a statistically significant difference between the percentages of students who used electronic media excessively in every group.

More than half of the students had sleep problems, and there was a clear connection between insufficient sleep and excessive use of electronic media among Japanese adolescents. In addition to other important characteristics, the study found that adolescents in private secondary schools and those who were depressed had a higher percentage of sleep disturbances this study agree with current study (Tokiya et al., 2020).

Determined based on the actual study, the statistically significant variation in electronic media usage between educational levels groups. Intermediate school students use electronic media more frequently than secondary school students, according to further group statistics.

A statistically significant difference in the prevalence of sleep disturbances between the educational levels groups. Additional group statistics show that intermediate school students experience more sleep problems than secondary school students.

### **5.7. Discussion of Differences in electronic media excessive use and sleep disturbance among the groups of socioeconomic status**

The socioeconomic status groups' rates of sleep problems varied statistically significantly. Current study analysis revealed that the value of the sleep disturbances was higher among participants whose family's socioeconomic status was fair, followed by those whose family's



socioeconomic condition was good, and those whose family's socioeconomic status was poor.

Adolescents who reside in low socioeconomic (SES) environments are more likely than those who do not to experience brief, poor-quality naps, and they found that socioeconomic disparities in adolescents sleep are the cause of this (Philbrook et al., 2020).

Additionally, unfavorable consequences associated with sleep disturbances are more likely to affect adolescents from lower socioeconomic status households than those from better socioeconomic status families that disagree with our study (El-Sheikh et al., 2013).

In the current study even though links between socioeconomic status and teen sleep have been observed, longitudinal studies on the topic are scarce, and the underlying mechanisms are poorly understood. The study's findings demonstrate that socioeconomic level has a statistically significant impact on sleep problems.

# **Chapter Six**

## **Conclusion&Recommendations**



Talk with families about the importance of adequate sleep. Recommend building healthy sleep habits starting as young as possible. Teach families about the negative effects of evening use of light-emitting screens on sleep. Encourage regular bedtimes that allow adequate time for sleep, and regular bedtime routines in the hour before bed, consisting of calming activities and avoidance of screen media.

Advise families to restrict all electronic media devices from bedrooms, including TVs, video games, computers, tablets, and cell phones. Encourage parents to be good role models by following these rules themselves. Consider insufficient sleep as a contributing factor for youth exhibiting mood, academic, or behavioral problems. Inspire children of all ages to develop autonomy and self-regulatory skills to maintain healthy screen media habits

We recommend future studies use a more thorough design and objective methods to measure the use of EM and time spent online. Finally, reasons for social media use such as leisure time or learning need to be identified in future studies, and intervention programs to reduce social media use and modify problems in adolescent healthcare packages need to be considered.

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# Appendices

## Administrative Agreements

## Appendix A-I

Republic of Iraq Ministry of higher education & scientific research University of Karbala College of Nursing Graduate studies Division		جمهورية العراق وزارة التعليم العالي والبحث العلمي جامعة كربلاء كلية التمريض شعبة الدراسات العليا
التاريخ : 28 / 11 / 2022		العدد : د ع 2781

**الى / دائرة صحة كربلاء المقدسة/مركز التدريب و التنمية البشرية**

**م/ تسهيل مهمة**

**تحية طيبة...**

يرجى التفضل بالموافقة على تسهيل مهمة طالبة الماجستير السيدة (وفاء سالم عبود) لإنجاز رسالتها الموسومة :

**Effect of Excessive Use of Electronic Media on Sleep Disturbances and body mass index Among Adolescents : A Cross-sectional Study.**

تأثير الاستخدام المفرط لوسائل التواصل الالكتروني على اضطرابات النوم ومؤشر كتلة الجسم بين المراهقين: دراسة مقطعية .

وهي احدى طلبة الدراسات العليا / الماجستير في كليتنا / للعام الدراسي ( 2022- 2023 ) .

**... مع التقدير ...**



**أ.م.د. سلمان حسين فارس الكريطي**  
 معاون العميد للشؤون العلمية و الدراسات العليا  
 2022 / 11 / 28



نسخة منه الى :-  
 - مكتب السيد معاون العلمي المحترم.  
 - شعبة الدراسات العليا.

العنوان : العراق - محافظة كربلاء المقدسة - حي الموظفين - جامعة كربلاء

## Appendix A-II

جمهورية العراق  
محافظة كربلاء المقدسة  
المديرية العامة للتربية  
في محافظة كربلاء المقدسة  
قسم الاعداد والتدريب/البحوث والدراسات

Republic of Iraq  
The Province of Holy Karbala  
Directorate General of Education  
in Holy Karbala Province

العدد /  
التاريخ /  
٢٠٢٢ / ١١ / ٢٨

الى / إدارات المدارس المتوسطة والاعدادية والثانوية في مركز المحافظة كافة  
م/ تسهيل مهمة  
تحية طيبة...  
استناداً الى كتاب جامعة كربلاء المقدسة/ كلية التمريض ذي العدد د/ع/ ٢٧٧ في ٢٠٢٢/١١/٢٨ يرجى تسهيل مهمة طالبة الدراسات العليا (وفاء سالم عيود) لإنجاز متطلبات بحثها الموسوم ( تأثير الاستخدام المفرط لوسائل التواصل الالكتروني على اضطرابات النوم ومؤشر كتلة الجسم بين المراهقين: دراسة مقطعية ) خلال العام الدراسي ٢٠٢٢/٢٠٢٣ على ان لا تتضمن متطلبات البحث أي عملية معالجة أو فحص للطلاب والاكثفاء بملء الاستبانة المطلوبة وتقديم الارشادات التوعوية فقط خدمة للعلم والمعرفة مع التقدير.

معاون المدير العام للشؤون الادارية  
سليم أحمد عبد الكريم

١١ / ٢٩

نسخة منه الى :-  

- مكتب السيد المدير العام/ للتفضل بالعلم.....مع التقدير.
- السيد معاون الفني/ للتفضل بالعلم.....مع التقدير.
- قسم التخطيط التربوي / للغرض نفسه اعلاه.....مع التقدير.
- قسم الاعداد والتدريب / شعبة البحوث والدراسات/ ب ٢ نسخ مع المرفق.
- الارشيف الالكتروني و بريد المدارس.
- الملف العامة

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العنوان / كربلاء المقدسة - حي الاسكان - تقاطع الاصلاح



## Appendix A-III

دائرة صحة كربلاء  
مركز التدريب والتنمية البشرية  
لجنة البحوث

وزارة الصحة العراقية  
Iraq Ministry of Health  
Firdaus 1959

استمارة رقم ٢٠٢١/٠٣  
رقم القرار ٠٠٢٦  
تاريخ القرار ٢٠٢٣/١/٢٩

قرار لجنة البحوث

درست لجنة البحوث في دائرة صحة كربلاء مشروع البحث ذي الرقم ٠٠٢٦ /٢٠٢٣ /كربلاء) المعنون

لانجاز بحثه الموسوم

(تأثير الاستخدام المفرط لوسائل التواصل الإلكتروني على اضطرابات النوم ومؤشر كتلة الجسم  
بين المراهقين : دراسة مقطعية)  
والمقدم من الباحث:- (وفاء سالم عبود)

الى شعبة ادارة المعرفة / وحدة ادارة البحوث في مركز التدريب والتنمية البشرية في دائرة صحة كربلاء  
بتاريخ ٢٠٢٣/١/٢٦ وقررت:

قبول مشروع البحث اعلاه كونه مستوفيا للمعايير المعتمدة في وزارة الصحة والخاصة  
بتنفيذ البحوث ولا مانع من تنفيذه في مؤسسات الدائرة.

الدكتورة  
تقوى خضر عبد الكريم  
مقررة لجنة البحوث  
29/01/2023

المرفقات:  
-Choose an item.

ملاحظات:

- تم تحويل عضو لجنة البحوث (د. تقوى خضر عبد الكريم) او مقرر اللجنة (د. نعيم عبيد طلال) للتوقيع على هذا القرار  
استنادا الى النظام الداخلي للجنة البحوث.  
- الموافقة تعني ان مشروع البحث قد استوفى المعايير الاخلاقية والعلمية لإجراء البحث والمعتمدة في وزارة الصحة. اما  
التنفيذ فيعتمد على التزام الباحث بتعليمات المؤسسة الصحية التي سينفذ فيها البحث.

## Ethical Considerations

## Appendix B

Ministry of Higher Education and Scientific Research  
University of Karbala / College of Nursing  
Scientific Research Ethics Committee

وزارة التعليم العالي والبحث العلمي  
جامعة كربلاء / كلية التمريض  
لجنة اخلاقيات البحث العلمي

استمارة اخلاقيات البحث العلمي  
عنوان مشروع البحث

Effect of Excessive Use of Electronic Media on Sleep Disturbances and body mass index Among Adolescents: A Cross-sectional Study  
تأثير الاستخدام المفرط لوسائل التواصل الالكتروني على اضطرابات النوم ومؤشر كتلة الجسم بين المراهقين: دراسة مقطعية

بيانات الباحث الرئيسي	الاسم الثلاثي للطلاب
مستوى الدراسة	وفاء سالم عبود
طالب دراسات عليا / ماجستير تمريض اطفال	
بيانات الباحث او الباحثين المشتركين	الاسم الثلاثي للأستاذ المشرف
اللقب العلمي	د. خميس بندر عبيد
أستاذ	

(Importance of the research and its objectives) أهمية موضوع البحث واهدافه

this study aims to investigate the effect of excessive use of electronic media daily that associated with sleep disturbance and obesity for adolescent between 11 and 19 years. The exposure use of electronic media devices, and the outcomes were bedtime and sleep onset, sleep quality during nighttime, sleep duration and the effect of excessive use of electronic media on body mass index .

Objectives

- 1-To assess child sleep disturbance and body mass index related to the excessive use of electronic media.
- 2-To find out relationship between child sleep disturbance and socio-demographic characteristics of children.
- 3- To find out relationship between child body mass index and socio-demographic characteristics of children.

وقت ومكان اجراء البحث ( الامكان المقترحة لأجراء البحث فيها) Time and Setting of the Research 2022/9/26 – 2023/9/19  
المدارس الثانوية في كربلاء

منهجية البحث (Methodology) cross-sectional design will carried throughout the study.

عينة الدراسة Sample of the study convince sample .

الاعتبارات الاخلاقية خلال اجراء البحث (Ethical consideration during research) التعهد

• اني الموقع ادناه.....وفاء سالم عبود مكلو اتعهد بان اقوم بأجراء البحث وفقاً لما ذكر في البروتوكول اعلاه وان التزم باتباع القوانين والتعليمات فيما يخص اجراء البحوث والالتزام بأخلاقيتها , كما واتعهد باخذ الموافقة من افراد العينة للمشاركة في الدراسة واخذ موافقة من ولي امر المشارك الشرعي في حال كون عمر الشخص المشارك اقل من 18 سنة, او كونه غير قادر علي الفهم , وان اقدم الإيضاحات و المعلومات الخاصة بدراسة لافراد العينة للمشاركين في حال طلبها. وان اتعامل بسرية تامة مع بيانات افراد العينة.  
اسم وتوقيع الباحث  
وفاء سالم عبود

توصية لجنة اخلاقيات البحث العلمي في الكلية  
قرار اعضاء لجنة اخلاقيات البحث العلمي حسب جلساتها المنعقدة بتاريخ 202 / / :

عدم الموافقة على اجراء البحث  الموافقة على اجراء البحث

رئيس اللجنة  
عضو  
عضو  
عضو  
عضو

## Appendix C

"الاستبيان في صورته الاولية"

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

(المحترم

حضرة الأستاذ الفاضل )

تحية طيبة

تقديرا واعتزازا لخبراتكم ومكانتكم العلمية المرموقة نعرض بين ايديكم استمارة الاستبانة لرسالة الماجستير

الموسومة: **Effect of Excessive Use of Electronic Media on Sleep Disturbances and body mass index Among Adolescents: A Cross-sectional Study**

تأثير الاستخدام المفرط لوسائل التواصل الالكتروني على اضطرابات النوم ومؤشر كتلة الجسم بين المراهقين:  
دراسة مقطعية

أقدم بين ايديكم استمارة الاستبانة يرجى ابداء رأيكم وملاحظاتكم حول فقرات الاستمارة وبيان التعديلات اللازمة لكل فقرة قد تحتاج الى تغيير ...

هذا ولكم جزيل الشكر والتقدير

التوقيع

الاسم الثلاثي \_\_\_\_\_

الدرجة العلمية \_\_\_\_\_

عدد سنوات الخدمة \_\_\_\_\_

الباحثة

وفاء سالم عبود

## مقياس الاستخدام المفرد لوسائل التواصل الالكتروني:

عزيزي الطالب (ة) :-

نعرض عليك مجموعة من العبارات التي تعبر عن وجهة نظرك في وسائل التواصل الالكتروني و المطلوب منك إبداء رأيك بوضع عملية (X) أمام كل عبارة من عبارات المقياس، وذلك تحت الاستجابة المختارة و التي تعبر بدقة عن رأيكم لها علما بأن كل عبارة توجد أمامها ثلاث استجابات ، لا توجد إجابة صحيحة أو خاطئة، و المطلوب منك الصدق في الإجابة، ونحن نضمن لك سرية المعلومات علما أنها لا تستخدم الا لأغراض الدراسة و البحث العلمي.

شكرا لحسن تعاونكم.

١- الجنس: ذكر  أنثى ٢- العمر : ٣- كم ساعة تقضيها أمام الانترنت :  ساعة٤- المرحلة الدراسية : الاعدادية  المتوسطة ٥- مؤشر كتلة الجسم: 

٦- ما نوع وسيلة التواصل الالكتروني المستخدمة :

١- الاجهزة المكتبية ( اللابتوب - الكمبيوتر )

٢- الاجهزة اللوحية ( الايباد او التابلت )

٢- الاجهزة النقالة او المتحركة (الموبايل )

رقم الفقرة	الفقرة	تطبق علي تماما	تطبق علي الى حد ما	لا تنطبق
١	كثيرا ما يأخذني الوقت و أجد نفسي و قد قضيت وقت أطول مما كنت أنوي مع وسائل التواصل الالكتروني .			
٢	أشعر أن الحياة سوف تكون مملة بدون وسائل التواصل الالكتروني .			
٣	كثيرا ما أهمل واجباتي الدراسية بسبب كثرة استخدامي لوسائل التواصل الالكتروني .			
٤	أشعر بالضيق إذا قاطعني أحد أثناء انشغالي باستخدام وسائل التواصل الالكتروني .			
٥	ممكن أن تمر أيام عديدة دون شعوري بالحاجة لاستخدام وسائل التواصل الالكتروني.			
٦	الوقت يمر سريعا دون أن أشعر عندما أستخدم وسائل التواصل الالكتروني.			
٧	أجد صعوبة في النوم ليلا مباشرة بعد استخدامي وسائل التواصل الإلكتروني .			
٨	سوف أشعر بالضيق لو قلت الوقت الذي اقضيه في استخدام وسائل التواصل الالكتروني .			
٩	عائلتي تشتكي مني باستمرار بسبب انشغالي الدائم بوسائل التواصل الالكتروني .			
١٠	تدهور المستوى الدراسي بسبب استخدامي المستمر لوسائل التواصل الإلكترونية .			
١١	كثيرا ما أستخدم وسائل التواصل الالكتروني أثناء فترة النوم .			
١٢	غالبًا ما ألغي زيارة أصدقائي لأنني مشغول جدًا بوسائل الاتصال الإلكترونية.			
١٣	أجد نفسي أفكر فيما يحدث في وسائل التواصل الإلكتروني و أنا بعيد عنها.			
١٤	أشعر أنني أستخدم الوسائط الإلكترونية أكثر فأكثر منذ أن بدأت في استخدامها			

			اشعر بالقلق والاكتئاب عندما لا استخدم وسائل التواصل الالكتروني	١٥
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## مقياس اضطرابات النوم

رقم الفقرة	الفقرة	تنطبق علي تماما	تنطبق علي الى حد ما	لا تنطبق
١	اواجه صعوبات في الدخول الى النوم			
٢	أعاني من الانقطاعات المتكررة في النوم			
٣	أشعر بعدم الارتياح بعد الاستيقاظ من النوم			
٤	اعاني من الاستيقاظ المبكر			
٥	أشعر بالتوتر عندما يأتي وقت النوم			
٦	أشعر بأني غير قادر على النوم للمدة التي ينبغي نومها			
٧	أشكو من الاستمرار في النوم			
٨	أرغب في النوم وأتقلب عدة مرات قبل الدخول في النوم			
٩	أشعر بالتعب الجسدي أو العقلي عند الاستيقاظ من النوم			
١٠	أنام أكثر من ١٠ ساعات في اليوم			
١١	اغفوا فجأة دون إرادتي خلال النهار			
١٢	أشعر بالنعاس والرغبة في النوم اثناء النهار			

			استغرق وقتا طويلا للانتقال إلى حالة اليقظة الكاملة عندما استيقظ من النوم	١٣
			استيقظ قليلا أثناء النهار أو الليل	١٤
			استيقظ مرات عديدة أثناء النوم	١٥
			صعوبة الانتقال من حالة النوم إلى حالة اليقظة	١٦
			صعوبة الانتقال من حالة اليقظة إلى حالة النوم	١٧
			اجد صعوبة النوم في الأوقات الطبيعية المتعود عليها	١٨
			أشعر أنني لا أنام بما فيه الكفاية	١٩
			أنام لساعات طويلة لكني لا أشعر بالنشاط عند الاستيقاظ من النوم	٢٠
			أعاني من النوم المفرط أثناء الاستيقاظ	٢١
			أستيقظ من النوم اصرخ في حالة من الذعر والفرع	٢٢
			أستيقظ من نومي متصبب عرقا ومرتجف	٢٣
			أحاول الهروب من السرير من شدة الفرع أثناء النوم	٢٤
			استيقظ مرتبًا وخائفًا ومصابًا بالدوار أثناء النوم	٢٥
			اعاني من الأحلام المزعجة والمرعبة أثناء النوم وأنهض من نومي خائفًا واشكو من حلمي	٢٦

			غالباً ما أقوم من السرير أثناء الثلث الأول من النوم واتجول في المنزل لعدة دقائق دون أن أتذكر أي شيء عن ما حدث	٢٧
			أشعر بأنني أتكلم ببعض الكلمات أو الجمل بصوت مسموع أثناء النوم	٢٨
			أستيقظ أثناء النوم وأنا أردد مجموعة من الكلمات أو الجمل	٢٩



## "الاستبانة في صورتها النهائية"

عزيزي الطالب (ة) :-

نعرض عليك مجموعة من العبارات التي تعبر عن وجهة نظرك في وسائل التواصل الالكتروني و المطلوب منك إبداء رأيك بوضع علامة (x) أمام كل عبارة من عبارات المقياس تحت الاستجابة المختارة و التي تعبر بدقة عن رأيكم لها علما بأن كل عبارة توجد أمامها ثلاث خيارات ، علما انه لا توجد إجابة صحيحة أو خاطئة، و المطلوب منك الصدق في الإجابة، ونحن نضمن لك سرية المعلومات علما أنها لا تستخدم الا لأغراض الدراسة و البحث العلمي.

شكرا لحسن تعاونكم.

### الجزء الاول: المعلومات الديموغرافية

١- الجنس: ذكر  أنثى

٢- العمر :

٣- كم ساعة تقضيها أمام وسائل التواصل الالكتروني يوميا :  ساعة

٤- المرحلة الدراسية : الاعدادية  المتوسطة

٥- مؤشر كتلة الجسم:

١. الوزن :

٢. الطول :

٦- ما نوع الجهاز المستخدم كوسيلة للتواصل الالكتروني :

١. الاجهزة المكتبية ( اللابتوب - الكمبيوتر )

٢. الاجهزة اللوحية ( الايباد او التابلت )

٣. الاجهزة النقالة او المتحركة (الموبايل)

٧- المستوى الاقتصادي :

١. اقل من ٣٠٠ ألف

٢. من ٣٠٠ - ١.٥٠٠

٣. ١.٥٠١ - فأكثر

٨- كم عدد ساعات النوم :

### الجزء الثاني: الاستخدام المفرط لوسائل التواصل الالكترونية

رقم الفقرة	الفقرة	دائما	احيانا	ابدا
١	كثيرا ما يأخذني الوقت و أجد نفسي و قد قضيت وقت أطول مما كنت أنوي مع وسائل التواصل الالكترونية.			
٢	أشعر أن الحياة سوف تكون مملة بدون وسائل التواصل الالكترونية .			
٣	كثيرا ما أهمل واجباتي الدراسية بسبب كثرة استخدامي لوسائل التواصل الالكترونية .			
٤	أشعر بالضيق إذا قاطعني أحد أثناء انشغالي باستخدام وسائل التواصل الالكترونية .			
٥	ممكن أن تمر أيام عديدة دون شعوري بالحاجة لاستخدام وسائل التواصل الالكترونية .			
٦	الوقت يمر سريعا دون أن أشعر عندما أستخدم وسائل التواصل			

			الإلكترونية .	
			أجد صعوبة في النوم ليلا مباشرة بعد استخدامي وسائل التواصل الإلكتروني .	٧
			أشعر بالضيق لو قلت الوقت الذي اقضيه في استخدام وسائل التواصل الإلكتروني .	٨
			عائتي تشتكي مني باستمرار بسبب انشغالي الدائم بوسائل التواصل الإلكتروني .	٩
			تدهور المستوى الدراسي بسبب استخدامي المستمر لوسائل التواصل الإلكتروني .	١٠
			كثيرا ما أستخدم وسائل التواصل الإلكتروني أثناء فترة النوم .	١١
			أجد نفسي أفكر فيما يحدث في وسائل التواصل الإلكتروني و أنا بعيد عنها.	١٢
			اعاني من عدم القدرة على التركيز وضعف الاداء اليومي بسبب كثرة استخدامي لوسائل التواصل الإلكتروني .	١٣
			احاول الابتعاد عن اجهزة التواصل الإلكتروني ولكن سرعان ما اعود الى استخدامها .	١٤
			اشعر بالقلق والانزعاج عندما لا استخدم وسائل التواصل الإلكتروني .	١٥

## الجزء الثالث: مقياس اضطرابات النوم

رقم الفقرة	الفقرة	دائما	احيانا	ابدا
١	اواجه صعوبات في النوم			
٢	أعاني من النوم المتقطع			
٣	أشعر بعدم الارتياح بعد الاستيقاظ من النوم			
٤	اعاني من الاستيقاظ في وقت متأخر			
٥	أشعر بالتوتر عندما يأتي وقت النوم			
٦	أشعر بأنني غير قادر على النوم للمدة التي ينبغي نومها			
٧	أشكو من عدم الاستمرار في النوم			
٨	أرغب في النوم ولكن أتقلب عدة مرات قبل الدخول في النوم			
٩	أشعر بالتعب الجسدي أو العقلي عند الاستيقاظ من النوم			
١٠	اغفوا فجأة دون إرادتي خلال النهار			
١١	أشعر بالنعاس والرغبة في النوم اثناء النهار			
١٢	استغرق وقتا طويلا للانتقال إلى حالة اليقظة الكاملة عندما استيقظ من النوم			
١٣	اواجه صعوبة في الانتقال من حالة اليقظة إلى حالة النوم			

			أجد صعوبة في النوم في الأوقات الطبيعية المتعود عليها	١٤
			أشعر أنني لا أنام بما فيه الكفاية	١٥
			أستيقظ من النوم اصرخ في حالة من الذعر والفرع	١٦
			استيقظ مرتبًا وخائفًا واصرخ من شدة الفرع	١٧
			اعاني من الأحلام المزعجة والمرعبة أثناء النوم وأنهض من نومي خائفًا واشكو من حلمي	١٨
			أقوم من السرير أثناء الثلث الأول من النوم واتجول في المنزل لعدة دقائق دون أن أتذكر أي شيء عن ما حدث	١٩
			اشعر بأنني اتكلم ببعض الكلمات أو الجمل دون ان اتذكر شيئًا منها	٢٠

## Expert's Panel

## Appendix D

ت	اسم الخبير	العنوان الوظيفي	الشهادة	الاختصاص العلمي	سنوات الخبرة	مكان العمل
١	عبدالمهدي عبدالرضا حسن	استاذ	الدكتوراه	تمريض الصحة النفسية والعقلية	٤٤	جامعة بابل / كلية التمريض
٢	نهاد محمد الدوري	استاذ	الدكتوراه	تمريض الاطفال	٣٥	جامعة بابل / كلية التمريض
٣	علي كريم الجبوري	استاذ	الدكتوراه	تمريض الصحة النفسية والعقلية	٣٠	جامعة كربلاء / كلية التمريض
٤	سلمان حسين فارس	استاذ مساعد	الدكتوراه	تمريض صحة مجتمع	٣٢	جامعة كربلاء / كلية التمريض
٥	صافي داخل نوام	استاذ مساعد	الدكتوراه	تمريض الصحة النفسية والعقلية	٢٠	جامعة كربلاء / كلية التمريض
٦	محمد باقر حسن آل دخيل	استاذ مساعد	الدكتوراه	تمريض الاطفال	١٨	جامعة الكوفة / كلية التمريض
٧	عذراء حسين شوق	استاذ مساعد	الدكتوراه	تمريض الاطفال	١٨	جامعة بغداد / كلية التمريض

جامعة العميد / كلية التمريض	١٦	تمريض بالغين	الدكتوراه	استاذ مساعد	ضياء كريم عبد علي	٨
جامعة كركوك / كلية التمريض	١٥	تمريض الاطفال	الدكتوراه	استاذ مساعد	بيستون محمد احمد	٩
جامعة الكوفة / كلية التمريض	١٤	تمريض الصحة النفسية والعقلية	الدكتوراه	استاذ مساعد	حيدر حمزة علي	١٠
جامعة بغداد / كلية التمريض	١٢	تمريض اطفال	الدكتوراه	استاذ مساعد	زيد وحيد عاجل	١١
جامعة العميد / كلية التمريض	٧	تمريض صحة مجتمع	الدكتوراه	استاذ مساعد	رضا محمد لفتة	١٢
جامعة كربلاء / كلية التمريض	٢١	تمريض الاطفال	الدكتوراه	مدرس	زكي صباح مصيحب	١٣
جامعة الموصل / كلية التمريض	١٢	تمريض الاطفال	الدكتوراه	مدرس دكتور	محمد احمد سلطان الولي	١٤
جامعة الموصل / كلية التمريض	١٥	تمريض الاطفال	الدكتوراه	مدرس	ريان ابراهيم خليل	١٥
جامعة بغداد / كلية التمريض	١٠	تمريض الاطفال	الدكتوراه	مدرس دكتور	اسمهان قاسم محمد	١٦
جامعة العميد / كلية التمريض	٨	تمريض الصحة النفسية	الدكتوراه	مدرس	امير صالح عبدالرزاق	١٧

		والعقلية				
وزارة الصحة والبيئة / مستشفى الهندية العام	٣١	اختصاص طب الاطفال	البورء	استشاري	غيث كاظم نصيف	١٨
وزارة الصحة والبيئة / مستشفى الامام الحسن المجتبى ع	٢٢	اختصاص طب الاطفال	البورء	استشاري طب اطفال	فريد رياض هاشم	١٩



## Appendix E

## Authors Permission

☆ permission to get scale of sleep disturbances... please contact with me Dr.

إضافة تصنيف

⋮ ← ١١ حزيران Wafaa Salim Abb... إلى ah.albana

من Wafaa Salim Abbood - وفاء سالم عبود - wafaa.s@s.uokerbala.edu.iq إلى ah.albana@alaqsa.edu.ps التاريخ ١١ حزيران، ٢٠٢٢، ٩:٣٧ م عرض تفاصيل تتعلق بالامان

Dear dr. Anwar hope you are well when you receive my messages.Let

☆ permission to get scale of internet addiction ... please contact with me Dr.


إضافة تصنيف

⋮ ← ١١ حزيران Wafaa Salim Abb... إلى dr.b.arnout

## Appendix F

## Statistician' opinion

Republic of Iraq  
Ministry of higher education & scientific research  
University of Kerbala  
College of Nursing



جمهورية العراق  
وزارة التعليم العالي والبحث العلمي  
جامعة كربلاء  
كلية التمريض  
الدراسات العليا

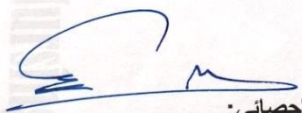
اقرار الخبير الاحصائي

اشهد بان الرسالة الموسومة :


(تأثير الاستخدام المفرط للوسائط الإلكترونية على اضطرابات النوم ومؤشر كتلة الجسم بين المراهقين: دراسة مقطعية )

( Effect of Excessive Use of Electronic Media on Sleep Disturbances and Body Mass Index among Adolescents: A Cross-sectional Study )


قد تم الاطلاع على الاسلوب الاحصائي المتبع في تحليل البيانات واطهار النتائج الاحصائية وفق مضمون الدراسة ولأجله وقعت.



توقيع الخبير الاحصائي:  
الاسم واللقب العلمي: د. مكي محمد عبد الله  
الاختصاص الدقيق: اخصائى طب  
مكان العمل: جامعة كربلاء / كلية الدراسات والبحوث  
التاريخ: 2023 / 5 / 11



العنوان : العراق - محافظة كربلاء المقدسة - حي الموظفين - جامعة كربلاء



## Appendix G

## Linguist opinion

Ministry of higher education & scientific research  
University of Kerbala  
College of Nursing

جمهورية العراق  
وزارة التعليم العالي والبحث العلمي  
جامعة كربلاء  
كلية التمريض  
الدراسات العليا

اقرار الخبير اللغوي

اشهد بان الرسالة الموسومة :  
Effect of Excessive Use of Electronic Media on Sleep  
Disturbances & Body Mass Index among Adolescents :  
A Cross-Sectional Study

قد تم جرى مرجعتها من الناحية اللغوية بحيث اصبحت بأسلوب علمي سليم خال من  
الأخطاء اللغوية ولأجله وقعت.

توقيع الخبير اللغوي:  
الاسم واللقب العلمي: أ.د. حسن موسى كاظم  
الاختصاص الدقيق: علم اللغة  
مكان العمل: جامعة كربلاء / كلية التربية للعلوم الانسانية  
التاريخ: 2023 / /

العنوان : العراق - محافظة كربلاء المقدسة - حي الموظفين - جامعة كربلاء  
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## الخلاصة

يتزايد استخدام الوسائط الإلكترونية بوتيرة غير مسبوقة في جميع أنحاء العالم. في الوقت الحاضر، لا يقتصر الأمر على البالغين فحسب، بل الأطفال أيضاً، الذين يستخدمون الوسائط الإلكترونية بشكل مفرط، مما يثير تساؤلات ومخاوف حول تأثيرها على الأطفال من حيث النمو الجسدي والعقلي. هدفت هذه الدراسة إلى تقييم اضطراب نوم المراهقين ومؤشر كتلة الجسم، ومعرفة الفروق بين الاستخدام المفرط للوسائط الإلكترونية واضطراب النوم بين الخصائص الاجتماعية والديموغرافية للمراهقين، وإيجاد فروق بين الاستخدام المفرط للوسائط الإلكترونية واضطراب النوم بين الخصائص الاجتماعية والديموغرافية للمراهقين. العلاقة بين اضطراب النوم ومؤشر كتلة الجسم والخصائص الاجتماعية والديموغرافية لدى المراهقين. أجريت دراسة وصفية على المراهقين باستخدام أداة الدراسة. وقد أجريت الدراسة في المدارس الثانوية المختلفة في مدينة كربلاء المقدسة. تم اختيار عينة "ملاءمة" غير احتمالية مكونة من ٣٨٢ طالباً للحصول على البيانات. أظهرت نتائج الدراسة أن ساعات النوم تنبئ سلباً باضطراب النوم. ومن ناحية أخرى، فإن الاستخدام المفرط للوسائط الإلكترونية ينبئ بشكل إيجابي باضطراب النوم ولا يتنبأ بمؤشر كتلة الجسم. أظهرت نتائج الدراسة الحالية أن اضطرابات النوم ترتبط ارتباطاً وثيقاً بالاستخدام المفرط للوسائط الإلكترونية وأن أسباب الاستخدام تزيد من حدوث اضطرابات النوم دون أن يتأثر مؤشر كتلة الجسم. زيادة وعي المراهقين بالآثار السلبية لاستخدام الوسائط الإلكترونية من خلال إطلاق خدمات استشارية وقائية حول المخاطر المرتبطة بالاستخدام المفرط لوسائل التواصل الإلكترونية. إقامة منتديات محلية وعالمية لمناقشة المخاطر المرتبطة باستخدام وسائل التواصل الإلكترونية.



جامعة كربلاء / كلية التمريض

تأثير الاستخدام المفرط للوسائط الإلكترونية على اضطرابات النوم ومؤشر  
كتلة الجسم بين المراهقين: دراسة مقطعية

تقدم بها

وفاء سالم عبود

الى /

مجلس كلية التمريض / جامعة كربلاء كجزء من متطلبات نيل درجة الماجستير في

علوم التمريض

بإشراف

أ.د. خميس بندر عبيد

ذو الحجة - ١٤٤٤ هـ

تموز - ٢٠٢٣ م