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RESEARCH ARTICLE

EFFECTS OF DIGITAL GAMING ON THE MENTAL AND PHYSICAL HEALTH OF TEENAGERS

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Abstract

The aim of this study is to bring forth the effects on cognitive and physical development of the teenagers engrossed in the vicious addiction of digital gaming. In the past it has always been viewed from the perspective of physical health but a survey was conducted and analyzed as a part of this research which examines the cruciality of the such habits on the core area of human life. This analysis has been presented under the expert guidance of Neurologist, Dr Vinay Goel to study the impact and promote responsible gaming habits among teenagers which encourages a balanced lifestyle, reduces the potential risks of the digital world, and maximizes the benefits of technology.

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Introduction:-

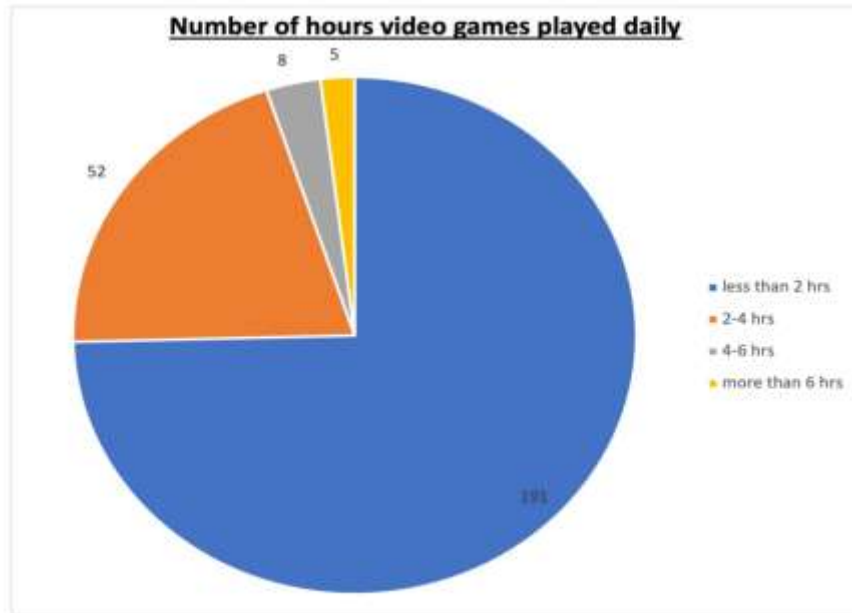
Online gaming is a business designed to attract the younger generation in the name of entertainment. Now the purpose of entertainment has dissolved and transformed into an arena that is constrained to a screen. Modern graphics and amazing visuals of video games are the baits that attract younger audiences. Research suggests, the video gamer community collectively spends approximately 3 billion hours per week in front of the screen.

As a part of this research, an extensive survey was conducted during November 2022 amongst 350 school-going students aged between 13-17 years focusing on both the physical and mental effects of gaming.

1. More than 72% of the responders played video games on different devices-Mobile phones, Personal computers, and consoles and they collectively played 662 hrs per day. (Refer figure-2A)

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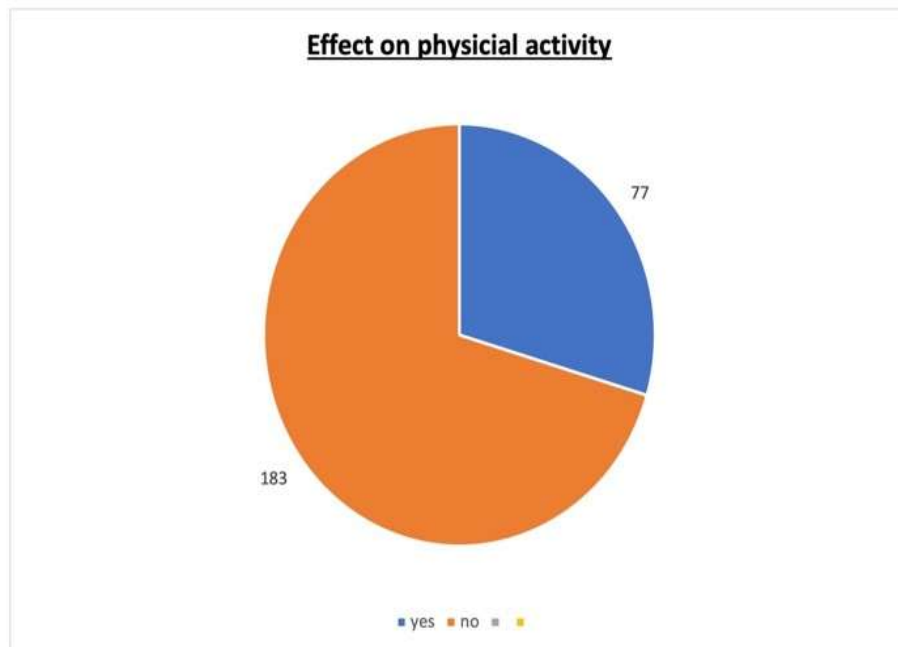
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Figure_2A

Number of hours video games played daily

2. More than 70% of the responders felt that their physical/outdoor activities have not been affected due to their virtual gaming habits. Whereas 29.61% of the responders felt that there has been an effect on them. (Refer figure-2B)



Figure_2B

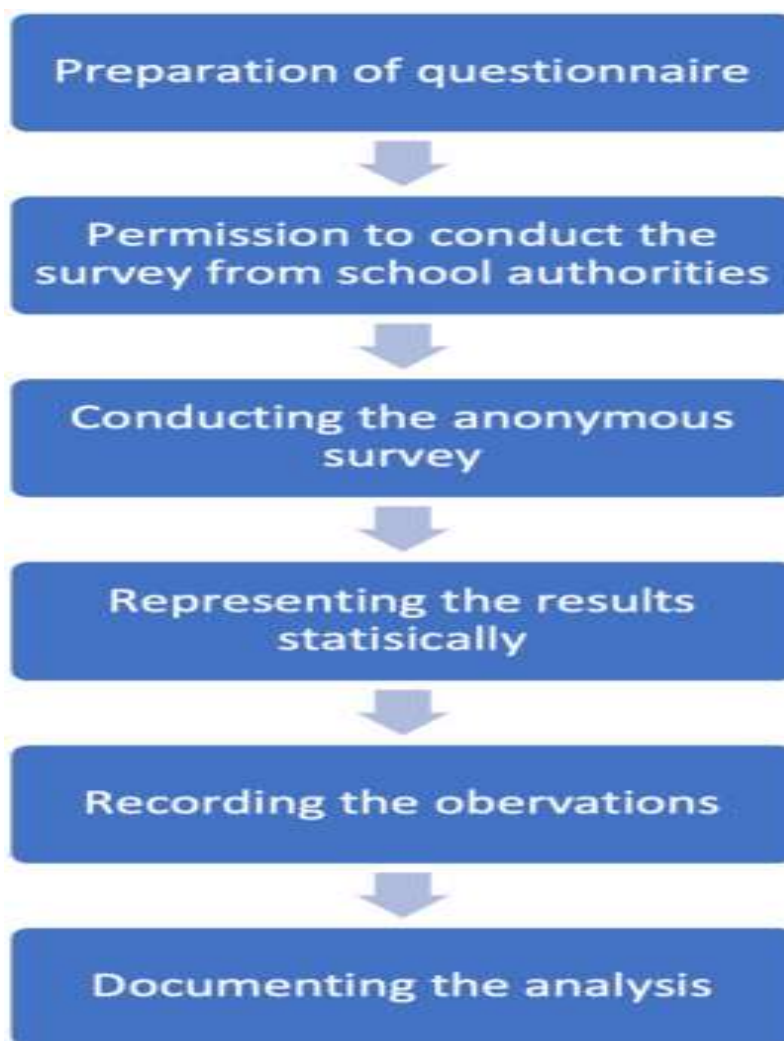
Effect on physical activity

3. 51.8% of the teens do not want to opt for gaming as a career option this could be because they think that their parents will not support their decision or they are unsure about their parents thinking and support.

Video games have ample merits and demerits on the physical and mental health of youngsters. The positive effects are that a teenager who plays video games is more attentive than a non-gamer. Gaming has increased the efficiency of brain regions and they stay focused and this helps them concentrate more in their studies. One responder mentioned, "Gaming has made me a good performer, helps to build focus and most importantly helps in building personality".

But spending too much time on video games causes multiple physical and mental disorders and sometimes these children get distracted from their main goal. An anonymous teenager said "After gaming, I have not been the old sixth-class student who was very focused and intelligent. I get tired and my eyes pain a lot I try to make myself isolated when I am gaming which affects my relationship with my friends and family"

Research Methodology:-



Mental Health-

What is Mental health?

As per WHO, mental health is a state of mental well-being that enables people to cope with life's stress, realize their abilities, learn well, work well, and contribute to their community. Moreover, it is considered a human right and crucial to personal, community and social economic health.

Why do teenagers face mental health conditions?

Multiple factors affect mental health. The more risk factors adolescents are exposed to, the greater the potential impact on their mental health. Factors that can contribute to stress during adolescence include exposure to adversity, pressure to conform with peers and exploration of identity. Media influence and gender norms can exacerbate the disparity between an adolescent’s lived reality and their perceptions or aspirations for the future.

Due to mental health conditions, there can be various disorders like emotional disorders, behavioural disorders, eating disorders, sleeping disorders, suicide and self-harm etc.

Now, I would like to focus on behavioural, sleeping and eating changes in teenagers with co-relation with digital gaming.

Behavioural Changes-

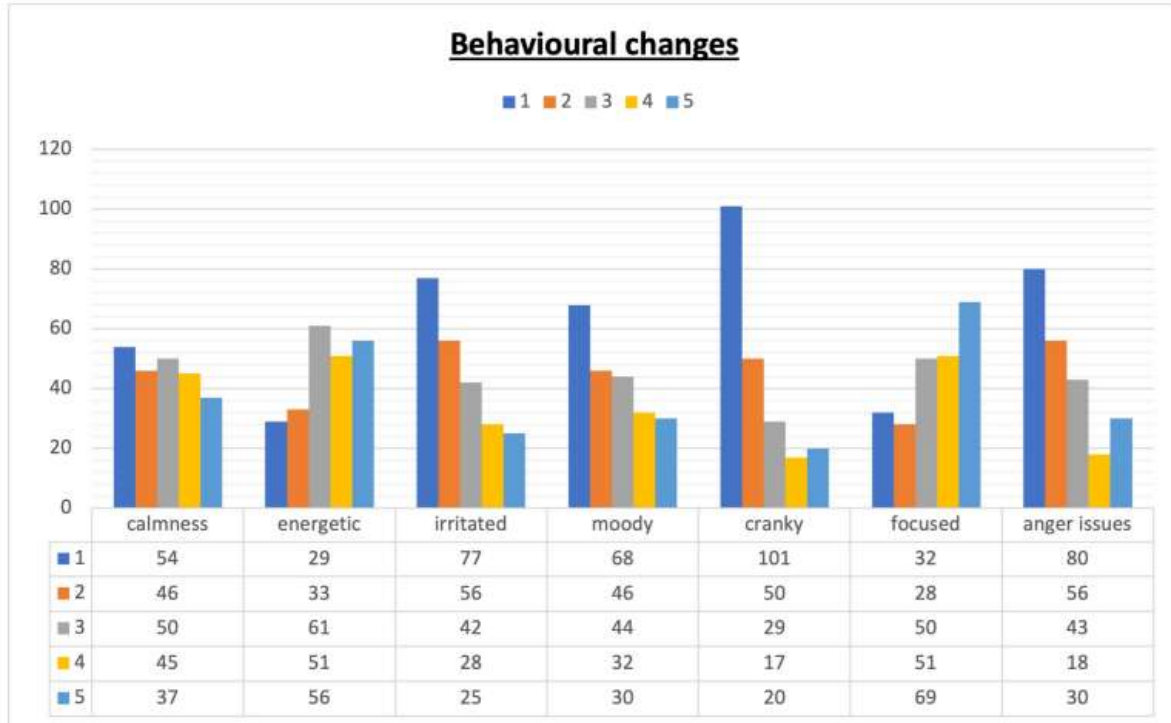
Behavioural change refers to a drastic change in someone’s behaviour that may lead to permanent or temporary outcomes. It entails taking up a process or route that will help them alter behaviour or habit that might not be good or healthy for them.

Additionally, the survey shows that 78% of the teenagers feel that they do not feel any behavioural changes post-digital gaming whereas 22% agree that they do have changed behaviour post-gaming.

In the survey conducted behaviours like calmness, energetic, irritated, moody, cranky, focused and angeriness were questioned and the result found was in a positive direction.

An anonymous teenager stated,“Gaming has affected in many ways it increases reflexes and focus”. On the flip side, a teen said “After I started gaming it has affected my personalities like I get irritated on small things and argue a lot but can focus a lot more”

56.8% felt calmer 73.04% felt more energetic 71.4% felt more focused. Whereas 41.6 % felt irritated 48.1 % experienced moody behaviour and 25.8% felt cranky. (Refer figure-3A)



Figure_3A

Behavioural changes

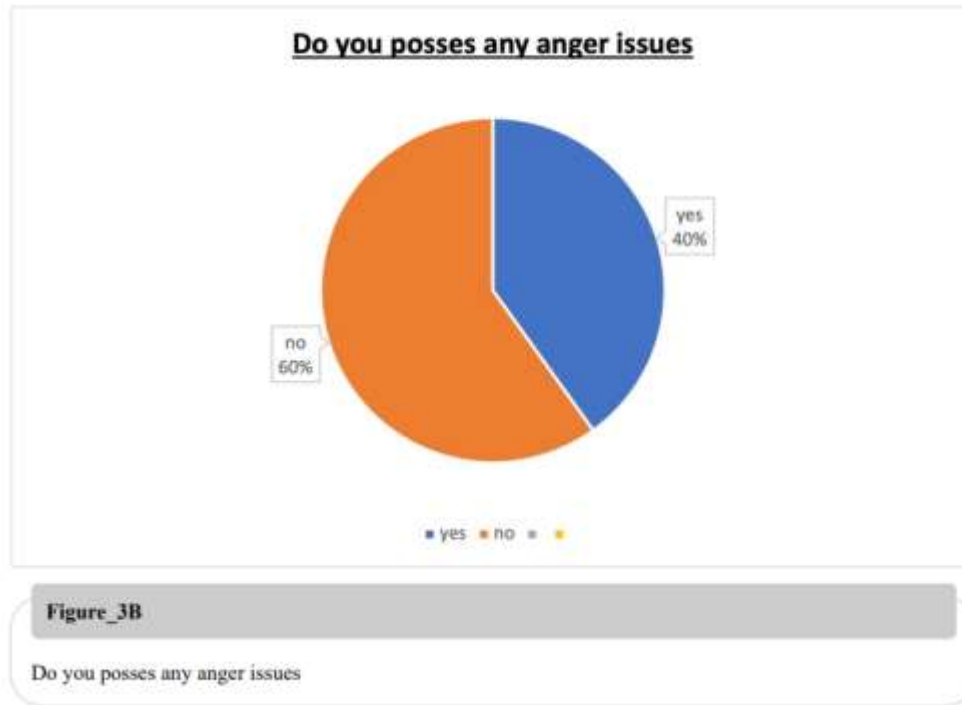
Anger issues-

Anger is a natural, instinctive response to threats. A study found that uncontrolled anger is bad for your physical and mental health. It can also quickly escalate to verbal or physical violence, harming you and those around you.

Anger issues while gaming can be caused due to-

1. Content of the game
2. Not being able to pass a level or rank
3. Other players/teammates

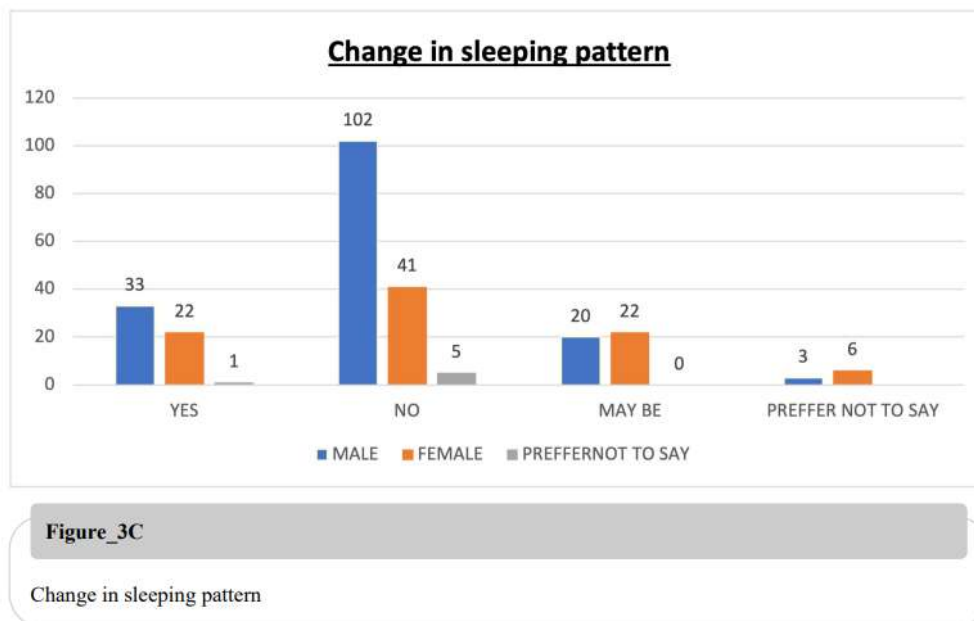
The survey shows that 60% of the teens playing digital games think they do not pose any anger issues whereas 40% agree that they possess anger issues to some extent.(Refer figure-3B)



Sleep Pattern Changes-

Sleep benefits the brain and promotes attention, memory, and analytical thought. It makes thinking sharper, recognizing the most important information to consolidate learning. Sleep also facilitates expansive thinking. Whether studying for a test, learning an instrument, or acquiring job skills, sleep is essential for teens

As per the survey results 21.7% of the teenagers feel that due to digital gaming, their sleep has been affected in one way or the other and in particular 12.8% of male and 8.5% of female respondents think that their sleeping patterns have changed after perusing digital gaming. (Refer figure-3C)



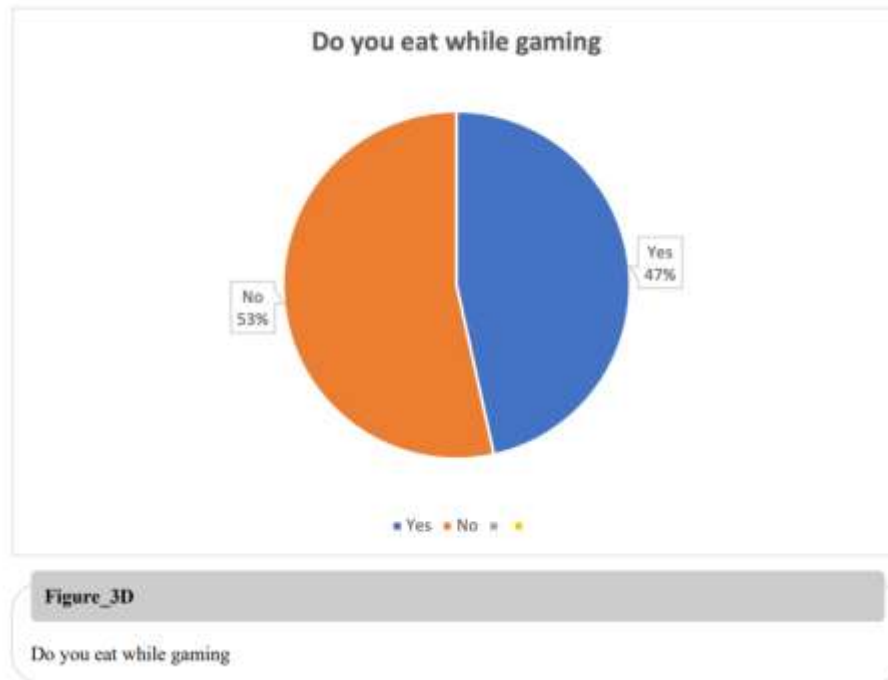
One of the responders mentioned, “Gaming has affected my sleep schedule, I do feel lethargic after playing for long time, in between for a change of mood I play it, some time for entertainment, but not as a space cadet person.”

On the flip side, 57.5% of the teenager feel that after pursuing digital games of long duration their sleeping patterns have not been affected which breaks the general thinking of the public that children who play digital games tend to have changes in their sleeping patterns and hence effecting their daily routines.

Dietary changes-

Eating and drinking while gaming is a common trend followed by GenZ gamers. The gamers who eat while gaming generally play for longer hours and they play at regular intervals. Due to these habits Binge eating, anorexia and bulimia are caused. Moreover, due to these reasons, people start skipping meals, eating secretly and eating large amounts of food in one go.

It has been seen that 53% of teens do not like to eat while gaming but 47% do eat while gaming. This breaks the common thought that people tend to binge while gaming. (Refer figure-3D)



Proving the above point 62.5% of the children think that their eating patterns have not been changed in the last 6 months and 37.6 % of them think that they do feel some change or they are unsure.

Physical Health-

What is physical health?

Physical health is an integral part of the overall well-being of a person. It includes fitness, endurance and muscle strength etc. Moreover, we can say that physical health is a state of well-being where a person can perform daily tasks without any hindrances.

Physical health is directly linked with physical activities. As per WHO, regular physical activities help prevent non-communicable diseases (NCDs) like stroke, diabetes, cancer etc.

Why do teenagers face physical health conditions?

Teenagers experience rapid physical growth. This affects how to make decisions and interact with their peers. Even if this stage of life is at the peak of growth children establish poor diet, physical activity and addiction to intoxicants which surely leads to health risks now or in later life.

We can say that a majorly poor diet and not indulging in physical activities leads to imperfect physical health conditions.

One of the responders said that “gaming has affected in study effect and effecting eyes site weak it is affecting a lot, physical activity has been less”.

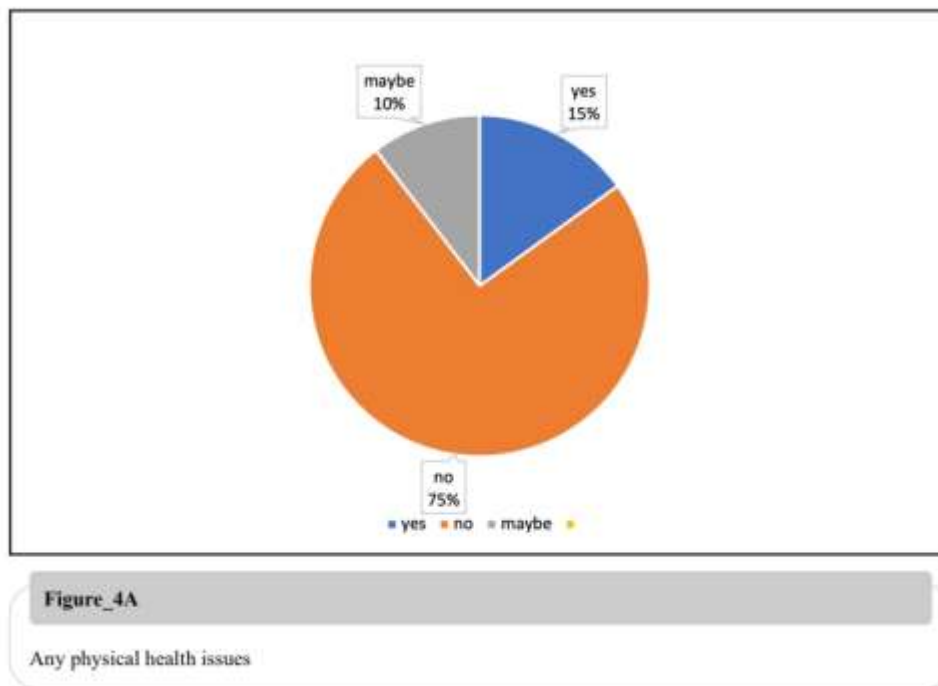
Health issues-

Does gaming affect the health of the student? This question has always been in discussion when it comes to the overall development of children. As the survey indicates, students have admitted issues like:

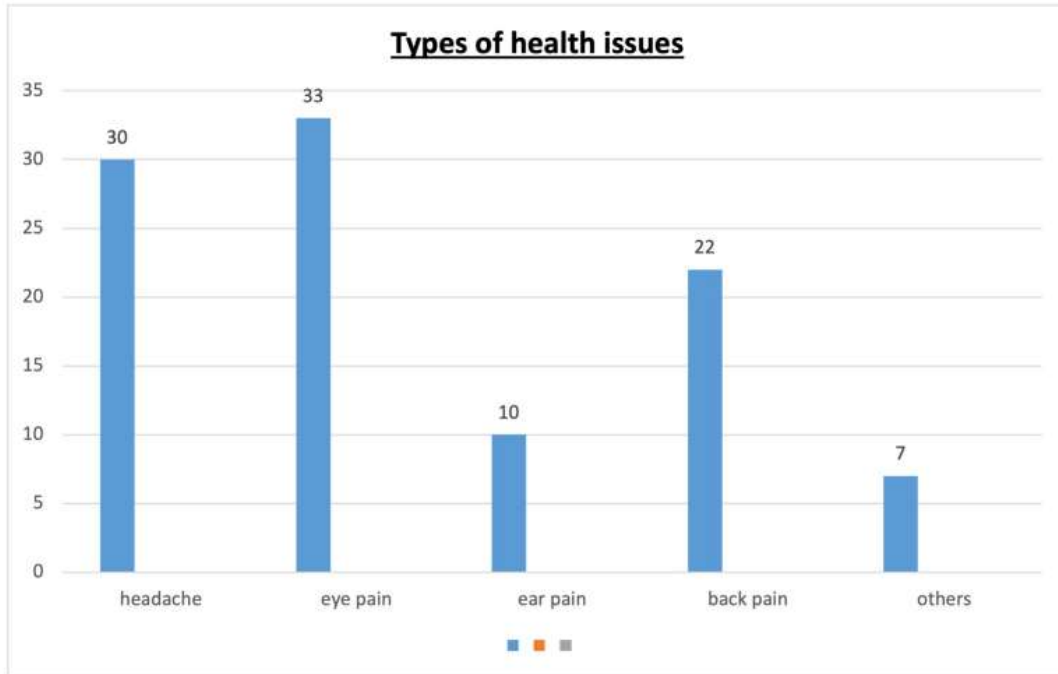
1. Eye Weakness
2. Increase in body weight
3. Lethargy
4. Reduced physical activity
5. Preference towards packaged food
6. Addiction

All the above factors have been directly related to health problems like morbid obesity and reduced lifespan.

75% of the teen gamers feel that they do not face any physical health issues like headaches or back pain whereas 15% of them agree that they do face various health issues post-gaming. (Refer figure-4A)



Among the people who face health problems post-digital gaming the most common one them is eye pain and headache. (Refer figure-4B)



Figure_4B

Types of health issues

Headaches can be caused due to fatigue, or motion sickness (due to first-person shooting games). Whereas, eye pain is generally caused due to playing in dim light or the colours/ flashes during gaming.

People facing back pain can have postural deformities in future like Kyphosis, Lordosis and Scoliosis. Back pain is generally caused due to poor posture during gaming.

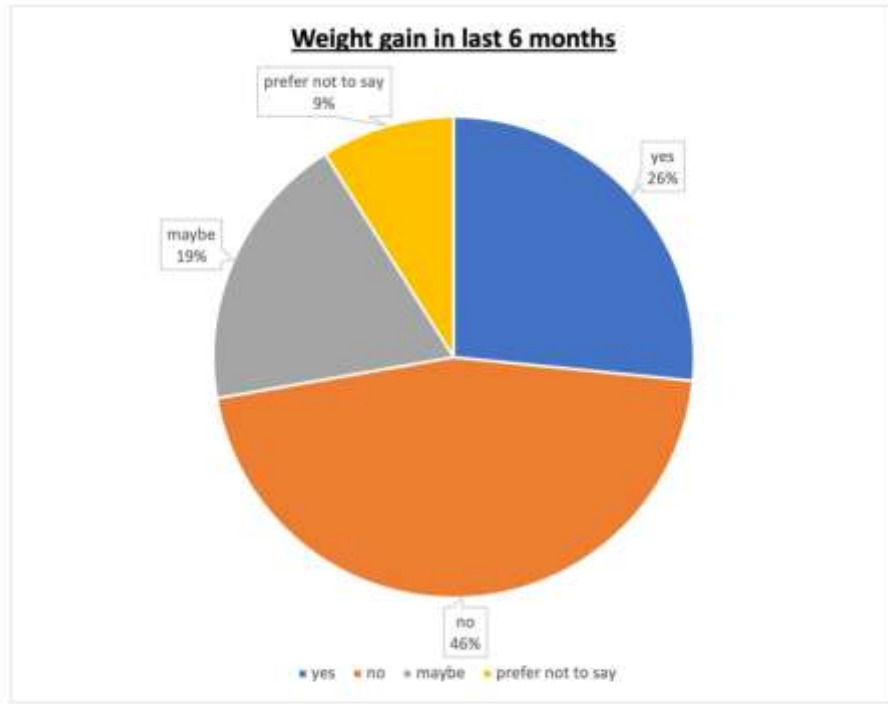
Preventive measures for these postural deformities can be-

1. Improve sitting posture
2. Exercise regularly
3. Bending while gaming should be avoided

Weight gain-

Weight gain is a common problem seen in the current generation. Weight gain generally happens due to genetics, engineered junk foods, food addictions, sugar etc.

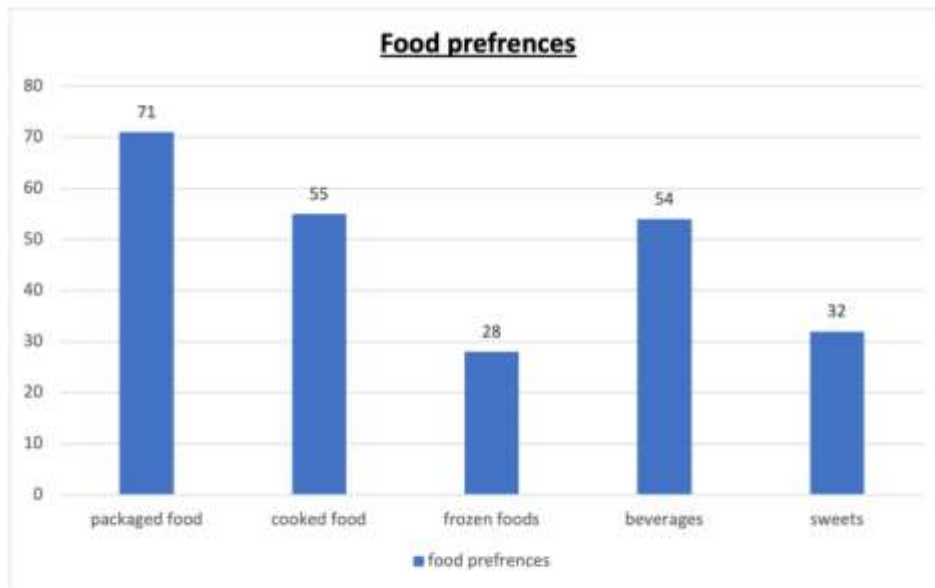
Among the adolescent gamers, weight gain was not a general problem as only 26% of them gained weight in the last six months whereas 45% of them did not.(Refer figure-4C)



Figure_4C

Weight gain in last 6 months

It is seen that majority of the teenage gamers are eating junk foods like chips cold drinks, frozen foods and sweets making 77% of the food options whereas only 23% of them prefer to eat healthyhome-cooked food.(Refer figure-4D)



Figure_4D

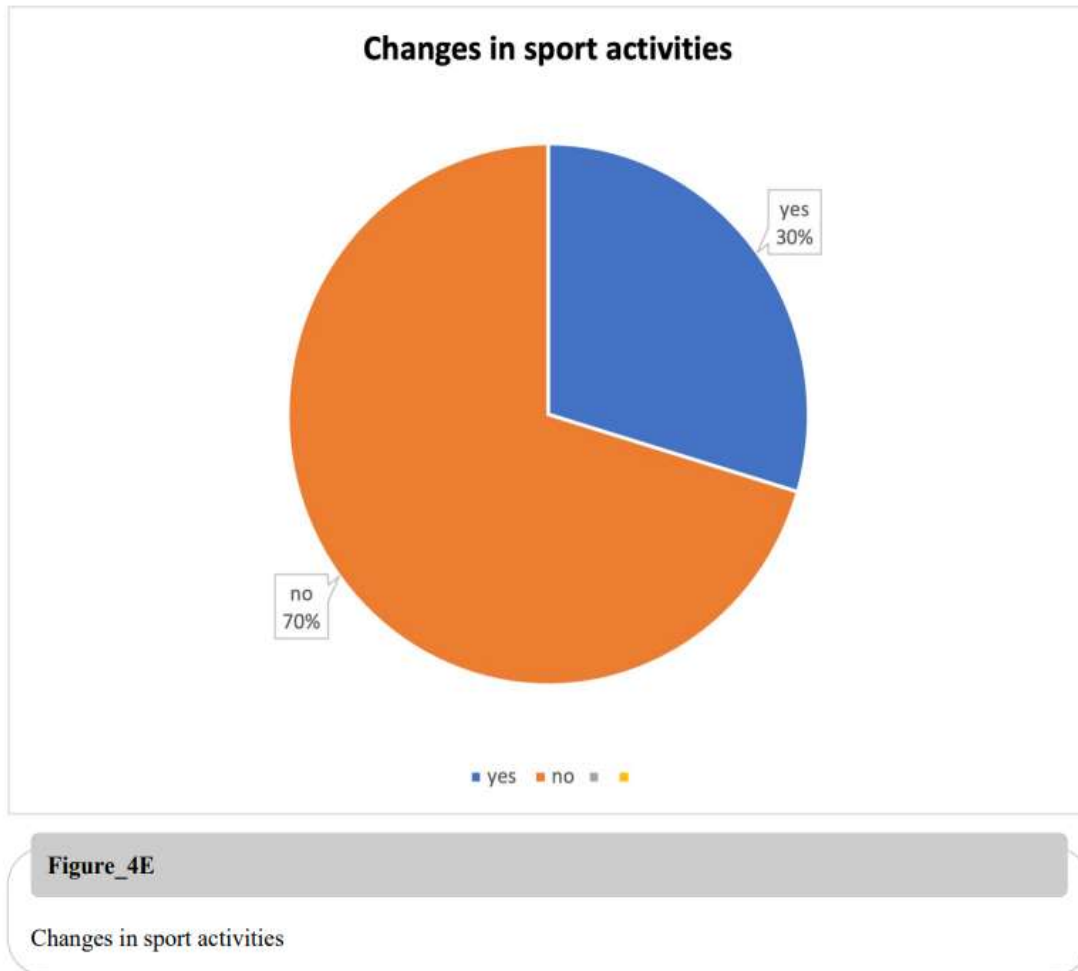
Food preferences

This justifies the weight gain among 26% of the responders due to their bad eating habits while gaming.

Sports activities-

As per WHO, Physical activity not only contributes to preventing problems such as cardiovascular diseases and even cancer but also promotes growth and development in young individuals.

It has been seen that 70% of the children do not feel that they have felt any changes in their sport/physical activities whereas 30% of them do feel that they have many changes in them.(Refer figure-4E)



Conclusion:-

The study concludes the effects of gaming on both the mental and physical health of teenagers. With the increasing popularity and accessibility of video games, it is crucial to understand and know the potential impacts on adolescents.

The research indicates that gaming can have both positive and negative impacts on mental health. On the positive side, video games can enhance cognitive skills such as problem-solving abilities, memory, and hand-eye coordination. However, excessive gaming patterns have been associated with deteriorating mental health causing anxiety, social isolation, addictive behaviour and various other behavioural changes.

On physical health, gaming can have sedentary effects. Sedentary gaming is characterized by long periods of gaming and having limited, reduced or no physical activity can cause various health concerns like obesity and musculoskeletal disorders.

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