

Review



Gaming Disorder in the Context of Ayurveda: Bridging Modern Behavioral Addiction with Classical Concepts- A narrative review.

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ABSTRACT:

Background: Gaming disorder (GD) has become a serious behavioral health issue, particularly among children and adolescents. Excessive electronic gaming activates neural reward pathways, which reinforce behavior through dopaminergic mechanisms similar to substance addiction. The following are signs of video game addiction: fatigue, eye strain, repetitive strain injuries such as carpal tunnel syndrome, migraines from extended computer time, and neglect of personal hygiene. **Objectives:** To conceptualize Gaming Disorder within the framework of Ayurvedic *Manasika Vikara*, analyze its *Nidana* and *Samprapti*, and frame a suitable management through *Ayurveda* based on the severity of addiction. **Methods:** A narrative literature review was conducted through systematic examination of classical Ayurvedic *Samhita*, along with a comprehensive literature review was done through open access, full text publications in English on Gaming disorders. Database searched were PubMed, Science Direct and relevant sources were identified using predefined keywords like Internet Gaming disorders, Gaming disorders in Ayurveda and causes of gaming disorders. The results were correlated with current neurobehavioral knowledge and interpreted using Ayurvedic principles. **Results:** Gaming Disorder can be correlated with *Prajnaparadha*, characterized by impairment of *Dhee* (intellect), *Dhriti* (self-control), and *Smriti* (memory). One of the main etiological factors linked to behavioral dysregulation is *Asatmendriyartha Samyoga*, or improper engagement of sense organs. The predominance of *Rajas* and *Tamas Guna* is reflected in the condition, which causes compulsive gaming behavior and poor decision-making. Ayurvedic management, including *Satvavajaya Chikitsa*, regulation of sensory inputs, and enhancement of *Satva Guna*, is indicated for restoring psychological balance. **Conclusion:** Both contemporary neurobiological and Ayurvedic perspectives are useful in understanding the multifactorial nature of gaming disorder. The development of a stage-by-stage, customized Ayurvedic management protocol to address cognitive and behavioral imbalances is made possible by an understanding of its etiopathogenesis. Particularly for younger populations, these integrative approaches may offer successful management and prevention strategies.

KEYWORDS: *Asatmeindriyartha Samyoga*, behavioral disorder, gaming disorder, *Prajnaparadha*, *Rajas*, *Satva*, *Tamas*, video game addiction.

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1. INTRODUCTION

Playing games is an essential part of childhood since it promotes multifaceted development at a young age. It promotes general development in the social, psychological, and physical domains. Certain aspects of children's development can be shaped by the kind of games they play. For instance, memory-based games improve cognitive skills, social games promote cooperation and communication, and adventure-oriented activities help develop resilience and self-assurance in the face of difficulties. [1] In the present era both parents are employed, thus children are not being paid similar attention Easy access to video games has made them a dominant indoor activity among adolescents, often leading to excessive use which is similar to addictions. This trend became more intensified during the pandemic, raising serious issues for the medical community. Adolescents have a desire for freedom of action, independence and, most importantly, the urge to imitate their peers. The neurotransmitters are more active in amygdala and limbic system during adolescence. Thus, they have risky behaviors, impulsivity and get into problems without assessing the dangers.

The prevalence of Gaming Disorder is unclear due to differences in assessment tools and diagnostic criteria. However, the global prevalence of gaming disorder is 3.05%. Males are more prone for gaming disorder than female and ratio remain 2.5:1. [2] In a recent study published in October 2022, the prevalence of gaming disorder among adolescents is 8.8%. [3]

Definition of Gaming disorder:

Gaming disorder is a pattern of harmful gaming behavior marked by a loss of control over gaming and the amount of time spent playing. This leads to neglecting other interests and daily activities. Even when there are negative effects, gaming behavior persists or worsens. The pattern of gaming behavior may be continuous or episodic and recurrent which results in significant distress or serious problems in personal, family, social, educational, work, or other

important areas of life. The gaming behavior and other features are normally evident over a period of at least 12 months in order for a diagnosis to be assigned, although the required duration may be shortened if all diagnostic requirements are met and symptoms are severe. [4]

Aim and Objective: To conceptualize Gaming Disorder in terms of *Ayurvediya Manasika Vikara* and analyze its *Nidana* and progression of disease and frame a suitable management through *Ayurveda* based on the severity of addiction.

2. METHODOLOGY

A comprehensive literature search was conducted through major scientific data base like PubMed, Science direct and Google scholar. These databases were chosen to obtain peer-reviewed articles, systematic reviews, and relevant scholarly publications related to gaming disorder and its associated factors. The search process was carried out using following Key search: Gaming Disorder, Video Game addiction, Effect of Video game on behavior, impact of gaming on physical and mental health, causes and risk factors of gaming, process of features of addiction. In addition to scientific data base, classical review was carried out through *Bruhatrayi* to understand the parallel of gaming disorder through Ayurveda. Relevant Ayurveda concept like *Prajnyaparadha*, *Atiyoga*, *Mitya yoga* and *Ayoga of Idriyaaartha*, *Kala and Parinama*, *Sadvritta*, Treatment principles of *Ayurveda* were reviewed and discussed below.

Understanding Causes of Gaming disorders:

Causes of Gaming Disorder

The aetiology of gaming disorder is multifactorial and can be understood in the following subheadings:

A. Biopsychological Constitution

i) Age and Stress Vulnerability: Adolescence, typically defined as ages 12 to 18 years, is a particularly vulnerable period for the development of addictive behaviors, including gaming disorder. This heightened vulnerability arises from several factors. Neurologically, the prefrontal

cortex, which is responsible for impulse control and decision-making, is still developing. From a developmental standpoint, adolescents encounter challenges related to identity formation, social integration, and the pursuit of autonomy. Additionally, cultural and environmental transitions, such as shifting to secondary education, increased academic demands, and expanding responsibilities, contribute to stress. During this phase,

gaming often becomes a stress coping mechanism for managing various physical changes, psychological changes and new role expectations. Research shows that gaming tends to peak during middle to late adolescence and can continue into young adulthood. It often becomes more intense during stressful times, such as exams or major life transitions, sometimes interfering with daily responsibilities and overall well-being.

Table 1: Search Strategy Used for Identifying Relevant Literature

Database	Search terms used	Total results retrieved	Filters applied	Notes
Pubmed	Internet gaming disorder	4,555	MeSH terms combined with All Fields; Language: English	Search customized using MeSH terms and all fields
	Causes of gaming disorders	1,899		
	Gaming disorders in children and adolescents	1,483		
	Gaming disorders in <i>Ayurveda</i>	0		
Science direct	Gaming disorders	40,071	MeSH terms combined with All Fields; includes repetitions; Language: English	Search customized using MeSH terms and all fields
	Gaming disorders in children’s and adolescents in <i>Ayurveda</i>	01	MeSH terms combined with All Fields; Language: English	Search customized using MeSH terms and all fields
Google Scholar	Gaming disorders in children’s and adolescents in <i>Ayurveda</i>	02	MeSH terms combined with All Fields; Language: English	Search customized using MeSH terms and all fields
	Internet gaming addiction in children	17900	MeSH terms combined with All Fields; Language: English	Search customized using MeSH terms and all fields

ii) Gender: Males tend to be at a higher risk of developing Internet Gaming Disorder (IGD), with prevalence often showing a ratio of approximately 2:1 compared to females. This difference is not because of higher participation rates but also relates with the nature of gaming engagement. Males are more likely to be involved in riskier, competitive and high-intensity game genres, such as shooter and massively multiplayer online games.

While many females do play these popular online games (including many of the same games), and the overall gender ratio in the gaming market is becoming more evenly balanced, still males generally exhibit greater frequency and longer duration of gameplay. This difference may also be influenced by game design elements—such as competition,

aggression, and dominance—which tend to appeal more to male adolescents. [5]

iii) Early Childhood Experiences: Experiences such as toxic family relationships, dysfunctional family dynamics and negative social environments, significantly direct them towards gaming disorder. Individuals who are subjected to such circumstances might turn to gaming as a way to cope with their emotions. Over time, this coping strategy can become maladaptive, increasing the risk of addictive gaming behaviors. [5]

B. Personality Traits and Individual Characteristics

There are specific groups of people and personality traits that are more likely to develop problematic gaming behaviors. Individuals with low conscientiousness typically struggle with self-discipline, lack a clear sense of direction

in their goals, and tend to have disordered or inconsistent daily routines. These traits can make them more susceptible to getting deeply involved in excessive gaming, leading them to lose themselves in the virtual world of games. Neuroticism is another significant factor, characterized by emotional instability, a tendency to experience anxiety, and a lower ability to manage stress. Such individuals may use gaming as a means to regulate negative emotions and reduce psychological distress. [6] Low self-esteem further contributes to this risk. People who have low self-esteem frequently have trouble forming relationships and interacting with others. They may feel more competent, emotionally secure, and socially secure in virtual gaming environments.

C. Social Cognition and Environmental Factors

Social Cognition refers to a complex set of mental abilities underlying social stimulus perception, processing, interpretation and response. Together these abilities support the development of adequate social competence and adaptation. Behavioral patterns, including gaming habits, can be impacted by deficiencies or difficulties in these processes. [5]

Loneliness, Social Attention, and Peer Inclusion: During childhood and adolescence, the need for social belonging is essential. Feelings of loneliness can result from being ignored or excluded from peer groups. Video games frequently act as a substitute medium for social interaction and acceptance in these situations.

Peer Influence: Peer groups play a crucial role in initiating and maintaining gaming behavior. Games are introduced through friends, when playing in group, staying in group until the group concludes becomes an obligation to continue gaming, often driven by fear of missing out (FOMO). This dynamic makes it difficult for individuals to disengage from gaming activities.

Familial Influence: Family environment significantly impacts gaming behavior. Factors such as poor parenting approaches, unmonitored usage of media, parents marital

and socioeconomic status, less warm and less stable family children are more prone for problematic gaming.

Relational Trauma: Adolescents who have history of relational trauma, particularly when it involves problems in their relationships with parents or caregivers, might turn to online gaming as a way to cope with painful memories. Research shows that many people who have issues with gaming often show signs of being insecure or having a disorganized way of connecting with others, which suggests that gaming can act as a form of emotional comfort or escape for them.

Effect of Gaming on Behavior: Video games exert both beneficial and adverse effects on players' behavior and personality. On the positive side, playing games helps sharpen problem-solving skills, boosts adaptability, and can improve certain social abilities. Players must frequently modify their tactics and reactions in dynamic in-game environments, which could lead to increased adaptability and flexibility in real-world circumstances. [7]

On the other hand, excessive or improper gaming is linked to unfavorable behavioral consequences. These include externalizing behaviors like aggression, hyperactivity, and poor impulse control, as well as internalizing issues like anxiety, depression, and social disengagement. Certain game genres seem to have an impact on particular behavioral patterns. For example, violent games, especially first-person shooters, are linked to increased aggression and delinquent tendencies, while Massively Multiplayer Online Role-Playing Games (MMORPGs) are frequently linked to increased withdrawal and anxiety. The degree of realism portrayed in these games may intensify these effects.

Additionally, gaming environments could be used to satisfy unfulfilled psychological needs. Players frequently bring aspects of their real-life personalities into their virtual characters, shaping how they act and interact within the game. This connection can drive them to pursue success, recognition, or approval within the gaming environment,

which in turn keeps them interested and involved for longer periods. In certain situations, this behavior can lead to unhealthy or problematic habits that are difficult to change.

Brain Changes Associated with Gaming: Excessive gaming has been linked to structural and functional changes in the brain, according to neuroimaging studies. Diffusion tensor imaging and T1-weighted MRI are two imaging methods that have shown decreased grey matter volume in a number of areas. The density of grey matter in the right posterior cingulate gyrus, left pre- and postcentral gyrus, and right thalamus, among other regions, was found to be negatively correlated with the total amount of time spent playing in years. It is also associated with behavioral characteristics such as hostility, aggression, and low self-esteem. Furthermore, the players' left and right cingulum showed reduced fractional anisotropy, a marker for white matter structure, which suggests that people with problematic gaming behaviors have impaired neural connectivity. [8]

Functional research also shows dysregulation in important brain areas related to reward and cognitive regulation. Reduced activity, connectivity, and cortical thickness are seen in the dorsolateral prefrontal cortex, which controls executive functions like impulse control, decision-making, and attention, while increased activity and connectivity are seen in the orbitofrontal cortex, which is linked to reward processing and motivational salience. Because diminished regulatory control is unable to counteract heightened reward-driven impulses—a pattern frequently observed in addictive disorders—this imbalance may contribute to repetitive gaming behavior. [9]

Ayurvedic Perspective of Gaming Disorder: Gaming disorder is a new mental health issue that has a substantial impact on behavioral and cognitive processes and frequently results in addictive behaviors. According to Ayurveda, these conditions fall under the category of mental disorders, or *Manasika Vikara*. These results from *Atiyoga*, *Hinayoga*, and *Mithyayoga* of *Indriyatha*, *Karma*,

and *Kaala*, which disturb psychological equilibrium. [10] Disturbance in the normal functioning of *Manas* particularly affects its regulatory capacities, including *Indriyabhigraha* (control over sense organs) and *Swasya Nigraha* (self-restraint). [11] These abilities are critical for sustaining focus, self-control, and disengagement from unwanted stimuli. This regulatory mechanism is compromised in the context of excessive gaming, particularly indoor gaming on mobile devices, which causes daily obligations and routines to be neglected. Furthermore, continued engagement in gaming despite awareness of its harmful consequences can be correlated with the Ayurvedic concept of *Prajnyaparadha* (intellectual Blasphemy), wherein an individual acts against better judgment. This highlights the role of impaired cognition and self-control in the development and persistence of gaming disorder.

***Prajnyaparadha* (Intellectual Error):** *Prajnyaparadha* refers to actions performed due to the disturbance of *Dhee* (intellect), *Dhriti* (willpower), and *Smriti* (memory). These impairment leads to improper judgment and behavior, ultimately contributing to both *Shareerika* (physical) and *Manasika* (mental disorders). [12]

Components of *Prajnyaparadha*:

- ***Dhee Vibhramsha* (Impaired Intellect):** *Dhee* is referred as *Buddhi*, it is said that *Samam Buddhirhi Pashyati* is the function of *Dhee*. *Dhee* differentiates the wholesome and unwholesome (good & bad). Its derangement results in faulty decision-making and incorrect perception of reality. [13]
- ***Dhriti Vibhramsha* (Loss of Restraint):** '*Dhritirhi Niyamaatmika*'. It is the power of will, which control *Manas* from the various diversions or temptations of surroundings. *Dhriti: Samyama* –Self-control, willpower. Due to derangement of restraint, it is not possible to control the mind indulged in sensual pleasures from unwholesome object because the function of restraint is to control. [14]

● **Smriti Vibhramsha (Impaired Memory):** *Anubhutarthat Smarana is Smriti*, it means recalling the past experience. The experiences get registered by *Drishhta* (seen), *Shruta* (heard) or *Anubhuta* (experienced) by the person and can be recalled later. [15] Mental health requires normal functioning of all these aspects. Derangement of memory occurs when the *Mana* is covered by *Rajas* and *Tamas*, impairing the recollection of reality. [16]

Relation with Asatmendriyarthā Samyoga: *Atiyoga*

Table no 2: Nidana (Cause) of Gaming Disorder in Ayurveda

Sr No	Nidana	Explanation
1	Vaya (Age)	<i>Balya Avasta: Manas is Chanchala</i> and Children are <i>Klesha Asaha</i> (Intolerance to stress) which may be physical or psychological. [17] In such stressful condition children usually choose gaming as an alternative, safe and comfortable media to overcome from it.
2	<i>Vatala Prakruti</i> and <i>Alpa Satva</i> & low psychic qualities	Individuals with <i>Alpa Satva</i> in nature can easily get confronted by <i>Bhaya</i> (fear), <i>Shoka</i> (grief), <i>Lobha</i> (greedy), <i>Moha</i> (delusion), and <i>Manana</i> (deep state of thinking without joy). They are prone to develop <i>Unmada</i> (mental disorders), <i>Vishada</i> (depression) by seeing and hearing the objects which is <i>Raudra</i> (Dreadful), <i>Bhairava</i> (Frightful), <i>Dvishta</i> (hatred), <i>Vibhatsa</i> (cruel/ envious), <i>Vikrita</i> (distorted) etc. Therefore, this becomes a main <i>Nidana</i> for Gaming disorder. [18]
3	<i>Jyanendriya Mithya Yoga</i> [19] (Misuse of sense organs)	A. <i>Chakshurendriya Atiyoga</i> - Gaming gadgets are luminous objects and gazing at it for a longer duration is considered as <i>Atiyoga</i> of <i>Chakshurendriya</i> . B. <i>Chakshurendriya Mityayoga</i> - Video games are designed with exciting themes which attracts adolescents. Content of Strategical video games are often aggressive in nature and gazing at such games from closer distance is considered as <i>Mityayoga</i> of <i>Chakshurendriya</i> . C. <i>Shravanendriya Atiyoga</i> and <i>Mithyayoga</i> - Audio played in gaming is loud and is terrifying in nature. Therefore, playing video games contribute to <i>Atiyoga</i> and <i>Mithyayoga</i> of <i>Shravanendriya</i> .
4	<i>Karmendriya Mithya Yoga</i> [20] (misuse of the organs of vital actions):	A) <i>Mithyayoga of Shareera – AngaPranidhaana</i> Adolescents often adopt improper position while playing video games for a longer duration so it is <i>Mithyayoga</i> of <i>Shareera</i> . B) <i>Mithyayoga of Vaak</i> (misuse of talk)- Adolescents involving in video games never hesitate to tell lies to their parents hide in order to play video games. Further as the disease progress, they even use abusive and aggressive words to their parents.

Table no 3: Symptoms of Gaming Disorder

Domain	Symptoms
Psychological	Anxiety, Stress, Depression, Aggression
Social	Disturbed Family Relationships, Disturbed Social relationships, Poor Academics.
Physical changes/ syndromes/ Lifestyle disorders	Positional change -Carpel tunnel syndrome, Neck pain, Back Pain GI Changes -Increased GI Secretions – Obesity; Decreases GI Secretions - Undernourishment Sleep – Disturbed; Other – Headache

Table no 4: Purva roopa (prodromal features) of Gaming Disorder in Ayurveda

Sr.no	Purvaroopa	Explanation
1	<i>Vyasana</i>	As disease progress adolescents get more and more into video games. The duration and frequency of game will increase. Gaming become their major activity on daily basis and turn into addiction towards the act.
2	<i>Paapachari Maitri</i>	Patient starts to engage with gaming in guilds/teams. This <i>Paapachari Maitri</i> builds a constant pressure on patient to keep playing. This can also be understood in terms of peer pressure.
3	<i>Vega Dharana</i> of <i>Mutra, Mala, Trushna and Kshudha</i>	In order to complete the goal in game, patient develops the habit of controlling the natural urges.
4	<i>Vidhi Viruddha Ahara Sevana</i>	Such patients usually use to have food by watching gadgets.

Table no 5: Roopa of Gaming Disorder in Ayurveda

Sr no	Classification of Roopa	Roopa
1	Shareerika Lakshana	<p>i. <i>Shula</i>(pain) in <i>Prushta</i> (back), <i>Greeva</i> (neck) and <i>Manibanda</i> (wrist joint) - Due to excessive use of Game control scheme (joystick or keyboard) and improper posture <i>Vata</i> became vitiated and causes <i>Shula</i> in these regions.</p> <p>ii. <i>Shira Shula</i>(headache)- Due to <i>Vega Dharana</i> of urine and stool, excessive gazing at screen leading to <i>Urdhwa Vata</i> (upward flow of <i>Vata</i>) induces <i>Shirashula</i>.</p> <p>iii. <i>Karshya</i> and <i>Stoulya</i> (emaciation & obesity) - <i>Karshya</i> - Due to <i>Kshudha Vega Dharana</i> (cessation of hunger) and lack of interest towards food leads to <i>Vata Vriddhi & Dhatu Kshaya</i> leading to undernourishment thus causes <i>Karshya</i>. <i>Stoulya</i> - <i>Stoulya</i> may be due to lack of physical exercise and abnormal metabolism by <i>Ahitavihara</i> and <i>Ahita Ahara Sevana</i>. [21]</p> <p>iv. <i>Aavila Darshana</i> or <i>Avyakta Rupa Darshana</i> (blurring of vision)- Excessive use of screen can lead to blurred vision which is understood as <i>Aavila Darshana</i>. This may lead to <i>Shushka- Akshipaaka</i> or <i>Timira</i> (refractive error)</p>
2.	Maanasika Lakshana	<p>i. <i>Kaama</i> (desires) - Excessive desire for playing video games</p> <p>ii. <i>Krodha</i> (aggression)- Aggressive behavior (towards family members/friends/pet). If <i>Kaama</i> is obstructed it leads to <i>Krodha</i>. If desire to play video games is obstructed by parents it leads to aggressive behavior in the child. This aggression is seen via words (abusing or disrespectful words to elders) and action in the patients (physical harm to self/ family/ friends/ pets).</p> <p>iii. <i>Bhaya</i> (fearful)- Running away from real situations causes fear in patients. This running away may be due to difficult academic, disturbed family relations or low self-esteem. Due to the fear patients get more addicted to video games as they find emotional comfort in it.</p> <p>iv. <i>Chinta/ Udvega</i> (The extreme form of fear). <i>Chinta /Udvega</i> are the trigger factors to make the pathogenesis of gaming disorders stronger. It is the fear of losing rewards, community of gamers and desire to win that adds on to a vicious cycle of <i>Chinta/Udvega</i>.</p> <p>v. <i>Lobha</i> (temptation) - Unable to control the impulse of playing video games, this leads to <i>Ashradha</i> (Unable to divert his interest to positive goals).</p> <p>vi. <i>Moha</i> - Continuing gaming activity despite being aware that gaming spoils the family relationships, fails to withdraw himself from the act hence children with Gaming disorder seek money from family/ relatives/ strangers for playing video games. <i>Moha</i> towards gaming develops <i>Nirutsaha</i> (lack of interest) in the surroundings.</p> <p>vii. <i>Avajnyanata</i> (Ignorance)- As gaming becomes an important part of life. Adolescents tend to forget their daily</p>

routine. They don't take bath daily/clean themselves in daily regimen (*Dinacharya*), forget their favourite past time/hobbies that they used to enjoy before gaming.

viii. *Abhyasa Tyaga* (habit disorders)- Adolescents with gaming addiction loose interest in academics. It gets difficult for them to focus on studies and usually forget the subjects that whatever they have read.

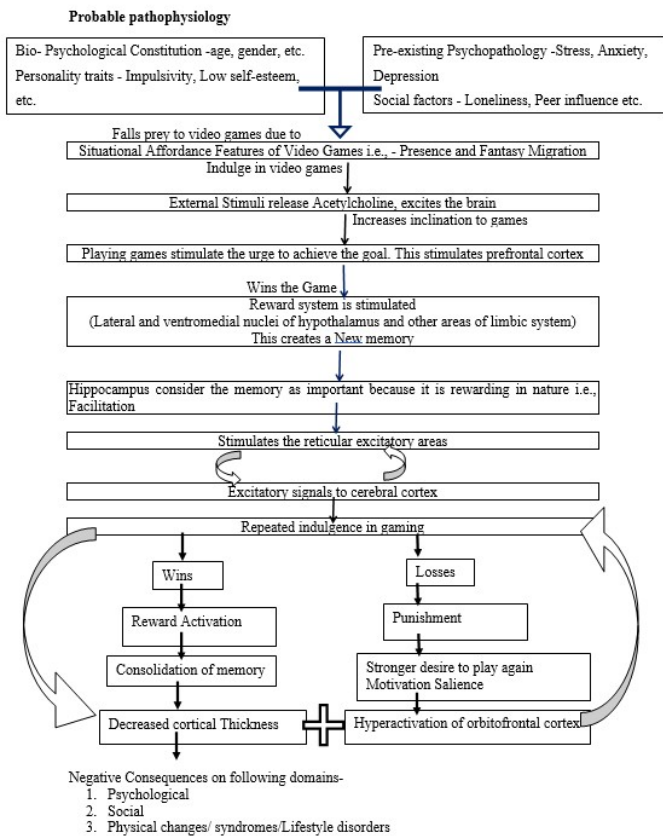


Figure No. 1 Probable pathophysiology of understanding Gaming disorder

3. DISCUSSION:

Gaming disorder can be understood as *Prajnyaparadha* involving *Dhee*, *Dhriti* and *Smriti Vibramsha* (table 2). Gaming disorder can be understood as a progressive condition occurring in three stages- *Dhee Vibhramsha*, *Dhriti Vibhramsha*, and *Smriti Vibhramsha*- reflecting the sequential impairment of intellect, restraint, and memory (Figure 1).

Stage I – Dhee Vibhramsha (Impairment of Intellect): The function of *Dhee* (intellect), especially *Samadarshana* (correct judgment), is disrupted in the first stage. Playing video games too much causes reward pathways to be repeatedly activated, which makes people believe that gaming is good while ignoring its negative effects.

Indriyaabhigraha (control over senses) is compromised as a result, leading to *Atiyoga* (overuse) and *Mithyayoga* (improper use) of verbal, physical, and sensory activities. From a neurocognitive perspective, this stage may be associated with altered hippocampal function, which is crucial for giving meaningful experiences priority. [13]

Stage II – Dhriti Vibhramsha (Impairment of Restraint): *Dhriti* (self-control), whose main function is *Niyamana* (regulation), is dysfunctional in the second stage. People with diminished *Swasyanigraha* (altered mental discipline) are unable to regulate their gaming habits. [14] Anxiety, agitation, and difficulty in focusing are signs of withdrawal. It is also associated decline in academic performance, and compulsive spending on games may also occur. Psychologically, this stage is dominated by *Rajas* and *Tamas*, giving rise to emotional disturbances like *Krodha* (anger), *Bhaya* (fear), *Lobha* (greed), and *Moha* (delusion), which may further progress to *Vishada* (depression) or maladaptive social behavior.

Stage III – Smriti Vibhramsha (Impairment of Memory)

In the advanced stage, *Smriti* (memory) is affected due to *Avarana* of *Rajas* and *Tamas*, leading to loss of *Tatvajnyana* (true understanding). [16] The individual neglects *Dinacharya* (daily routines), personal hygiene, and academic responsibilities Even when people are aware of the negative effects of gaming, they still play it obsessively. This reflects deep involvement of *Manobuddhivaha Srotas*, with increased *Moha* and obsessive tendencies.

Management and Prevention of Gaming Disorder:

To manage the addiction, several behavioral interventions and psychotherapies have been tried. A few psychotropic medications, such as methylphenidate and bupropion, which are stimulants and antidepressants, have been tried

to treat gaming disorder. [22] However, these medications are still under trial, and no definitive treatment protocol has been established. Hence, there remains significant scope for developing effective and holistic management strategies.

Prevention of Gaming Disorder

Prevention plays a crucial role in managing *Manasika Vikara*. The *Sadvrutta* principles outlined in *Ayurveda* provide an effective way to manage such diseases. Adopting appropriate behavior prevents *Atiyoga* (overuse) and *Mithyayoga* (misuse) of the senses and aids in maintaining mental balance.

Sadvrutta Palana (Code of Good Conduct)

The following principles may help in preventing gaming disorder:

- Exercise self-control by restricting gaming to leisure.
- *Madhurath Vaadi* – Promote gentle and respectful communication.
- *Sarvapraanishu Bandhu-Bhuta* - Be kind and compassionate to all living things. *Kshamavaan and Dharmikah* - Promote forgiveness and adherence to moral and spiritual principles.
- *Naanrutam Bruyata* -Speak truthfully and avoid lying.
- Avoid interacting with harmful, excessive, or worthless content.
- *Na Paapavrutan Mitra* - Avoid negative peer influence, particularly associations that promote unhealthy behaviors such as excessive gaming.
- Maintain a proper sleep routine and avoid gaming during nighttime hours.
- Follow appropriate dietary habits, including mindful eating without digital distractions and preferably in a family setting.
- Avoid engaging in activities under physical or emotional strain, such as stress, anger, or suppression of natural urges.
- Exercise control over sensory indulgence and avoid extremes of usage.

- Adhere to the path of *Dharma* (righteous conduct).

Ayurvedic Treatment Protocols for Gaming Disorder:

Gaming disorder can be understood in *Ayurveda* as a psychosomatic condition mainly involving imbalance of *Vata*, *Pitta*, *Kapha* along with *Rajas* and *Tamas*. Hence, management requires a holistic approach based on *Trividha Chikitsa*—*Daivavyapashraya*, *Yukti Vyapashraya*, and *Satvavajaya*. [23]

A. Daivavyapasraya Chikitsa

Daivavyapashraya refers to factors beyond logical understanding. [24] This form of treatment is *Aashu Vyadhikara* (quick relief) due to its *Prabhava*, which works by instilling faith and positive belief in the patient. Key measures include: Chanting *Mantras* can calm the mind and improve clarity, while wearing *Mani* (gems) may provide a sense of reassurance. Acts like *Upahara* (feeding animals) encourage compassion and can gently redirect attention away from unhealthy habits. *Niyama* (Following discipline and ethical practices) supports overall stability, and the use of *Ausadha* offers therapeutic support. Additionally, practices such as *Homa*, *Upavasa*, *Prayashcitta*, and *Yatra* may further enhance a positive outlook and strengthen *Satva*, contributing to emotional well-being

B. Satvavajaya Chikitsa (Psychotherapy)

Satvavajaya Chikitsa is a unique Ayurvedic psychotherapy. It is one of the oldest existing non-pharmacological therapies which has a psycho-spiritual approach. The main intention of this therapy is to replace negative thoughts by positive one. *Satvavajaya Chikitsa* includes various psychotherapies which help in controlling *Manas* from *Ahita Artha* (distractible /unwholesome objects/perception). This approach is based on five key techniques that work together to strengthen the mind. It starts with *Jnyana*, which helps to build self-awareness, followed by *Vijnnyana*, where guidance is given to better understand the illness and improve coping skills. *Dhairya* focuses on developing emotional strength and resilience, while *Smriti* helps reinforce positive thoughts and

experiences. Finally, *Samadhi* supports deeper focus and inner stability, promoting overall mental well-being. [25] Along with these, the therapy also follows gradual stages of mental regulation—beginning with *Indriyaani Cha Samksipya* (withdrawing the senses from harmful stimuli), then calming and *Manaha Samksipya Chanchalam* (stabilizing the restless mind) and ultimately establishing *Atmasta Manasi Sthire* (a state of inner awareness and steadiness). [26]

Clinical application of *Satvavajaya Chikitsa* includes:

Acharyas identified that the *Satvavajaya Chikitsa* should be done by the specialists of that therapy. Such a person should work for those who specialize in mental illness. *Acharya Charaka* used the word *TadvidyaSeva* [27] which clearly confirms that there were separate specialists of Psychotherapy. The principle of *Satvavajaya Chikitsa* should include *Tadvidya Seva* (Counselling), *Atmajnana* (Introspection), *Trivarga Anveshana* (Value-based living) and awareness of personal, social, and environmental context (*Kula- Kala- Bala- Jynana*) [28]

C. *Yukti Vyapashraya Chikitsa*: This includes *Adravyabhuta Chikitsa* (non-drug therapy) and *Dravyabhuta Chikitsa* (drug therapy).

a) *Adravyabhuta (non-drug therapy)*: This approach primarily concentrates on psychological interventions that seek to regulate the mind and behavior. Methods like using mild emotional stimulation like *Kshobhana* (shock) or *Harshana* (uplifting the mood), *Bhaya Darshana* (creating awareness through fear or consequences), *Vismapana* (inducing surprise), and *Vismarana* (assisting the patient in moving away from upsetting memories). Stricter techniques like *Bratsana* (warning or reprimanding), *Bhandana* (establishing firm boundaries), or guided techniques like *Swapna* (inducing relaxation or trance-like states) and *Samvahana* (providing gentle physical reassurance) may also be employed in certain circumstances. When combined, these techniques seek to progressively improve mental, emotional, and behavioral control. [29]

b) *Dravyabhuta (Drug therapy)*: It is a form of *Yukti Vyapashraya Chikitsa* in which there is a logical approach to psychosomatic disorders is done through pharmacological measures.

i. *Shodhana (Purification)*:

The general principle of treatment in *Avaranajanya Vyadhis* is to release the *Avarana* from proper *Shodhana* measures. To remove *Avarana* in *Hridaya* encapsulated by *Rajas* and *Moha Vamaadi Karma* are to be adopted. Along with these some of *Sthanik Karma*'s like *Abhyanga* (including *Shiro and Pada*), *Shirodhara*, *Shirolepa*, Eye therapies: *Tarpana*, *Aschyotana* etc. are adopted.

ii. *Shamana (Pacification)*:

Medhya Rasayanas is recognized for their multidimensional benefits on memory and intellect, primarily attributed to their *Prabhava* (specific therapeutic effect). They act by alleviating the *Avarana* caused by *Rajas* and *Tamas*, thereby promoting *Sattva guna*. Due to these properties, *Medhya Rasayanas* is widely utilized in the management of various mental disorders, including addictive behaviors. [30] They help in improving cognitive clarity while also reducing associated symptoms such as anxiety, stress, and aggression. Drugs like *Mandukaparni*, *Guduchi*, *Yashtimadhu*, *Shankhapushpi* etc. and some formulations like *Brahmi Ghrita*, *Kalyanaka Ghrita*, *Saraswata Churna*, *Manasmitra Vati* helps in improving memory, reducing anxiety, and promoting *Sattva*, thereby aiding recovery from addictive behavior.

Table no 6: Summary of *Chikitsa* for Gaming disorder in *Ayurveda*

	<i>Satvavajaya Chikitsa</i>	<i>YuktiVyapashrya Chikista</i>
1 st Stage	+	<i>Shamana (oral & upakarma), Medhya Rasayana</i>
2 nd Stage	+	<i>Nitya/Mrudu Shodhana, Shamana (oral & upakarma); Medhya Rasayana</i>
3 rd Stage	+	<i>Shodhana, Vamanaadi Karma, Shamana, Medhya Rasayana</i>

4. CONCLUSION

Gaming disorder arises from persistent and uncontrolled engagement in gaming, most commonly observed in adolescents. This is a serious addiction where unawareness, delay in diagnosis leads to complications like behavioral concern, leading to poor academic performance, reduced social interaction, and emotional imbalance. Several contributing factors such as inadequate supervision, psychological vulnerability, peer influence, and low self-confidence increase the risk, with gaming often serving as a means of escape from real-life challenges. Gaming disorder can be understood as *Prajnyaparadhajanya Vyadhi* where clinical features of *Dhee*, *Dhriti*, *Smriti Vibramsha* are present which are mostly linked with the imbalance of *Manas*. Preventive strategies should emphasize *Sadvrutta* to promote disciplined and balanced living. The role of parents and caregivers is crucial in both prevention and management. Early identification of behavioral changes, understanding the child's emotional needs, and maintaining a supportive environment are essential. Establishing healthy daily routines, limiting unnecessary screen exposure, and encouraging constructive recreational activities can help reduce the likelihood of behavioral addiction in children while supporting their emotional and psychological development. Family counselling, school-based awareness initiatives, and active parental involvement may further assist in promoting balanced behavior and emotional well-being. Long-term improvement can be better achieved through a coordinated approach involving parents, teachers, clinicians, and mental health professionals. In affected individuals, assessment of the severity of addiction should guide intervention. Therapeutic measures should aim at removing mental obstruction (*Avarana*), enhancing cognitive faculties, and promoting *Sattva guna* while reducing *Rajas* and *Tamas*. Consistent monitoring, behavioral correction, and appropriate therapeutic support can significantly improve the overall well-being and quality of life of children.

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