



Research article

WAIT & WATCH THROUGH YOGA TECHNIQUES TO OVERCOME TENTATIVE INTERNET GAME DISORDER IN ADOLESCENT GROUPS

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Abstract

Developing a yoga package solution to overcome the internet game disorder factors is important to diagnose and prevent the condition. The purpose of this study is to suggest a yogic package solution that prevents the IGD based on psychological factors and its gaming disorder characteristics. The present cross sectional comparative trial aimed to compare the General health in Indian internet game addicted persons who had experience in yoga compared to those naive to yoga. This paper attempts to answer the gaps in Internet gaming disorder by using the technique of "Wait & Watch" principle of one's own mind through Yoga methods. For example in the IGD scale, items like tolerance, where it increases with 'one step more' excitement in playing games resulting into tentative addiction could be over come through yoga techniques. A package of 8 Yoga practices is developed for one month duration. The yoga practices are like meditation every day for 10 minutes in the early morning hours. We have selected a sample size of 630 participants (Male: 236, Female: 364) from Central Board of Secondary Education senior secondary students aged 15 to 18 years in Bhopal city of Madhya Pradesh, India. The students are selected from a population of 1200 students, randomly. Validity of the questionnaire are tested with five number subject experts and its value is found to be 0.81 and internal reliability (Cronbach's alpha is 0.89). The students' t-test is conducted to find the variance and its t value is found to be, 39.85, mean value 3.34 \pm SD before and after yoga, mean 0.88 \pm SD. The confidence interval is 95% with $p = 0.0001$. Finally, we have compared the results with GHQ-12 and found yoga method of wait and watch one's own mind is found to be reasonably good. Yoga method is found to be beneficial to overcome tentative IGD.

Key words: IGD, General health, Yoga.

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INTRODUCTION

It looks like Internet Gaming Disorder (IGD) is closely linked to commercial business. A study¹ by KPMG company in 2017 shows that in India it will be a billion US\$ gaming industry by 2021. At present it is 290 million US\$. The advent of India's online gaming industry can be dated back to 2000s, a recent report² says that, in the list of gaming-related businesses India ranks 22nd between the highest revenue-generating countries and thus highlights the consequences of risk faced by Indian population. The majority will continue to play on mobile devices in 2021². Internet Gaming Disorder is the most recent method of finding the disorders in the internet gaming³. The IGD is based on the fifth edition of the Diagnostic and Statistical Manual (DSM-5) of mental disorders, the APA included IGD as a tentative disorder. According to DSM-5, the disorder could be diagnosed based on minimum satisfaction of 5 criteria in 12 month^{4,5} time curing of the disorder. The 5 minimum criteria are; 1. Preoccupation, 2. Tolerance, 3. Withdrawal, 4. Persistence, 5. Conflict, this is based on Indian adolescents. IGD prevalence rate is increasing alarmingly with age and gender, Torres⁶ briefly outlines the scientific information for the treatment of IGD among male adolescents with the help of A-B-A withdrawal design. Review study of Naskar S *et al.*,² aim was to give the details about IGD for interpretation of correlation between IGD and psychological and physical health focused on neural changes, and strategies

for treatment of it. Another study⁷ shows that $p < 0.05$ reveals that there was online game addiction and less physical activity were associated with insomnia, anger, immorality and despondent mood further caused of distraction in communication and interaction. In the study of Lam LT *et al.*⁸ results of the review suggest that additive gaming (particularly MMORPG) could be conjoin with poorer quality of sleep or insomnia. In the study of Skoric MM *et al.*⁹ the findings indicated that Internet online/offline gaming tendencies were persistently negatively correlated with good standing, while no such relationship is found for either time spent playing games or for video game engagement. A study¹⁰ observed that IGD were more significantly associated with gender, adolescent immorality, exasperation etc. One more study¹¹ showed that internet gaming addiction may motive severe personal, social, and occupational problems. Kuss DJ *et al.*¹² also carried out study on the modern context of internet gaming addiction and its association with neuroimaging findings as well as the current diagnostic framework adopted by the APA. Study¹³ showed that IGD allied with psychiatric disorders and suicidal tendencies. Bagdey P *et al.*¹⁴ carried out studies on Prevalence of IA and its effect on Mental Health among collage going students in Nanded city of Maharashtra with a sample size of 287. The studies throw many challenges to evolve a comprehensive approach in combining awareness and good practices of using internet services. Another study¹⁵ brings about the ill effects of excess use of internet leading to addiction and be

vigilant about psychopathology. Those with excessive use internet had high scores on anxiety, depression, and anxiety depression.

Across-sectional study¹⁶ comprising of 1150 students of various streams in 3 different colleges of Lucknow of the total, about 74.5% were potential addicts. According to Young's original criteria, 0.7% was found to be definite addicts. Subjects with excessive use of internet also had problems of anxiety, depression, and anxiety depression. In the study of Sharma *et al.*¹⁷ also found the significant association between IGD and psychopathology in school children from Mumbai, India. Azher M *et al.*¹⁸ conducted a study among university students with regression analysis showed association between IGD and Anxiety. This review¹⁹ identifies the clinical attributes of IA which may help to direct that there is IA and PVG should be associated with substance use disorders. A study²⁰ was carried out for the analysis of indicators, habits and online spent timing in patients with internet addiction disorder. Findings of the study²¹ showed surprising correlation between GAD and IGD in the Behavioural inhibition. Many other studies^{22, 23} proved the fact that a greater prevalence expansion rate of IGD among adults. Based on all the above review studies, the problem statement may be defined for the IGD.

PROBLEM STATEMENT

The problem may be stated as “How to overcome the tentative IGD among the adolescent age group from 15 –18 years?”

Many adolescents are the victims of excessive Internet gaming and are so much immersed that they are inattentive and have become addicts of the online and also offline gaming resulting into disorder. Yoga is found to be an effective tool to overcome the disorder. Hence, a hypothesis is proposed.

HYPOTHESIS

The hypothesis may be stated as

“Treating tentative Internet Gaming Disorder addicts through Yoga practices”

Yoga is an independent entity defined in the form of an independent variable as a means of balancing and harmonizing the body–mind addictions²⁴. Wait and watch act through yoga may be carried out through practices of Shatkarma (cleansing processes), Pawanmuktasana (minor joints exercises series-I), Asana (body postures), Pranayama (yogic breathing), Yoganidra (yoga sleep), Meditation with ashtanga values (Yama) and Chittaprasadama²⁵ for the purification of mind through cultivation of feelings. Sivananda Saraswati²⁴ explained yoga as skill in action and also it is consonance between thought, feeling and deed.

The aim of this study is to enable the students to practice yoga methods as a primary treatment of tentative Internet Gaming Disorder by creating self-awareness and improving physical and mental health.

MATERIALS AND METHODS

IGD scale was administered to 630 subjects and out of which 600 subjects

were considered among the School adolescents. The study was carried out in CBSE Schools in Bhopal city. The age group of the students varied in the range from 15-18 years. They were studying in X, XI and XII classes. The random assignment of subjects into two groups; control and experimental group, which is the basis for measuring the marginal difference between these groups in the relevant outcome. Randomisation equally distributes any confounding variables between the two groups, using the RCT design, randomise subjects into one of two groups, and subsequently perform the Yogic intervention of the subject in determining whether a cause-effect relation exists between the intervention and the outcome. The study was carried out over a period of 12 months from April 2017 to March 2018. The questionnaire is prepared based on IGD (based on DSM-5) and GHQ-12 of Goldberg²⁶. In our scale we have taken 5 point Likert scale with selection criteria of 'never (0)' played while others^{3,4} used 6 point polytomous scale by including zero also as one of the criteria. Questionnaires were distributed to all the 630 participants. We selected 600 out of 630 participants. The questionnaires were anonymous and self-administered. The questionnaire contained three parts:

1. Socio economic information.
2. IGDScale⁴
3. General Health Questionnaire (GHQ-12)²⁶

IGD scale was applied to qualify for the prevalence of IGD among adolescents. It is rated all nine items on a six-point

ordinal frequency scale: (0) never, (1) one to five times in the last year, (2) 5–11 times in the last year, (3) about once to thrice a month, (4) once or more a week, and (5) every day or almost every day. After all the questions have been answered, numbers for each response are added to obtain a final score. If respondents reported not playing any games, their response to all IGD items was set at 0. Respondents had received the IGD scale Individual Mean scores were calculated. The nine-item IGD scale was found to be reliable with a value of Cronbach's alpha, 0.89.

The 12-item General Health Questionnaire^{28, 29, 30, 31} (GHQ-12), a brief self-report measure, has good psychometric properties as a screening instrument for psychiatric disorders in nonclinical settings. The items focus on various aspects of respondents' psychological temperament, for example problems with sleep, strain, happiness or stress. The questions compare how the respondents' present state differs from their usual state.

RESULTS AND DISCUSSION

The socioeconomic profile details of the students are illustrated in Table 1. The socioeconomic status shows that the majority of the parents of the students belong to the average middle class society with an average monthly income ranging from Rs.20,000/- 50,000/- per family. It may further be noted that about 35.17% of the students were residing in the hostel. The mean age of the students was 16.5±SD years. Among these students 60.67% were females and 39.33% were males.

TABLE - I
PATTERN OF DISTRIBUTION OF PARTICIPANTS ACCORDING TO SOCIO-ECONOMIC PROFILE CHARACTERISTICS

Characteristics	No. of study subjects (N=600)	Percentage (%)
Age		
15 Years	117	19.5
16 Years	214	35.6
17 Years	227	37.8
18Years	42	7
Gender		
Male	236	39.33
Female	364	60.67
Year of study		
X	M:52	165
	F:113	
XI	M:77	185
	F:108	
XII	M:107	250
	F:143	
Place of stay		
Own house	302	50.33
Hostel	211	35.17
Rent	87	14.5
Socioeconomic status		
Upper (I)	174	29
middle (II)	353	58.83
Lower (III)	73	12.17

The above socio economic profile helped us in selecting 600 subjects in our study. During the studies, we have also taken consent of the participants in practicing yoga techniques. Accordingly, the controlled and experimental groups are divided. The experimental group involves yoga methods. In this paper, Yoga method of 'wait & watch' principle is applied in all the 8 types of yoga practices. Let's us take sun salutation as an example to demonstrate the wait &

watch effect of yoga. Sun salutation comprises both asana and pranayama techniques. When one lifts hand or leg, it should be moved slowly by observing the blood flow in hand or leg. Next one should watch the oxygen intake through the nostrils and its flow in the blood and throwing out in the form of carbon dioxide. The entire process is a slow process and is also called cyclic meditation. It is true for all the other yoga practices.

TABLE - II
YOGA PACKAGE²³ SCHEDULE FOR INTERNET GAMING DISORDER

YOGA INTERVENTION		TIME FRAME FOR 01 MONTH (based on IGD Criteria)	IGD Criteria
Yoga techniques	Sub-types of Yoga techniques	Quarterly (I-III Months) TIME:45Minutes	
Cleansing techniques	Jala Neti: <i>(Nasal Cleansing through Water)</i>	once a week (7 minutes)	Withdrawal , Tolerance, Problems.
	Kapalbhati: <i>(purification and vitalization of the frontal lobes)</i>	20-30 strokes/day (3 minutes)	
	Trataka: <i>(blink less gazing)</i>	1-2 times repetition (4 minutes)	
Minor joints Exercises	Series-I; Anti-rheumatic group	Repeat 3 times each practice (5 minutes)	Tolerance
Sun salutation	For full body warm-up	3 rounds (3 minutes)	Deception
Body postures	1. Camel pose	Hold for few second (30 second)	Escape, Displacement, Preoccupation Tolerance
	2. Back stretching pose	Hold for few second (30 second)	
	3. Half spinal twisting pose	Hold for 10 second (30 second)	
	4. Inverted pose	Hold for few second (30 second)	
	5. One lagged prayer pose	Hold for 15 second (30 second)	
	6. Crocodile Pose	Hold for 30 second (30 second)	
Yogic Breathing	Alternate nostril breathing	1:1:1 (5- 10 rounds) (5 Minutes)	Preoccupation
Meditation	On own breath, Chittaprasadamaupaya, yama, Self-awareness	3 minutes (05 minutes)	Conflict, Persistence
Relaxation Technique	Yoga sleep	10 minutes (15 minutes)	Preoccupation

After the Practicing of selected yoga practices (table 2), data was entered and analysed with the help of SPSS package. Internal consistency (Cronbach's alpha) and Paired sample t-test statistics of the data are shown in

Tables 3, 4, 5, 6. It is found that similar trend is observed in both GHQ and IGD with yoga practices indicating general health of the participants as improved in addition to Internet Game Disorder cure.

TABLE - III
INTERNAL CONSISTENCY OF IGD

Cases	N	%	No. of Items	Cronbach's alpha
Valid	600	100.0	9	0.89

TABLE - IV
INTERNAL CONSISTENCY OF GHQ-12

Cases	N	%	No. of Items	Cronbach's alpha
Valid	600	100.0	12	0.73

TABLE - V
PAIRED SAMPLE T-TEST

Sample	N	Paired Differences			df	t	Sig. (2-tailed)
		Mean	Std. Deviation	Std. error Mean			
Control group	300	3.34	0.93	0.04	299	39.85	0.0001
Experimental group	300	0.88	0.49	0.02			

TABLE - VI
GHQ-12 DATA

Sample	N	Paired Differences			df	t	Sig. (2-tailed)
		Mean	Std. Deviation	Std. error Mean			
Control group	300	3.85	0.32	0.01	299	43.36	P<0.001
Experimental group	300	2.04	0.27	0.01			

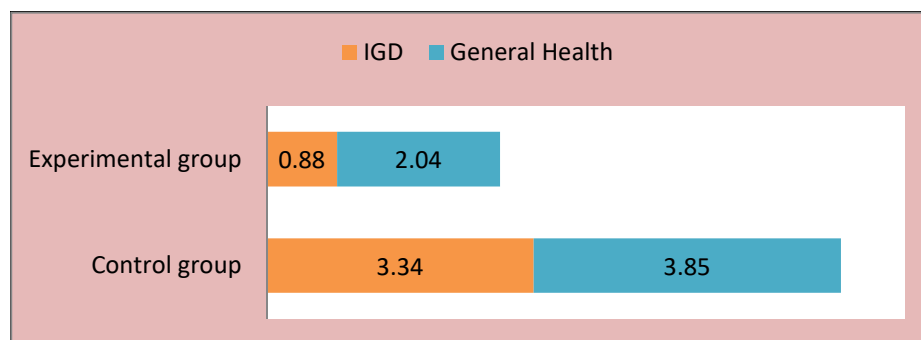


Fig. 1: Effect of “wait & watch IGD vs General Health

The ‘wait & watch’ principle effect of yoga is shown in Fig.1 which shows 35.77% decrease in IGD cases when compared to non-yoga practitioners or control group and also general health is improved by 46.49% with yoga practices. Our stated hypothesis treating IGD with Yoga is found to be an effective tool and also reasonably good health improvement.

CONCLUSION

“Wait & Watch” yoga principles³⁸ are used in tackling the Internet Game Disorder among 600 adolescent groups. Two groups are found one with yoga practice and another without yoga practices. We have used six point polytomous scale⁴ in our IGD studies. A protocol of 8 Yoga practices is devised

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using cycling meditation techniques for duration of 12 Months. The outcome of the studies suggests that there is a decrease of 35.77% with IGD cases with 8 set of yoga practices while GHQ study suggests that there is a 46.99% general health improvement. There is a scope for further study to carry out the correlations factors between yoga, IGD, general health and also a scope to incorporate yoga based chess game to overcome the online and offline gaming disorders.

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