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Research Article

Sleep Quality and level of Aggression in Youngsters

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ABSTRACT

The current study is aimed to examine the sleep quality and level of aggression in youngsters and to determine the relationship between sleep quality and level of aggression. Adults of general population of 18 to 24 years of age from Peshawar participated in the study that was selected through random sampling. The Pittsburgh Sleep Quality Index (PSQI) and aggression questionnaire (AQ) was used to evaluate youth sleep disturbance and aggression. Results showed sleep disturbance as a predictor of aggression among youth while the aggressive behavior is same for males and females there is no significant difference.

Keywords: Sleep, Aggression

Introduction

Lack of sleep and aggressive behavior are normal issues in this general society, Intrapersonal and situational variables influence aggressive and hostile behavior. Verbal, physical and indirect actions which are usually intended to give harm to one and others are known as the aggressive behavior or aggression (Eron, 1982). Researches have characterized and explain aggression and identify the factors that add to the choice to act aggressively (Berkowitz, 1990). De Paula and Hoshino in (2002) clarify the relationship between sleep deprivation, with another common problem of the society, irritability, and aggressive behavior is added to the many research studies that focused on the relationship between sleep disorders and behavioral problems.

According to Schubert (1977) it is reported that the duration and frequency of sleep periods can also influence aggression. It was observed that healthy individuals who were sleep deprived for 1 night exhibited with an increased level of aggression (Cutler and Cohen, 1979). From different studies which was conducted with children and adolescents it is also observed that aggression was related to sleep deprivation (Chervin et al., 2003) and treating sleep disturbances contributed to the recovery of aggression problems (Ali et al., 1996).

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The factor which play a key role in expression and development of angry and aggressive propensities is sleep, individual whose sleep is disturb in term of quantity and quality they are more aggressive (Kamphuis, et al., 2014; Gregory,et al., 2004; Rauer & El-Sheikh, 2012). Little attention has been paid to the effects of sleep loss on other areas of affective functioning. Yet, many people have the experience that disturbed sleep is accompanied by emotional instability expressed, for instance, by a greater irritability and short-temperedness. In most people this will not result in physical outbursts of aggression. However, this may be different in vulnerable individuals, such as psychiatric patients, who often experience serious sleep problems. For example, about 80% of patients suffering from a depressive disorder experience sleep problems. There is no doubt that aggressive behavior is common and costly; in the United States during 2012 there were almost seven million reports of violent victimization (Truman, Langton, & Planty, 2013).

Literature Review

It was suggested by clinical observation that development of reactive aggression, violence may be because of sleep problem (Kamphuis, Meerlo, Koolhaas, & Lancel, 2012) and externalizing behaviors (Stein et al., 2001). Roth, Kramer, and Lutz (1976) said that individuals who show higher scores on aggression test have sleep deprivation. O'Brien (2009) noted not many large scale studies have find the impact of less amount of sleep in children and only a few studies have and quantified the relationship between sleeping problems and latent or acted-upon aggression (Alves-Ferreira, Costa, & Santos, 2012). Haack and Mullington observed an increase in mean scores of aggression across days 3-9 among the sleep-restricted subjects (4 h/d). Short sleep time as assessed by parent or self-report is associated with increased externalizing behavior problems in preschoolers18 and increased social problems in adolescents,19 and was associated with higher aggressive and delinquent behaviors in 7- to 12-year-olds20 and high prevalence of conduct problems in 6- to 11-year-olds21 in cross-sectional studies.

Children with greater angry temperament and externalization of anger are more likely to have problems falling and staying asleep, sleep problems, and higher daytime sleepiness (Chervin, 2013). In a survey in which adults who tend to become angry or to suppress angry feelings reported worse sleep integrity in terms of difficulty falling asleep and unwanted awakenings during the night (Caska, 2009). In study by Liu showed that a sample of 1,362 adolescents (60% male) aged 12–16 years. About 30.9% of adolescents with insomnia also reported suicidal ideation. When calculating Univariate logistic regression, insomnia and suicidal ideation were significantly related to each other.

Clinical observations suggest that sleep problems may be a causal factor in the development of reactive aggression, violence (Kamphuis, Meerlo, Koolhaas, & Lancel, 2012) and externalizing behaviors (Stein et al., 2001). Roth, Kramer, and Lutz (1976) revealed that after sleep deprivation, individuals have been shown to score significantly higher in tests of aggression. In children and adolescents, poor sleep appears to be associated with aggression (O'Brien, 2009).

Study Purpose

The aim of the proposed study was to determine the relationship between sleep quality and level of aggression in youngsters. Which throw light on the sensitive issue which creates a lot of hindrances both mentally and physically in daily lives of people whether students, working class or illiterate population, but unfortunately people are unaware about the adverse effect of sleep disturbances. The people are more focused to achieve success in their lives but they forget the actual factor that is quality sleep which influences the daily functioning. Disturbed sleep leads to frustration which causes aggression and aggression is the main cause of disturbance in many areas of individual life.

Methods

Sample

The data was collected from the youth of general population of Peshawar. 214 young adult participated in the study in which 105 were female and 109 were male whose age ranges from 18-24 years of age. All the participants have minimum of 12 years of education.

Sampling technique

The study population was selected through purposive sampling.

Research design

The design selected for the study was a cross-sectional, quantitative research study.

Instruments

Two validated questionnaires were used in the study through which data was collected regarding students sleep pattern and their aggression. The instruments used in the study were The Pittsburg Sleep Quality index and The Aggression Questionnaire.

The Pittsburgh Sleep Quality Index (PSQI)

This questionnaire is based on the Likert scale to assess the sleep quality in students and used to quantify the quality of sleep over the past month. It was devised to provide a standardized measurement of sleep quality. The scale is straightforward and consists of 20 self-assessed items grouped into seven components weighted 1 to 4, with lower scores indicating better quality of sleep. Individuals scoring less than four are considered good sleepers (GoodS), while those scoring more than five are rated as poor sleepers (PoorS). An overall score >4 on the PSQI indicates serious problems relating to at least two components, or moderate difficulties relating to more than three components. The PSQI instrument has been validated as reliable for use, and has been used in a number of studies in other countries.

The Aggression Questionnaire (AQ)

The AQ (Buss & Perry, 1992) is a 29-item scale measuring trait aggression. Each item is scored

on a five-point Likert scale ranging from 'very often applies to me' to 'never or hardly applies to me'. It comprises four subscales: physical (nine items), verbal (five items), hostility (eight items), and anger (seven items).

Procedure

All the questionnaires were distributed among participants and instructions were given to them. There was no time limit to fill the questionnaire for the participants. To aid inform consent, the participants were informed that their responses will remain anonymous. After sorting out inform consent, participants filled the questionnaire. Data from 36 questionnaires were excluded because of incomplete responses.

After collecting the questionnaires with words of appreciation for their participation, the data was transferred into a statistical package of social sciences (SPSS).

Data analysis

For data analysis Statistical package of social sciences (SPSS) 20 version was used in which statistical technique logistic regression and correlation were employed to find the relationship between the variables.

Results

Table 1 Psychometric Property of Scales Used in the Study

Scale	No. of items	Mean	SD	A	Skew
PSQI	20	38.214	7.981	.785	.276
AQ	29	86.971	17.576	.872	-.081

Note: PSQI: The Pittsburgh Sleep Quality Index, AQ: The Aggression Questionnaire.

Table 2 shows logistic regression analysis of sleep disturbance as a predictor of aggression among youth. Overall prediction success is 50.9%. Exp (B) value of sleep disturbance indicates that as this predictor increases the outcome occurring decreases while the odds of aggressive behavior indicates the same probability of occurring aggressive behavior both in males and females.

Table 2 Logistic Regression analysis predicting sleep disturbance for aggressive behavior

Variables		95 %CI for Odds Ratio		
	b (SE)	Lower	Odd Ratio	Upper
Constant	.037(.137)		1.038	
PSQI	-.09(.021)*	.87	.907	.94
AQ	.009(.009)**	.99	1.009	1.02

Note: R^2=.112 (Cox &Snell), R^2=.150 (Nagelkerke), Model Chi-Sq, (df=2), 25.47, p-value = .000, * = p> .05, ** = p< .01 & *** = p>.00.1. PSQI: The Pittsburgh Sleep Quality Index, AQ: The Aggression Questionnaire.

Table 3 shows that the correlation coefficient for sleep disturbance and aggression is 0.175. The p-value for this correlation coefficient is .010. The result conclude that the relationship between the variables is statistically significant because ($p<.05$).

Table 3 Inter-correlations for Scores on the PSQI and AQ

Measure	PSQI	AQ
PSQI	1	.175*
AQ	.175*	1

Note: PSQI: The Pittsburgh Sleep Quality Index, AQ: The Aggression Questionnaire.*$p<.05$.

Discussion

The aim of this study was to gain knowledge that contributes to the understanding of effects of lack of sleep on aggression. The study focused on the case of lack of sleep which led to formulation of hypothesis that 1: there will be a positive correlation between sleep disturbance and aggression 2: lack of sleep will lead towards high level of aggressive behavior in males then females.

A standardized questionnaire was applied to measure the variables that were expected to predict that lack of sleep leads to aggression. Data from 214 young adult participants was collected of which 105 were females and 109 were males, with age ranging from 18 to 24 years.

After the data collection the data was analyzed with logistic regression and correlation analyses. The results for correlation coefficient for sleep disturbance and aggression is 0.175 statistically significant because of ($p<.05$). And results for logistic regression analyses of sleep disturbance as a predictor of aggression among youth showed that when sleep increases aggression decreases while the aggressive behavior is same for males and females there is no significant difference.

Limitations and implications

Some limitations of the current study should be noted. First, sample size was relatively small, and thus more research with larger samples is needed to replicate the present findings. Second more research is needed on the variables of causes of aggression in this study we focused on one variable that is lack of sleep. Aggression can be caused by other things.

The results of this study imply that sleep should be taken seriously less hours of sleep is not good for individuals. The quality of sleep and hours of sleep should be monitored lack of sleep effects our daily lives it effects our decision making ability, choices and, alertness lack of sleep is not good for students as well it effects the exam performance and alertness in class. And that studying till late hours on exams night is not effective in remembering.

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