Associations of Psychological Distress, Sleep Pattern, and Self-Esteem among University Adolescents: Implication for Psychological Intervention

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Abstract

Introduction: Psychological distress is becoming a common health problem among university students. There is limited information in this regard in Ethiopia. The aim of this research was to inspect the correlates of psychological distress psychological distress, sleep, and self-esteem among adolescents living in Ethiopia.

Methods: A cross-sectional study was conducted. Four hundred students were participated in the study. Simple random sampling technique was applied to select the study participants. Self-Reporting Questionnaire-20(SRQ-20) was used to assess the mental distress and a variety of measures, including psychological distress, sleep behaviors, and self-esteem were employed.

Results: The research findings show significant correlations between social media use, bedtime fears/worries and insomnia, and higher levels of psychological distress among adolescents. The research results show optimistic correlations between self-esteem and lower levels of psychological distress. An assessment of sex differences indicated that girls tended to report higher levels of sleep, whereas boys explained higher levels of social media use and psychological distress. The correlational investigation of this study showed that insomnia; sleep duration, social media/like facebook, telegram, instagram, tweeter, you tube, viber, watching television, listening to music, email tweeter etc. use at the sleep beginning and bedtime fears and trepidation are all correlates of psychological distress.

Conclusion: About one fifth of the students were found to be psychologically distressed because of excessive use of social media. Designing preventions and treatments programs addressing the identified factors is important.

Keywords: Psychological distress, Intervention, Sleep, Self-esteem, Adolescents

Introduction

Psychological distress is a mental health dilemma which manifests with different levels of depressive, anxiety, panic or somatic symptoms. It also presents with confused emotions, hallucination and related symptoms without actually being ill in a medical sense [1,2]. This crisis has a direct and indirect effects on the individual's psychology, social functioning and affects many aspect of life including relationships, education status, work and health [3,4].

There is data of an increase in psychological health problems among children and adolescents [5], and mental health problems affect 10–20% of children and adolescents universal [6]. As a result, psychological health problems are considered a leading cause of health-related disability in this age group [5]. In addition, worldwide research evidence shows that psychological distress is associated with numerous factors at different levels of social ecology [7], including individual factors (e.g. low self-esteem, depression, anxiety, aggressiveness, sadness, loneliness), family-related factors (e.g. domestic violence, low emotional support, difficulties within family relationships, lack of communication), drug-related factors (e.g. experimentation and drug use), school-related factors (e.g. low performance, drop-out, bulling) and social factors (e.g. experiences of violence and aggression, sexual abuse, social problems and rules violation, legal problems, poverty) [7].

With regard to individual-level factors associated with psychological health, sleep is considered an important factor in the growth, maturation and wellbeing of children and adolescents [8]. A relationship has been found between sleep issues, such as sleep duration, bedtime and bedtime regularity, and the development of depression and anxiety [9] (Wheaton et al., 2013). According to several epidemiological studies, short sleep duration or late bedtime is significantly linked with deprived psychological health, including depression and anxiety among adolescents. In addition, irregular sleep schedules are connected with poor psychological health among the same population [9]. Underprivileged quality of sleep and shorter sleep duration, according to other research findings, are linked with a variety of other disorders, such as obesity, behavioral problems and decreased cognitive ability [10].

Nowadays, social media (facebook, instagram, viber, internet, telegram, you tube, watching television, listening to music etc.) use has been mentioned as one of the strongest indicators of sleep disturbances; sleepiness or poor sleep hygiene (such as sleep delays, sleep duration, sleep patterns, and sleep quality). These disturbances have been found to be linked with psychological symptoms as well [5]. Social media uses and exposure has been linked with later bedtimes on weekdays, longer sleep latencies, shorter total sleep times, and later wakeup times on weekends. Besides, a correlation among anxiety and insomnia, depression and psychological distress has been found [5]. Higher levels of depression and anxiety were found to be more ordinary in a group of adolescents with a delayed sleep phase [5].

Self-esteem is considered an important determinant of emotional well-being [11]. Study findings display that deprived self-esteem is linked with a broad range of psychological disorders, such as depression, suicidal tendencies, eating disorders and anxiety [12]. According to these study findings, the effect of low self-esteem on depression is not significantly influenced by gender [13]. Higher self-esteem has been found to be a protective factor against depressive symptoms by decreasing the impact of unenthusiastic thoughts [14]

Prevalence of psychological distress in university students

The prevalence of psychological distress in university students has been comprehensively established in the current research literature. Koochaki et al. [15] employing the Kessler 10 measured levels of self-report stress in a sample of 222 medical students. They reported no significant statistical difference between stress levels for students in the pre-clinical and clinical phases or different years in which they studied. Results showed that married students had lower scores than single students, but no gender differences were found; however, the study did indicate a correlation between mild to moderate stress and physical health problems. Coincidental findings showed students who selected their course themselves had lower stress levels than those encouraged to take courses chosen by their families.

Kilkkinene et al. [16] designed a study to elicit the prevalence of psychological distress with a specific focus on levels of risk as determined by gender and age. The Kessler 10 survey was widely distributed and 1563 people aged 25-74 responded. This study found the prevalence for psychological distress to be similar for both genders (31%) with more than 60% reporting moderate levels of distress. The prevalence of depression and anxiety was less than 10%. The age range experiencing the highest levels of all three was the 45-54 year olds. Also found no consistent gender differences were present in any of the three clinical indicators; however given the highest age group represents mature aged, this data may be of some note when designing support services for mature aged students.

In Ethiopia, psychological disorders were reported to account for 11% of the total burden of diseases [17]. Although limited and inconclusive, a psychological distress prevalence of 32.6% to 49.1% was reported among university students in Ethiopia [18,19]. In spite of psychological health

problem was included in national health policy of Ethiopia, interventions against the problem are limited.

The aim of this article is to understand psychological distress correlates among young people in Ethiopia, which is the youngest developing country in Africa and is characterized by a young population and many other changes that experience. In this regard, the aim of this study is to add knowledge to the scarce literature on Child and Adolescents' Mental Health Disorders (CADM) in developing countries and to contribute on meeting the priorities of the Millennium Development Goals (MDGs).

Methods

Sampling

This study was a cross-sectional survey conducted among undergraduate students of Bahir Dar University, Ethiopia. It was carried out from March1-30; 2011 E.C. During the study period, the university had more than ten thousand regular undergraduate students. The study sample size was determined by a single population proportion formula with the assumptions of 95% level of confidence, 5% margin of error, prevalence of psychological distress 49% which was taken from previous study conducted in the country [18] and an added 15% non-response rate. With this calculation, the final sample size was 400. Simple random sampling technique was applied to select the study participants using the list of students from the university office of registrar as a sampling frame.

Data collection

Psychological Distress: A self-administered structured questionnaire was used to collect the data. The questionnaire was derived from different literatures that included the socio-demographic characteristics, psychological distress, sleep pattern and social issues related questions and questions addressing psychological distress called Self-Reporting Questionnaire-20(SRQ-20). The questionnaire was first prepared in English and then translated to Amharic for data collection. The level of psychological distress was measured using SRQ-20 items. The tool (SRQ'20 items) reflects the multidimensional nature of psychological disorders. It includes somatic factors, depressive/anxiety symptoms, and cognitive/decreased energy factor. The tool was validated and used in the study. In this study, a cut of point of 11 and above was taken to classify to psychologically distress which was also used previously.

Sleep Disturbance: Items measuring sleep duration used for the present research were part of the sleep patterns subscale. Sleep length was calculated using the self-reported approximate time of going to sleep and the self-reported approximate time of waking up. Based on this information, the sleep duration time was categorized into very short sleep (≤ 5 h), short sleep (6-7 h), moderate sleep (8-9 h) and long sleep (≥10 h) [9]. Very short sleep and short sleep were collapsed into a single category due to the small number of respondents in both groups. The sleep disturbances scale consisted of seven items that asked about bedtime fears/worries (3 items) and insomnia (4 items). Questions were asked in look upon to a typical week. A Likert-type scale ranging from 1 (never) to 5 (always) was used. Higher frequency indicated greater sleep disturbances [20]. Observed reliability for the current sample subscales resulted in (α = 0.81) for the bedtime fears and worries scale and (α = 0.79) for the insomnia scale.

For the current analysis, questions in the sleep hygiene index measuring electronics use at sleep beginning were used. This subscale consisted of three items and asked questions about electronic use at the time of sleep beginning (facebook, tweeter, viber, instagram, telegram, email, you tube, watching television, listening to music or having the lights on in the room). Each item was ranked from 1 (never) to 5 (always). The scale ranged from 3 to 15, with higher scores indicating frequent use of electronics and poorer sleep hygiene [20]. Observed reliability for this scale for the current sample was in the good range (α = 0.75).

Self-esteem: The last instrument is self-esteem. Participants self-esteem was assessed by using the Rosenberg Self-Esteem Scale [21], which is a 10-item self-report scale that measures an individual's global sense of self-worth. Items are asked on a 7-point Likert-type scale, with higher scores indicating higher self-esteem. The Albanian version of the Rosenberg Self-Esteem Scale was adapted by Arënliu (2014) [22], and the internal consistency coefficient for the Albanian version of this scale was reported to be (α = 0.81).

Data analysis

The Collected data were coded and transferred by the chief investigator from the completed questionnaires to computer data files i.e. the Social Package for Social Sciences (SPSS) software, v.20. In this study the researcher used different types of statistical analysis based on the research questions. During data analysis percentage, frequency, central tendency descriptive statistics, Pearson's chi-square test, one-way analyses of variance (ANOVA) and logistic regression analysis were used to describe the categorical and scale variables. Hierarchical logistic regression analysis was used to evaluate the relationship of psychological distress with the independent variables

Ethical considerations

Ethical clearance was obtained from the Institutional Research Ethics Review Committee of Bahir Dar University. A letter introducing the objective of the study, and maintaining the confidentiality was attached as the cover page of the questionnaire. Participants were consented for participation in the study. The right to refuse was clearly stated in the letter if the respondent is not volunteer to participate in the study.

Major Findings

The present study was designed to obtain a deeper understanding of university students' psychological distress, sleep and self-esteem in related to social media use.

Socio-demographic and related characteristics

Four hundred respondents were studied which resulted in a response rate of 96.2%. Respondents' age ranges from 16 to 28 years, with a mean of 20.9 ± 1.5(SD) and (80.9%) were within 2019 years. A majority were in their second year and beyond in their education (80.3%). With regard to family income, one-third of the total sample (n = 69, 34.7%) was financially better off or much better off compared to other families.

Associations of psychological distress, sleep, and self-esteem

About respondents sleep length, the average sleep duration was 9.35 h. Only 22.6% participants from the total sample indicated sleeping 7 or 8 h (moderate sleep), while the majority of the participants (74.9%) were long sleepers (≥ 9 h), and 7 (4%) were very short and short sleepers (≤ 4 h & 5-6 h). This finding shows that majority of study participants was long sleepers. As a university student it is not advisable, because it affects their academic success.

Based on the finding of the study one can be conclude that the amount of time an individual spends on the social media use is a crucial factor which increases risk of social media use addiction. In this study findings suggest that university students who were engaging in more than 3 h of social media use per day in nonacademic internet activities had higher levels of social media use addiction (P ≤ 0.001). This study indicated that time spent on internet per day and daily frequencies of internet use were variables which predicted social media use addiction. The severity levels of social media use addiction increase with increase in duration of social media use are consistently suggested by research evidence from many studies. Therefore, findings apparently imply that when the time spent by students on internet use becomes greater, the risk of becoming addicted to internet multiplies and becomes higher.

The associations of the psychological distress scale with electronic (facebook, twitter, viber, instagram, telegram, email, you tube, watching television, listening to music or having the lights on in the room) use at deep sleep beginning, bedtime fears/worries, and the insomnia scale were unenthusiastic and significant; while the association with the self-esteem scale was optimistic and significant. In other words, the association with sleep length was also constructive but had only borderline significance. Psychological distress was linked more strongly with the insomnia scale (r = 0.44), the bedtime fears/worries scale (r = 0.40), and the self- esteem scale (r = −0.31).

One of the continuing difficulties in the provision of effective services, beyond merely identifying the prevalence of psychological distress and the associated mental and physical health consequences, is the identification of the factors that can lead to the development of such conditions.

In the context of this study, comorbidity becomes an important concept to explore and understand due to the levels of prevalence of more than one interacting psychological/mental disorder or issue, and the impact of such on a student's ability to learn. The study explored the prevalence of substance misuse, depressive symptoms, and hostile behaviour within a group of university students. The findings indicated a significant degree of depressive symptoms within this population. These symptoms were positively correlated with incidences of alcohol use, poor study skill, low academic achievement and hostile behaviors. This possibly indicates the reasons for students without psychological health issues often being cautious with, if not suspicious of other students with psychological health concerns. The issues relating to stigma may play a part in the process of student mentor support given that, when faced with a student having psychological health concerns, mentors/advisors may react negatively.

Regarding gender difference, the results indicated that girls slept for a significantly greater number of hours each night (M = 8.63, SD = 1.35) compared to boys (M = 8.28, SD = 1.59), F (1, 198) = 4.00, p = 0.047. On the other hand, boys explained in the study higher levels of electronic use at deep sleep (M = 4.63, SD = 3.27) compared to girls (M = 3.63, SD = 2.71), F (1, 198) = 5.54, p = .020. Boys also indicated higher levels of psychological distress (M = 16.06, SD = 6.60) in comparison to girls (M = 14.34 SD = 6.29), F (1, 197) = 3.918, p = 0.04. But, there were no significant differences across the residual outcomes, all P > 0.05.

Psychological distress on SRQ was nearly equal among female and male university students. University students who experienced psychological distress were staying away from home in rented accommodations, used both laptops and mobiles to access internet, spent 180 min or more in a day on the Internet, used internet for >2 years, accessed internet several times a, expressed craving for use of the Internet and had made no significant attempts to reduce the usage of the Internet.

About associations between gender and categorical variables, the researcher employed Pearson's chi-square test were conducted to check relations between gender and categorical variables. There were no significant associations across gender, indicating that there were equal representations of gender across all categorical variables. To conclude, hierarchical logistic regression analysis was used to verify the alliance of different individual-level factors, including sleep duration, electronic use at sleep beginning scale, bedtime fears/ worries scale, insomnia and self-esteem, with psychological distress.

Regarding the relationship between family income and psychological distress, the finding shows that psychological distress was reasonably to strongly linked with students family income, particularly for the categories of low family income than others (odds ratio [OR] = 2.10, p < .05, confidence intervals [CI] =0.98–4.55), self-esteem (OR = 0.913, p < 0.01, CI = 0.86–0.96) and bedtime worries and fears (OR = 1.14, p < 0.05, CI = 0.95–1.31). Supplementary variables showed there is no significant affiliation with psychological distress. The socio-demographic variables included in the first step explained only 7% of variance, whereas the addition of sleep-related variables and self-esteem improved the model and accounted for 21% of variance.

Discussion

The university students engaged in severe addictive use of the social media were 0.5% and 16.4% qualified for moderate social media as per the criteria offered by social media addiction scale. The present study findings on the prevalence of severe social media are similar to those indicated by other studies on university students.

The present study findings are similar to prevalence rates of moderate social media use reported by other studies which ranged from 7.45% in university students to 7.4% and 15.2% in university undergraduates. A study from Iran indicated 8% of university students were engaged in moderate levels of social media use. The variations in sample sizes, instruments used, and different populations which were assessed across different periods of time may be the likely factors for the difference in results of prevalence reported across studies.

In general, the findings from this study in university duplicate most of the findings from other countries worldwide. Consistent with previous research, higher levels of social media use at sleep time are connected with higher levels of psychological distress [5,9]. Sleeping disturbances, bedtime fears and insomnia, similar to past research findings, were also linked with higher levels of psychological distress [5]. Moreover, higher self-esteem was connected to lower levels of psychological distress, which was consistent with prior research findings conducted within the field. Lower self-esteem has been considered an indicator of increasing levels of psychological distress, whereas higher self-esteem has been considered a protective factor [12,14].

The regression and correlation analysis findings of the study indicate that university students who are comparatively older in the study age range were at higher risk for indulging in social media use addiction. These findings are in overall agreement to those reported among university students in China. The initial years of university education offer a sudden shift to minimal parental control and increases opportunities for self-expression, use of self-control, and coping strategies. Those young individuals who lack self-control in context of decreased parental monitoring are at higher risk for social media use addiction.

The examination of gender differences revealed that females tended to report higher levels of sleep, whereas males reported higher levels of electronics use and psychological distress. Building on these results, further research may be needed to examine the potential interactions of gender on sleep behaviors and the subsequent relationships with mental health symptoms.

About psychological distress, most of the participants reported mild symptomatology of psychological distress [11]. Additionally, the findings from this study, as expected, illustrate that when family income is apparent as worse than other families, this seems to raise the probability of experiencing psychological distress among adolescents. Parallel results are found in other developing countries worldwide, and it seems that Ethiopia is not an exception, showing that socioeconomic status and financial situation represent a burden for mental health [23]. Moreover, research proof with adolescents from poorer socio-economic status shows that socio-economic status has a moderating consequence in the affiliation between sleep and psychological distress, with an emphasis on noisy living space and employment shifts [24].

The presence of psychological distress appears to be a significant factor which has the potential to increase the risk of social media use. Regression analysis indicated university students who had psychological distress predicted social media addiction or were at risk for engaging in social media use addiction behaviors. The correlation between depression and in social media use addiction observed in this study has been explained by other studies. It is to be observed that a noticeable proportion of the present study sample 1.80% had in the recent past approached a psychological health professional for excessive in social media use.

The beginning of an undergraduate course in university brings with itself a set of challenges and a phase of transition in youth life. Many students stay in rented accommodations or in university hostel to address the requirements of the course. In addition, this transition requires them to solve everyday challenges of staying out of home, taking care of one's health, form new interpersonal relationships, and gather social and emotional support. The individuals who are vulnerable can experience boredom, loneliness, and depression during this phase of transition in young adulthood.

Conclusion

In these findings, social media use addiction appears to be an emergent and significant psychological health condition among university students. Psychological distress and social media use addiction were positively correlated, and it is a variable which predicts social media use addiction and it affects student sleeping pattern and academic successes. Because the findings of this research briefly showed that sleeplessness, sleep length, study skill, social media use at the sleep beginning and bedtime worries are all associates of psychological distress. These findings give solid ground for the development of prevention and intervention strategies with regard to sleep habits, sleeping comfort and sleeping behaviors when working with adolescents. Designing preventions and treatments programs tailored to the contexts is essential. Therefore, awareness generation initiatives about social media use and its risk factors among students and faculty/college will be a valuable initial step towards healthy use of the social media use/like facebook, telegram, instagram, twitter, you tube, viber, watching television, listening to music, email tweeter etc.. Upcoming studies can evaluate the relationship of social media use addiction and depression in a manner which is more inclusive.

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