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IMPACT OF SOCIAL MEDIA ON ADOLESCENT'S MENTAL HEALTH



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Pawan Ghanghoriya

Department of Paediatrics, NSCB Medical College, Jabalpur (M.P.)

Arpit Sohane*

Department of Paediatrics, NSCB Medical College, Jabalpur (M.P.)*Corresponding Author

Asha Tiwari

Department of Paediatrics, NSCB Medical College, Jabalpur (M.P.)

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**ABSTRACT**

Background - Social media is most recent form of media and telecommunication which facilitates texting, images, audio, video sharing, fast publishing etc. Adolescents are rapidly shifting into social media use which has impact at both ends, as boon in form of communication and as bane in the form of mental health problems.

Aim -To study prevalence of use of social media among adolescents and to assess association of social media use with depression, anxiety, and addiction in them. **Method- Study Design** - Observational Cross-sectional study **Study Settings**- Two Government schools in Central India **Participants**- 200 Subjects from class 8th and 9th of two Government Schools in Central India

Results- 42% subjects were from class 8th and 58 % subjects were from class 9th. 42.5% subjects were male and 57.5% were female. Prevalence of social media use was 81.5 %. Commonly used social media platforms were WhatsApp [77%], Facebook [39 %], Snapchat [24%] and Twitter [12 %]. 28 % subjects had Common Mental Disorders as per 12 Item General Health Questionnaire Score and 14.5 % subjects had depression as per Beck Depression Inventory-II score. Cases of depression were more amongst adolescents who used social media [15.9%] than those who did not [8.1%]. As number of sites used by adolescents increased, cases of common mental disorders [GHQ Score >12] increased. [P value:0.044] **Conclusion**- Our study provide an important estimate of social media use amongst adolescents and burden of associated mental disorders like anxiety, depression. With 81.5% of adolescents using social media, it is important to understand how it's use can impact mental well-being. There is high prevalence of depression among social media users which is alarming.

Introduction:

Social media has been defined as forms of electronic communication (such as websites for micro blogging & social networking) through which users create online communities to share information, personal messages, ideas and other content (such as images, videos) Social networking sites which is used commonly by adolescents and adults include Facebook , Twitter, Whatsapp , YouTube, Tiktok , Snapchat , and Instagram [1] Social media is most recent form of media and telecommunication having many features and characteristics. It has many facilities on same channel such as communicating, texting, images sharing , audio and video sharing , fast publishing, direct connecting & linking with all over world. Adolescents and young adults are rapidly shifting into social media use so its influences are much on them. Adolescence [10-19 years] is a period of change in attitude and behaviour, development of heightened emotionality, outlook, interest pattern and roles, the social group expects them to play. IMPACT OF SOCIAL MEDIA ON YOUTH- Social media has various

impacts on life of youth at both ends. It is boon for the generation as it has so many positive impacts like global connectivity, easy and cheap communication, file and multimedia sharing but it is bane also as it may have serious adverse effect on mental health of young adolescent's brain. In 2015, the Office for National Statistics found that there is a clear association between time spent on social media and mental health problems. Only 12 per cent of children who do not spend time on social networking websites have symptoms of mental ill health, as compared to 27 per cent for those who are on the sites for three or more hours a day. [2]

Materials and methods:

Study Design - Observational Cross-sectional study

Study Settings - Two Government schools in central India

Participants - 200 students from class 8th and 9th of two Government Schools in central India

Data collection and analysis-

This study involved data analysis of a cross-sectional database. Two Government schools (1 English medium and 1 Hindi Medium) were selected. 100 students from each school were recruited from class 8th and class 9th. Researchers informed all of the students the purpose of this study. Assent was taken from students for participation in study. Instructions were given for answering the questionnaire before delivering the questionnaires. The participants were informed that all information on the questionnaire was anonymous and would only be used for research purposes. All students who agreed to participate in the study were given the questionnaire to complete. 1 hour was given to complete the pro forma and questionnaire. It took approximately 45 minutes to finish it. Data was entered in a Microsoft Excel worksheet and all the categorical (qualitative) variables were coded numerically. Further data was transported in SPSS 20 for Windows for statistical analysis. Categorical variables were tabulated in frequency with percentage distribution and continuous variables were summarized in mean \pm SD. Chi-square analysis and/or Fisher's exact were applied to compare 2 x 2 contingency tables as appropriate. Two independent means were compared using the student t-test. The normality test was applied before using parametric tests. The critical levels of significance of the results were considered at 0.05 levels i.e., $P < 0.05$ for statistical significance.

Results and Discussion:

PREVALANCE OF COMMON MENTAL DISORDERS-We estimated the prevalence of common mental disorders (CMDs) such as anxiety, depression, and psychosocial distress among school children by using 12 Item General Health Questionnaire. In present study, 28 % subjects were diagnosed as having a common mental health problem. **PREVALANCE OF DEPRESSION**-We estimated prevalence of depression by Beck Depression Inventory-II. In present study, out of 200 subjects, 124(62%) subjects had normal results, 47(23.5%) had Mild mood distress, 14.5 % subjects had depression [7 (3.5%) subjects had borderline depression, 20(10%) subjects had moderate depression,

2(1%) subjects had severe depression while none of the subjects had extreme depression] as per BDI.PREVELANCE OF USE OF SOCIAL MEDIA- In this study ,we found that 81.5 % subjects used social media sites. USE OF VARIOUS SOCIAL MEDIA PLATFORMS. In our study ,We found WhatsApp was used by 77% adolescents while Snapchat was used by only 24% adolescents .Our study identified WhatsApp was their most commonly used social media platform. We found Facebook was used by only 39 % adolescents. Anderson and Jiang (2018) conducted online study on 743 adolescents aged 13-17 years in United states where he stated [3]"Facebook is no longer the dominant online platform among teens"-In the Center's 2014-2015 survey of teen social media use, 71% of teens reported being Facebook users . Meanwhile, only 51% of teens in 2019 in research Anderson and Jiang (2018) said they use Facebook. So there seems to be fall in use of Facebook by adolescents. Also, there are 240 million Facebook users and 400 million WhatsApp users in India, so our findings are reflecting demographic use of these sites. In our study ,only 12% adolescents used Twitter while Amanda Lenhart et al (2015)conducted study on adolescents aged 13-17 years at united States and reported 33% of all teens use Twitter. [4] Twitter is used lesser by study subjects because it doesn't provide any features for sharing of information personally with ease as compared to other social media platforms .Moreover ,Twitter's posts are mostly politically motivated which is not liked by many adolescents. IMPACT OF VARIOUS SOCIAL MEDIA PLATFORMS ON MENTAL HEALTH- Amongst the subjects using YouTube, 43.3% subjects had score of more than 12 in 12 ITEM GHQ with significant difference from group not using YouTube. (p value 0.03). More cases of borderline(12.5%) and moderate depression (15.6%)according to BECK DEPRESSION INVENTORY- II were found from the group of subjects using YOUTUBE with significant difference from in number of cases of depression from group not using YouTube. (p value 0.03). Out of those subjects who used TWITTER, 50% subjects had score of more than 12 in 12 ITEM GHQ with significant difference from in number of cases from group not using TWITTER. (p value 0.011) DURATION OF SOCIAL MEDIA USE- Increasing number of hours of social media use was associated with more cases(score more than 12) of common mental disorders and more cases of depression as per Beck Depression Inventory. SOCIAL MEDIA , SLEEP QUALITY AND DEPRESSION-The unique feature of social media is particularly relevant to sleep quality for two reasons. Firstly, incoming alerts during the night have the potential to disturb sleep, as most of the adolescents sleep with their phone in the bedroom often under their pillow or in their hand .Secondly, constant incoming alerts create considerable pressure to be available 24/7 and contribute to a fear of missing out.[5] CMDs and depression were found to be more in subjects who slept for less than 6 or more than 9 hours. Subjects who slept for 6-9 hours had better mental health . More cases depression were found from the group who looked at screen for more than 2 hour before sleep (21.4%) than subjects whose screen time on social media before sleep was 1-2 hours (19.6%) or less than one hour (11.8%)

Conclusion: Our study provides an important estimate of social media use amongst adolescents and burden of associated mental disorders like anxiety, depression. With 81.5% of adolescents using social media, it is important to understand how it's use can impact mental well-being. There is high prevalence of depression among social media users which is alarming.

List of Abbreviations-

WHO- World Health Organization,
 CMDs- Common Mental Disorders,
 BDI- Beck Depression Inventory,
 12IGHQ- 12 Item General Health Questionnaire.

Table 1- Table showing socio-demographic details of study population

| | | |
|--------|--------|--------|
| GENDER | MALE | 42.5 % |
| | FEMALE | 57.5% |

| | | |
|-----------------|---------|-------|
| CLASS OF STUDY | 8th | 42% |
| | 9th | 58% |
| MEDIUM OF STUDY | HINDI | 50% |
| | ENGLISH | 50% |
| RELIGION | HINDU | 76% |
| | MUSLIM | 17.5% |
| | OTHER | 6.5% |
| SINGLE PARENT | YES | 10.5% |
| | NO | 89.5% |
| TYPE OF FAMILY | NUCLEAR | 63.5% |
| | JOINT | 36.5% |

TABLE 2- Table showing association of mental health disorders and various aspect of social media use

| PARAMETERS | COMMON MENTAL DISORDERS (BY 12 ITEM GHQ) | | DEPRESSION (BY BECK DEPRESSION INVENTORY) | | P-VALUE |
|---|--|------------------|---|-----------|---------|
| | NON CASE [SCORE <12] | CASE [SCORE >12] | NORMAL | DEPRESSED | |
| 1]USE OF SOCIAL MEDIA | | | | | 0.066 |
| YES | 74.8% | 25.2% | 84.1% | 15.9% | |
| NO | 59.5% | 40.5% | 91.9% | 8.1% | |
| 2] HISTORY OF MENTAL HEALTH ISSUE IN FAMILY | | | | | 0.281 |
| YES | 61.1% | 38.9% | 83.3% | 16.7% | |
| NO | 73.1% | 26.9% | 85.7% | 14.3% | |
| 3]SOCIAL MEDIA SITES USED | | | | | |
| WHATSAPP | | | | | 0.742 |
| YES | 71.4% | 28.6% | 84.4% | 15.6% | |
| NO | 73.9% | 26.1% | 89.1% | 10.9% | |
| FACEBOOK | | | | | 0.708 |
| YES | 70.5% | 29.5% | 78.2% | 21.8% | |
| NO | 73% | 27% | 90.2% | 9.8% | |
| TWITTER | | | | | 0.011 |
| YES | 50% | 50% | 83.4% | 16. % | |
| NO | 75% | 25% | 85.8% | 14.2% | |
| YOUTUBE | | | | | 0.03 |
| YES | 56.3% | 43.8% | 87.6% | 12.4% | |
| NO | 75% | 25% | 84.9% | 14.1% | |
| 4] USUAL DURATION OF SLEEP | | | | | 0.045 |
| <6HOURS | 61.9% | 38.1% | 77.8% | 77.8% | |
| 6-9 HOURS | 78.6% | 21.4% | 89.7% | 89.7% | |
| >9 HOURS | 65% | 35% | 85% | 15% | |

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