Assessment of mental health status among adolescents in Puducherry, India – A mixed method study

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ABSTRACT

Context: Adolescence is a crucial period during which biological and psychosocial changes occur in an individual. The prevalence of mental disorders among Indian adolescents was 7.3%. Early recognition and intervention will help to have favorable outcomes.

Aims: To determine and compare the prevalence and risk factors associated with mental health illness among urban and rural adolescents in Puducherry.

Methods and Material: An explanatory mixed-method design wherein the quantitative phase (an analytical cross-sectional study) was followed by qualitative phase (focus group discussion). Adolescents aged 13–17 years attending Government schools in urban and rural Puducherry were selected by stratified random sampling. Mental health status was screened using a validated Youth Report Measures for Children and Adolescents – SDQ and students with higher score were considered to be at risk of mental health illness.

Results: Among 329 adolescent, 25.5% are found to be at risk of mental health illness. The mean total score and sub-domain scores of hyperactivity and emotional symptoms were found to be significantly higher in urban when compared to rural. Among those at risk of mental health illness, significant difference between urban and rural area was seen with respect to variables like family monthly income and parent’s occupation. Behaviour change and deterioration in academic performance were the most common presentation as perceived by the teachers.

Conclusions: One fourth of the adolescents were found to be at risk of mental health illness, so periodic screening could be done at schools, for early identification and proper treatment of mental disorders.

Keywords: Adolescent, mental health status, strengths and difficulty questionnaire

Introduction

Adolescence is a very crucial period during which biological and psychosocial changes occur. The appearance of certain health problems of an adolescent has an impact on the mental, social, and physical well-being while growing up. About one sixth of the global population and one fifth of Indian population are constituted by adolescents.[¹]

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The key strategy to reach adolescents would be schools and school teachers as they are the focal point to identify their behavioural changes at the earliest. In addition to this, the preventive services can be initiated from teachers as their care and guidance would be extremely helpful in the adolescent's mental well-being.

In India’s flagship programme for adolescents (school health programme), the mental health screening through RBSK (Rashtriya Bal Swasthya Karyakram) targets only on behaviour disorders (autism and attention deficit hyperactivity disorders) and learning disorders. There is no specific approach to screen for other mental health illness. Hence, the family physicians at the primary health care level should be trained to diagnose early such mental health illness among adolescents for the early intervention and management.

There have been very few studies on mental health illness among adolescents in South India. Hence, this study was conducted with the aim to determine the prevalence of mental health illness and factors associated with it among the school-going adolescents and to explore the perceptions of mental health illness among the school teachers in Puducherry.

Subjects and Methods

Study setting
This study was conducted in a rural and an urban government school selected from the urban and rural service area of the tertiary care hospital in Puducherry. The government schools selected were approached to obtain their permission and the list of students in the age group of 13–17 years.

Study design
Sequential explanatory mixed-method design was adopted for this study. The quantitative component comprised a cross-sectional design among the school-going adolescents and the qualitative component included focus group discussion (FGD) among the school teachers.

Study period
6 months (July 2019–December 2019)

Study population and data collection

Quantitative data
The list of students was obtained and eligible participants were selected by stratified random sampling from each class. The estimated sample size was 160 in each group. Data were collected from 329 study participants using Strengths and difficulty questionnaire (SDQ – youth report measures for children and adolescents). It is a 25-item behavioural screening questionnaire with 5 scales (of 5 items each) such as emotional symptoms, conduct problems, hyperactivity, peer relationship problem, and prosocial behaviour to produce a total score of 0–40. All participants were also asked about sociodemographic characteristics. The data were collected after obtaining permission from Institute Ethics Committee (No. 200/IEC-25/F-7/2019).

Qualitative data
FGDs were conducted in Tamil with eight school teachers. Informed consent was obtained from the participants for their participation and also for the audio-recording of the interviews. The FGD was conducted over approximately 1 hr with two moderators who were trained in qualitative research methodology. An FGD guide was prepared in line with the objective of the study based on the available literature.

Data entry and analysis

Quantitative data
Data entry was done in MS Excel 2007. The data analysis was done using SPSS Version 16. Results were represented in the form of descriptive and inferential statistics. The continuous variables were represented in the form of mean and standard deviation. The categorical variables were summarized in percentages and proportions. The prevalence of mental health illness was calculated as proportion of adolescents who scored high-risk (20–40) total difficulties scores. The findings between the groups were compared using Chi-square test and Fisher’s exact test. Logistic regression model was applied to find the significant factors associated with depression. A P value of < 0.05 was considered as significant.

Qualitative data
Manual content analysis of the transcripts was done. The analyses of interview transcripts were begun after the interview. The transcript was read at least twice and inductive and deductive codes were derived from the transcript. Later similar codes were merged together to form subthemes.

Results

Quantitative results
The data were collected from 166 urban school going adolescents and 163 rural adolescents. The mean age of the study participants was 13.9 ± 1.2 years, which was similar in both groups. More than half of the study participants were males but females (52%) were more among rural school going adolescents. More than 95% of the study participants were from Hindu religion [Table 1].

Among 329 adolescent, the overall prevalence of mental health illness among adolescents was found to be 25.5% with 27.7% in urban and 23.3% in rural [Figure 1]. The mean total score, hyperactivity scale, and emotional symptoms scale were found to be significantly higher in urban adolescent when compared using Mann–Whitney U test [Table 2].

Among those at high risk of mental health illness, significant difference between urban and rural area was seen with respect to variables like family income and parent’s occupation [Table 3].
As depicted in Table 4, family monthly income was significantly associated with high risk of developing mental health illness among urban and rural adolescents using logistic regression.

**Qualitative results**

We conducted focus group discussion with eight teachers at a meeting room in the Government school in our urban field practice area. Of the eight teachers selected purposively for the FGD, five were females and three were males. The participant’s age ranged from 29 years to 43 years. About six subthemes were grouped into two thematic fields which were derived from the content analysis of the interviews [Table 5].

**Theme 1: Common presentations of mental health illness**

According to the respondents, the most common presentation was the behaviour change of the students followed by few signs like drowsiness and lack of concentration. Most of them made a note on student’s rude behaviour within their peer group and toward teachers. Here are the words of respondents who had experienced student's behaviour change,

“*They won’t bring notebooks. When we question them, they would get into arguments with teachers. Few students would file complaint against teachers.*”

– Female respondent of 29 years

“A student would hide in a particular teacher’s class and sleep. He wouldn’t show his face also to us. Few students even bunk the class."

– Female respondent of 42 years

“*Few students would mark their classmates who laugh at them and then beat them when teachers leave the class.*”

– Male respondent of 33 years

Deterioration in the academic performance of the student was mentioned by few respondents. A few teachers reported that these students were reluctant when they were asked to perform in class hours. As said by them,

“*Boys are very shy to open up in front of fellow classmates and don’t want to be questioned. Few students are giving importance to physical appearance. They are very reluctant to do things in front of their classmates like reading in front of them.*”

– Female respondent of 43 years

“There’s a boy, who would perform well, became drowsy in class hours and his academic performance started to deteriorate.”

– Male respondent of 40 years

“*With the change of circumstances, their scholastic performance drops. Even a good performer deteriorates within a quarter.*”

– Female respondent of 38 years
Theme 2: Probable reasons and solutions

According to the respondents, the most perceived cause for their mental health illness was family-oriented problems and its impact on them. Few teachers had also mentioned that the social media influence and peer-group pressure as probable reasons. They had stated that,

“Students with family issues would stay silent and we can easily pick their abnormality. When these students are probed, they disclose that they are victims of some domestic violence or being brought up by a single parent.”

– Male respondent of 37 years

“Mostly seen in students who are being brought up by a single parent”

– Female respondent of 38 years

“These students do not have care or support of their family”

– Female respondent of 42 years

“Most of the students attending government schools are having one or the other family issues. They’re the ones who are misbehaving.”

– Female respondent of 29 years

“Theyir behaviour changes might also be because they are addicted to social media or being influenced by their friends”

– Female respondent of 41 years

When discussed about their perception on managing such students, most of them suggested about counselling these students and their parents. But they deferred on medical management as it was not required immediately. Few of their statements,

“That should be rectified from the root. So, we also counsel them regarding the same.”

– Female respondent of 29 years

“Problem oriented solution is best. So, parents should be counselled first.”

– Female respondent of 41 years

“If the peer group pressure is the reason for a student’s behaviour change, then we should help them to come out of that surrounding. We would inform their parents that your child’s behaviour is getting worse because of this friendship, so better help them to come out of it.”

– Male respondent of 40 years

“We haven’t seen children with such extreme behaviour problems that required to be referred to a psychologist or psychiatrist. As this is not a clinical or psychological problem, it’s a socioeconomic problem. So the change should begin within the family.”

– Male respondent of 37 years

Only one of the respondents was aware of the national program on adolescent health. And none of them were aware of the adolescent clinic days organized in the primary health care. As said by the respondent,

“They (the teachers) are not aware of such a program. Our education department had organized a session on this national program and one teacher per school had attended the same. I had attended the session but I couldn’t share the materials with my colleagues.”

– Male respondent of 37 years
Discussion

This study showed that one in every four adolescents is at risk of mental health illness. Puwar T et al.[7] and Arman et al.[8] also stated similar findings (27% and 26%, respectively) in their study done in Gujarat, India, and in Iran, respectively. Kollabathula M et al.[9] found that the prevalence was about 16% among the adolescent girls in Andhra Pradesh. The difference in prevalence was probably because the study was conducted only among adolescent girls in contrast to the present study which included both genders. Bhola P et al.[10] found 10.1% of pre-university students in Bangalore were at risk of mental health illness. The smaller proportion was because the researchers had considered individuals at high risk when the SDQ total difficulties score was above the 90th percentile of the data. Thus the risk of adolescents for mental health illness does not vary much across various regions of the country.

It was also found that family income and parent’s occupation were significantly associated with risk of mental health illness among urban and rural adolescents. Similar association of parent’s occupation was stated by Puwar T et al.[7] in Gujarat. Personal factors like history of physical or verbal abuse, difficulties with studies, lack of safety, and non-traditional lifestyle practices were independently associated with mental health illness in a study conducted in Goa.[11] Various studies had shown other risk factors like type of family, difficulties in reading at home, type of school, suicidal attempts, visual disturbances, parent’s education, and financial difficulties were also associated with mental health illness among adolescents.[7-13] Hence, the planning of intervention should be multi-dimensional involving the adolescents, their family background, and teachers in addition to the health care settings. Other than the routine adolescent health services available at the primary health care level, prompt mental health screening, and specialist care should be provided periodically for the opportune management.

The present study found that the difference was significant in emotional symptoms scale and hyperactivity scale when compared based on the area of residence. Reddy KR et al.[14] also reported that emotional symptoms scale difference was most pronounced among females than male adolescents in a study conducted in Bangalore among adolescents. Hence, the prediction of mental health illness risk might be more frequent with emotional symptoms scale among various groups.

There were very few studies conducted to explore the perceptions of teachers about adolescent’s mental health illness. From this study, it was found that behaviour change was the most common presentation as perceived by the teachers. Deterioration in academic performance was also stated by few participants in this study. Similarly Michaud PA et al.[15] also stated deviant behaviour and change in school performance or behaviour as one of the signs of overt mood changes among adolescents. They had also mentioned that family conflicts were one among the various reasons for the adolescent’s mental health illness similar to this study. It was also found that adolescents influenced by social media and peer group pressure had presented abnormal from this study. However, most of the teachers were unaware of the national program for the adolescents and adolescent friendly clinics.

Strengths

This study adopted sequential explanatory mixed-method study wherein an explanation to the quantitative findings was obtained through the qualitative research. It fetched two types of information together which gave us greater understanding and insight into the adolescent mental health illness that may not have been acquired by analysing and evaluating data independently.

Limitations

The clinical assessment by a trained health care professional was not a part of the study. Also, this study had failed to address suicidal attempts, sexual and reproductive behaviour, and substance abuse.

Conclusion

The current study had shown that one in every four school going adolescents were at risk of developing mental health illness. Intervention should be made at all levels including school teachers and family members and make them aware of importance of mental health status. Life skill education would help adolescent to deal with the mental health issues. And it also emphasized the need for improved policy for training teachers and effective networking between the teachers and health professionals. The present study highlights the importance of future intervention studies involving the primary care physicians, specialists, school teachers, parents and the adolescents, with periodic follow-up.

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Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest
There are no conflicts of interest.

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