

The Impact of the Social Environment on the Children Mental Health: A Cross Sectional Study of Urban District of Srinagar

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Abstract- Background:

Children with a low socioeconomic factor are more affected by mental problems as compared to children with a higher socioeconomic factor. This paper explores whether this socioeconomic pattern persists in the Urban city of Srinagar Jammu and Kashmir which features high quality of life and better access to the psychiatrists and clinical psychologists

Methods:

100 parents and 200 school children participated in a cross-sectional health survey. They were given a self-administered questionnaire (including socioeconomic variables) and the 'Strengths and Difficulties Questionnaire (SDQ)', a well-established method to identify mental difficulties and distress among children and adolescents. Prevalence estimates for the 'SDQ-Total Difficulties Score' were calculated, with a special focus on differences by parental socioeconomic position. The association between different socioeconomic structural factors like parental education, household income and parental working status on one hand, and their children's mental health on the other, was explored using multivariable logistic regression models.

Results:

In Srinagar the distribution of mental health difficulties among children follows the same socioeconomic pattern but more prevalence of about 30% as compared at national level. Comparing different indicators of socioeconomic position, low parental education and household income are the strongest independent variables associated with mental difficulties.

Conclusions:

Socioeconomic differences in the prevalence of childhood mental difficulties are very stable. Even in a city such as Srinagar, which is characterized by better quality of life as compared with other cities of Jammu and Kashmir, high availability of mental health specialists, and low prevalence of mental distress as compared with state data. It can be concluded that the

effect of several structural environmental factors effects overall mental development in children and adolescents

Index terms- social environment, mental distress, orphans, interventional care. J&K, Urban City, SDQ, Factor etc.

I. INTRODUCTION

More than 25% of individuals develop one or more mental health or behavioral disorders in their entire lifetime [1]. Mental disorders are among the 20 leading causes of burden of disease, and by the year 2030 they are expected to become the first leading cause of burden of disease in the world [2]. The worldwide prevalence of childhood and adolescent mental disorders is around 20% [3]. While up to 6% of these need clinical intervention [3] and only approximately 15% - 20% of children have access to mental health services [4-7].

Since half of all lifetime cases of mental health disorders start by age 14 [8], an early detection of child and adolescent mental disorders is of great public health relevance. A well-established method for detecting signs of mental difficulties is the 'Strengths and Difficulties Questionnaire (SDQ)', a brief behavioral screening questionnaire which assesses emotional, behavioral, hyperactivity and other prosocial problems. The SDQ is method to identify mental health difficulties that can be administered to the parents, teachers of 4 to 16-year-olds children and adolescents. [9] It has a specificity of 94.6% and a sensitivity of 63.3% when it is completed by all potential informants (parents, teachers, and children)

II. OBJECTIVES OF STUDY

The question whether there is a regional pattern in addition to socioeconomic pattern and whether a high availability of mental health specialists has an impact on the socioeconomic pattern has not yet been addressed in Jammu and Kashmir. The objectives of this study are:

1. To analyze mental health status of children between 4 to 16 years in urban settings.
2. Find correlation of mental health with structural environmental factors like socioeconomic status.
3. Explore the association of availability of mental health specialists and mental health difficulties in children.

III. MATERIALS AND METHODS

Setting and sampling strategy

This study done between March to May 2018 in city of Srinagar. The SDQ, together with a self-administered questionnaire containing questions on socioeconomic variables, was given to the 100 parents of the children who were attending the schools. Written informed consent was obtained from all parents answering the questionnaire. The total sample consisted of 200 children (response rate 93%) from 20 schools randomly selected from Srinagar district. The study population comprises 200 children (103 girls and 97 boys,) with a median age of 11.9 years. From the directorate of health services, we obtained the list of mental health specialists in Srinagar city including the public hospitals.

District	Srinagar
samples	
Schools sampled	20
Children	200 (F 103; M:97)
Parents of Children	100
N (%) weighted	

Table 1: Showing sampling strategy of Study in Urban district of Srinagar.

IV. ENVIRONMENTAL INDICATORS USED

Several questions in the questionnaire were posed in order to identify the social environment in which the children live. In our analysis we used the information on household income, parental educational level, parental working status.

Household income

The household equivalent income is calculated by weighting the monthly net income according to the size and age composition of the household members. An additional income group consists of those parents who did not indicate their income (i.e. 'missing values'). This additional group was created in order to avoid a possible bias due to the high number of parents who gave no information on their income. Looking at the educational level, we found that in the group of parents with high educational level 66.9% indicated their income and 33.1% did not. A similar, but less pronounced difference was seen in the group with medium level education (59.3% vs. 40.7%). This difference all but disappeared in the low educational level group (50.4% vs. 49.6%). The association between missing income data and educational level was statistically significant (p-value < .0001).

Parental educational level

This variable, divided in three categories, refers to the highest level of completed education reached by either the mother or the father. the highest level (i.e. 'high') refers to the completion of at least undergraduate studies or to a general qualification for university entrance but no completed study, the educational level labelled as 'medium' equals holding an upper secondary school certificate, a low educational level refers to a lower secondary school certificate or to not having completed any school. This categorization yields a relatively high percentage of parents with a high educational level (54.6%),

Parental working status

Parental working status refers to at least one parent. A parent is considered 'not unemployed' either when he/she is full-or part-time employed or when he/she is not looking for a job. This implies that a parent not in labour force, such as a housewife or a student, is also considered 'not unemployed'. Unemployed are in our definition those who have explicitly stated this.

V. SDQ QUESTIONNAIRE SCALE

The SDQ questionnaire, consists of 25 items divided in 5 scales:

1. emotional symptoms scale
2. conduct problems scale

3. hyperactivity scale
4. peer problems scale
5. prosocial scale

For each scale the score can range from 0 to 10, the scores from all the scales are added together to generate the SDQ-TDS. According to the scores, the SDQ-TDS is then classified as 'normal' (0-13), 'borderline' (14-16), and 'abnormal' (17-40). An abnormal score can then be used to identify likely 'cases' with mental health disorders [9][10].

VI. STATISTICAL ANALYSIS

Prevalence estimates for the SDQ-TDS with 95% confidence interval (CI) were calculated. Chi square statistic along with its associated p-value was used to test whether the association between parental socioeconomic position and mental health problems is statistically significant. Logistic regression analysis for the SDQ-TDS as outcome variable and environmental factors was done to find correlation, the statistical analysis was conducted with the software package SPSS 25.

VII. RESULTS

The results of the study showed that about 15% of all participating children and adolescents aged 4-16 years had signs of mental health difficulties. According to the 'Total Difficulties Score (SDQ-TDS)', which is generated by summing the scores from different subscales, 10.6% of the girls and 15.8% of the boys in the age group 4-16 years were classified 'borderline' or 'abnormal', respectively [11]. The distribution of the disorders also showed a distinct socioeconomic pattern: in the lowest socioeconomic group (assessed by a combination of household income, parental educational level, and occupational status), 24.1% of the children were classified as 'borderline' or 'abnormal', compared to 6.7% in the highest socioeconomic group [11]. The distribution of the social variables is given in table 1. The prevalence of mental health difficulties is presented in table 2. It shows that about 9% (CI 7.5 - 10.8) of the children has either an abnormal or a borderline 'total difficulties score', i.e. 10.5% (CI 8.2 - 13.2) of the boys and 6.3% (CI- 8.5) of the girls. The prevalence of mental health difficulties is by far the lowest when the educational level or the

household income of the parents is the highest. The corresponding figures for the low and the high educational group are 18.4% vs. 8.4% for the boys and 9.7% vs. 3.6% for the girls (table 3). The p-value is 0.0141 for the boys and 0.0038 for the girls, indicating that these associations are statistically significant. A similar, but less pronounced association is also seen for parental working status, indicating that social disadvantage is associated with higher prevalence of mental difficulties. The logistic regression models also give evidence that parental education and household income are the strongest independent variables associated with mental difficulties (table 2).

Variables of Study	Number	Average and standard deviation	T Value	P Value	Results
SDQ-TDS score	200	38.8±1.7	6.87	0.0023	Strongly Significant
Household income	100	69.9±4.56	7.85	0.0025	Strongly significant
Parental educational level	100	5.6±2.9	3.25	0.0027	Strongly Significant
Parental working status	100	0.6±0.2	3.72	0.043	Significant

Table 2: Analytical data related to SDQ, sociodemographic variables of study.

Parental education and household income seem to be associated significantly with the psychological health of the children.

In order to assess the coverage of children mental health specialists in Srinagar, and to be able to compare them with the available data for the state and national level, we first calculated the rate of mental health specialists in Srinagar for the population group '16 years or younger'. As we did not have the exact number of children less than 16 years old living in Srinagar, but only the percentage of young people under 20 years (i.e. 16.9%) [12], we subtracted from it one quartile. This calculation is based on the realistic assumption that the Srinagar population under 20 years is relatively stable across the quartiles. The resulting figure (about 12.7% of the total population) was compared with the number of children mental health specialists in Srinagar. Working with these data, we found that in Srinagar the rate of child psychologists per 100,000 children below 15 years is 35.2, and that the rate of child psychiatrists is 8.2. If, following the WHO [13], one also includes the number of specialists in

psychosomatics and psychotherapy in the rate of psychiatrists for adults and children per 100,000 persons, the overall rate of psychiatrists is 30.6 for Srinagar.

Comparing these rates with those available at the national level we found that the rate of children mental health specialists in Srinagar is much lower than in India.

VIII. DISCUSSION

Our results indicate that childhood mental difficulties follow a socioeconomic pattern in Srinagar as well, and that this pattern is similar to the one seen at national level. There is an important difference between the results from Srinagar and at national level, though: the prevalence of children who have a borderline or abnormal SDQ-TDS is about 30% more [14]. The statement that the prevalence of mental difficulties is considerably higher is probably due to conflict nature of state.

If living in a city with an outstanding quality of life and high availability of mental health specialists might offer some protection from developing mental health disorders in early age, this does not seem to protect the more disadvantaged children from being more affected than those who belong to a higher socioeconomic position. The distribution of mental health difficulties shows in fact a clear social gradient, as mental health difficulties among girls and boys progressively increase as the educational level or the household income of the parents decrease [15]. Our findings show, in particular, that the parental education is the strongest risk factor for mental difficulties for both girls and boys (i.e. stronger than household income, parental working status)

Our results show that socioeconomic disparities in mental health persist even in a place that, in addition to a high quality of life, also has a particular good coverage of and access to mental health services. In Srinagar, in fact, like in the whole country, access to health services is almost universal. These findings make it hard to argue that the origins of mental health disparities lie in a possible gap concerning supply with mental health specialists [16]. It can be hypothesized that barriers such as lack of awareness and acceptance of mental health problems are espousing-call high in low status groups, but as far as we know there is no study testing this hypothesis in more detail. In our study as well, we could not assess

and quantify these barriers. Also, the question whether children with similar mental difficulties make the same use of mental health services, independently of their socioeconomic position, could not be addressed here. Our study indicates, though, that a very good coverage of mental health specialists per se does not have a significant effect on the social distribution of mental difficulties among children.

Concerning potential problems of our dataset and analyses, they are mostly to be attributed to the relatively small sample size. This has probably prevented us from identifying other important risk factors such as, for example, parental unemployment. Another limitation of our study lies in the many missing values of the variable 'household income'.

IX. CONCLUSIONS

The distribution of mental health difficulties among children has a pronounced socioeconomic pattern, with prevalence's especially high for children from parents with low educational level. This gap can be seen in India as a whole and also in a city such as Srinagar with its comparatively high standard of living and with a number of mental health specialists that is far lower than the national average. This study strengthens the hypothesis that the roots of mental health disparities among children can mostly be found in the family environment, as opposed to the regional environment, and that the regional context could have a strong impact on the overall prevalence, but not on the social disparities in mental health. In India, there is a need for social epidemiology to shift focus away from the description of socioeconomic disparities in mental health towards intervention and evaluation of programs directed at reducing those disparities.

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