

## Research Article

# Psycho-social study of adolescent girls of rural Konkan region (Maharashtra)

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### ABSTRACT

**Background:** Konkan area in Maharashtra, India is rich in Biodiversity and known for its Natural Beauty. At the same time geographical difficulties, poor socio-economical status, superstitious and religious beliefs are some important factors contributing to more Psycho-social problems in this area including Physical Health. We focused in this Study to find out Psychological Problems, Health issues and planning future activities for School going adolescent girls.

**Methods:** The Study was carried out on total no. Of 1290 School going adolescent girls of age group 11-20 years, over the period of six months. The following Psychological and Physical parameters were considered. Mental Status Examination, Higher Mental Functions, Personality, Decision Making capacity. Hemoglobin status, Body Mass Index and Health related factors of Adolescent girls.

**Results:** According to Psychological assessment 78.46% had abnormal expression, poor hygiene, low decision making. 72.47% were underweight and 47.22% were anemic.

**Conclusions:** More Active measures need to be taken for care of Psychological and Physical health. Awareness Programme needs to implement for Students, Parents, Teachers and Public.

**Keywords:** Psycho-social, Adolescent girls, Rural Konkan

### INTRODUCTION

Konkan is a narrow strip of land lying between the Sahyadri Mountains on the east and the Arabian Sea on the west. Engulfed in hills, this area is rich in biodiversity but at the same time due to its extremely inaccessible terrain, shortage of fertile land and poor water harvesting this land has remained very backward. According to our organisational findings, the people of this area lack economical and educational facilities and are dominated by religious beliefs and social taboos. Burdened with excess housework and farming, the adolescent girls here, are devoid of education and hence lack the basic knowledge about their own health. Due to lack of health awareness and proper education they succumb to a lot of

health problems. Adolescence is a period of great turbulence and a unique turning point of a very rapid, albeit and uneven development of physical, emotional, intellectual, social, moral, spiritual and aesthetic aspects. Also it is a period of unpredictable behaviour. Curiosity, exploration and adventure on one hand while psychological and emotional problems on the other exert considerable influence on the social behaviour of the adolescents.

The health of adolescent girls depends on their own behaviour and also the behaviour of people with whom they interact. Many of the behavioural and psychological factors in adulthood have their origin in adolescence and hence the study of adolescent period is gaining a lot of

importance as more and more people are trying to magnify the behavioural patterns of this period. Obstacles to adolescent health are inadequate level of understanding of health needs, lack of training among health care providers resulting in negative attitude towards adolescence and insufficient interpersonal communication skill in working with young people. Most of the services are designed either for adults or children and are quite often inaccessible to adolescents. There is lack of coherence in policy and legislation regarding how the information and services can be provided to adolescents. The objective of the study was to find the psychological problems and health issues affecting adolescent girls and to provide treatment facilities to adolescent girls at the hospital.

**METHODS**

*Physical variables*

**Table 1: Showing method for assessment of physical variables.**

Variables	Methods
Body Mass Index Status	Calibrated weight and height machine.
Clinical Assessment	Included thorough clinical examination. Special attention given to Ear, Hearing, Scalp, Dental, Eyes, Hair, Face, Poor Posture, Headache, White Discharge or leucorrhoea.
Menstrual Cycle	Clinical History.
Hemoglobin status and Anemia	Calibrated Calorimeter Method.
5. Nutritional status	Observation and Verbal Questionnaire.

To ensure cooperation the objectives and purpose of the study was explained in full details to the subject. The information collected was pre-designed and pre-tested. Semi structure interview was conducted and clinical examination was done. Verbal Questionnaires were used and observation in some cases was also done. The data was proved to be statistically significant by conducting the cross tabulation and chi-square tests. Validity of social and psychological problems was cross checked by asking questions to subjects and teachers. Haemoglobin examination was carried out by the calibrated Calorimeter method.

A community based cross sectional study of 1290 adolescent girls of age group 11-20 years was carried out. Variables considered for the study were age, gender, height, weight, BMI, anaemia and menstrual, psychological and behavioural problems. The above mentioned Variables were studied in Adolescent girls.

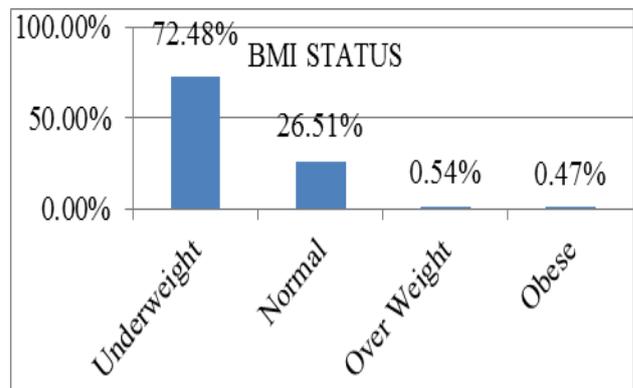
**Table 2: Showing method for assessment of psychological variables.**

Variables	Methods
Mental Status Examination	Expressions, Eye Contact, Superstitions & Beliefs and Speech were assessed.
Personality	Girls were looked for Introvert, Extrovert or Balanced type of Personality.
Decision Making Capacity	Here Own Decision and Group Dependency were noted.
Academic Performance	The Reading, Writing, Understanding skills noted.
Higher Mental Functions	Such as Concentration, Memory, Intelligence, Attention were tested.
Other Psychological Factors	Such as Confidence, Sleep, Timid, Aggressiveness were considered.

**RESULTS**

*Physical assessment*

*BMI status*



**Figure 1: Showing body mass index status of adolescent girls.**

Above figure highlight that, the percentage of underweight girls was 72.48%. Tools used were weighing machine for weight and the height of every girl was taken.

The percentage of poor posture was highest in the clinical assessment (53.03%).the Clinical assessment of adolescent girls was carried out by specialist doctors. Low Body Mass Index results in poor posture. For improvement we have provided reference services to them.

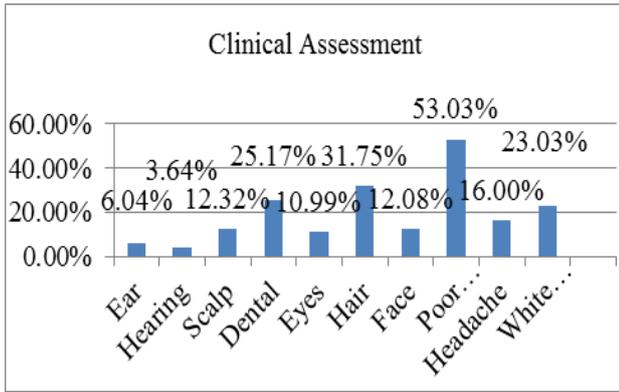


Figure 2: Showing clinical assessment of adolescent girls.

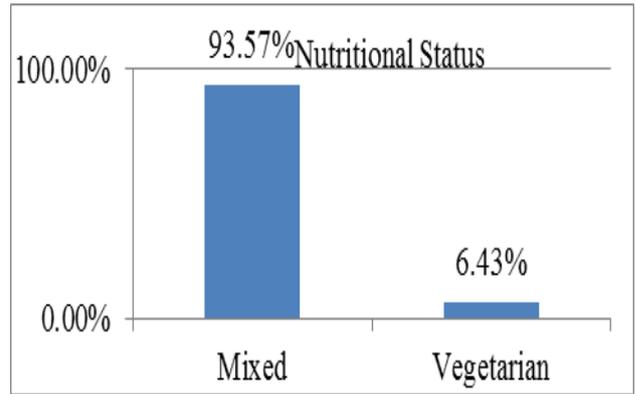


Figure 4: Showing nutritional status of adolescent girls.

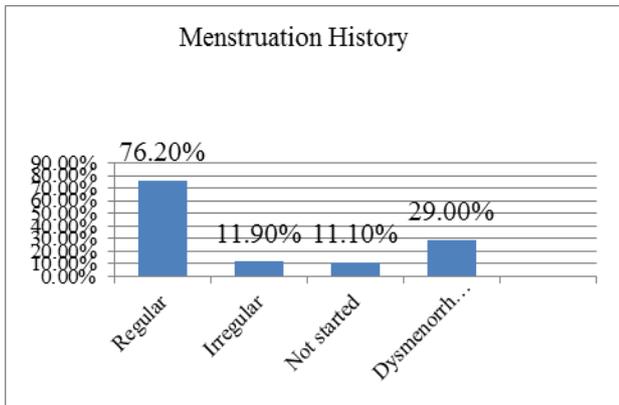


Figure 3: Showing menstrual history of adolescent girls.

As data analysis shows the percentage of regular menstruation was 76.20%, but we have come across some problems like dysmenorrhoea, menorrhoea, polymenorrhoea, white discharge or leucorrhoea and abdominal pain. Verbal Questionnaire method was used. The girls with problems related to menstrual cycle are referred to the gynaecologist at the hospital.

*Haemoglobin status and anaemia*

The data findings show that the percentage of anaemic girls was 47.72%. The calibrated calorimeter method was used to assess the haemoglobin of the subjects. The organisation has provided diet counselling and follows up services.

*Nutritional status*

The percentage of girls with mixed diet (non-vegetarian and vegetarian) was 93.57% and vegetarian diet was 6.43%. Method used was verbal questionnaire.

**Psychological assessment**

*Mental status examination discussion*

The percentage of girls' with poor verbal expression was highest (78.46%). Other problems like poor hygiene, no eye contact, day dreaming and speech related problems were also identified. Verbal questionnaire method and observation method was used for the above mentioned factors.

**Personality**

*Mental status examination discussion*

As seen in above figure the percentage of extravert girls was also more. The percentage of Balanced personality in girls was 42.07%. Verbal questionnaire method was used to assess the above mentioned factors of personality.

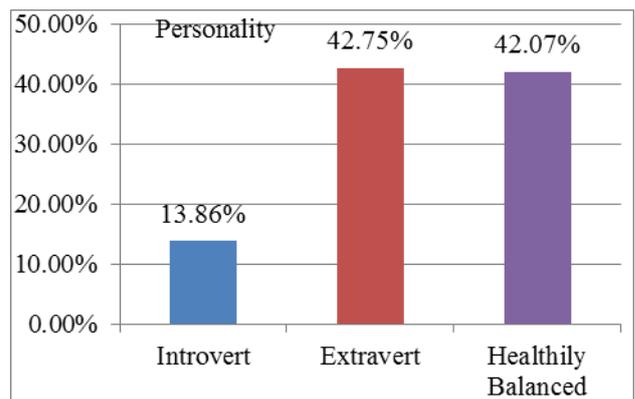


Figure 5: Showing personality of adolescent girls.

**Dependency needs**

The percentage of girls with the capacity of making own decisions was more than the group dependency (81.33%). Verbal Questionnaire method was used.

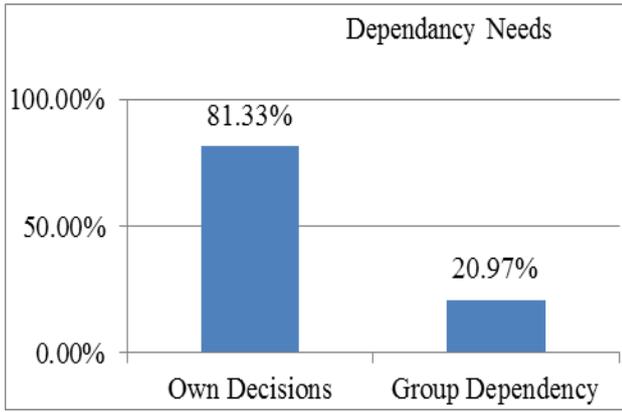


Figure 6: Showing dependency needs in adolescent girls.

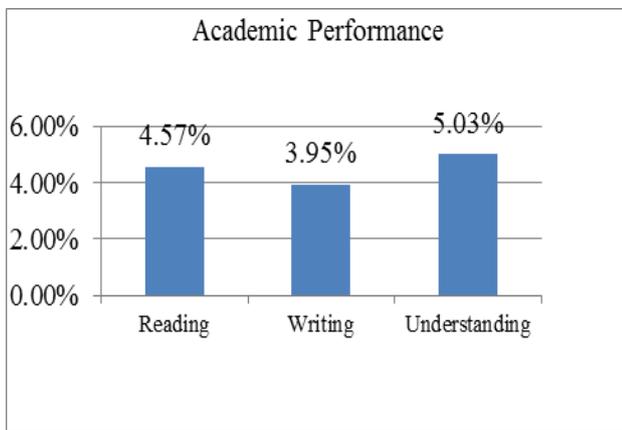


Figure 7: Shows academic performance in adolescent girls.

Above figure shows about 4.57% of girls have reading problems, 3.95% have writing problems and 5.03% have understanding problems. Observation technique was used as a tool.

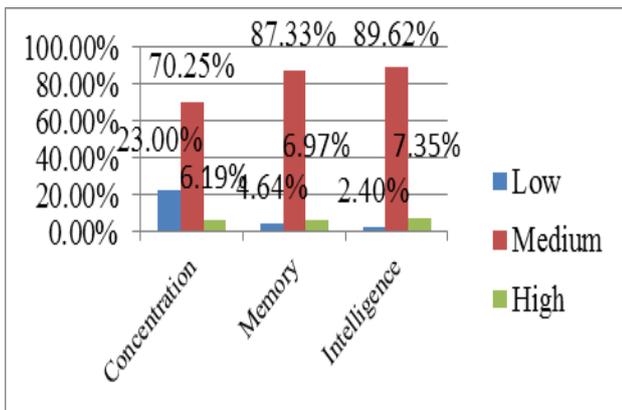


Figure 8: Showing higher mental function in adolescent girls.

**Higher mental function**

The higher mental functions include memory, intelligence and attention. Method used was verbal questionnaire and observations.

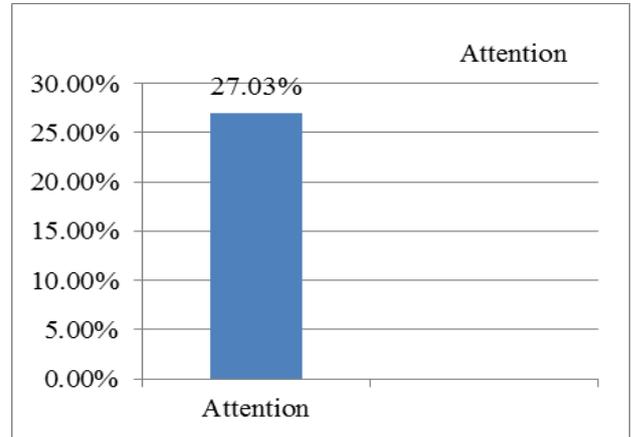


Figure 9: Showing attention status of studied adolescent girls.

According to data findings the percentage of girls with low attention was 27.03%. Method used was verbal questionnaire.

As seen in above figure, the percentage of girls with low confidence was 29.97%, sleep disturbance in girls was 79.93%, pessimistic attitude percentage in girls was 52.82%, timid girl's percentage was 27.19% and aggressive factor percentage was observed to be 46.20%.

**Other psychological factors**

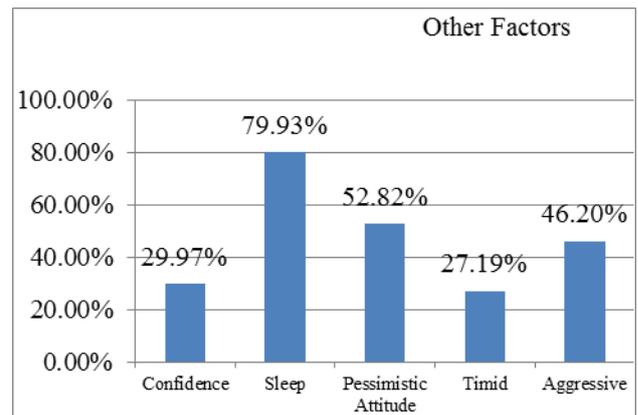


Figure 10: Showing other psychological factors in adolescent girls.

**DISCUSION**

The present study was a carried out in a rural community of Kokan region of Maharashtra state. Adolescent girls (1290 subjects) of age group 11 to 20 years constituted the study group. The main aim was to find out the psychological and health problems among them. The

findings revealed that of the 1290 subjects, (47.72%) were anaemic because of diet which lacks carbohydrates, fats and proteins. A similar study was conducted in Bihar and Kerala but their findings were 81% and 20 to 40%.<sup>1</sup> Also a study conducted in Vadodara, Gujarat revealed that 75% girls were anaemic,<sup>2</sup> and another study of Kurukshetra (Haryana) by N Gupta and G Kochar revealed that 81.81% girls were suffering from various degree of anaemia as their Hb level ranges between 6.6g/dl to 11.0g/dl.<sup>3</sup>

In our study findings (76%) had normal menstrual cycle and some menstrual problems were also identified. Most common menstrual problem was dysmenorrhoea (29%) and heavy bleeding (13.6%) The important reasons behind this problem are poor diet and exertion. A similar study was conducted in Himachal Pradesh and their result depicted that 67.0% girls suffered problems related to menstrual cycle and 33.84% problems were found in a study conducted by nag in Calcutta.<sup>4,5</sup>

According to the reference grade adopted from WHO 1995, WHO 2000 and WHO 2004 data analysis shows that BMI Status of Adolescent girls in the Underweight category is 72.48% , Normal category is 26.51%, Over weight category is 0.54% and Obese category is 0.47%. This fluctuation was found because of lack of carbohydrates, fats and proteins. Secondly the girls in this area have to walk long distances which results in exertion.

Using the body mass index as an index of adiposity similar study in Pondicherry revealed that 36.3% and 4.8 % of the girls from government and matriculation school respectively were severely undernourished, 16.5% and 29.8 % of them were noted to be normal and 19% and 48 % were identified as obese.<sup>6</sup> Also the results of a study conducted in an urban slum area of Varanasi depicted that 70% of the adolescent girls had BMI < 20, 51.43% of the study subjects were suffering from chronic energy deficiency while stunting was present in 10% of the adolescent girls.

In study findings the percentage of mixed diet is 93.57% and vegetarian is 6.43 %. Because of the lack of nutritious diet they suffer from energy deficiency and anaemia or vitamin B complex deficiency. Even though the percentage of mixed diet is more, the amount of poultry products in the diet is less and thus the appropriate nutrients are not included. The amount of dry fish intake is more. Intervention strategies are needed to improve the dietary intake of adolescent girls so that their requirement of energy, protein, vitamins and minerals are met. In a study of Rajasthan the diets were deficient in calories by 26 to 36%, and in proteins by 23 to 32%.<sup>7</sup> Nutritional status as assessed by body mass index revealed that 8.1% of Adolescent girls suffered from chronic (CED) grade I, 6.6% grade IICED, and 78.8% grade III CED. About 73.7% of subjects suffered from anaemia.<sup>7</sup>

Regarding mental status, study findings show that the percentage of girls with abnormal expressions was highest (78.46%). Other problems like poor hygiene, no eye contact, day dreaming and speech related problems were also identified. A similar study was conducted in Andhra Pradesh and their results showed that 27% of adolescents from both Government and Private Schools have poor status of mental health and the remaining adolescents (73%) are with moderately better status of Mental Health.<sup>8,9</sup> Decision making capacity in girls was seen to be 81.33%. The percentage of girls taking their own decision was more. Considering the circumstances, they have to take several responsibilities at home and thus they can take their own decisions. The study findings of the higher mental functions include concentration, memory, intelligence and attention and the percentage of girls in the medium category of concentration, memory and intelligence was highest as no abnormalities were detected discussion. Regarding Psychological Assessment the percentage of girls with low confidence was 29.97%, sleep disturbance in girls was 79.93%, depression percentage in girls was 52.82%, timid girls percentage was 27.19% and aggressive factor percentage was observed to be 46.20%. The study findings show that poor hygiene, poor verbal expressions, no eye contact, speech defect, irrational thoughts and day dreaming is due to the lack of health awareness/ communication with parents and teachers, peer group and also the lack of proper education.<sup>10</sup>

To check the validity of the data, cross tabulation and chi square method was also done. As the cross tabulation method provides a basic picture of the interrelation between two variables we have taken some of the psychological factors for the method.

A positive attitude of the parents towards the adolescent girls should motivate the adolescent girls to develop the trust and confidence in them, in their family, society and ultimately become confident. Thus adolescent girls should be given counselling services regarding anxiety and other psychological problems.

## RECOMMENDATION

Nutritional status of adolescent girls contributes to the nutritional status of the community. There is a need to initiate intervention measures to improve the nutritional status of adolescent girls who are the future 'mothers-to-be'. Hence there is a need to create awareness among adolescents about nutrition and health. Also there should be an adolescent health education clinic to address the issues of adolescent girl's problems. Regular meetings of parents with school / college authorities should be held to identify the problems. Follow up to the hospital should be frequent. Psychological testing according to the problem identified should be conducted by the psychologist. Teachers should be friendly with students. Each school should have a counsellor. Apart from teaching, extra time should be given to guide the pupils.

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*Ethical approval: Not required*

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