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A Comparative Study to Assess the Knowledge and Stress Level of Pubertal Changes Among Adolescents Girls in Rural and Urban Areas in Selected Schools in Bilaspur, Chhattisgarh

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***Abstract*: The current study aimed to assess the knowledge and stress level of pubertal changes among adolescents girls in rural and urban areas in selected schools in Bilaspur (C.G) A Comparative descriptive research design is utilized to achieve the stated. Objectives: 1. To assess the level of knowledge regarding pubertal changes among adolescents girls in rural and urban areas in selected school in Bilaspur (C.G.). 2. To assess the stress level of pubertal changes among adolescents girls in rural and urban areas in selected school in Bilaspur (C.G.) 3. To compare the knowledge and stress level of pubertal changes among adolescents girls in rural and urban areas. 4. To find out the association between level of knowledge and stress level of pubertal changes among adolescents girls in rural and urban areas with their selected socio demographic variables. Hypothesis: H1: There will be significant difference between level of knowledge and stress level of pubertal changes among adolescents girls. H2: There will be significant association between level of knowledge and stress level of pubertal changes among adolescents with their selected socio demographic variables. Projected Outcome/Hypothesis: The present study Comparative descriptive research design is used to accomplish the objective of the study. The study was based on the conceptual framework of modified General System Theory Ludwig Von Berfatallfy. A Quantitative research approach is used and Pilot study was conducted to confirm the feasibility of the study. For main study Convenient Sampling (non-probability) technique was used for the selection of adolescent girls. The counts of 100 in which 50 samples for rural and 50 sample for urban were selected for the study.**

***Keywords*: Pubertal changes, Adolescents girls.**

1. Introduction

Adolescence is one of the most fascinating and complex transitions in the life span. Its breath-taking pace of growth and change is second only to that of infancy. Biological processes drive many aspects of this growth and development, with the onset of puberty marking the passage from childhood to adolescence. Puberty is a transitional period between childhood and adulthood, during which a growth spurt occurs, secondary sexual characteristics appear, fertility is achieved, and profound psychological changes take place. Adolescence is regarded as a unique phase of human development. Among adolescent girls menarche is an important landmark in the process of growth and maturation. Though menstruation is a natural and normal physiological process for all healthy adult women as ever it has been surrounded by secret and myths in many societies. In humans, menarche is the process of physical changes by which a child's body becomes an adult body which is capable of reproduction. Menarche is initiated by hormone signals from the brain to the gonads (the ovaries and testes). In response the gonads produce a variety of hormones that stimulate the growth, function, or transformation of brain, bones, muscle, skin, breasts, and reproductive organs. Growth accelerates in the first half of menarche and stops at the completion of menarche. Before puberty, body differences between boys and girls are almost entirely restricted to the genitalia. During puberty, major differences of size, shape, composition, and function develop in many body structures and systems. The most obvious of these are referred as secondary sex characteristics. In a strict sense, the term puberty (derived from the Latin word puberatum (age of maturity, manhood)) refers to the bodily changes of sexual maturation rather than the psychosocial and cultural aspects of adolescent development. Adolescence is the period of psychological and social transition between childhood and adulthood. Adolescence largely overlaps the period of puberty, but its boundaries are less precisely defined and it refers as much to the psychosocial and cultural characteristics of development during the teen years as to the physical changes of puberty. Puberty is basically the organic phenomenon of adolescence it is the period of rapid physical changes and personality growth when individuals achieve nearly their adult body structure. Herman giddens (1997), reports that a substantial portion of girls have pubertal changes at age 7 years, the changes occur earlier in black than in white girls. The average age of puberty is 12.5. much earlier than the normal is called early puberty . The time of onset of puberty among Indian girls is 8-10 years. The transition to adulthood is a critical stage of human development during

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which young people leave child hood behind and take on new roles and responsibilities. It is a period of social, psychological, economic and biological transitions and for many preadolescent girls it involves demanding emotional challenges. The process of growing up is a period of confusion and conflict. It is often difficult for young people to fully comprehend these changes as they are occurring. Puberty is the period in the growth and development of the child that encompasses the initiation and progression of sexual and physical maturation. The term menarche means the onset of menstruation and it is usually followed by a period of adolescent sterility till menstruation begins to occur at regular intervals. Menstruation is the monthly vaginal bleeding at an interval of about 28 days from the uterine endometrial. Menstrual flow is dark in color and contains 60 to 150 ml of fluid. It usually lasts for about four to five days. Adolescence is a transitional stage of physical and mental human development that occurs between childhood and adulthood. This transition involves biological (i.e. pubertal), social, and psychological changes, though the biological or physiological ones are the easiest to measure objectively. Historically, puberty has been heavily associated with teenagers the onset of adolescent development. In recent years, however, the start of puberty has had somewhat of an increase in preadolescence (particularly females, as seen with early and precocious puberty), These changes have made it more difficult to rigidly define the time frame in which adolescence occurs. The end of adolescence and the beginning of adulthood varies by country and by function, and further more even within a single nation-state or culture there can be different ages at which an individual is considered to be (chronologically and legally) mature enough to be entrusted by society with certain tasks.

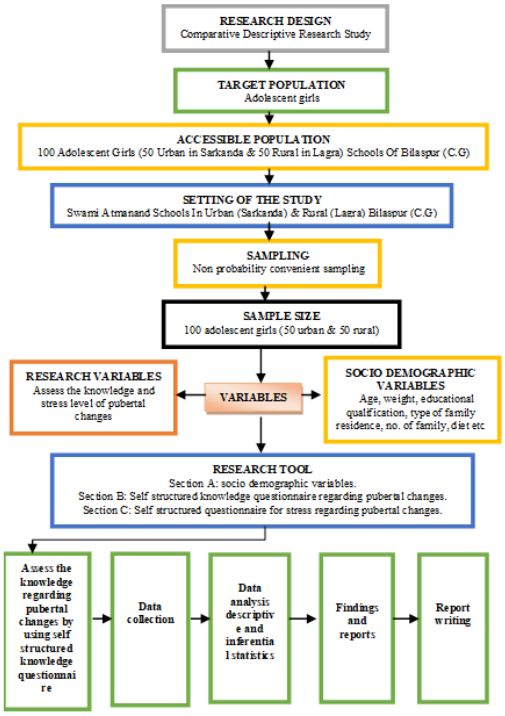

Fig. 1. Schematic representation of research design

2. Result and Discussion

A. Presentation of Data Analysis

The collected data are analyzed and presented in 4 sections.

- Section I: Distribution of socio-demographic variables using frequency and percentage.
- Section II: Overall analysis of level of knowledge and stress scores by using mean, median, mean score percentage and SD.
- Section III: Comparison of level of knowledge and stress regarding pubertal changes among adolescents girls in rural and urban areas.
- Section IV: Chi-square analysis to find out association between level of knowledge scores with their selected socio-demographic variables.

3. Major Findings of the Study

The major findings of the study revealed that,

Section I: Distribution of socio-demographic variables using frequency and percentage

- Among adolescent girls of selected school, the finding revealed that majority of them i.e., 30 (60%) and 13 (26%) of adolescents girls were residing urban and rural areas between age group of 12-13 years were studying in 7th, 8th & 9th standards respectively.
- Among adolescent girls of selected school, the finding revealed that majority of them i.e., 38 (76%) and 37 (74%) were within the weight in kg of 35-40 in urban and rural areas.
- Among adolescent girls of selected school, the finding revealed that majority of them i.e., 48 (96%) and 17 (34%) were within the educational qualification of higher secondary in urban and rural areas.
- Among adolescent girls of selected school, the finding revealed that majority of them i.e., 33 (66%) and 23 (46%) were within the type of family of nuclear family in urban and rural areas.
- Among adolescent girls of selected school, the finding revealed that majority of them i.e., 50 (100%) were within the residence of rural in rural areas.
- Among adolescent girls of selected school, the finding revealed that majority of them i.e., 21 (42%) and 29 (58%) were within the number of siblings of More than Two in urban and rural areas.
- Among adolescent girls of selected school, the finding revealed that majority of them i.e., 30 (60%) and 34 (68%) were within the diet of Both in urban and rural areas.
- Among adolescent girls of selected school, the finding revealed that majority of them i.e., 37 (74%) and 28 (56%) were within the source of information of Parents in urban and rural areas.
- Among adolescent girls of selected school, the finding revealed that majority of them i.e., 32 (64%) and 24 (48%) were within the age of menarche of 11-12 years in urban and rural areas.

- Among adolescent girls of selected school, the finding revealed that majority of them i.e., 44 (88%) and 47 (94%) were within the Frequency of menstruation of Once in a month in urban and rural areas.

Section II: Overall analysis of level of knowledge and stress scores by using mean, median, mean score percentage and SD

- Analysis of knowledge score between urban and rural schools mean, mean percentage, standard deviation among adolescents girls of selected school in urban and rural areas revealed that adolescent girls (n=50) of selected school. Majority of them i.e. 2 (4%) of adolescent girls in urban schools and 15 (30%) of adolescent girls in rural schools were having poor level of knowledge, 36 (72%) of urban and 32 (64%) of rural girls had average level of knowledge, 12 (24%) of urban and 3(6%) of rural girls had good level of knowledge regarding pubertal changes.
- Analysis of stress score between urban and rural schools mean, mean percentage, standard deviation among adolescents girls of selected school in urban and rural areas revealed that adolescent girls (n=50) of selected school. Majority of them i.e. 20 (40%) of adolescent girls in urban schools and 11(22%) of adolescent girls in rural schools were having mild level of stress, 22 (44%) of urban and 33 (66%) of rural girls had moderate level of stress, 8 (16%) of urban and 6 (12%) of rural girls had severe level of stress regarding pubertal changes.

Section III: Comparison of level of knowledge and stress regarding pubertal changes among adolescents girls in rural and urban areas

- Comparison of level of knowledge and stress regarding pubertal changes among adolescents girls in rural and urban areas revealed that adolescent girls (n=50) of selected school. Majority of them i.e. compares mean knowledge scores regarding pubertal changes among adolescent girls in rural and urban areas. Mean difference was 2.38, mean percentage was 57 in urban and 45.1 in rural area, SD was 2.67 in urban and 3.07 in rural area, The Parametric paired Z test value was found to be 4.14 which was greater than 2. So, then the null hypothesis is rejected at all levels of significance which prove that the adolescent girl in urban school have more knowledge than in adolescent in rural school.
- Comparison of level of knowledge and stress regarding pubertal changes among adolescents girls in rural and urban areas revealed that adolescent girls (n=50) of selected school. Majority of them i.e. compares mean stress scores regarding pubertal changes among adolescent girls in rural and urban areas. Mean difference was 8.66, mean percentage was 97.6 in urban and 100.9 in rural area, SD was 4.82 in urban and 5.07 in rural area, The Parametric paired Z test value was found to be 8.72 which was greater than 2. So, then the null hypothesis is rejected at all levels of significance which prove that the adolescent girl in rural school have more stress than in adolescent in urban school.

Section IV: Chi-square analysis to find out association between level of knowledge scores with their selected socio-demographic variables

- Chi square for association between level of knowledge and socio demographic variables of urban revealed that adolescent girls (n=50) of selected school. Majority of them i.e., age, weight, Education, Number of siblings, diet, Source of Information, using a non-parametric $\chi 2$ test were found to be statistically not significant at 0.05 level of significant. Analysis revealed statistically the socio demographic variable "Type of family", and "Frequency of Menstruation" was significantly associated with the level of knowledge regarding pubertal changes among urban adolescents girls is p=0.005 level of significant.
- Chi square for association between level of stress and socio demographic variables of urban revealed that adolescent girls (n=50) of selected school. Majority of them i.e., age, weight, Education, type of family, Number of siblings, diet, Source of Information, frequency of menstruation using a non-parametric $\chi 2$ test were found to be statistically not significant at 0.05 level of significant. Analysis revealed statistically the socio demographic variable. Age of menarche was significantly associated with the Level of stress regarding pubertal changes among urban adolescents girls is p=0.005 level of significant.
- Chi square for association between level of knowledge and socio demographic variables of rural revealed that adolescent girls (n=50) of selected school. Majority of them i.e age, weight, Number of siblings, diet, Source of Information, frequency of menstruation using a non-parametric $\chi 2$ test were found to be statistically not significant at 0.05 level of significant. Analysis revealed statistically the socio demographic variable. Educational qualification, type of family & Age of menarche was significantly associated with the Level of knowledge regarding pubertal changes among rural adolescents girls is p=0.005 level of significant.
- Chi square for association between level of stress and socio demographic variables of rural revealed that adolescent girls (n=50) of selected school. Majority of them i.e., age, weight, Education, type of family, Number of siblings, diet, Source of Information, Age of menarche using a non-parametric $\chi 2$ test were found to be statistically not significant at 0.05 level of significant. Analysis revealed statistically the socio demographic variable. Frequency of Menstruation was significantly associated with the Level of stress regarding pubertal changes among rural adolescents girls is p=0.005 level of significant.

4. Main Finding

The assessment of overall analysis of level of knowledge & stress level of pubertal change among adolescent girls in knowledge score is 15 % of adolescent girls in rural schools were having poor level of knowledge, 72% of urban and 64% of rural girls had average level of knowledge, 24% of urban and 6% of rural girls had good level of knowledge regarding pubertal changes & In stress score is and 22 % of adolescent girls in rural schools were having mild level of stress, 44% of urban and 66% of rural girls had moderate level of stress, 16% of urban and 12% of rural girls had severe level of stress regarding pubertal changes. The Z value was found to be 4.14 which is significant at 0.05 which proves the difference between the Level of knowledge regarding pubertal changes among urban and rural adolescents girls. And Z test value was found to be 8.72 which is significant at 0.05 which proves the difference between the Level of stress regarding pubertal changes among urban and rural adolescents girls. Hence H1 was accepted. There is significant association between level of knowledge and stress level score with socio demographic variable of urban and rural areas. (Age, weight, Education, Number of siblings, Source of Information, Age of menarche...etc.) at the level of 0.05 significance. Hence H2 was accepted.

5. Conclusion

The study concluded that health education is necessary for adolescent girls to gain adequate knowledge regarding pubertal change.

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