

## THE IMPACT OF ADOLESCENT HEALTH INTERVENTION PACKAGE ON BIO-BEHAVIOURAL HEALTH AMONG ADOLESCENT GIRLS : REVIEW OF REVIEWS FROM 2015-2021

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### ABSTRACT

Adolescent period is phase of rapid physical growth, psychological and behavior changes, during puberty. Girls should be properly guided about these changes. In India about 86% population live in rural areas. Rural villages have poor sanitation, toilet facilities. Girls are ignorant of health, physical, psychological and behavioral changes and lack access to education. Regarding phases of adolescence in human development as well physical, psychological, cognitive and sexual development takes place in adolescence period which needs special attention. So to achieve the wholesome adolescent health as we need to have a multi dimensional approach covering all aspects of adolescent health problem with special emphasis on mental health, behavior of the adolescent towards healthy life style. This will help to create better awareness among the stakeholders about the importance of strengthening adolescent health for productive life in the future.

In this review paper reviewer will provide short overview about the interventional package tools for understand the biobehavioural health among adolescent girls.

**Key words:** Adolescent girls, Biobehavioural health, Interventional package

### BACKGROUND

The global strategy for Adolescents' Health, 2016-2030, aims to achieve highest standard of health for adolescents so that it ensures that each one of them not only the survives, but thrives.<sup>1</sup>

Reaching out to the adolescents through outreach services is one of the global standard for quality health care for the adolescents. The purpose of the outreach activities regarding adolescent health care is to reach the adolescents by bringing the services close to the where they are.<sup>2</sup> The operational phase of this study will therefore focus on the fulfillment of global standards laid by the WHO to approach, promote, enhance and analyze health among adolescent girls

India has largest adolescents population in World. The health status of the adolescent determines their health status in an adulthood. Many of serious diseases in the adulthood have their roots in an adolescence. The health issues faced by an adolescents include the mental

health problems, malnutrition and substance abuse. To achieve the adolescents health we focus on multidimensional approach covering all adolescent health problems with emphasis on the mental health, behavior change communication towards healthy life style and positive environment to acquire life skills. To achieve the 17 SDGs and their 169 targets, each of which relates to adolescent development, health or well being directly or indirectly.

By providing interventional package to adolescent girls will encompass the provision of curative, promotive, preventing and counseling and out reach services in the community setting primary schools at large.

## **METHODS**

### **Impact of Interventional Package**

Taking into consideration the strategies of Adolescent Reproductive Sexual Health strategy of India.( ARSH)<sup>3</sup> and the WHO global standards for quality health-care services for adolescents<sup>4</sup>this package has been designed to include the health literacy, gatekeepers, care services by competent health care providers in a well equipped facility with equity and non-discrimination, and further analysis for outcome and quality improvement.

The WHO global standards state that the health facility should provide a package of information, counseling, diagnostic, treatment and care services that fulfils the needs of all adolescents. Services need to be provided in the facility and through referral linkages and outreach.<sup>5</sup> WHO also directs the adolescent friendly initiatives to sufficiently address the issues of sexual and reproductive health, physical, nutrition, psycho social health. Keeping this in view the below mentioned health intervention package is formulated.

The adolescent health intervention package in this study refers to the combination of multifaceted intentional involvement with the health of the adolescent girls through provision included in interventional package.

### **Search engines and time period**

Studies identified through the available literature in five computerized databases: CINAHL, Medline (PubMed), PsycInfo, Scopus, and the Goggle scholar. Also an extra search was performed to check reviews in the dbCer Ex: A Web-Based Database to identify review papers on improves quality of life in cervix (gynecological) cancer. Current article covers all full review publications that appeared in English language adolescent girls related journals between January 2015 and 31 December 2021.

National family health survey III and sample registration system focused attention to health and social development for adolescent group investing in adolescent health will yield demographic and economic dividends for India. With this view government of India launched first comprehensive programme for adolescents Rashtriya Kishor Swasthya Karyakram during January 2014 which has sharp focus on sexual health. India has the largest adolescent population in the world. In India the proportion of adolescents is 19% in Maharashtra and 21% for India.

Screening of adolescent on regular basis is effective tool to control the existing disease. Empower and involves adolescents in decisions that affect them and facilitate them with every

opportunity for developing into a successful adult will growing adolescents gives them chance to build a safe, happy, healthy and productive nation in the future.

### Overall outlook of the reviews

Currently systematic reviews and meta-analyses regarding 'improve biobehavioural health in adolescent girls are less. Bio-behavioural health refers to the following :

- Physical health status assessed through general head-to-foot examination and baseline investigations like hemoglobin estimation will be done.
- Nutritional status indicators: height, weight, Mid-Arm circumference and 24 hours dietary recall will be collected.
- Reproductive health assessed through information related to pubertal changes, menstruation, sexual behaviour, any early pregnancy related issues.
- Psycho-social factors like emotional status, family and social support towards health promotion and maintenance ,
- Behavioral factors like physical, sexual and reproductive health maintenance practices, practice of risky behaviors and nutritional practices.

reviews that dealt with multiple intervention administered for improve biobehavioural health among adolescent girls.

#### I. Studies related to reproductive health of adolescent girl

1. A Study conducted by R. S. P. Rao, et al. on effectiveness of reproductive health education among rural adolescent girls: a school based intervention study in udupitaluka, Karnataka. Study stated educational intervention program can be bring about the desirable changes in their knowledge among the adolescent girls regarding their reproductive health.<sup>6</sup>
2. A study conducted by Rangappa Manjula et al. in 2012 on educational intervention study on an adolescents reproductive health among the adolescent girls. Pre-structured proforma was used to assess the existing knowledge which consists of reproductive health awareness by pre and post test. The study conclude that there were substantial lacunae in the knowledge about reproductive health among the study group. After educational intervention there was significant change in the knowledge. Students felt that sex education is necessary in school and should be introduced in the school syllabus.<sup>7</sup>
3. An interventional study including girls from 3 intermediate colleges and 3 high schools of Kuppam Mandal (Andhra Pradesh) was conducted by *K Malleshappa et al* to assess t knowledge & awareness on levels of adolescent girls regarding their reproductive health. The study was also intended to develop reproductive health education package for adolescent girls and to evaluate effectiveness of same. Reproductive health Knowledge score improved significantly after intervention..<sup>8</sup>
4. *C I Mba et al* did an interventional study to evaluate the impact of reproductive health education on knowledge and the attitude of adolescents in a rural Nigerian community to reproductive health issues. It compared an adolescents in the secondary schools (study group), which received health education on reproductive health with another secondary

school (control group), which did not receive any. The impact of the programme was evaluated with a pre-test baseline knowledge and post-test gain in the knowledge 6 weeks later, using the same questionnaire. However, there was a significant ( $p < 0.05$ ) gain in correct knowledge following the health education.<sup>9</sup>

## II Studies related to Nutritional health of adolescent girls

1. A cross sectional Study conducted by A. Begum, et al. on Nutritional status of adolescent girls in a rural area of Bangladesh, study was carried out among 106 adolescent girls. Study concluded that nutritional profiles of the adolescent girls can be improved by the implementing effective of nutritional education programs, providing them supplementary foods & facilitating their primary health care program and creating awareness about nutritional knowledge.<sup>10</sup>
2. A community based intervention study conducted by T. Kamalaja et.al on effectiveness of health nutrition education intervention for combat anemia problems among the adolescent girl with 150 control and 150 experimental group between 13 to 17 years of age. Study results revealed that nutrition education had shown a slight impact on the hemoglobin level. All the experimental subject gained the knowledge towards the anemia status and their prevention methods. The study conclude that knowledge attitude and practice score was increased at 1% significant difference level after nutrition education intention.<sup>11</sup>
3. *Vanessa M O* et al conducted a systematic review of peer reviewed literature on nutrition specific and nutritional sensitive intervention that target on adolescents. The review suggested a minimum package of interventions in Indonesia could include the following nutrition-specific interventions. They concluded to improve their nutrition status of vulnerable populations, additional to evaluate the adolescent programming and the surveillance data on an adolescents are warranted.<sup>12</sup>

## III Studies related to physical, psychological & emotional changes during period of adolescence

1. *Astha Kakkad et al* conducted a study to evaluate the prevalence of the psychosocial, emotional, behavioral problems & drug abuse in adolescents and compare with college students (18-22 years). Total 580 and 669 students from the schools & colleges respectively answered the questionnaire. The study pointed out that to ensure a better future and to improve adolescent health, effective counseling by parents and teachers, sex education, stress reduction and improved familial environment is inevitable.<sup>13</sup>
2. *Pushapindra Kaushal et al* did a study to evaluate the effectiveness of the health education on KAP of teachers regarding the physical and psychosocial health of an adolescents. 155 teachers of 9<sup>th</sup>-12<sup>th</sup> standards in total 50 senior secondary schools from Amritsar district were administered a pretested questionnaire, followed by an interactive session on adolescent health. After 3 months, same questionnaire was given to measure the impact of education After the intervention, significant favourable changes were observed in their

knowledge, attitude, and practices regarding most aspects of adolescent health. The need for regular in-service training for teachers is being highlighted in the study.<sup>14</sup>

3. Prospective experimental study was done by *Ghaffari M et al* to evaluate effect of the educational interventions on the physical activity related to the knowledge, attitude, and behaviour among first grade students of high schools. After selecting two qualified schools from five high schools, all students of one school (two classes including 42 individuals) were randomly assigned to the experimental group and all the students of another high school (two classes including 43 individuals) were randomly assigned control group. There was a significant difference between mean scores of knowledge in the immediate follow-up and 1 month after intervention follow-up and between mean scores of attitudes immediately and 1 month after intervention follow-ups in the experimental group compared with the control one.<sup>5</sup>
4. A study was carried out by *M Reena* among 157 school-going adolescent girls aged 10-15 years in Chittoor district to understand the puberty as related to psychological problems during adolescence. Multi-stage random sampling technique was selected for the requisite number of eligible girls. The study examined which specific emotions and behaviours are associated with pubertal stage, considering chronological age and pubertal timing. Adolescent girls emerge to be in need for counselling and support for coping with the bodily as well as psychological changes.<sup>16</sup>
5. *Varshil Mehta et al* conducted a cross-sectional quantitative, observational questionnaire-based survey among high school students between 15-19 years of age studying at local rural school in Maharashtra to evaluate health awareness and behavior related to exercise, nutrition, obesity, tobacco, and sexually transmitted diseases. A self-designed and well-structured questionnaire was distributed randomly to the study group. 93.13% students were aware of the importance of exercises and 70.58% devoted the time for their exercise activities. 85.29% were aware of ill effects of the Malnutrition and the obesity. Total health awareness among the adolescent was high.<sup>17</sup>
6. *Manisha Rani et al* conducted a quasi-experimental study in 104 pre-adolescent girls aged 12-14 years, selected by the purposive sampling technique from two governmental schools of the Ambala district, Haryana. The study aimed compare to the knowledge and attitude regarding the pubertal changes among pre-adolescent girls before and after the pubertal preparedness program (PPP) in experimental and comparison group. A structured knowledge questionnaire and 5-point Likert scale was used to assess knowledge and attitude of the study subjects. Majority of the pre-adolescent girls (94.2%) of experimental group and 82.7% of comparison group were residing in rural area. 100% girls in experimental group and 98.1% in comparison group had knowledge regarding puberty. The study concluded that structured pubertal preparedness program and FAQs (frequently asked questions) reinforcement session was effective in terms of enhancing knowledge.<sup>18</sup>

### **Intervention Package on biobehavioural health**

#### **a) Intervention consist of**

- 1) Physical health status assessed through general head-to-foot examination and baseline investigations like hemoglobin estimation will be done.
- 2) Nutritional status indicators: height, weight, BMI, Mid-Arm circumference and 24 hours dietary recall will be collected.

**Intervention consist of** an educational 3 sessions each session 45 minutes duration that will cover structured teaching program on reproductive health, biobehavioural health and nutrition education.

#### **Impact Measures:**

1. A structured knowledge questionnaire to assess the pre and post-test knowledge of participants after administration of Adolescent health intervention package. Assessed knowledge score will be divided in Good, Average and Poor score.
2. Physical health status assessed through general head-to-foot examination and baseline investigations like hemoglobin estimation before and after administration of Adolescent health intervention package
3. Nutritional status indicators: height, weight, Mid-Arm circumference and 24 hours dietary recall will be collected before and after administration of Adolescent health intervention package.
4. Diagnosis in case of anemia and other nutritional deficiencies , menstrual abnormalities.
5. Improvement in the nutritional status of the adolescent girls as evident by their Body Mass Index
6. Improvement in the perceived family support as evident through Focus group discussions

### **CONCLUSION**

It was concluded that adolescent health interventional package can be effective on biobehavioural health of adolescent girls many studies proven. The existing literature shows that interventions have efficacy for improve the biobehavioural health of adolescent girls. Most studies capturing exposure information from 10 or more years ago.

After evaluating existing studies we identified research gap and its greatly needed focus on new research studies that will allow integration for introduce new interventions for improve the biobehavioural health of adolescent girls.

We concluded that biobehavioural health education as part of the school curriculum will provide an effective means of improving knowledge and reducing reproductive health problems among adolescents in developing countries. Common policy is needed to implement and ensure counseling through imparting and incorporating education on psychological changes during puberty in all schools. Health Education Programs are to be carried out especially in High Schools and Higher Secondary Schools

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