Planning for 300 Million Youths

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In view of the increasing importance assigned to young people in terms of the size of this segment of adolescent and youth population (25-30 % of the whole population of the world), the role in shaping the present and future of humanity is in their hands. Therefore it is very essential to take appropriate steps for their health care and development. There is a growing concern all over the world to develop plans for their betterment.

It is all the more important for India to take measures for this growing population which is 25 % at present and will be almost 30 % by the turn of the century. It has been estimated that in absolute numbers, the youth and adolescent would be 300 million. Adolescents, particularly in India, are the selective survival group because of high infant and child mortality rate. In one report, 50 % of children do not survive to celebrate their fifteenth birthday. Hence they become very precious for the family, community, and nation at large.

It is encouraging that in recent years there is a declining trend in infant mortality and child mortality because of improvement in health care programmes for children. So it is expected that in the coming years the adolescent population would increase. On the other hand for many reasons this segment of population remains unattended for their growing biological and psychological needs because of poverty, illiteracy, and ignorance. Hence the present adolescents and youth are disgruntled and in conflict with the adults. Other factors like modernization, urbanization, and industrialization are giving them a new direction -- to leave their traditional values without establishing new values and new skills to cope with the changing scenario. Thus they are put into another kind of emotional and social stress, dragging them to delinquency, crime, violence, and drug abuse.

There is a change in the moral codes and value systems, changing their ethics, morals, and sexual conduct. Keeping all these issues in mind, this international conference on Youth and Adolescent Health has been organized to discuss and plan collectively using the youth wisdom as well for the health, development and welfare of this vulnerable yet valuable segment of population.

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How to cite this article: Bali P. Planning for 300 Million Youths. *Ind J Youth Adol Health* 2017; 4(3): 1.

ISSN: 2349–2880

Research Article

A Study to Assess the Prevalence of Polycystic Ovarian Disease among Girls Aged 15–21 Years from Selected Schools and Colleges in Bhopal City

Veena Melwani[1], Mahesh Gupta[2], Angelin Priya[3], Manju Toppo[4], Amreen Khan[5], Soumitra Sethia[6]

Abstract

Background: Polycystic Ovarian Syndrome (PCOS) is the most common endocrine disorder among girls. It is one of the leading causes of female subfertility. It has a heterogeneous presentation which includes hyperandrogenism, hirsutism and ovulatory dysfunction. It is a disorder of peri-pubertal onset, so it is a disorder of significant health concern; this necessitates estimation of proportion of women affected by PCOS in the population. This study was conducted to find out the prevalence of PCOS amongst adolescent girls in Bhopal city.

Materials and Methods: A cross-sectional study was conducted for the duration of 4 months from November 2016 to February 2017. 840 girls of age group 15–21 years were interviewed regarding PCOS using Rotterdam criteria in three schools and three colleges in Bhopal city. After screening for PCOS, all suspected girls were confirmed by USG. Data was compiled using MS Excel and analyzed using Epi info 7.

Result: Out of 840 girls, 217 (25.5%) complained of irregular menses, out of 217 only 96 (44%) were approached for USG screening. PCOS was present in 77 (80.2%) girls out of 96 girls screened with USG. Also, PCOS was present in 43.2% girls with BMI >25 and 50.8% girls having waist-hip ratio more than 0.96.

Conclusion: This study estimated prevalence of about 8.34% in the study population. Lack of awareness (health-seeking behavior) was prominent in the study population. Significant association was found between PCOS and BMI, WAIST-HIP ratio. More education sessions should be held in schools and colleges about PCOS.

Keywords: PCOS, Adolescent girls, Risk factors, USG

Introduction

Polycystic Ovarian Syndrome (PCOS) is the most common endocrine disorder among girls.[1] PCOS remains a syndrome and as such, no single diagnostic feature is sufficient in itself to establish the clinical diagnosis.[2] Clinical presentations of polycystic ovarian syndrome include abnormal facial and skin hair growth (hirsutism), acne, and irregular or absence of menstrual periods. History taking specifically for menstrual pattern, obesity and hirsutism alone has sensitivity of 77.1% and specificity of 93.8%.[3,4]

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How to cite this article: Melwani V, Gupta M, Priya A et al. A Study to Assess the Prevalence of Polycystic Ovarian Disease among Girls Aged 15–21 Years from Selected Schools and Colleges in Bhopal City. *Ind J Youth Adol Health* 2017; 4(3): 2-5.

Digital Object Identifier (DOI): https://doi.org/10.24321/2349.2880.201717

ISSN: 2349–2880

The determinants of polycystic ovarian syndrome have been linked to both hereditary and environmental factors. The hereditary factors include early age of sexual maturation, premature fetal development, and family history of PCOS among first-degree relatives.[5] Insulin resistance is central to the pathogenesis of PCOS and Indians are known to have high insulin resistance; this in turn leads to high prevalence of PCOS.

Prevalence of PCOS varies between 2.2% and 26%. A higher prevalence of PCOS (46.8%) was reported among girls aged 13–18 years in a study conducted in New Delhi.[6] In another study, conducted among girls aged 15–18 years in Andhra Pradesh, the prevalence was noted to be 9.13%,[6] while in Kerala, prevalence was found to be 26.4%. The exact prevalence of PCOS is not known as the syndrome is not defined precisely and depends on the choice of diagnostic criteria. The study was planned with the objectives to find out the prevalence of PCOS amongst adolescent girls from selected schools and colleges of Bhopal and to study the association between body mass index (BMI) and PCOS.

Materials and Methods

The study was a cross-sectional study, conducted on girls aged 15–21 years (9th standard and above) for a duration of 4 months from November 2016 to February 2017. The study was conducted after taking approval of ethical committee of the institute. This study included 840 adolescent girls from three schools and three colleges using purposive sampling. All the girls aged 15–21 years, who had attained menarche more than 2 years before the study, who were unmarried and willing to participate, were included in the study.

Informed verbal consent was taken from all the study participants. Study participants were screened for PCOS using a semi-structured questionnaire using Rotterdam criteria. Rotterdam criteria include presence of two of the following three criteria, i.e., (i) oligo/anovulation, (ii) hyperandrogenism-clinical (hirsutism or less commonly male pattern alopecia) or biochemical (raised FAI or free testosterone), (iii) polycystic ovaries on ultrasound. Other etiologies must be excluded such as congenital adrenal hyperplasia, androgen secreting tumors, Cushing syndrome, thyroid dysfunction, and hyperprolactinemia.

Data regarding sociodemographic characteristics, detailed menstrual history, acne and facial hair were entered in the questionnaire. Anthropometric assessment was done by using a measuring tape, weighing scale, and stadiometer. The students were sensitized about PCOS and importance of diagnosing PCOS using PowerPoint presentation. Non-invasive sonographic scanning was done to identify polycystic ovaries. Data was compiled using MS Excel and analyzed using appropriate statistical test (chi-square test) using Epi Info 7.

Results

A total of 840 girls in the area fulfilling the inclusion criteria were interviewed. The mean age of the study group came out to be 18.8 years, out of which 52.1% were above 18 years of age. 74.1% girls attained menarche at the age of 12–13 years and 14.1% attained menarche at an age above 14 years. 80.5% girls were aware of the term PCOS. When asked about the symptoms occurring during menses, out of 840 study participants 474 (57.1%) said they had tolerable pain during menses and 42.5% had intolerable pain followed by acne (32.9%) during menses. 25.8% study participants had complaints of irregular cycles followed by excessive facial hair (24.5%) and excessive weight gain (12.7%).

Out of 840 girls, 217 (25.5%) complained of irregular menses; out of 217 only 96 (44%) were approached for USG screening. PCOS was present in 77 (80.2%) girls out of 96 girls screened with USG. Also, PCOS was present in 43.2% girls with BMI >25 and 50.8% girls having waist-hip ratio more than 0.96.

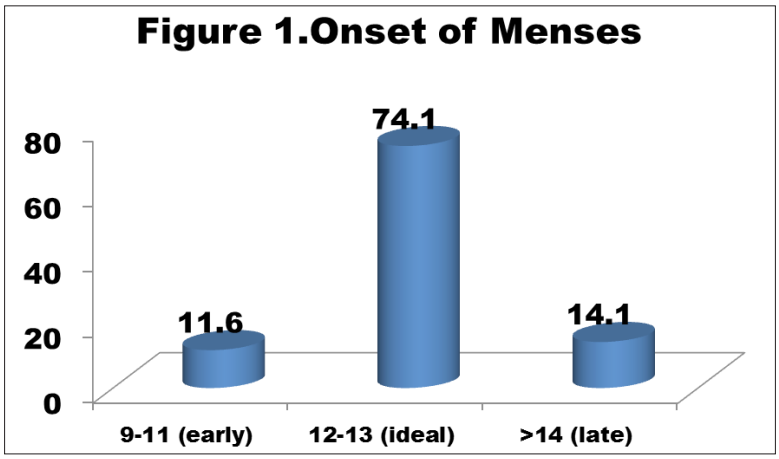

Figure 1.Shows age of menarche. 74.1% of girls attained menarche at the age of 12–13 years.14.1% and 11.6% of study participants attained menarche at or after 14 years and before 12 years of age respectively. 80.5% girls were aware of the term PCOS

ISSN: 2349–2880

Table 1.Distribution according to Symptoms during Menses

S. No.	Symptoms	Frequency (n=840)	Percent
1.	Tolerable pain during menses	479	57.1
2.	Intolerable pain during menses	361	42.9
3.	Irregular cycles	217	25.8
4.	Excessive gain in weight	107	12.7
5.	Excessive facial hair	206	24.5
6.	Acne	277	32.9

Above table shows symptoms during among study participants. 98% complained of pain during menses which may be tolerable or intolerable followed by acne (32.9%). 25.8% of study participants complained of irregular cycles followed by excessive facial hair (24.5%) and excessive weight gain (12.7%)

Table 2.Classification of Respondents according to Rotterdam Criteria

S No.	PCOS Suspects Finding	Present	Absent	Total
1	Irregular menses(>35days)	217	623	840
2	Hirsutism	206	634	840
*Out of 217 (having irregular menses), only 96 respondents were approached for USG screening				
1	USG finding (multiple cysts)	77	19	96
*Confirmed cases of PCOS found to be 77				

Table 2 shows 217 (25.8%) and 206 (24.5%) of study participants complained of irregular menses and hirsutism respectively. Out of 217 participants complaining of irregular menses, only 96 turned out for USG screening. USG finding was suggestive of multiple cysts in 77(80.2%) participants.

Table 3.Association of Various Factors with PCOS

Age	PCOS Present	PCOS Absent	Total	P value
<18 year	26	377	403	NS
>18 year	51	386	437	
BMI				
<25	31	702	733	P=<0.0001
≥25	46	61	107	
Waist/Hip Ratio				
<0.96	23	711	734	P=<0.0001
>0.96	54	52	106	
Total	77	763	840	

Table 3 shows that there was no association between age and presence and absence of PCOS on applying chi-square test. On applying chi-square test, significant association was found between BMI with PCOS as well as waist-hip ratio with PCOS.

Discussion

Reproductive phase of life brings multiple physiological, anatomical and psychological changes in the life of women. Due to familial, cultural and social restrictions most of the women are not able to share and get right advice for menstrual-related problems. The prevalence of PCOS depends on the recruitment process of the study population, criteria used for its definition, and the screening methods used. PCOS is a condition which is of serious concern. PCOS among adolescents is an emerging problem that needs careful assessment, timely intervention, and appropriate treatment.[9]

In the present study, prevalence of PCOS was found to be 9.1%. In a hospital-based study conducted by Kalavathi et al. in Bangalore, prevalence of PCOS was 23.8%.[10] Williamson et al. in their study reported the prevalence of PCOS between 2.2% and 26%.[11] According to a prospective study conducted by Nidhi et al., on 460 girls aged 15–18 years in a residential college in Andhra Pradesh, South India, the prevalence of PCOS was found to be 9.13% in adolescents.[12]

Conclusion

This study estimated prevalence of about 9.1% in the study population. Lack of awareness (health-seeking behavior) was prominent in the study population. Significant association (p value <0.0001) was found between BMI with PCOS and waist-hip ratio with PCOS.

Lack of knowledge and lifestyle changes are considered to

be the major factors leading to this phenomenon. There is a need to increase awareness among women so as to avoid major cases of fertility problems in the future.

Limitations

Since purposive sampling was used, results could not be generalized. The cross-sectional design of this study does not allow causal conclusions, and as such, the interpretability of our findings is limited. Only a limited number of patients turned up for USG. Other blood investigations to diagnose (such as serum testosterone levels) or to rule out (such as serum prolactin) PCOS could not be done due to economic constraints.

Conflict of Interest: None

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Date of Submission: 2017-09-27

Date of Acceptance: 2017-10-03

Research Article

A Study to Assess Various Problems Faced by Street Children of Bhopal City

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Abstract

Introduction: Like all other children, although street children have the basic right to develop, survive and thrive, they encounter innumerable problems. To do so, at first it is necessary to address these children in terms of what problems they face in their everyday life, what is their survival mechanism and in a broad sense their livelihood process. This research is an attempt to shed light on these cruxes in the context of Bhopal city in Madhya Pradesh. The study was conducted with objectives to observe the lifestyle of street children, to identify the problems faced by them, and to assess their survival and coping mechanism in response to the problems they encounter.

Methods and Materials: The study was a cross-sectional study to access various problems faced by street adolescents of Bhopal city. Street children were identified using snowballing techniques and data from these street children was obtained via interview using a checklist having various parameters about street children according to study needs. 100 willing street children were identified and enrolled for the study.

Results: According to certain indicators like dwelling condition, income level, food habit, education and health, among the street children who were interviewed, 37% were found to be educated below fifth standard and 73% were uneducated. The respondents were of ages 11 to 15 years. Most of them were Hindus. 51% of the children on street used community toilets, 53% practiced open defecation. Most of them did not get sufficient food to eat. Major work reported was serving in hotels, dhabas and begging. Main problem faced during work was heavy workload and less payment received, poor health and vulnerability and verbal abuse. Major coping mechanism was keeping patience and enduring the problems until finding some solution.

Conclusion: The present menace of mushrooming of different categories of disadvantaged, abandoned, vulnerable, destitute street living, working and playing children in the cities has posed an intense threat to humanity and child rights. The livelihood trajectories of the street children entangled with terrific and aggregated predicaments and problems is nothing but the presentation of their endangered and chaotic livelihood that requires very selective and careful choice and application of coping mechanisms to survive on the streets.

Keywords: Street children, Coping mechanism, Problem faced

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How to cite this article: Dohare P, Sethia S, Toppo M et al. A Study to Assess Various Problems Faced by Street Children of Bhopal City. *Ind J Youth Adol Health* 2017; 4(3): 6-10.

Digital Object Identifier (DOI): https://doi.org/10.24321/2349.2880.201718

ISSN: 2349–2880

Introduction

Majority of us are blessed because when we return home from offices, colleges and schools there is a family waiting for us, which takes away our tiredness. But all are not that fortunate. Many children in India are deprived of this feeling of family and home. We celebrate every occasion but wonder how street children spend their life and celebrate festivals. They spend their entire life near bus stations, railway stations, markets, on footpaths, streets, etc. Though a well-structured data and number is not available but it is estimated that India has more than 400,000 street children. 18 million children work on streets and 5%–20% have no connection with their families. Also India has the largest population of street children in the world. Definition of a Street Child by UNICEF, "…any girl or boy…for whom the street (in the widest sense of the word, including unoccupied dwellings, wasteland, etc.) has become his or her habitual abode and/or source of livelihood; and who is inadequately protected, supervised, or directed by responsible adults".

UNICEF calls street children the most vulnerable group of children in India, which falls under two categories: (1) Children on the street: They earn a livelihood from street such as street urchins and beggars; they return home at night and have contact with their families. (2) Children of the street: They are homeless children who live and sleep on the streets in urban areas. The distinction is an important one because children of the street lack emotional and psychological support of a family. Street children are often called the *hidden children.* Being hidden, they are at a higher risk to being abused, exploited and neglected. Children living and working in the streets are a manifestation of the problems, which children and families experience in communities as a result of health, social and economic factors which render homeless effective in providing for the children's well-being, thus leading to their marginalization. While some vulnerable children may be protected through social assistance and child care services provided by the government and non-governmental organizations, there are other children who fail to be detected and some of them become children living and working in the street. There are a number of factors that lead children to living on the street. This study is therefore a small attempt to find out these factors, hindrances, difficulties and hardships faced by the children residing on streets.

Objectives

- To observe the lifestyle of the street children at various sites, 2). To identify the problems faced by street children, and
- To assess their survival and coping mechanism in response to the problems they encounter

Materials and Methods

A cross-sectional study was conducted on the street children of a city of central India. The study was conducted over a period of three months in suburban and urban areas of Bhopal city. One hundred children were enrolled for the study by snowball technique of sampling. On reaching the place, namely, bus stops, railway stations and near the traffic signals the child was identified and made comfortable. The purpose of the study was explained and the interview was taken using a semi-structured questionnaire. Information regarding his/her demographic profile, work, place, problem and coping mechanism was gathered. On the basis of their habitats, street children were divided into two categories – children *on* the street and children *of* the street. Obtained data was entered into MS Excel and analyzed using Epi-info 7. Purpose of the study was explained to the participants and verbal consent was taken before interview. Permission to conduct the study was obtained from ethical committee of Gandhi Medical College, Bhopal.

Results

A total of 100 children were enrolled for the study, out of whom 49 children *on* the street category and 51 were children *of* the street category. Sociodemographic characteristics of study participants are shown in Table 1 according to the two categories of street children. According to the sociodemographic characteristics of street children of both categories, 59% participants of children *on* the street belonged to age group of 11–15 years of age and in children *of* the street 47% were in the age group of 6–10 years. In both groups, maximum participant were male 81% and 80%, 77% and 81% were Hindu by religion respectively. If we see the migration status of children of the street (67%) were from outside of Bhopal. No specific and secured place of residence and/or lack of shelter for children of the street, had forced a lot of them to sleep in the open places like the pavements of roads (20%), under bridges (33%), public places (20%), etc. Comparing the education status of both categories, more illiterate were children of street (73%) as compared to 53% in children on the street. Addiction pattern was more or less similar in both categories. On assessing the life style of both the groups, children of the street were beggars (37%) and rag pickers (27%) whereas 39% children on the street were serving in hotels. Both groups were working for money (60% and 53%), used open public places for defecating-squatting, difficulties in bathing, and washing clothes and drying was more in children of the street (Table 3). Absence of parents/family members, no near and dear ones, no affection and loved ones were great emotional threats among the respondents. The various problems faced by both the groups were use of bad language (83%, 92%) followed by lack of recreation (67%, 80%), followed by more workload and less payment (79%, 84%) and poor

ISSN: 2349–2880

health and vulnerability (87%, 94). Weak health due to hard work, diseases and malnutrition were common health problems of the respondents and most of them did self-administration for any medical ailments. Although how the street children survive to the respective lifestyle issues combating whether by avoiding or approaching different problems as already outlined in the earlier point, for an in-depth understanding of some of their specific and special coping mechanism to survive are necessary to mention. In response to lack of access to basic amenities, a common strategy generally adopted by the street children was to keep patience and endure the problem until they found some solution.

Table 1.Sociodemographic Characteristics of Street Children

S. No.	Variables	Children on the Street (n=49)	Children of the Street (n=51)
1	Age	11–15 years (59%)	6–10 years (47%)
2	Sex	Male (89%), Female (11%)	Male (80%), Female (20%)
3	Religion	Hindu (77%), Muslim (33%)	Hindu (81%), Muslim (19%)
4	Migration status	Bhopal (92%) Outside Bhopal (8%)	Bhopal (33%) Outside Bhopal (67%)
5	Parental status	Both parents present (32%) Either one parent (41%) None (27%)	Both parents present (24%) Either one parent (29%) None (47%)
6	Education status	Up to V (37%) Up to X (10%) Uneducated (53%)	Up to V (27%) Up to X (00%) Uneducated (73%)
7	Addiction	Smoking (52%) Chewing (39%) Volatile solution (5%) No addiction (4%)	Smoking (60%), Chewing (33%) Volatile solution (7%)

Table 2.Life Style of Street Children

S. No.	Variables	Children on the Street (n=49)	Children of the Street (n=51)
1	Night stay at	98% sleep at home 2% work place	20% footpath 33% over bridge 20% public place
2	Type of work	Street vending (30%) Serving in hotel (39%) Rag picking (26%) Car washing (5%)	Begging (37%) Rag picking (27%) Street vending (26%) Serving in hotel (10%)
3	Reason for being on street	For money (60%), Family condition (17%) Search of work (23%)	For money (53%), Search of work (21%) Family condition (26%)
4	Defecation	Open (49%), Community toilets (51%)	Open (53%) Community toilets (47%)
5	Water for bathing	Nagar nigam supply (67%) Leaked water pipes (23%) Other (10%)	Nagar nigam supply (5%) Leaked water pipes (39%) Others (46%)
6	Enough clothes	No (93%)	No (100%)
7	Medical facilities	Govt. (67%) Self-medication (13%) Treatment by quacks (20%)	Govt. facilities (15%) Self-medication (71%) Treatment by quacks (14%)

Table 3.Distribution of Problems Faced by Street Children at Working Place

S. No.	Problems	Children on the Street (n=49)	Children of the Street (n=51)
1	Lack of security and Protection	17 (34%)	31 (60%)
2	Lack of capabilities	13 (26%)	27 (53%)
3	More work and less money	39 (79%)	43 (84%)
4	Torture from owner	23 (46%)	31 (60%)
5	Lack of social ties and networks	27 (55%)	36 (70%)
6	Pick pocketing/theft	09 (18%)	25 (49%)
7	Sexually abused	00 (00%)	02 (3.9%)
8	Bad language	41 (83%)	47 (92%)
9	Abused by police	06 (12%)	18 (35%)
10	Lack of recreation	33 (67%)	41 (80%)
11	Poor health and vulnerability	43 (87%)	48 (94%)

Table 4.Coping Mechanism of Street Children

S. No.	Coping Mechanism	Children on the Street (n=49)	Children of the Street (n=51)
1	Keep patience and endure the problem until found some solution	47 (96%)	43 (84%)
2	Look for confirming and non-confirming job	29 (59%)	35 (68%)
4	Self-mutilation and self-humiliation	09 (18)	06 (12%)
5	Change location	11 (22%)	21 (41%)

Conclusion

Street children vary across cities and regions. But a majority of these children are boys. It is also important to note that girl street children are also found in visible spaces. Age-wise 59% of the street children are between 11 and 15 years while 49% are between 6 and 10 years age group. The children of the street are more vulnerable as compared to on the street children Being atypical with the mainstream children of the society, the life style of the street children in terms of their food habits, night shelter/sleeping place at night, sources of water (drinking, bathing and others), frequency of taking shower, use of toilet, clothing, means of survival (occupation), income, expenditure and savings, healthcare, diseases and treatment, educational status and skill, ownership, substance abuse and street children, recreational activities, social bondage: sharing of happenings, group networks and gang culture and aspirations, as revealed above, is symptomatic to continuous challenges, threats and struggles. The absence of normal living becoming chaotic and problematic offers street children an endangered lifestyle, which is entangled and concentrated with innumerable predicaments and stress. Homelessness and street life have extremely detrimental effects on children.

Limitation of the Study

Only a small sample of population could be selected because of the resources and manpower constraints Due to the cross-sectional nature of the study, it is difficult to establish causal relationship between the dependent and predicting variables Due to purposive sampling methods, study findings cannot be generalized.

Recommendations

There is need for coordination of responses to street children's rights. There is need for research to be conducted to fill the information gap on the effects of street environments on child development. Capacity building and empowerment of parents and families need to be dealt with to handle challenging behavior. There is a need to develop and strengthen the programs and structures to address and minimize identified family conditions such as family disintegration, substance abuse, child abuse, neglect, exploitation, HIV/AIDS, child headed households and poverty, and thus minimize circumstances which give rise to children leaving their homes. Improve the economic capacity of households through short-term interventions such as conditional cash transfers, direct subsidies, and material assistance, as well as longer-term interventions such as improving agricultural efficiency, and facilitating access to financial services offered by micro-finance institutions. Lastly, rehabilitation of street children is must to overcome this problem and such initiatives are very good because these work at ground level. India should come up with more such initiatives and campaigns so as to give a home and happiness to every child of India. Moreover, parents must work towards a better life and upbringing of their children instead of just giving birth.

Conflict of Interest: None

ISSN: 2349–2880

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Date of Submission: 2017-10-03

Date of Acceptance: 2017-10-03

Research Article

An Uncommon yet Correctable Cause of Brain Hemorrhage in the Young

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Abstract

Intracranial bleed in the young is frequently due to congenital aneurysms, and infrequently due to secondary causes of hypertension. Hence, a detailed work-up of these patients is the need of the hour so as to promptly diagnose and treat such patients, thereby preventing future morbidity and mortality. We, hereby, present a case of intracranial bleed presenting in a patient with undiagnosed coarctation of aorta.

Keywords: Hypertension, Coarctation, Intracranial bleed

Introduction

Intracranial bleed presenting in young patients must be evaluated for underlying etiology, which may range from secondary hypertension to congenital aneurysms and structural defects. Among secondary hypertension, renal and renovascular causes are the most frequent. However, a detailed cardiovascular and systemic examination cannot be over emphasised to rule out other infrequent but potentially correctable causes.

We present a case of a young patient presenting with accelerated hypertension and intracranial bleed, who in detailed examination and investigation was diagnosed as coarctation of aorta, which was then corrected by surgery.

Case Report

A 35-year-old male resident of Bhadurgarh, laborer by occupation, presented to emergency with complaints of headache associated with sudden onset of weakness of right upper limb and lower limb for one day. The patient also gave history of deviation of angle of mouth, and slurring of speech. There was no preceding history of fever, seizures, head injury, photophobia or loss of vision. Patient had no complaints of chest pain, palpitation, or headache. There was no history of treatment for hypertension or diabetes mellitus.

At the time of presentation, the patient was conscious and oriented to time, place and person. Pulse rate was 96/min, regularly regular, good volume and slow rising. Bilateral radial and brachial pulses were palpable and bilateral femoral, popliteal and dorsalis pedis pulsations were absent. Blood pressure was 220/140 mm Hg in right arm and 210/130 in left arm and not recordable in bilateral lower limbs. Respiratory rate was 30/min. There was no pallor, icterus, clubbing, cyanosis or lymphadenopathy.

In cardiovascular system examination, there was ejection systolic murmur, harsh in character, heard in 3rd intercostal space just left lateral to sternal border, Grade 3 in intensity which was heard best at the end of expiration, non-radiating,

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How to cite this article: Ish P, Varshney M, Mittal A et al. An Uncommon yet Correctable Cause of Brain Hemorrhage in the Young. *Ind J Youth Adol Health* 2017; 4(3): 11-16.

Digital Object Identifier (DOI): https://doi.org/10.24321/2349.2880.201719

ISSN: 2349–2880

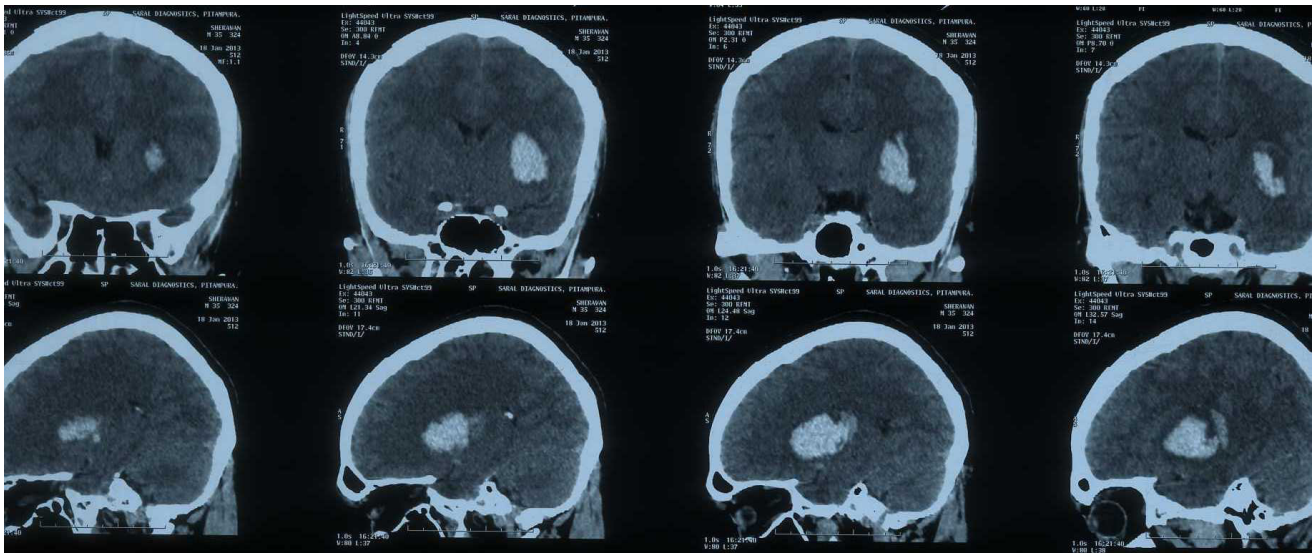
and not associated with thrill. There was also a continuous murmur heard at back in inter and infrascapular area. No renal bruit was heard.

Respiratory and abdominal systems were normal. Higher mental functions were intact. There was right-sided upper motor neuron type of 7th cranial nerve palsy. Power was 3/5 at all joints in upper limb and lower limb on right side and 5/5 on left side associated with sensory loss on the same side. Fundus showed bilateral papillodema initially and on follow up visit, patient had bilateral Grade 2 hypertensive changes. Electrocardiograph had left axis deviation and echocardiography was suggestive of marked concentric LVH with bicuspid aortic valve, no regional wall motion abnormality, normal chamber dimension and LV ejection fraction of 64%. The hematological investigations were grossly normal (Table1).

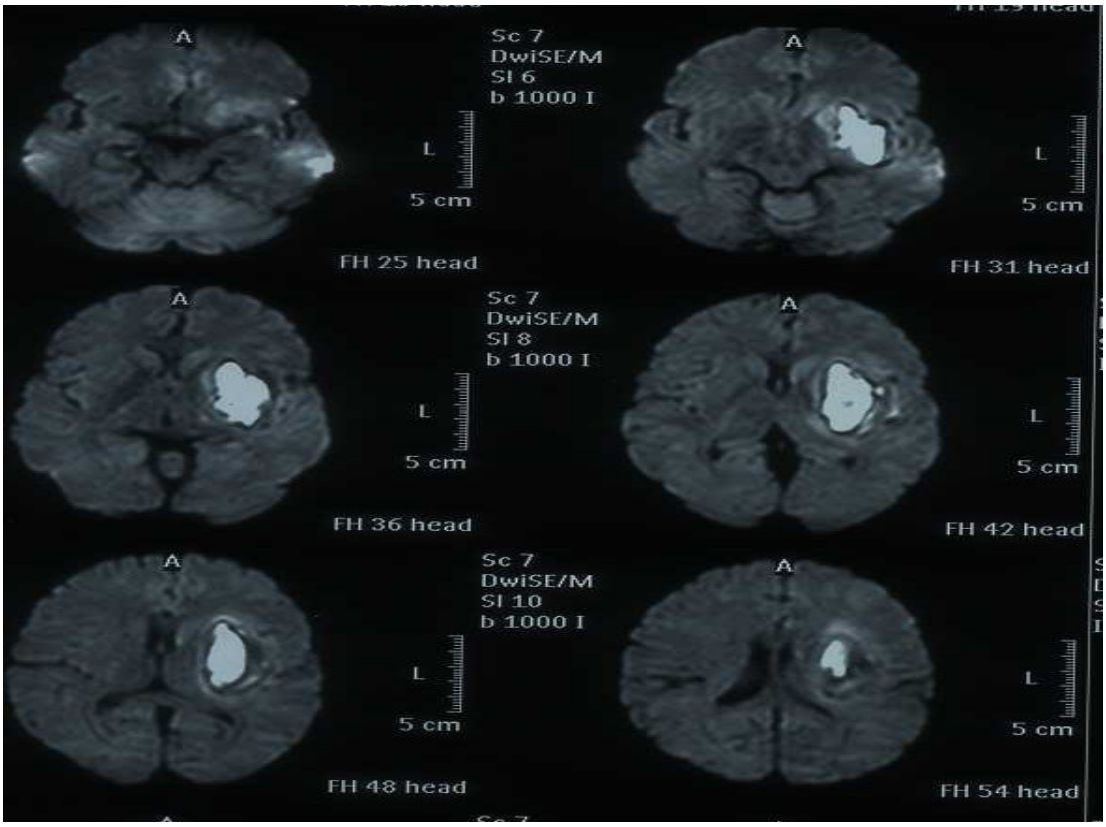
Table 1.Hematological Investigations

	Admission	Discharge
Hemoglobin (GM%)	13.2	13
Total Leukocyte Count	7000	6500
Differential Count (Neutrophil/Lymphocyte)	86/10	87/11
Platelet Count	3.5 lac	3.0 lac
Serum Bilirubin	0.3	0.3
Blood Urea (Mg%)	57	39
Blood Sugar	97	98
Electrolyte (Sodium/Potassium)	141/4.8	142/4.0

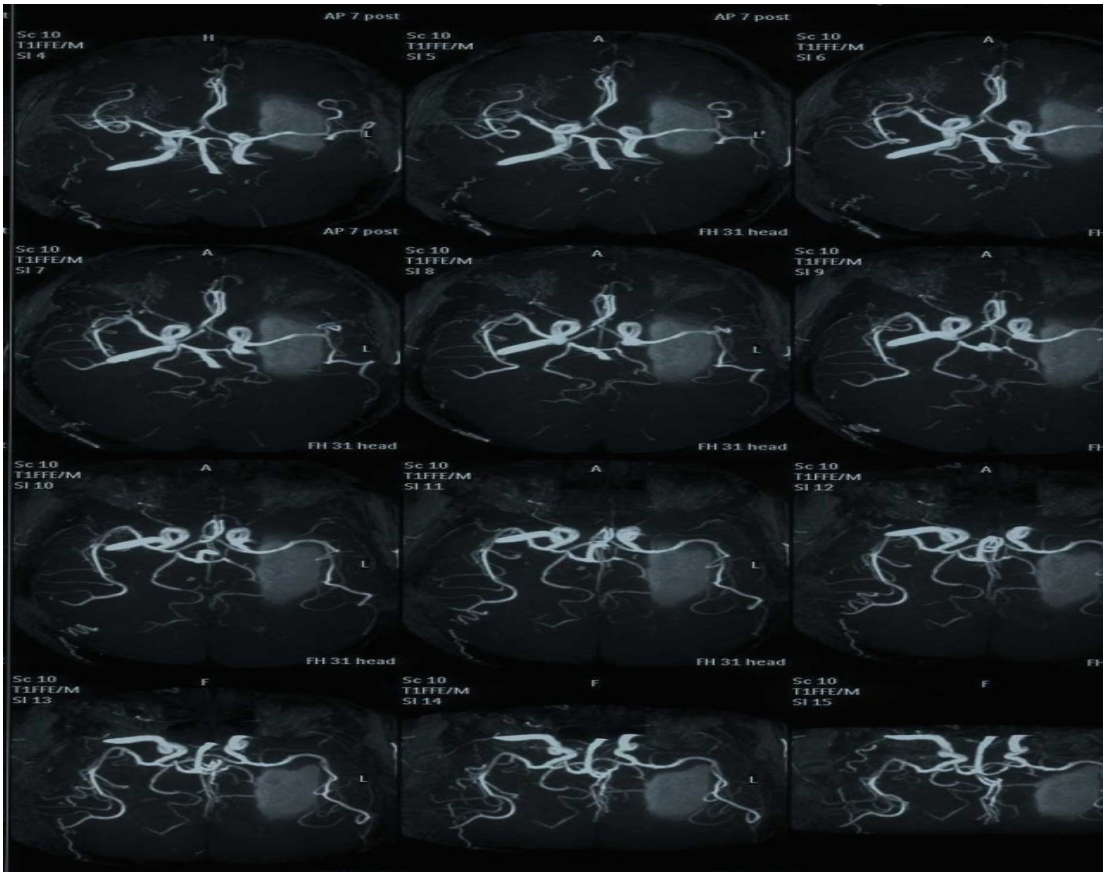
Non-contrast CT head (Picture 1) was suggestive of acute intrparenchymal bleed in left basal ganglia with mild mass effect, which was confirmed in MRI brain (Picture 2). MR angiography of brain (Picture 3) did not reveal any collaterals or aneurysm; however, MR angiography of aorta (Pictures 4 to 6) was done in view of clinical examination, which revealed bicuspid aortic valve with postductal type of coarctation of aorta.



Picture 1.NCCT Head

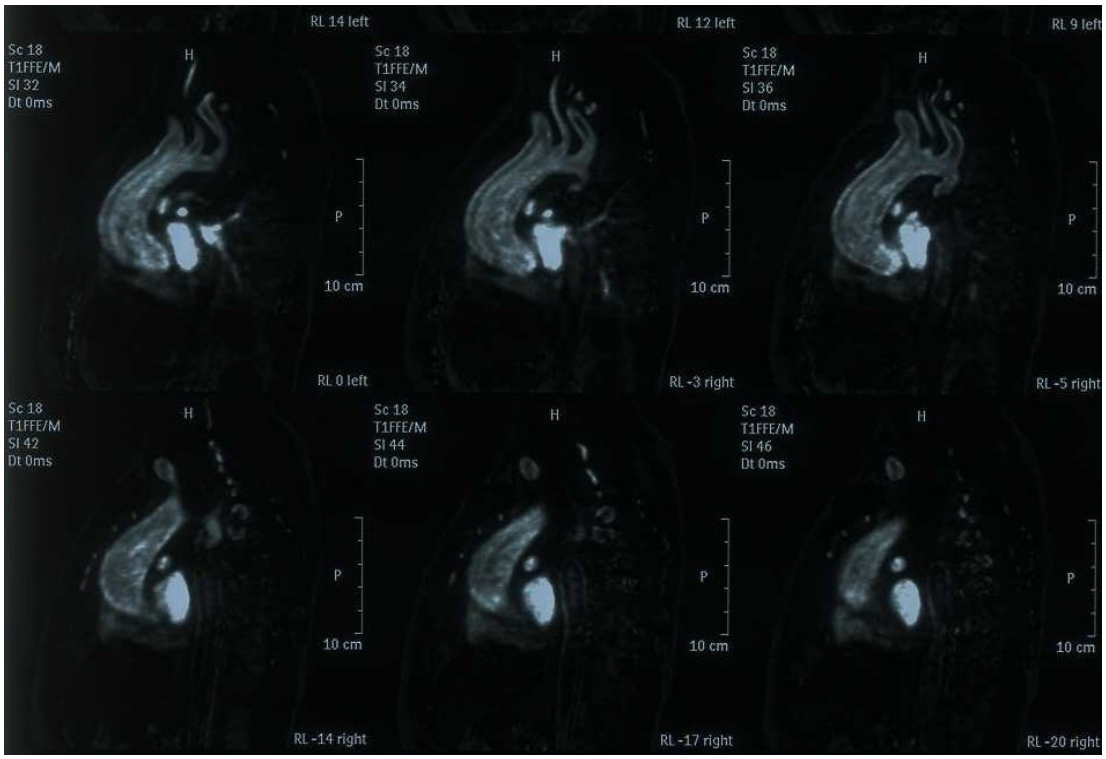


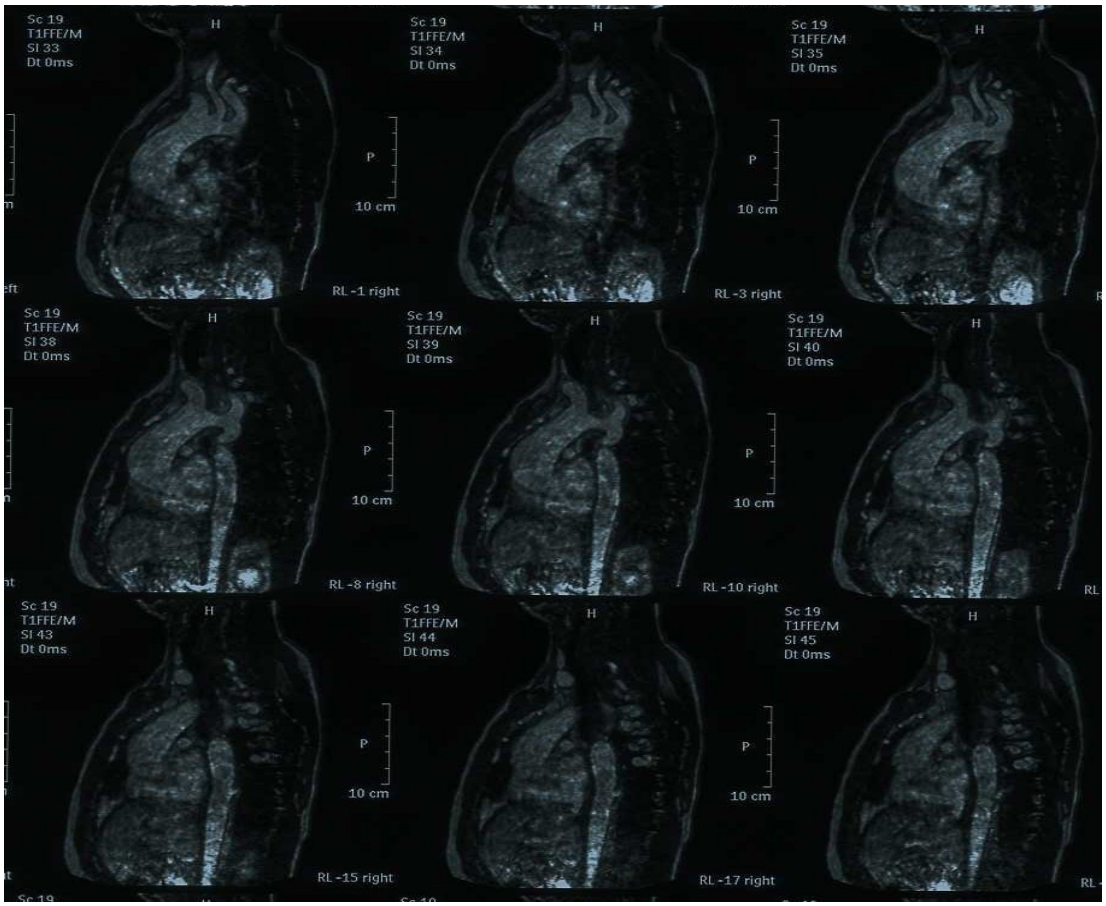
Picture 2.MRI Brain



Picture 3.MR Angiography Brain

ISSN: 2349–2880


RL 14 left
Sc 18
T1FFE/M
SI 32
Dt 0ms
RL 0 left
Sc 18
T1FFE/M
SI 34
Dt 0ms
RL 12 left
Sc 18
T1FFE/M
SI 36
Dt 0ms
RL -3 right
RL 9 left
RL -5 right
Sc 18
T1FFE/M
SI 42
Dt 0ms
RL -14 right
Sc 18
T1FFE/M
SI 44
Dt 0ms
RL -17 right
Sc 18
T1FFE/M
SI 46
Dt 0ms
RL -20 right
10 cm


Sc 19
T1FFE/M
SI 33
Dt 0ms
RL -1 right
Sc 19
T1FFE/M
SI 34
Dt 0ms
RL -3 right
Sc 19
T1FFE/M
SI 35
Dt 0ms
Sc 19
T1FFE/M
SI 38
Dt 0ms
RL -8 right
Sc 19
T1FFE/M
SI 39
Dt 0ms
RL -10 right
Sc 19
T1FFE/M
SI 40
Dt 0ms
Sc 19
T1FFE/M
SI 43
Dt 0ms
RL -15 right
Sc 19
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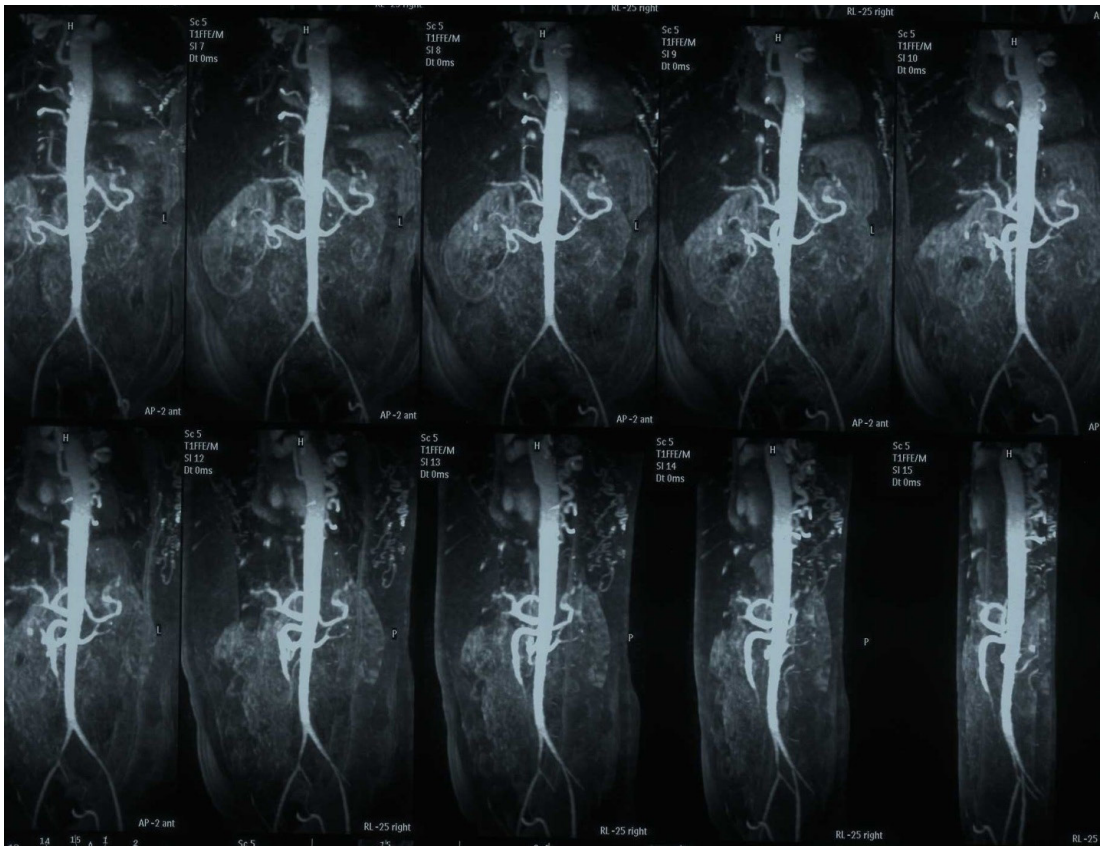
SI 44
Dt 0ms
RL -17 right
Sc 19
T1FFE/M
SI 45
Dt 0ms
10 cm



Pictures 4–6.MR Angiography Aorta

Hence a final diagnosis of accelerated hypertension with hypertensive bleed with right-sided hemiparesis with right 7th nerve palsy UMN-type with postductal type of coarctation of aorta was made.

Patient was given mannitol for two days and then put on syrup glycerol to reduce intra cranial tension. Patient's headache was relieved. Weakness of right-sided limbs started showing improvement in terms of power and coordination. Patient was referred to higher center of cardiac surgery, where patient underwent balloon angioplasty and stenting. Patient had improvement in his power, coordination and hypertension control over his follow-up visits.

Discussion

Coarctation of aorta accounts for not more than 7% of patients who are born with a congenital heart disease. It may occur isolated or in association with other lesions, most commonly bicuspid aortic valve. The diagnosis of coarctation of the aorta may be missed unless a high index of suspicion is maintained, and diagnosis often is delayed until the patient develops congestive heart failure, which is frequent in infants, or hypertension, which is frequent in adults. It can be easily diagnosed by echocardiography, and surgically repaired. If left untreated, it can present in adulthood as cardiac failure, aortic rupture, bacterial endarteritis, and intracranial haemorrhage.[1] Spontaneous sub-arachnoid hemorrhages have been reported in literature with coarctation due to intracranial aneurysms.[2] However, there are infrequent case reports of intraparenchymal bleed in patients, without any aneurysm in patients with coarctation of aorta, in which the chief mechanism remains accelerated hypertension.[3]

Thus we report such a case of coarctation of aorta leading to accelerated hypertension leading to intraparenchymal bleed so as to stress on the need for high index of suspicion required for it and also because the presentation was unusual in that the hypertension was never detected until the patient presented with a stroke. The natural history of untreated coarctation is that of premature death from stroke and coronary heart disease or sudden death. However, this commonly occurs early on in childhood for patients that are not treated.

Hence, to conclude, a detailed history and physical examination to evaluate for etiology of hypertension in the young and similarly stroke in the young is the key to early diagnosis and effective treatment which can reduce future morbidity and mortality from the same.

Conflict of Interest: None

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Date of Submission: 2017-09-28
Date of Acceptance: 2017-10-03

Research Article

Effect of Skipping Breakfast on Young Girls' Menstruation

Dileep Dandotiya[1], Angelin Priya[2], Manju Toppo[3], Veena Melwani[4], Pradeep Dohare[5], Amreen Khan[6], Soumitra Sethia[7]

Abstract

Introduction: Breakfast is often referred to as the most important meal of the day. Evidence suggests that breakfast contributes to wellbeing in a number of areas. First, it is a central component of nutritional wellbeing, contributing to total daily energy and nutrient intake. Nearly 15% of college girls rarely or never ate breakfast, and those who ate breakfast almost every day (and did not often eat between meals) reported slightly but significantly better physical health than skippers. Eating breakfast is important for the health and development of young women. From clinical experience, there is great evidence that the frequency of irregular menstruation and intensity of dysmenorrhea was increased in young women, who were currently skipping meals, suggesting that diet in adolescence has long-lasting adverse effects on reproductive function in young women. Menstrual disorders frequently affect the quality of life of adolescents and young adult women. Breakfast as a part of healthful diet and lifestyle can positively impact children's and young adults' health and wellbeing. Daily eating habits significantly influence menstrual function in young women. We conducted the study to explore the association of skipping breakfast on menstruation.

Objectives

- To find out the proportion of girls with menstrual irregularity in those skipping breakfast;
- To find out effect of breakfast skipping on menstruation among girls of age group 17–22 years.

Method and Material: A cross-sectional study was used. The studied sample consisted of 90 female students of a selected college of Bhopal city. Data were collected by using an interviewing questionnaire. Analysis of the findings was done using Epi Info 7 software.

Results: Mean age of the study participants was 20+3.66 years. Out of 90 students, 82% were found to have been skipping breakfast for more than 3 days a week. The study also revealed that dysmenorrhea was more in girls who skipped breakfast than in those who had breakfast (P=0.0001).

Conclusion: From the above finding, we can conclude that episodes of dysmenorrhea occurred more in female students who skipped the breakfast meal more than those who took breakfast regularly.

Keywords: Menstruation, Dietary habits, Skipping breakfast, BMI, Premenstrual syndromes, Menstrual disorders

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How to cite this article: Dandotiya D, Priya A, Toppo M et al. Effect of Skipping Breakfast on Young Girls' Menstruation. *Ind J Youth Adol Health* 2017; 4(3): 17-20.

Digital Object Identifier (DOI): https://doi.org/10.24321/2349.2880.201720

ISSN: 2349–2880

Introduction

Breakfast is often referred to as the most important meal of the day. Evidence suggests that breakfast contributes to wellbeing in a number of areas. First, it is a central component of nutritional wellbeing, contributing to total daily energy and nutrient intake.[1] Daily eating habits significantly influence menstrual function in young women and several studies reported that vitamin deficiency or hypoglycemia can induce premenstrual syndromes in which patients complain of irritability, constipation and edema several days before the onset of menstruation. Very recently, it was confirmed that the frequency of irregular menstruation was increased in young women who were currently on a diet and found out that the intensity of dysmenorrhea was high in those with a history of dieting in adolescence, suggesting that diet in adolescence has long-lasting adverse effects on reproductive function in young women.[2] Menstrual disorders frequently affect the quality of life of adolescents and young adult women. Breakfast as a part of healthful diet and lifestyle can positively impact children's and young adults' health and wellbeing and development of young women. Nearly 15% of college girls rarely or never ate breakfast, and those who ate breakfast almost every day (and did not often eat between the meals) reported slightly but significantly better physical health than skippers. Irregular menstruation is one of the positive clinical symptoms which predict dysfunction of the hypothalamic-pituitary-ovarian axis. The list of menstrual disorders may range from amenorrhea, irregular cycles and abnormal flow to dysmenorrhea and premenstrual symptoms (Campbell and McGrath, 1997). Dietary habits are fundamental factors that influence human life style and individual quality of life (QOL). Dietary habits in young women may determine their QOL in subsequent middle or old age and should be evaluated from the perspective of total benefit throughout whole life.[3-5] Meal skipping rates may be highest during young adulthood, a period of transition and development. Although these dietary behaviors may increase future risk of chronic disease, limited research has investigated correlates of meal skipping in young adults; therefore, we conducted the study to explore the association of skipping breakfast on menstruation.[6,7]

Objectives

- To find out the proportion of girls with menstrual irregularity in those skipping breakfast.
- To find out effect of breakfast skipping on menstruation among girls of age group 17–22years.

Methodology

A total of 90 students in the age group ranging from 17 to 22 were selected for the present study. A cross-sectional study was carried out in a selected girls' college of Bhopal city belonging to 17–22 years of age, after taking consent from the college authorities and approval from our institutional ethical committee. This study was carried out with a questionnaire to collect data on breakfast history, food habits, sleeping habits, physical activities and menstrual cycle and also the all study subjects were briefed and requested to answer the questionnaire. The questionnaire was self-administered, semi-structured and prepared in English language. The obtained data were entered into Microsoft Excel 2007 and analyzed by using Epi info 7.

Results

Age of the study participants was 20+3.66 years. Out of 90 students, 82% were found to have been skipping breakfast for more than 3 days a week. The study also revealed that dysmenorrhea was more in girls who skipped the breakfast than in those who had breakfast (P=0.0001).

Table 1.Characteristics of Study Participants

Characteristics	Frequency (%)
Mean age of the study participants	20±3.66
Mean age of menarche	13.34±1.39
Height	
<150 cm	20 (22.22)
150–160 cm	39 (43.33)
>160 cm	31 (34.44)
Weight	
<50 kg	39 (43.33)
>50 kg	51 (56.66)
BMI	
Underweight (<18.5)	20 (22.22)
Normal (18.5–24.9)	53 (58.88)
Overweight (>25)	17 (18.88)
Having breakfast	16 (17.77)
Skipping breakfast	74 (82)

Table 2.Dietary Habits and Life Style

Junk Foods	Skipping Breakfast (74)	Having Breakfast (16)
<3 times per week	29	12
>3 times per week	45	4
Fresh fruits and juices		
<3 days per week	15	7
4–7 days per week	59	9
Physical activity		
<3 days per week	22	9
4–7 days per week	31	6
No physical exercise	21	1

Table 3.Distribution according to Menstrual History

Characteristics	Having Breakfast(16)	Skipping Breakfast(74)
Menstrual duration (in days)		
<3	5 (31.25)	44 (59.46)
3–7	8 (50)	20 (27.02)
>7	3 (18.75)	10 (13.52)
Blood flow		
With clot	16 (100)	12 (16.02)
Without clot	0	62(83.78)

Table 4.Association between Skipping Breakfast and Menstrual Disorder

Menstrual Disorder	Have Breakfast (16) (%)	Skip Breakfast (74)	Chi-square	P value
Dysmenorrhea				
Yes	04 (25)	60 (81.08)	20.1407	0.0001
No	12 (75)	14 (18.91)		
Menorrhagia				
Yes	13 (81.25)	12 (16.22)	14.673	0.126
No	03 (18.65)	62 (83.78)		
Oligomenorrhea				
Yes	01 (6.25)	55 (74.32)	25.93	<0.05
No	15 (93.75)	19 (25.67)		

Discussion

Our study found out that majority of study participants skipping breakfast were suffering from one or the other menstrual problems. This finding is consistent with the finding of study done by Hayam Fathy A. Eittah on 300 girls of nursing in Menoufiya University, Egypt.[2]

In addition, Dars et al., in their study on female students in Hyderabad, Pakistan,[8] showed a significant association between nutritional status and menstruation pattern, which is found in our study as well.

Conclusions

Based on the study, finding episodes of menstrual disorder was more in those who skipped breakfast than who regularly had breakfast. The current study revealed that dysmenorrhea and oligomenorrhea occurs in female students who skipped the breakfast meal more than those who took breakfast.

Recommendation

Encouragement should be done to take healthy breakfast to all female students studying in schools and colleges. Evaluation of breakfast skipping should be carried out in perspective of future reproductive functions. This problem needs to be examined with a larger sample size. Development of educational programs to increase awareness about the importance and effect of breakfast on target girls from different ages should be done.

Conflict of Interest: None

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Date of Submission: 2017-09-28

Date of Acceptance: 2017-10-03

Research Article

Impact of Lifestyle Intervention for Management of the Modern Life Scourge of Polycystic Ovarian Syndrome among Girls – A Case Series

Ishwarpreet Kaur[1], Vanita Suri[2], SV Rana[3], Amarjeet Singh[4], Naresh Sachdeva[5], Nancy Sahni[6]

Abstract

Polycystic ovarian syndrome (PCOS) is a complex endocrine, metabolic and reproductive disorder. It affects various body organs. Oligomenorrhea, hirsutism, insulin resistance, obesity and polycystic ovaries are its hallmark features. Usual medicines for PCOS focus on blood glucose and hormonal regulation. Diet, exercise and lifestyle changes for losing weight provide relief from symptoms. We describe here eight PCOS cases enrolled in an RCT. The study aimed to ascertain the impact of the lifestyle intervention for management of polycystic ovarian syndrome among girls. Anthropometric assessments and biochemical parameters, including reproductive hormones and insulin resistance, were performed at baseline and after 6 months of intervention, change in their health profile was noted. After intervention, menstrual regularity was achieved in all cases. The average weight loss was 4.07 kg (range 2.5–14 kg). The average BMI reduced from 26.6 to 25.0 and waist circumference from 94.1 to 86.6. At the end of the intervention, five cases had normal ovarian size, LH:FSH was normal in three cases. Out of six with insulin resistance, only one tested positive after intervention. One of the subjects said "I am very satisfied with the treatment. Almost all of my problems have been resolved – periods are regular, lab reports are normal, mood has improved, weight has reduced; other people ask me how I have lost weight." Simple changes in lifestyle can easily provide relief in PCOS cases without any medical intervention.

Keywords: Polycystic ovary syndrome, Infertility, Lifestyle, Adolescent health, Adolescent girls, Oligomenorrhea, Amenorrhea

Introduction

Polycystic ovarian syndrome (PCOS) prevalence is steeply rising. The reported prevalence among adolescents ranges from 9.13% to 36%.[1] PCOS affects various body organs. The features of PCOS include oligomenorrhea/amenorrhea, hirsutism, alopecia, anovulation and polycystic ovaries. All these signs and symptoms may result in psychological issues among PCOS women. Biochemical changes seen among these women are disordered gonadotrophin (LH and FSH), increased

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How to cite this article: Kaur I, Singh A, Rana SV et al. Impact of Lifestyle Intervention for Management of the Modern Life Scourge of Polycystic Ovarian Syndrome among Girls – A Case Series. *Ind J Youth Adol Health* 2017; 4(3): 21-24.

Digital Object Identifier (DOI): https://doi.org/10.24321/2349.2880.201721

ISSN: 2349–2880

androgen levels, insulin resistance (IR), chronic low-grade inflammation, etc. If the condition is not treated, it can increase the risk of infertility, diabetes, metabolic syndrome, cardiovascular disease, and endometrial carcinoma.[2] Obesity and overweight worsen the symptoms of PCOS women. Among PCOS women, obesity and overweight is reported to be 50%–70%. Two-thirds of non-obese PCOS patients have central obesity.[3]

The etiology behind the disease is still not clear though genetic and environmental factors are considered to be associated with PCOS.[4]

PCOS can be managed but not cured. Management of PCOS includes pharmacological and non-pharmacological treatment. The usual medicines prescribed for PCOS focus on blood glucose and hormonal regulation. The most common medicines include birth control pills, clomiphene citrate, metformin, etc. Unfortunately, these are not fully able to deal with all the metabolic parameters. Rather these may have their own negative effects.[5]

As per PCOS treatment guidelines, the first line of treatment for its management includes lifestyle modification. However, the emphasis these days is on pharmacological treatment.

Lifestyle modification can be a key intervention to improve quality of life of PCOS cases. Diet modification, increased physical activity, and stress management can do wonders. Losing weight (even 5%–10%) provides relief from symptoms. Studies have proven efficacy of high protein and complex carbohydrate diets along with exercise in improving this condition.[6,7]

Lifestyle interventions (diet and exercise) are recommended as first-line treatment for PCOS management.[8] Lifestyle interventions are cost-effective strategies compared to pharmacological options. Lifestyle intervention has led to reduction in weight and improvement in symptoms of PCOS.[9]

Despite such evidence, majority of the PCOS girls do not avail the benefits of following a healthy lifestyle. The possible reason could be lack of effective communication regarding the importance of a healthy lifestyle. The medical fraternity in OPDs does not have ample time to counsel the affected women due to overcrowded OPDs. There is a need to empower PCOS women for self-management through lifestyle modification. This can only be achieved by offering laidback counselling sessions to affected women. This idea has been successfully implemented by the authors by establishing a separate multipurpose behavior therapy/counselling room in gynecology OPD of PGIMER, Chandigarh.

Based on the concept of health promotion and de-medicalization, a multi-purpose behavior therapy (MPBT) room was established in the Gynecology OPD of a tertiary care hospital and research institute of north India in November 2012. So far, >5000 patients have been counselled successfully. This room caters to the cases of urinary incontinence, prolapsed, dysmenorrhea, menopause, infertility, ANC and PNCs, and obesity. Many patients (62.5%) reported benefit from counseling. Around 2700 ANC patients counselled in MPBT room have reported relief in symptoms and satisfaction with the quality of counselling as denoted by their response – *"Hamare time to koi aise nahin batata tha…aap ki kismat achchhi hai ki aap ko yahan inki advice mil rahi hai. Isse achchhe se maan lo"* (Nobody guided us in our pregnancy. You are lucky to be counseled like this here. Follow their advice religiously).[10]

Here, patients referred by the specialists are counselled regarding self-care/behavior therapy (weight reduction and nutritional advice). Husbands and mothers/mothers-in-law are also counselled along with the patients. Behavior therapy was effective in relieving reproductive health symptoms of women. It is feasible to introduce health promotion orientation in OBG OPD for enhancing patient satisfaction. The latest addition to this approach is the use of mobile phone/laptop for video-based counselling in MPBT room.

A similar approach was applied to resolve the problem of women with PCOS by non-medicinal interventions. There was a need to standardize a package of intervention for PCOS patients attending MPBT room. This package seeks to improve management of women having PCOS.

Thus, the aim of this investigation was to see the efficacy of the lifestyle intervention package in management of polycystic ovarian syndrome cases.

Methodology

The cases for the study were recruited from gynecology OPD, PGIMER, Chandigarh. Eight cases were recruited for the intervention, after physician approval. All were diagnosed PCOS cases (as per the Rotterdam criteria),[11] age 18–35 years and were willing to provide informed consent and visit hospital for follow up. Women currently on oral contraceptives or other medications, pregnant, lactating women and those with any pre-existing condition (DM, thyroid, CAD, abnormal creatinine levels, liver dysfunction, and hyper-prolactemia) were excluded.

Clearance for the study was obtained from the ethics committee of PGIMER. Written informed consent was obtained from participants of the study. The intervention was for six months and follow-up visits were planned every month.

The following parameters were studied before and after the intervention:

- Reproductive factors – Menstrual regularity

- Anthropometric factors – Weight, BMI, waist circumference, waist-to-hip ratio
- Metabolic parameters – Fasting glucose, insulin resistance
- Hormonal parameters – LH, FSH, testosterone, DHEAS
- UGG – Volume of ovaries

A pre-tested questionnaire was used for data collection. It emphasized on menstrual regularity, hirsutism and acne, gynecological history, and medications. Relevant family history was elicited from the patients.

Weight was measured (in kg) using the digital weighing scale for pre- and post-readings. Stature was measured (in cm) using a stadiometer. Body mass index (BMI) was calculated using the formula: BMI=Kg/m^2. Waist circumference was taken at midway between the lowest rib margin and iliac crest. Hip circumference was measured at the point of greatest circumference around hips. Waist to-hip ratio was calculated as waist circumference divided by hip circumference. Excess androgen was calculated using modified *Ferriman-Gallwey (mF-G)* method.

WHO Asia Pacific classification BMI of 18.5–22.9 is classified as normal weight, BMI of 23–24.9 is overweight, BMI of 25–29.9 is obese I and BMI of ≥30 is considered obese II.

All girls were asked to come for laboratory assessment. Fasting sample of venous blood (mL) was drawn in the early follicular phase of the menstrual cycle. Hormone estimates included luteinizing hormone (LH), follicle-stimulating hormone (FSH), total testosterone, and prolactin was done by fully automated bi-directionally interfaced chemiluminescent immunoassay. Ultrasensitive sandwich chemiluminescent immunoassay was used to measure thyroid stimulating hormone (TSH). Homeostasis model assessment (HOMA) method was used to measure insulin resistance. HOMA was derived using the formula: Glucose*Insulin/22.5 (when glucose is in molar units mmol/L). Glucose was measured using the enzymatic calorimetric method. Pelvis ultrasonography was performed by a certified ultrasonologist.

Intervention

The study intervention included counselling sessions for:

- Conventional healthy diet with the macronutrient composition (carb:fat:protein=45–50: 30:20–25). Emphasis was given on complex carbohydrates
- Exercising schedule
- Meditation – Deep breathing exercise thrice a week
- Sleep at least 6–8 hours
- Maintaining adherence diary

Results

The eight cases had confirmed diagnosis of PCOS. Their age was 20–29 years. Average height of the cases was 155.56 cm and the weight was 64.44±13.52 kg. The mean BMI was 26.65 and SD 5.11. Two of the cases were normal weight, two were overweight, two were obese grade I, and two were obese grade II. The mean waist circumference was 94.06±13.76 and waist-to-hip ratio 0.92±0.05. All the eight had irregular menstrual cycle and polycystic ovaries (PCO). Altered LH:FSH ratio was present in five of the cases. Only two had high testosterone levels. Mean DHEAS value was 209.94 and FBS was 87.59 in the beginning.

After six months of treatment, the average weight reduced to 60.37±10.57. Two overweight became normal weight, and one obese grade II case after losing weight became obese grade I. The mean waist circumference dropped to 86.62±13.02. Waist-to-hip ratio was 0.88±0.07. Mid-arm circumference reduced from 29.25±3.74 to 28.44±3.49. Polycystic ovaries (PCOs) were present only in three cases and five had no PCOS. After treatment, four cases had normal LH:FSH and only one was left with abnormal ratio. FBS after intervention mean value reduced to 84.49, while DHEAS values increased to 259.56. Earlier six patients had insulin resistance but after six months, only one case was found to be insulin resistant. Menstrual regularity was achieved in all cases.

One of the subjects said "I am very satisfied with the treatment. Almost all of my problems have been resolved – periods are regular, lab reports are normal, mood has improved. Weight has reduced; other people ask me how I have lost weight."

Another patient said, *In these six months, i have noticed a lot of improvement in my lifestyle. I learnt how important it is to eat on time and in moderation. I feel more confident. Overall, I feel much improvement in myself. The third patient said, "Lifestyle modification helped me a lot in solving my menstrual problem. Now I get regular periods without any medicines.*

Conclusion

Simple changes in lifestyle can help patients easily manage PCOS themselves. In the 8 cases reported here, regular menstruation was achieved by lifestyle modification. The average weight loss was 4.07 kg (range 2.5–14 kg). The average BMI reduced from 26.65±5.11 to 25.0±3.49 and waist circumference from 94.06±13.76 to 86.62±13.02. At the end of the intervention, five cases had normal ovarian size and LH:FSH was normal in three cases. Out of six with insulin resistance, only one tested positive after intervention.

Thus, there is a need to increase the use of counselling-based approach in OBG OPDs for management of PCOS through healthy lifestyle modification.

ISSN: 2349–2880

Conflict of Interest: None

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Date of Submission: 2017-09-27

Date of Acceptance: 2017-10-03

Research Article

In Patient Department Services at a Private Super Specialty Hospital of a Metrocity

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Abstract

Introduction: A patient's episode of care should be planned before his/her admission and should take account of the entire "journey" up to and after discharge from hospital. Patients and their care-giver should be partners in this planning. Pre-admission assessment should be a standard requirement for all elective admissions. The anticipated length of stay for elective admissions should be indicated as early as possible to facilitate scheduling. Discharge plans agreed between the hospital and a key worker in primary care, discharge planning that commences on day of admission.

Objectives

- To study the admission process.
- To study the discharge process.

Methodology: A cross-sectional study was conducted in a private super specialty hospital of a metrocity. A check list was prepared for various desks of the hospital such as admission desk, discharge desk, cash desk, billing desk, etc. Also, descriptive data was collected from various departments.

Observation andResults: The various sources of admission to hospital were: direct admission, general OPD, emergency department and consultants' clinic. Registers maintained at the Admission desk: Handover Book, Admitted Patient Register, Bed management Register, Announcement Register, OT Register, Briefing Register, Counselling Register. Discharge Process: On being advised discharge, the billing prepares the patient bill in two copies. Process of discharge is initiated after administration/ consultant advice. A detailed discharge summary covering investigation reports, treatments given and advice on discharge will be provided by the attending doctor and it will be given to the patient at the time of discharge. Charges for the full day on the day of admission are applicable irrespective of time of check in. Patient is discharged after the payment of the bill.

Recommendations: There should be a hanging bold-written signage for insured patients, strict adherence to the visiting hour timings. More number of staff needs to be deployed in the billing department as because of staff crunch the billing gets delayed. Discharges must be pre-decided so that the nurses get sufficient time to prepare the patient file.

Keywords: In Patient, Admission, Discharge

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How to cite this article: Veda A, Khan A, Sethia S et al. In Patient Department Services at a Private Super Specialty Hospital of a Metrocity. *Ind J Youth Adol Health* 2017; 4(3): 25-28.

Digital Object Identifier (DOI): https://doi.org/10.24321/2349.2880.201722

ISSN: 2349–2880

Introduction

A patient's episode of care should be planned before his/her admission and should take account of the entire "journey" up to and after discharge from hospital. Patients and their care-giver should be partners in this planning. Bed management should be overseen by a hospital bed manager (HBM) who has the authority to implement the bed management policy and to coordinate the bed management team. Part of their role would include continuous analysis and the provision of reports and forecasts. The function of allocating beds to patients should be centralized and the hospital bed manager should have authority over the access to all hospital beds. There should be an awareness of bed designation ratio as set out by the Department of Health and Children. The hospital bed manager should work within the notional allocation of beds to each specialty to ensure that patients are accommodated in the most appropriate bed available at the time of their admission, and to ensure that patients are cared for by staff with appropriate expertise. The following key requirements have been identified to facilitate effective elective admission practices such as centralized waiting list management and agreement on the parameters for scheduling theater lists with clinicians. Pre-admission assessment should be a standard requirement for all elective admissions to ensure appropriate planning of the entire patient journey. The anticipated length of stay (this should be indicated as early as possible to facilitate scheduling) for elective admissions should be indicated as early as possible to facilitate scheduling. Increased day surgery can also be supported by admission assessment to ensure appropriate scheduling and to minimize transfer to inpatient beds. Discharge lounges may be used to facilitate early discharge as well as accommodation for *day of surgery* arrivals and timely commencement of theater list.

The Acute Hospital Service should cooperate with other service providers in primary, community and continuing care. A description of the range and detail of the services provided in each care setting should be available to all users and providers. The route of access to each service is made explicit in appropriate formats to providers and users. A range of tools to support effective service delivery, including referral guidelines and protocols for consultant care and diagnostic services. Discharge plans agreed between the hospital and a key worker in primary care, discharge planning that commences on day of admission, efficient communication from acute care service providers, e.g., discharge letter accompany patient or/and e-mailed to GPs and key worker on or before the day of discharge, Integrated care pathways facilitated by key workers, individual care plans appropriate to the needs of the patient and their care-givers are developed by the multidisciplinary team and in collaboration with them, e.g., chronic disease management, shared care arrangements between patient/GP/consultant for specific health conditions. The care/case management in the health services should be further developed. The provision of medical prescriptions, aids and appliances along with transport issues should be identified and addressed to meet the needs of patients/clients, families and communities

Discharge planning should commence with pre-admission. On admission, the patient's pre-morbid and functional status information are documented in order to inform discharge planning and to identify patients at risk on returning home. In this way, referrals to inter-hospital and community services are initiated in a timely manner. The core principles for effective discharge planning are: a patient's use of a hospital bed and their discharge should be planned before their admission; the estimated date of discharge should be documented and communicated to the patient and relevant personnel within 24 hours of admission; discharge should be "streamlined" (e.g. prescriptions and letter should be completed in a timely manner, transport booked and test results made available promptly); complex discharges should be discussed at a regular multidisciplinary forum to ensure discharge is expedited. Multidisciplinary teamwork is the key to success with discharge planning. A patient's discharge plan is coordinated by a nominated member of the multidisciplinary team. General practitioners, primary care teams and community providers are involved in the discharge process

Objectives

- To study the admission process.
- To study the discharge process.

Methodology

A cross-sectional study was conducted in a private super specialty hospital of a metrocity over the period of two months (September and October 2016) after seeking the permission from authorities of the hospital. A check list was prepared for various desks of the hospital such as admission desk, discharge desk, cash desk, billing desk, etc. Also, descriptive data was collected from various departments to gain the respective admissions and requirement of beds by them. Data collected included details of sources of admissions, admission process, calculation of estimated bill, types of beds, wards and private rooms available, sections of ward such as ICU, SNCU, etc.

Observation and Results

The various sources of admission to hospital were: direct admission, general OPD, emergency department and consultants' clinic. The process of admission includes: 1. Admission request form, available with all the consultants and at the front office. The consultant recommending admission makes a 'provisional estimate' on the proforma

printed on the forum and authenticates the same with his signature. 2. Having received the provisional estimate from the attending consultant, next step would for the patient/authorized attendant to get the 'Admission Sheet' filled up at the 'Admission Desk' and consent will be obtained from the patient for any investigation/diagnosis/treatment/procedure/surgery and also on admission request form, general consent form and declaration for admission form. There are many other documents in the file which need to be filled in by the nursing staff. 3. The front office shall feed the data from the Admission Request Form and allot room, bed to the patient according to the desired bed category. Printout of the patient's admission form mentioning the details like room number, address, phone number, etc., and declaration form is taken out and is attached in the patient's file. 4. The patient is given two passes – one is a visitor pass and the other is attendant pass – and is asked to pay cash at the cash counter. 5. The patient admission file is sent to the nursing station through the ward boy and the patient is asked to proceed to his/her room. The patients are priory informed about the room charges when they come for admission.

Apart from wards, patients can get admitted in critical care areas like ICU/CCU/PICU and NICU. For these patients, one extra pass is given named critical care attendant pass without which the patient's relatives do not have access to the critical area to meet the patient. Bed category includes suite, deluxe, single, double room, economy A/C, daycare, ICU/SICU/NSICU/CCU, PICU/NICU, level-1, 2 and 3.

Advance money to be deposited at the time of admission: The deposit amount varies depending on the type of treatment and room category opted. Deposit can be made in cash or by credit card. The hospital accepts guarantee letters issued by companies that have credit facilities with the hospital. If the guarantee letter is not presented at the time of admission, the patient is required to pay a deposit which is refundable at discharge, if accompanied with a valid guarantee letter. The letter of guarantee must be presented within 24 hours of admission. Otherwise the patient will be required to settle the bills by cash or credit card. The patient whose surgery is to be done must deposit their full estimated amount before surgery. International patients are charged 25% extra on every billing parameter.

Consumables and drug charges: Wherever applicable, cost of consumable material and drugs will be charged separately. If in any of the above-mentioned cases, the patient/attendant is unable to deposit the full given amount then a minimum of half the value is to be deposited, nothing less than that can happen for admission (if not deposited an undertaking is taken for the remaining amount of money).

Bed transfer guidelines: In case a patient is shifted from a lower to higher category the charges for the consultant visits, investigations, critical care and surgery from the DOA will be according to the higher category. In case of credit patients, the request for transfer to a higher category will require approval from authorized signatory of the respective company/TPA/insurance. In case approval is not provided, the patient will have to pay the balance amount (other than entitlement) at the time of discharge.

Basis for computing bed charges: For the purpose of billing, a day is calculated from 12 noon to 12 noon. Full room/bed charges apply even for part of the day. When a patient is shifted from one patient area to another, bed charges for the accommodation occupied for the maximum number of hours during the day will be charged.

Registers maintained at the Admission desk: *Handover Book* **–** whenever handover is given following details are written in the register – vacant rooms, blocked rooms, rooms blocked for maintenance and any other specific note which is to be informed to the coming personnel for the night shift. *Admitted Patient Register* – The admission number, patient's name, doctor's name, room number, room category, cash or corporate and initial deposited amount of new admissions are entered in this register. *Bed management Register, Announcement Register, OT Register, Briefing Register, Counselling Register*

Discharge Process: 1. On being advised discharge, the billing prepares the patient bill in two copies – original for the patient and duplicate copy for hospital records. 2. Bills are prepared after proper verification and the patient/attendants are informed about the payment formalities. 3. Process of discharge is initiated after administration/consultant advice. 4. On completion of hospitalization, a detailed discharge summary covering investigation reports, treatments given and advice on discharge will be provided by the attending doctor and it will be given to the patient at the time of discharge. He will also be explained by the nursing staff about the post discharge medication/care to be observed by the patient. 5. In insurance/cashless/medico-legal cases, all records are kept with the hospital; however, a photocopy of these documents and duplicates of radiological investigations can be provided on cash payment. 6. Charges for the full day on the day of admission are applicable irrespective of time of check in. For up to six hours of stay as an in-patient, charges of half day would be levied. However, the stay of six hours and above up to 24 hours is counted as one day. 7. It would take approximately three hours to process a patient's discharge. This includes the preparation of discharge summary, return of unused medicines and consumables, compilation of reports and preparation of bills. Patient is discharged after the payment of the bill.

Recommendations

- There should be a hanging bold-written signage for

ISSN: 2349–2880

insured patients. 2. There should be strict adherence to the visiting hour timings so that the patients do not get disturbed and get sufficient time to rest, and proper peace is maintained on the floors. 3. More number of staff needs to be deployed in the billing department as because of staff crunch the billing gets delayed and this becomes the biggest reason for patient dissatisfaction. 4. Communication gap should be eliminated amongst the staff nurses, PCCs and between both of them so that the work is completed hand to hand, and they have on-tip information of necessary details about the patients avoiding inconvenience to the patients and for that they should be properly trained. 5. Discharges must be pre-decided so that the nurses get sufficient time to prepare the patient file, avoiding confusion and miscommunication in the morning hours, when giving patient care is most important.

Conflict of Interest: None

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Date of Submission: 2017-09-27
Date of Acceptance: 2017-10-03

Research Article

Kala-Azar Fortnightly Elimination Strategy for Young Population in Uttar Pradesh

Abhishek Yadav[1], Jugal Kishore[2]

Abstract

Introduction: Kala-azar (KA), the most severe form of leishmaniasis, is a parasitic disease transmitted by the bite of infected female sandflies. It affects poor communities and causing significant health, social and economic impact. All the affected countries are committed to eliminate KA by 2017. For which early case detection and complete case management of Kala-Azar is important strategy to stop transmission.

Objectives: To reduce the annual incidence of Kala-azar to less than one per 10,000 population at block level by the end of 2017 through kala azar elimination strategy.

Method: Kala Azar Fortnight was observed in 149 villages of 37 blocks of 9 endemic districts in the year 2016 (February 13, 2016 to February 27, 2016) and (May 01, 2016 to May 15, 2016)with rapid diagnostic kits rK39to screen all the suspected patients and subsequently were referred to PHC/CHC/district hospitals /Medical Colleges for their further treatment.

Result: In year 2016, a total of 107 cases were detected from different villages of affected districts in Uttar Pradesh. Out of which 23 cases are male in the age group of <15 year and 17 cases are female in the age group of <15 year.

Conclusion: Large number of kala azar cases were of younger population who needs to be treated urgently to avoid HIV/TB co-infections and complication.

Keywords: Leishmaniasis, rK39, Adolescent, Rural Uttar Pradesh

Introduction

Kala-azaris a parasitic disease transmitted by the bite of infected female sandflies. It affects poor communities and causing significant health, social and economic impact. Without treatment, it is fatal in almost all cases. India and Bangladesh are among the most severely affected countries in the world, while in WHO's South East Asia region, Nepal and Bhutan have reported cases as well. Strategic Framework for elimination of Kala-azar from the South-East Asia Region (2011-2015) includes:

- Early case detection & complete case management
- Integrated Vector Management and Vector Surveillance
- Supervision, monitoring, surveillance and evaluation
- Strengthening capacity of human resource in health

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How to cite this article: Yadav A, Kishore J. Kala-Azar Fortnightly Elimination Strategy for Young Population in Uttar Pradesh. *Ind J Youth Adol Health* 2017; 4(3): 29-33.

Digital Object Identifier (DOI): https://doi.org/10.24321/2349.2880.201723

ISSN: 2349–2880

- Advocacy, communication and social mobilization for behavioral impact and inter-sectoral convergence
- Programme management

As per National Health Policy, KA should have been eliminated by 2010, which was revised to 2015.During 2014, Health Ministers of Bangledesh, Nepal and India renewed the memorandum of understanding to achieve KA elimination by 2017 or before.Kala-azar without treatmentis fatal in almost all cases. India and Bangladesh are among the most severely affected countries in the world. Around 90% of VL in India and almost half of the global burden occur in Bihar, a state in northeast India, with a population of more than 100 million. Afflicted by poverty, this region also is home to large numbers of migrant workers who travel to and from the major cities in the region.There are 3 main forms of the disease:

- Visceral leishmaniasis (VL), which is also known as kala-azar, can cause even death if left untreated in over 95% of cases. It is characterized by irregular bouts of fever, weight loss, enlargement of the spleen and liver, and anaemia. It is endemic in some states of the Indian subcontinent. An estimated 50 000 to 90 000 new cases of VL occur worldwide each year
- Cutaneous leishmaniasis (CL) is the form of leishmaniasis which causes skin lesions, mainly ulcers, on exposed parts of the body, leaving life-long scars and serious disability
- Mucocutaneousleishmaniasis form leads to partial or total destruction of mucous membranes of the nose, mouth and throat

Human immunodeficiency virus (HIV) coinfection of VL has been identified as an emerging challenge for VL control. HIV infection dramatically increases the risk of VL and, conversely, VL accelerates HIV disease progression. Historically, VL–HIV coinfection prominently emerged in Europe in the early 1990s, where up to 60% of VL cases were co-infected. With the introduction of antiretroviral therapy (ART) in the late 1990s, the incidence of new VL–HIV cases gradually declined. The problem is now severe in some parts of eastern Africa, particularly Ethiopia, where up to 40% of VL patients are HIV co-infected. In Brazil, coinfection was documented in 6% of VL cases in 2011.

As per the literature, Human immunodeficiency virus (HIV) and visceral leishmaniasis (VL) are both endemic in the state of Bihar, and Uttar Pradesh in eastern India. There is 40% worldwide burden of Leishmania donovani is in Bihar. A rising prevalence of HIV infection (currently estimated at 0.22%–0.33%) and a rapidly rising population, HIV-VL coinfection could be a growing concern for the region. However, exact data are unavailable on the prevalence of coinfection in Bihar. In the state like Bihar and Uttar Pradesh, the common situation is that HIV testing is neither routinely performed nor required under national guidelines for patients with VL in India. Consequently, this fact that coinfection, which is a serious public health issue, a challenge remain in the Indian subcontinent.

43.9% of the asymptomatic seropositive contacts of KA patients developed KA within the first 3 months, and a cumulative total of 69% developed KA within 1 year. Due to this reason, localized mass screening of serological (e.g., rK39antigen) test should be done in the susceptible population residing in these areas where KA (visceral leishmaniasis) is endemic, e.g., Bihar, UP, West Bengalin India and Bangladesh and Nepal.

Asymptomatic cases can become symptomatic when co-infected with HIV/AIDS. Further, co-infected patients can serve as human reservoirs, having numerous parasites in their blood and becoming a reservoir and source of infection for the insect vector. So far, the strategy with KA is that treat all symptomatic after confirmation with RK-39 rapid diagnostic test besides vector control. It is logical strategy to treat all RK-39 positive patients because asymptomatic patients can become symptomatic later and can also become reservoirs of infection.In Uttar Pradesh 6 districts are endemic to Kala-Azar having bordered with Bihar additionally 3 new districts identified to report Kala-Azar cases. There is an emergent need to reduce Kala-azar transmission especially in adolescents to prevent the emergence of Kala-azar and HIV/TB co-infections in endemic areas.

To reduce the annual incidence of Kala-azar to less than one per 10 000 population at block level by the end of 2017 through elimination strategy adopted by India and neighboring countries.

Methods

The detection of all cases of kala-azar, and their treatment is an imperative necessity for reducing parasite load in the community and identifying all disease foci for undertaking intervention measures to eliminate kala-azar. There are two approaches for case detection: i) passive case detection, and ii) active case search.

For finding out undetected cases of kala-azar door to door searches have been organized under the Kala-azar Control Programme through a 'Fortnight' of domiciliary visits in the villages of the endemic districts, by the health workers and volunteers, who by interpersonal interaction with the community members, elicit the presence of suspected cases of kala-azar and PKDL according to the case definition. These suspected cases are referred to the PHC or to the camp where Medical officer examines them for confirmation and initiation of treatment. The onset of the disease is throughout the year in view of its long incubation period. Therefore, it is necessary to carry out 2-3 active case searches in a year.

KA Fortnight

KA Fortnight was observed in 149 villages of 37 blocksof 9 endemic districts in the year 2016 (February 13, 2016 to February 27, 2016) and (May 01, 2016 to May 15, 2016)with rapid diagnostic kits RK-39 to screen all the suspects and the suspected patients were referred to PHC/CHC/district hospitals /Medical Colleges for their further treatment.

KA fortnight was observed throughout the year in 2016 during which house to house visit for all suspects was carried out and all suspected patients were mobilized to block PHC for rapid diagnostic test. All the cases were line-listed and systematic collection of reports was followed on specified format, also specific IEC and meetings were organised in the affected areas to aware people for participation.

Data was collected on the specified formats and analysis was done on Microsoft excel. The early cases were found out through the history of any previous KA infection in the family, any presenting symptom such as case presenting to a clinician with a fever of more than two weeks duration, with splenomegaly and not responding to the full course of anti-malarials, pain abdomen, hepatomegaly, loss of weight, anorexia. Rapid diagnostic kits rK39was used for the diagnosis of suspects.

Case of Kala-azar is defined asa person from an endemic area with fever of more than two weeks duration and with splenomegaly, who is confirmed by an RDT or a biopsy.

Probable PKDL is a patient from an area endemic for kala-azar with multiple hypopigmented macules, papules or plaques or nodules with no sensitivity loss and positive with rk39.

Confirmed PKDL is thepatient from an area endemic for kala-azar with multiple hypopigmented macules, papules, plaques or nodules who are parasite or PCR-positive in a slit skin smear or biopsy.

rK39Rapid Diagnostic Test

Now a rapid dipstick test based on the recombinant K39 protein is available for rapid diagnosis of kala-azar. K39 is an epitope apparently conserved on amastigotes of Leishmania species that cause visceral infection; by use of laboratory ELISA testing, circulating anti-K39, IgG is detectable in 95%- 100% of patients who have kala-azar, irrespective of geographic region. Using K39 antigen-impregnated nitrocellulose strips developed for field conditions, fingerstick-obtained blood and serum samples tested from Indian subjects demonstrated a positive anti-K39 immunochromatographic reaction in patients with aspirate-proven kala-azar; with an estimated sensitivity of 100% and a specificity of 97%. The strip testing proved simple to perform and yielded results within five minutes.

The rapid diagnostic test when evaluated in comparison to the diagnostic performances of DAT, based both on freeze-dried and liquid antigens, on parasitologically confirmed Kala-azar and Post-Kala-azar Dermal Leishmaniasis (PKDL), the sensitivity of the tests was almost 100%, rK39 was found, to be more sensitive. It was concluded that these tests are comparable to parasitology in terms of their sensitivity and can replace parasitology as the basis for a decision to treat visceral leishmaniasis at peripheral health centers in endemic areas.

The recombinant antigen is a 39-amino acid (rK39) cloned in Escherichia Coli, from the C terminus of the kinesin protein of Leishmania major in India. The rK39 rapid diagnostic test has undergone extensive evaluation and has been found to be highly sensitive and specific in the diagnosis of both VL and PKDL.

The rK39 was not used in the following cases:Kala-azar relapses, in cases of kala-azar re-infection, and kala-azar and HIV co-infection.

Splenic aspiration

Splenic aspiration is one of the most sensitive and widely used procedures and sensitivity may be as high as 95-97%.

Data analysis

Data collected through passive and active search from 2011 to 2017 was analysed on excel sheet.

Results

As per data collection and analysis through the table 1, it is evident that there is increasing trend of VL cases since 2011 to 2017. In active search large no of undetected cases of kala-azar were diagnosed in fortnight campaign. In year 2015, 131 Kala -azar cases diagnosed and in year 2016, 107 Kala-azar cases diagnosed.

Out of 131 diagnosed KA cases in 2015 there were 33 male cases in the age group of >15 year and 27 female cases in the age group of >15 year. Out of 107 diagnosed KA cases in 2016 there were 41 male cases in the age group of >15 year and 26 female cases in the age group of >15 year, which indicates that there is increasing trend of Kala-azar cases in adolescents. There is emergence of Kala-azar and HIV/TB co-infections in endemic areas in vulnerable, poor and unreached populations especially in adolescents, which is a serious concern to to reduce Kala-azar transmission.

Active case search was also helpful in finding out the hidden KA cases in the community, with this active search 3 new district identified for having KA incidence in some blocks.

ISSN: 2349–2880

Table 1.KA Fortnight Report of UP for Year 2016

S.N.	District	No. Villages covered	No.of ASHA / H.Worker trained	No. of Suspects identified
1	Varanasi	33	86	0
2	Ballia	21	630	31
3	Badohi	125	142	0
4	Deoria	453	721	594
5	Ghazipur	358	358	0
6	Kushinagar	107	741	75

Trends of KA cases since 2013 presented that there is increased detection in 2015 and 2016 in eastern part of UP. These districts are border areas of the Bihar. Increase in cases detection is due to KA fortnightly.

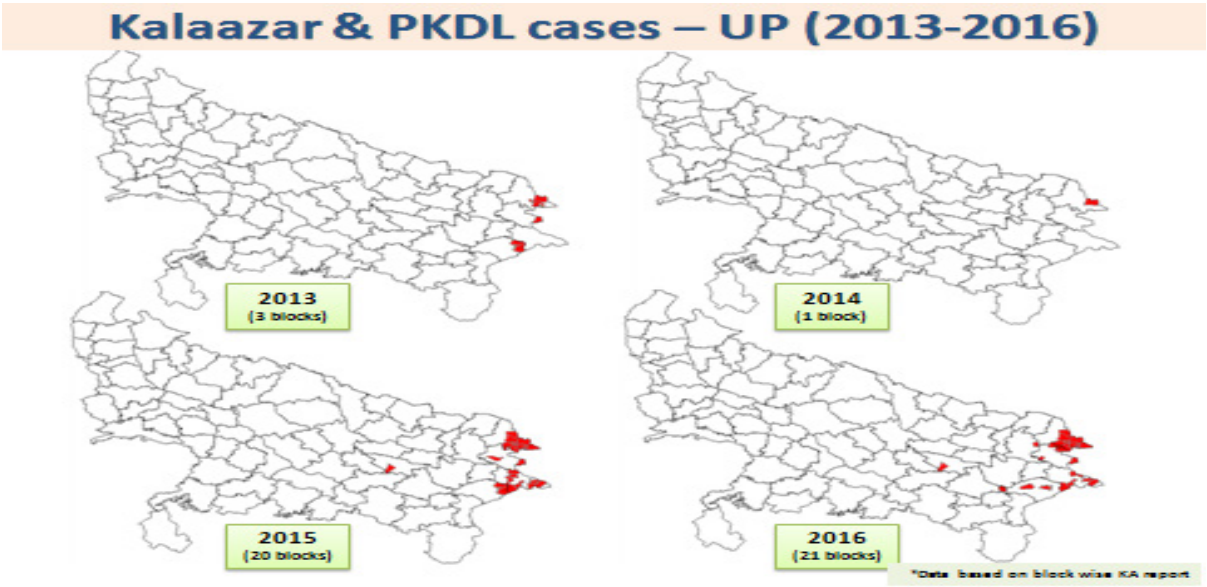

Figure 1.Spot map of Kala Azar caases since 2013 to 2017

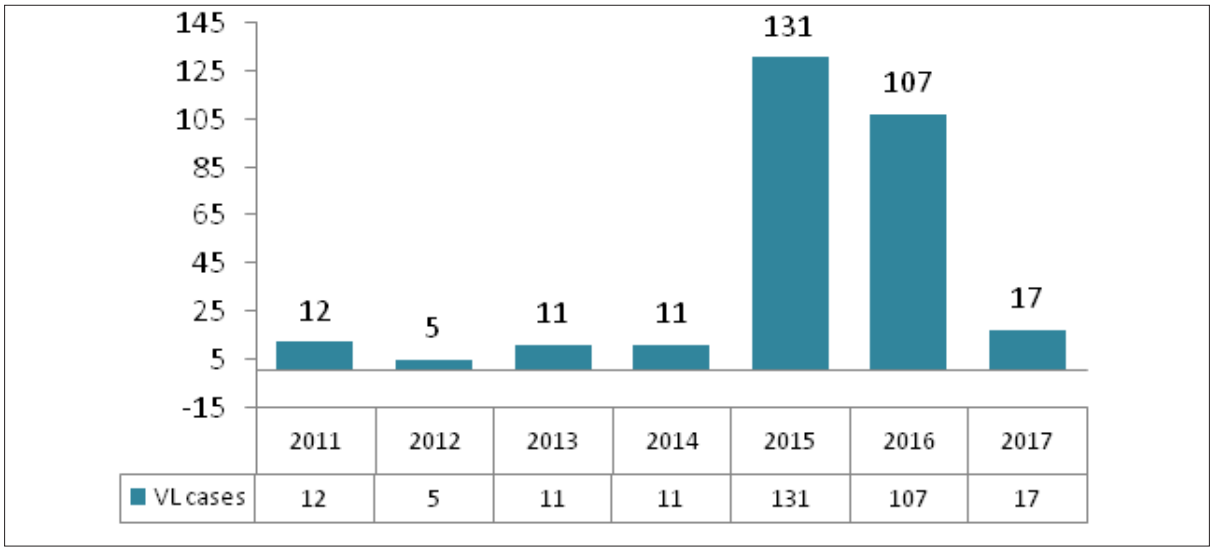

Figure 2.VL cases detected in the State from 2011 to 2017

Cases were more in males than females. Number of cases in younger population was high which as major concern important for elimination strategy.

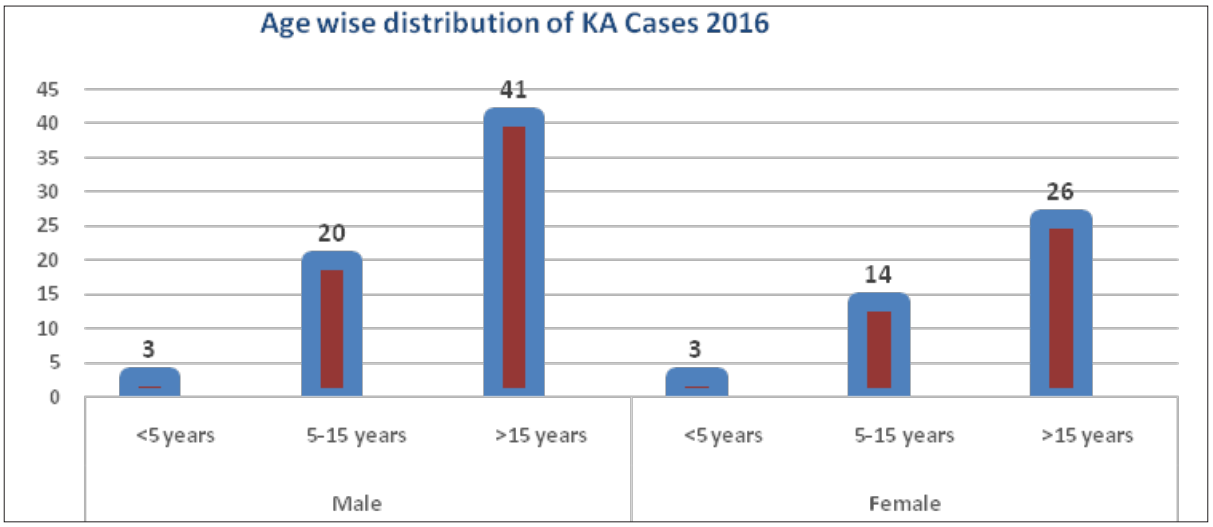

Figure 3.Age wise distribution of KA cases in 2016

Conclusion

Recent trend of prevalence of kala azar showed that it is increased due to KA fortnightly. There is an emergent need to reduce Kala-azar transmission in the vulnerable, poor and unreached populations especially in adolescents to prevent the emergence of Kala-azar in the area.

A rapid survey to assess hidden cases (KA/PKDL) should be launched. Such survey should be conducted in places where sudden increase in fever cases recorded. There should be mandatory testing of all KA/PKDL for HIV/TB and Vice-versa. Insecticide residual spray should be strengthened. Availability of drug and diagnostics in treatment center should be ensured and reporting and cross notification should be strengthened. IEC materials should be widely disseminated in general public regarding its transmission, symptoms and preventive measures.

Conflict of Interest: None

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Date of Submission: 2017-09-28
Date of Acceptance: 2017-10-03

Research Article

Level of Understanding, Information Needs and Practices of Adolescent Girls about Selected Puberty Related Health and Nutrition Problems

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Abstract

Introduction: Adolescents comprise one-fifth of the Indian population.[1] Adolescent girls represent one of the most vulnerable sections of the society. Their felt needs pertaining to routine health problems remain unaddressed.

Objective: To ascertain the level of understanding, information needs and practices of rural and urban adolescent girls of Chandigarh about puberty-related health and nutrition problems.

Methods: It was a cross-sectional study with a sample size of 120 girls (30 from each of the two schools of urban area and two schools of rural area, U.T. Chandigarh). Multi-stage sampling was done. Data was collected by means of a self-administered, structured questionnaire constituting elements on level of information regarding puberty, nutrition and related health problems, practices and needs. Data analysis was done through Epidata and SPSS statistical software.

Results: Many respondents (43.3%) reported menstruation as the most disturbing factor followed by changes in body shape (e.g. appearance of pubic hair) and size. Some (28.3% rural and 40% urban girls) reported the problem of acne while fatty body was major problem for rural girls. Excess facial hair growth was also reported by many (21.7% urban and 6.7% rural) girls. More than 70% girls experienced pain during menstruation. Hygienic practices including usage and disposal of sanitary pads were found to be adequate.

Conclusion: Hygienic practices and usage of sanitary pads was found to be adequate but the girls got disturbed due to various puberty-related health problems. There were many lifestyle issues that existed among the respondents such as lack of physical activity, obesity, acne, facial hair growth, dysmenorrhea, irregular menses, etc. Also some girls were suffering from low self-esteem due to the above cited problems.

Recommendation: A lot has been done on menstruation, its awareness and hygiene. Now, the time is to focus on associated issues and problems.

Keywords: Adolescent health, Puberty, Menstruation, Changing body shape, Personal hygiene, Nutrition

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How to cite this article: Gupta R, Singh A. Level of Understanding, Information Needs and Practices of Adolescent Girls about Selected Puberty Related Health and Nutrition Problems. *Ind J Youth Adol Health* 2017; 4(3): 34-39.

Digital Object Identifier (DOI): https://doi.org/10.24321/2349.2880.201724

ISSN: 2349–2880

Introduction

"Our right of interference is limited entirely to giving education. Women must be put in a position to solve their own problems in their own way. No one can or ought to do this for them. And our Indian women are capable of doing it as any in the world."

– Swami Vivekananda

Adolescents comprise one-fifth of the Indian population.[1] It is increasingly felt that investing in this group, especially adolescent girls, is going to have rich dividend for the future health. Adolescent girls represent one of the most vulnerable sections of Indian society. Their felt needs pertaining to routine health problems remain unaddressed.

Adolescence is considered to be the period between ages 10 and 19 years. It is a period of maturity, a point of physical, emotional, social and psychological changes. These changes associated with puberty manifest themselves in often complex and bizarre ways to which girls show different reactions. Lack of timely information results in inappropriate practices and adoption of unhealthy choices by the adolescents.[2]

Nowadays, adolescent girls are facing many health problems which can be related to their lifestyle, viz., obesity, polycystic ovarian disease, menstrual irregularities, depression, etc. The probability of emergence of these problems can be minimized by adopting a health-promotion approach.

"Healthy girls are central to sustainable development" according to WHO. This development can be achieved by making sure equitable access to youth-friendly health and nutrition information and services.[3] The major information needs of the adolescent girls are related to four areas, namely, menstruation, changing body shape, personal hygiene, and nutrition.

Menstruation is considered as the milestone of puberty. The most troublesome aspect for girls is its unpredictability (when it will start? Where it will start? How it will be managed? etc.). The other problems regarding menstruation are dysmenorrhea, regularity/irregularity of periods, pre-menstrual syndrome, PCOD (polycystic ovarian disorder), obesity, acne, various myths, misconceptions, etc.

They acquire changes in their body shape and size such as hips broaden, breasts develop, pubic hair start appearing, etc. Some girls get disturbed with these changes. They start comparing themselves with each other or with film actresses. This can affect their psychological development.[4]

Maintenance of personal hygiene at this phase of development is very important.[5] This helps to prevent the development and spread of infections. The hygiene practices include bathing at least once a day, wearing clean and regularly changed undergarments and using proper absorbent materials like pads and tampons during menstruation, which are to be changed regularly.

Adolescence is a formative stage of life where learned experiences remain for lifetime. Adolescents have more easy access to health and nutrition information through schools, recreational activities, and mass media than they have later in their lives. Rapid growth and changes during this period also heighten nutritional requirements and risks of under nutrition. So, this is the time when they need proper care.

This study aimed to explore the level of understanding of the adolescent girls about puberty-related health and nutrition problems.

Objective

To ascertain the level of understanding, information needs and practices of rural and urban adolescent girls about puberty-related health and nutrition problems.

Methodology

This study was conducted in two schools of urban area and two schools of rural area (randomly selected) of U.T. Chandigarh from Jan 2015 to May 2015. It was an observational study (cross-sectional design). Adolescent school girls from class IX and X of the selected schools were included in the study.Those who were not willing to participate in the study, were absent from school on the day of data collection, and who denied the informed consent were excluded from the study.

A sample size of 120 girls (30 from each of the four schools) was taken by simple random sampling technique. The survey was conducted through a self-administered, semi-structured questionnaire. A quiz constituting elements on level of information regarding puberty, nutrition and related health problems, practices and needs was also conducted.

Data collection was done after seeking assent from the participants and informed consent from the concerned authority of the respective schools. Data analysis was done through Epidata and SPSS statistical software.

Results

The mean age of respondents surveyed was 14.26±0.76 years. Major changes reported by the respondents with respect to their body at this age were onset of menstruation with mean inter-menstrual duration ranging from 15 to 45 days, appearance of pubic hair and changes in body shape and size. Table 1 shows age of onset of various puberty-related changes and how much these changes affect the girls.

ISSN: 2349–2880

Table 1.Age at Menarche, Appearance of Pubic Hair and Changes in Body Shape and Size (n=60 in Each Group)

Various Puberty Related Changes	Mean Age at Onset (Years)		No. of Girls Reporting Being Disturbed due to Changes (%)		No. of Girls for Whom This Is the Most Disturbing Factor (%)	
	Urban	Rural	Urban	Rural	Urban	Rural
Menarche	12.52	12.82	10 (16.7%)	13 (21.7%)	26 (43.3%)	26 (43.3%)
Appearance of pubic hair	11.68	12.48	9 (15%)	15 (25%)	8 (13.3%)	1 (1.7%)
Changes in body shape and size	10.4	11.92	6 (10%)	10 (16.7%)	2 (3.3%)	4 (6.7%)

The most disturbing factor for both the urban and rural girls was menstruation followed by pubic hair and changes in body shape and size. Acne development also bothered 15% of the respondents and problem of body odor bothered 10% of the girls. Major source of information about puberty among the respondents was the mother for most of the girls (80.0%), followed by friends and sisters. Rural girls reported friends as the second major source of information. Majority (68.3% urban girls and 71.7% rural girls) knew about menstruation already before it started.

Half (50%) of the girls missed their menstrual periods once or more than that. Majority of the girls were neglecting and doing nothing to manage their missed periods. Majority of the urban girls felt shocked and rural girls felt 'weird' at their first menstrual period.

Girls experienced certain special feelings during menses, e.g., 41.7% urban and 16.7% rural girls liked to drink ginger tea during menses; 23.3% rural and 13.3% urban girls had craving for cold drink and junk food during menses. More than half of the girls wanted to sleep and take rest in a closed room during these days.

Sanitary napkins/pads were the most frequently used absorbent material by 59 urban girls and 58 rural girls. Nearly half of the girls, i.e., 26 (43.3%) urban girls and 30 (50.0%) rural girls changed their pads three times a day. Nearly one-third of girls changed it twice a day in both the areas.

Table 2.Main Disposal Site and Mode of Wrapping of Used Napkins (n=60 in Each Group)

Sanitary Pad Disposal Site	Urban		Rural	
	Number	%	Number	%
House dustbin	60	100	57	95
Latrine	0	0	1	1.7
Buried under the mud	0	0	2	3.3
Chi-square test (p-value)	$6.5\times10^{-8*}$		$6.5\times10^{-8*}$	
Mode of wrapping the pads while disposal	Number	%	Number	%
Paper	45	75	39	65
Polythene bag	4	6.7	16	26.7
Wrapper of new pad	11	18.3	4	6.7
No wrapper	0	0	1	1.7
Chi-square test (p-value)	$4.2\times10^{-9*}$		$4.2\times10^{-9*}$	

**statistically significant p-value <0.05*

Major disposal site of used sanitary pads was house dustbin and mode of wrapping was paper. Most (80–83%) girls carried extra pads with them. Only 8.3% urban and 16.7% rural girls reported difficulty in changing pads at school.

All the 4 schools had a separate washroom for girls. The condition of washrooms was good with the facility of dustbin, washbasins, flushes, etc. There was no soap in any washroom.

More of urban girls took bath two times a day as compared to the rural girls. More than 92% girls washed their genitalia every time when they changed pads. On routine days, more urban girls (71.7%) washed their genitalia every time while going to toilet as compared to rural girls (56.7%). Majority (70% urban and 73.3% rural girls) used soap for washing genitalia.

Majority (43 urban and 45 rural) girls experienced pain during menstruation. School absenteeism was noted among only 11 urban girls and 15 rural girls. Some (23 urban and 13 rural) girls tolerated their menstrual pain as such. The practice adopted to manage menstrual pain mainly was use of hot water bottle by 25% urban girls and 33.3% rural girls. The main reason for tolerating as such the pain for both urban as well as rural girls was influence of mother/grandmother, followed by their shyness to discuss it with someone.

Only 17 (28.3%) urban girls and 16 (26.7%) rural girls

practiced exercise daily like dancing, jogging, jumping, walking, etc. (for 30–60 minutes). Urban girls preferred walking daily while the rural girls preferred running daily.

Impact on self-image had been the major issue among some of the girls. Majority of the girls perceived their body appearance as normal. Some girls (more rural girls) felt shy about these changes (7.5%) and perceived these changes not as good as other girls (12.5%).

Table 3.Various Problems Faced by Girls in Their Appearance

Problems Faced by Girls	Urban (n=60)		Rural (n=60)	
	Number	%	Number	%
Excess facial hair growth	13	21.7	4	6.7
Acne	24	40	17	28.3
Fatty body	20	33.3	22	36.7
Chi-square test (p-value)	$7.6\times10^{-8*}$		$1.79\times10^{-6*}$	

*statistically significant p-value <0.05

Acne was the major problem faced by urban girls while fatty body was the major problem for rural girls. Excess facial hair growth problem was more prevalent in urban area. Majority (65% urban and 61.7% rural) girls reported that obesity did not retard the growth. Only 12 urban and 6 rural girls tried to control their fat through dieting, exercise, dancing, etc. Majority of the girls, especially urban girls, did not do anything to control acne. Majority of the girls perceived all the puberty-related changes as positive changes in their life.

Discussion

Adolescence along with all the changes is not a new phenomenon. Earlier also girls had to face all this. However, now the context and circumstances have changed. Earlier the girls were usually restricted to their homes doing household chores puberty onwards. But now the era has changed. They are getting involved in various types of outdoor jobs. They go to schools and then colleges. For all these career-related activities, changes at puberty might disturb a girl and hamper all her endeavors.

The major changes and health problems which a girl deals with at puberty are menstruation, changing body shape, appearance of pubic hair, body odor, weight fluctuations, etc. They usually have many doubts and issues in their minds about such changes. But due to the conservative nature of our society, these issues remain unaddressed and result in adoption of unhealthy choices by them.

In this study, the respondents quoted menstruation as the most disturbing factor. Also majority of the urban girls felt shocked and majority of the rural girls felt weird at the first menstrual period. This could be because of its unpredictability, irregularity, monthly occurrence, etc. Initially girls do not know how to manage their periods. This raises conflicts and disturbance in their minds. Appearance of pubic hair and changes in body shape and size also compound their disturbance. Girls are usually conscious and get disturbed when they notice even small amount of change in their body. This fact is supported by increase in the number of girls who diet and join gym to control their weight.

Our study showed that majority of the urban as well as rural girls knew about menstruation already before it started. Their major source of information was mother, followed by friends and sisters. Thakre et al.[6] showed only 36.95% of the participants were aware of menstruation before menarche and mothers were the first informants for more than 70% girls. This finding supports the need of involvement of mothers in health education programs.

Mean inter-menstrual duration was more in urban girls than in rural girls. This could be due to the difference in lifestyle and dietary habits. Half (50%) of the girls missed their periods after menarche once or more. Actually, it is well known that at menarche, it takes a while for menses duration and gap to settle down. It may even take months or years to become regular. So, it is not a thing to get worried about. The only thing to do is to take appropriate diet and adopt a healthy lifestyle.

Many urban girls liked to drink ginger tea during menses. The probable reason could be they might get some sort of relief from pain and discomfort associated with menstruation. This fact is supported by another study by Gupta,[7] where 25% girls reported ginger intake because it gave them a sense of relief. Rest of the girls would like to take other food stuffs like chocolates, ice-cream, junk food, etc. Majority of the respondents wanted to sleep or to take rest in a closed room during menses. This shows that they feel more comfortable in isolation. This is not a wrong thing. A girl should be allowed to do whatever she wants during menses. This could balance their moods.

In the present study, almost all the girls used sanitary pads as the absorbent material whereas in the study by Thakre et al.,[6] majority of the rural girls were using cloth menstrual pads as the main absorbent material. Nearly half of the girls changed their pads three times a day and nearly one-third changed it twice a day in both the areas. They were not changing pads frequently either because of economic

constraints or lack of knowledge. Almost all girls disposed of their used sanitary pads in the house dustbin. In a similar study by Thakre et al.,[6] the common method of disposal of pads was wrapping it in paper and either disposing it in a place meant for solid waste disposal or burning it. In our study, no girl used to burn their used pads. This shows that mothers were a great teacher and taught them how to manage their periods and stay hygienic up to her own level of understanding. The results showed paper as the main mode of wrapping the used pads. They did not know about the utility of wrapper of new pad for the purpose of wrapping and then disposal.

Most of the girls used to carry extra pads with them and all the four schools had a separate washroom for girls. So, the majority of the girls did not report any difficulty in changing pads at school. The only negative point was lack of soap in each washroom. There should be availability of soap in each and every washroom, so that girls could adopt healthy practice of adequate hand washing even in school.

The hygiene-related practices during menstruation and even on routine days are of considerable importance. The results of our study showed that more number of urban girls take bath two times a day as compared to the rural girls. Almost all the girls washed their genitalia every time on changing the pad. More number of urban girls washed their genitalia every time while going to toilet. This shows that urban girls were more aware about the maintenance of hygiene and its importance.

Dysmenorrhea, i.e., pain during menstruation is a very common thing for more than 90% girls as reported by the study conducted by Chaudhuri et al.[8] However, very few seek treatment. The result of our study also showed that the majority of the girls tolerated their pain as such. The reason quoted by many of them was either the influence of mother/grandmother, or shyness to discuss this issue with anyone. In a similar study by Gupta,[7] only 13–14% participants ever consulted a physician for their pain. In our Indian society, this has become a trend that mothers usually tell their daughters to tolerate the pain by saying "*yeh to sabko hota hai, hume bhi hota hai, apne aap theek ho jayega".* (It happens to every girl; we also have it. It will get well on its own). Nearly one-third girls were using hot water bottle and quoted that they got enough relief by using it. The use of hot water bottle had been reported by other studies also such as study by Gupta[7] (reported by 37–53% participants), Chaudhari[8] (37.33% respondents) and Sharma[9] (15.4% participants). The girls should know that dysmenorrhea is curable so that the wrong message does not disseminate to the next generation.

The severity of many problems like dysmenorrhea, PCOD, etc., automatically lessens if we regularly do some exercise. In our study, only 17 urban girls and 16 rural girls reported practicing exercise daily like dancing, jogging, stretching, walking, etc., and they were doing it for nearly 30–40 minutes. This fact is supported by another study in Chandigarh and Mohali,[7] where only 4.6% girls exercised daily. The girls should know the importance of physical activity. It solves many of their problems, even excessive weight gain. In addition to it, the body gets detoxified. There should be incorporation of regular physical exercise in the time table of each and every school.

In the present study, majority of the girls were satisfied with their bodily appearance. But there were some girls who felt shy about these changes (7.5% girls) and who considered themselves not as good as other girls (12.5%). These feelings were more prevalent in rural area – maybe because of their less interaction with modern lifestyle or they feel neglected. Motivation of these girls is necessary.

Personal appearance matters the most for today's girls. In our study, the girls quoted three main problems related to personal appearance – excess facial hair growth, acne and fatty body. More number of urban girls reported these problems as compared to the rural girls. But they were not practicing any remedy to control these. They should be made aware of the right practices to control these problems so that they do not adopt unhealthy and bad practices.

Majority of the girls reported that obesity did not retard the growth. They were not being able to link obesity with growth. They should be made aware that obesity does retard the growth and it should be controlled. Majority of the girls perceived all the above changes as positive changes in their life. Thus, we should take this positive attitude as an opportunity to enhance their life skills and knowledge.

Conflict of Interest: None

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Date of Submission: 2017-09-27
Date of Acceptance: 2017-10-03

Support Mechanism for the Health Problems of Adolescents and Youth

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Introduction

World Health Organization defines adolescence as between the ages of 10 and I 9 years (the second decade of life). Adolescents constitute about one-fifth of the people in the world which means more than 1.2 billion persons In India adolescents constitute 25.5% of the population or nearly 243 million.While chronological definitions are necessary for statistics and comparison, there is great variation in the onset of changes that herald adolescence and culminate in adulthood.

Adolescence is a crucial and dynamic time in the lives of young people. It is a time when young people develop their capacity for empathy with others, for abstract thinking, and for looking ahead, a time when close and dependent relationships with parents begin to give way to more intense relationship with peers. The chief task of adolescence is to acquire a sense of identity.

The growing capabilities of young people are simply the raw materials of human development. The increased capability of adolescence and youth do not guarantee that healthy development would take place that depends upon other factors at home and the community, and the mix of support and opportunity provided by adults. The way they have been loved, valued and educated, and the injustices and discrimination they had to face.

W.H.O defines Youth as between 15 and 24 years. In India Youth apparently lasts longer. According to the Dept. of Youth Affairs, Ministry of HRD, Youth lasts from I 5 to 35 years. According to this definition, about % of India's population (274 million in 1991 census) is constituted by Youth.

Youth, like adolescence, is a period of transition, when the young people try hard to make a place for themselves in the world. It is the period of new challenges, new opportunities, and new responsibilities. Appropriately, the National Youth Policylays stress on the mass education of Youth, alongwith skill development for self employment. Now we'll take a brief look at the health needs and health problems peculiar to adolescents and youth.

Health Needs and Health Problems of Adolescents & Youth

There is hardly any health problem of the general population which is not shared by the adolescents and the Youth.

Below is a brief account of the more significant problems.

Nutrition

Adolescents need food not only for their abundant activities, but also for growth. The nutritional status of adolescents is usually measured in terms of weight for height expressed as Body Mass Index (BMI), a better indicator of health status of adolescents then weight-for-age because of wide variation in rates of development. The data that is available

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How to cite this article: Bali P. Support Mechanism for the Health Problems of Adolescents and Youth. *Ind J Youth Adol Health* 2017; 4(3): 40-46.

ISSN: 2349–2880

indicate that the average BMI among 11-18 year olds is considerably lower in the developing countries as compared to industrialized countries (WHO, 1993).

Iron deficiency anemia is another common condition, especially in girls, who need 10% more iron as a result of menstrual loss. Furthermore, the growth related needs of adolescents continue into the early twenties and will overlap with nutritional requirements generated by pregnancy. Iron needs in adolescent girls may be further complicated by diseases such as malaria and hookworm. Discriminatory practices against the girls also lead to lack of adequate intake which may lead to protein energy malnutrition, anemia and other micronutrient deficiencies in the young girls.

Eating disorders, essentially of psychogenic origin, such as anorexia nervosa and bulimia, are also a problem, especially with urban girls, that may threaten their nutritional status. Mention may also be made of the increasing risk of obesity due to decreased physical activity and increasing use of junk food among adolescents.

Sexuality Andreproductive Health

All young people experience puberty and go through physical and psycho-social changes in relation to their awakening sexuality. While increasing maturity can bring great pleasure and pride, it can also bring shame, sorrow and suffering. Reproductive health enables an individual to enjoy and control sexual and reproductive behavior, with freedom from guilt, fear and other psychological, political and economic factors, and without suffering the control of another person.

In most cultures male is expected to play a more aggressive role and girl is expected to resist sexual advances and if she does not, blame, is more likely to be placed on her, whatever the justice of it. At the same time, adolescents often lack sufficient knowledge and skills to delay sexual relations till they are ready. They risk not only social disapproval, they also risk unwanted pregnancy and sexually transmitted disease.

Pregnancy and Childbirth

Regardless of whether pregnancy takes place within, or outside of, marriage, there are serious biomedical hazards especially for adolescent girls below 17 living in poor conditions and where access to health services is inadequate. The first birth of any woman carries greater risk then subsequent ones, especially for the adolescent. Her risk may be compounded by her lack of experience, knowledge and resources, and lack of social and familial support. Too early pregnancy increases the risk of maternal and child morbidity and mortality. At menarche girls have approximately 4% more to grow in height and 12- 18% more in pelvic growth. They are at greater risk of complications such as obstructed labour and of death.

The trend towards more unprotected sexual behavior prior to marriage has given rise to increased risk of induced abortion, sexually transmitted diseases (STDs) including the new menace of AIDS. Problems of chronic morbidity, infertility and even death face the young person who is not protected.

However, access to information and services to prevent unwanted and too early pregnancy, and to protect oneself from STDs and AIDS, is often not available to adolescents. It is often misleadingly believed that sex education and provision of contraception with counseling will lead to promiscuity, whereas the evidence suggests the opposite.

Abortion

Induced abortion (or pregnancy termination) offers a greater risk to the health and life of an adolescent than to an adult woman. The reasons for this are several. An adolescent is more likely to hide pregnancy, unable or unwilling to seek appropriate health care, wait longer in the gestation period to seek help, and is more desperate not to have a baby. Self abortion or seeking abortion from an unqualified practitioner is more likely. Infanticide is another option that may be exercised. The psychological impact of such an act can be highly damaging.

STDs and HIV Infection

Adolescents and youth are especially vulnerable because of high risk behavior, greater biological susceptibility, limited access to STD treatment facilities, and the fact that primary prevention (always difficult) is the only effective form of control for HIV and other STDs.

Higher rates of STD are generally observed in 20-24 year age group, followed by 15-19 and 25-29 years olds'. However,

in nearly all parts of the world, the peak age of infection is lower in girls than boys. In many countries, 60% of all new HIV infections are occurring among 15-24 years olds', with a female to male ratio of 2 to 1.

Young adolescent females are especially vulnerably because they tend to marry, or have sexual intercourse with older men who have had more sexual exposure. In addition, as a receptive partner, females run a greater biomedical risk to begin with.

The risk is magnified in teenage girls because their immature cervix and limited vaginal secretions provide a less efficient barrier. Nor do they have the assertiveness or negotiating skills to induce their male partner to use a condom. To compound matters, young girls are sometimes physically forced to have first intercourse, leading to genital trauma with increased risk of infection. As if this were not enough, STDs in women are more likely to have mild or absent symptoms. Nor do the women find it easy to seek medical care for their STDs. Lastly, one should not lose sight of the roles of prostitution, including child prostitution in the spread of STDs and AIDS.

Tobacco, Alcohol and other Drugs

Aggressive advertising targeting the young to promote tobacco use has shifted from developed to developing countries. The use of risky substances, including tobacco, alcohol and other drugs together have a significant effect on health in later life, raising the risk of cancers, cardiovascular diseases, respiratory diseases, cirrhosis of liver etc. Alcohol and drugs moreover impair judgment, and are likely to increase risk taking behavior of young people such as the hazards of unprotected sexual relations, of accidental injury and of violence. Consumption of alcohol and tobacco by a pregnant mother can also harm the fetus.

Tobacco is the most widely distributed drug in the world today, and arguably the most harmful Smokers are also more likely to use alcohol and experiment with other drugs.

Distinctions that once separated cultures, sexes and social classes are vanishing as young people in developed and developing countries are increasingly using alcohol (although males generally use alcohol more than females). Indeed adolescents all over the world are getting increasingly influenced by the electronic media and are becoming fellow members of ***"adolescent global village",*** where peer pressure and role models hold sway.

Violence

Violence against, and by, youth is finding frequent mention in the daily press. One of the most pervasive issues in today's world is violence against women. The adolescents are especially vulnerable. In 1993, the United Nations General Assembly adopted a declaration against physical, sexual and psychological violence to women.

It is difficult to get reliable data on the problem, because of the "shame" of the victim, and the threat of further violence.

Violence breeds many problems, and mental health consequences including post-traumatic stress disorder, depression, anxiety, sexual dysfunction, eating disorders, suicide and more violence, even including homicide.

Sexual aggressiveness behaviors of male adolescent and youth in particular has given rise to violent sexual crime like rape, homicides, molestation, quite often suicide by girls as a consequence of rape.

Mental Health

Adolescence is a period of change, and a period of stress. It is characterized by uncertainties about their own identity, their possible position in their peer group and in society at large, and their responsibility as adults. The need for parental approval has to do battle with the need for independence. No wonder adolescents show mood swings, and may even indulge in self-destructive behavior such as use of alcohol, drugs, suicide and violence. They need to be treated with openness, understanding and sympathy, and offered creative channels for their energy.

Other Social Problems

There is a whole gamut of social problems faced by adolescents and youth. Most of them can be traced to loosening of family and community structures. From multigenration joint families, we are moving towards nuclear families, dysfunctional families, single parent families and no families at all (Street children). This has resulted in a whole lot of

problems for children and adolescents. A detailed discussion of these problems is not intended in this paper. Only a few words will be said about the two most basic - illiteracy and child labour.

- About 2% of India s population is constituted by Youth (15-35 years). About of them are illiterate (and often unemployed). Student Youth constitute only 10% of the youth population. Some idea of the problem can also be gauged from school enrollments. In 2011, 93% of boys were enrolled at the middle level of schools (11-14 years).

The corresponding percentage of girls enrolled was much lower at 65.46% However, there has been an upward trend in the enrollment of girls over the years, as their corresponding enrollment in 1950-51 was only 16%.

- Child labour is another problem which has exercised social workers for several years (child labour also covers young adolescents). Take the example of carpet industry. According to the Times of India, 17 October, 1996,

Human Rights Watch (HRW) calculates the number of children working in the carpet industry as 30, 000. The National Council of Applied Economic Research (NCAER) estimates that out of 1.5 million people employed in carpet industry around 40, 500 are children. Hired child labour has declined from 3.6% in 1992 to 2.7% in 1994.

However, this has not significantly increased the number of children attending school in the carpet producing areas.

The 2011 National Census of India found that the total number of child laborers, aged 5-14 yrs to be 4.345 million and the total population to be 259.64 million in that age group

- Juvenile Delinquency

In recent times juvenile were found to be involved in most heinous of the crimes such as murders and gang rape. Hence in the I.J.D law amendment has been made on act 2016 that the juvenile in such case, minor above 16 yrs of age would be treated as an adult.

Therefore these issues also need the attention of health professionals to take serious note of these problems as well.

Media

While the dimensions of time and space have shrunk, the dimensions of individuals have enlarged under the impact of Western civilization aided by modem mass media. The degeneration of the family system, society, and culture as a whole has occurred. This is the cry of the senior generation which is above the present youth and adolescents of today who certainly do not agree with this sentiment. Today we witness an egocentric society based on contractual basis and personal effort. The youth wish to create their own world in which they try to live by themselves and for themselves. From where has this egocentrecism come up? Surely not given or inculcated by the parents or other elders from society. Of course, they have themselves acquired a self attained freedom to get rid of the shackles of the family and society at large by breaking the social laws and shedding away all the moral values. Hence the homogeneous nature of communities has been smudged. No doubt, a great role is being played by the mass media, particularly the electronic media, which is responsible for giving many shades to human behavior.

Media in any form is a powerful instrument to alter the behavior of people, especially of teenagers. May it be the print media, audio-visual electronic media, or performing art media, or maybe even writing on the wall. In the modern world, media is not only effective, but also it is perniciously infective. The electronic media's speed is faster than the wind which travels across the seas.

Existing Support Mechanisms

These mechanisms can be informal (such as the family or caste group), or formal, such as state institutions. A brief account of some of these mechanisms is given below:

Family

Family is the cradle of humanity and the most important organ of support. It looks after the problems of adolescents, youth and the aged. However, families can become problem families, or may even break up. Families themselves need support of other agencies.

ISSN: 2349–2880

Social Groups

There are large spectrums of social groups that can provide support. These include neighborhood groups, caste groups, religions groups, youth clubs, mahila mandals, student groupings, etc. Their strength and effectiveness varies from place to place.

NGOS

India has seen a rapid growth of voluntary on non-governmental organizations in the recent years. They fulfill diverse functions. A fair number of voluntary organizations have programmes that may benefit adolescents and youth either directly or indirectly. For example, there are NGOs involved in literacy programmes, welfare of street children, youth welfare, health (including, prevention of STDs and AIDS), women's groups, training for self-employment, community development, agriculture, etc.

Government Supported Programmes

Almost all the ministries are in some ways connected with programmes that directly or indirectly affect young people. Here, a brief account of some of the activities of Dept. of Youth Affairs (Ministry of HRD) will be given, alongwith a word about ICDS.

Scheme for Adolescent Girls (SAG), ICDS

Now ICDS provides universal coverage through ICDS projects. A special scheme for adolescent girl (11 - 18yrs) has been started in selected ICDS blocks.

Under the scheme, special needs in the areas of nutrition, health, education and skill develop development adolescent girls are covered.

Programmes for Student Youth

There are several programmes that provide indirect support and skill development to student youth. These include:

- Bharat Scouts and Guides. Strength at the end of VII plan, 22 lakhs
- National Service Scheme (NSS). Coverage at the end of VII plan is 10 lakhs
- National Service Volunteer Scheme (NSVS). Strength3000
- National Cadet Corps (NCC), strength at the end of VII plan, 11 lakhs

Programmes for non-Student Youth

The most extensive programme for non-student youth is through Nehru Yuvak Kendras (NYK), started in 1972. In 1986-87, NYK Sangathan was started as an autonomous organization, with a view to provide new thrust to the programme and to taking up innovative schemes. By then the number of NYKs, which work at the District level, was increased from 247 to 398. The number of Youth Clubs (which operate at the village level) was increased from 25,000 to 50,000, with substantial involvement in adult education. Youth Development Centers (YDC) have been introduced at the intermediate level between Youth clubs and NYK-one center for a group of 10 villages. In all 18,000 centers were to be started, with facilities for information, supports, training and youth programmes for mental and physical development and promotion of entrepreneurial capabilities of rural youth.

Other governmental programmes include Shramak Vidyapeeths in Urban areas, Community polytechnics, TRYSEM, Krishi Vigyan Kendras and open universities and open schools.

Govt. of India has launched new programmers for skill development for the youth (2014) "Prime Minister Narinder Modi has announced on the 68thIndependence Day said that Indian Youth has lot of potential and with skill development they will rise and shine". Ministry of skill development & entrepreneurship started programmes (2015).

- Rashriya Kishore Swatghya Karya Kram (RKSK) Feb 2016
- Adolescent Health UNICEF of India

Future Programmes for Health of Adolescent & Youth

In planning programmes for adolescents and Youth, one abundant resource has been neglected - adolescents and youth themselves. We need to provide them with opportunities to use their capacities. Adolescents are people, not problems.

They resent being bombarded with one way messages, often moralistic. They crave for interactive and participatory approaches. An opportunity to debate and discuss, and an opportunity to work together, is the best way to achieve their constructive participation.

Because of the need for an holistic approach to adolescent health every effort needs to be made for a functionally integrated approach, across sectors and disciplines. At the same time there is need of a separate department of adolescent health, in order to promote and integrate various activities that support, either directly or indirectly, the health of adolescents.

Now Ministery of Health and Family Welfare has initiated separate and special division of Adolescent Health.

Below is given a list of suggestions, divided into different sectors, following mainly the guidelines suggested by W.H.O (1995):

The Health Sector

- Provide information about health
- Provide services that are accessible, confidential and flexible-for prevention, care, treatment and rehabilitation
- Provide counseling (especially on sexuality)
- Carry out research on the health problems of adolescents, including the impact of governmental policies and programmes
- Training of other sectors to strengthen a holistic approach in interventions for adolescents
- Link information, Education and Communication (IEC) with services

The Education Sector

- Enhance knowledge and skills, behaviors and relationships
- Provide a healthful school environment and health and counseling services for the students
- Establish close links with other sectors, especially health, employment and social welfare
- Ensure gender equity
- Conduct research

The Youth Sector

- Involve young people in planning, implementing and evaluating youth programmes
- Provide opportunities for constructive action by young people
- Provide peer education and peer counseling
- Promote sports, including adventure sports
- Promote youth and women NGOs to provide services to the youth

The Family

- Provide information on adolescent health and services
- Provide forums for interaction between families and other sectors
- Expand knowledge of rights and responsibilities

The Mass Media

- Provide information about adolescent health and development
- Prepare programmes for young people with their active health
- Reduction of emphasis on violence, sexual abuse and poor role models
- End advertising of harmful substances

ISSN: 2349–2880

The Employment Sector

- Provide needed training to both sexes
- Ensure safety of working conditions
- Liaise with schools and colleges

Social Welfare

- Ensure training and employment of the handicapped youth
- Promote rights and responsibilities

The Religions Sector

- Provide spiritual and moral guidance
- Provide opportunities for constructive action

Legal Sector

Ensure appropriate laws - Ensure humane implementation

The adolescence cannot be considered in isolation. This age is a link between childhood and youth. So it is very important that the good rearing , good nurturing and good value system needs to be inculcated right from the birth, that leads the road of childhood adolescence and then they step into youth . Hence, the role of parents and family is most important to bring a cultured, well groomed person.

Last but not the least this is my intense desire and appeal that the work on adolescents and youth health should be taken on firm footings and taken as a MOVEMENT.

All the state chapters and other N.G.O.S and people at large should take appropriate measures to make this segment of our population healthy and wise for themselves and for the nation and country to make it shine.

Mahatma Gandhi said "No School is equal to a good home"

Younger Generation : Our Global Edge

Jugal Kishore[1], Sneha Ranjan[2], Surubhi Sethi[3]

[1]Director Professor & HOD, Department of Community Medicine, Vardhman Mahavir Medical College, Delhi
[2]VMMC and Safdarjung Hospital, New Delhi
[3]VMMC and SJH

"We cannot always build the future for our youth,`
but we can always build our youth for the future"

These words by Franklin D. Roosevelt, set the tone for the inauguration ceremony of the International Conference On Youth And Adolescent Health (ICYAH), held on the 14th of April, 2017at the New Delhi Municipal Council (NDMC) Convention Centre, New Delhi.

The occasion was graced by the presence of eminent dignitaries, doctors, parents, teachers and various stakeholders concerning adolescent health. Following a floral welcome and the lighting of the lamp, residents from the Department of Community Medicine at VardhamanMahavirMedical College (VMMC) and Safdarjung Hospital, livened the atmosphere with a melodious song.

Dr. M.R. Surwade, Conference Chairperson welcomed the august gathering; following which Dr. Prema Bali, Founding President of the Indian Association for Adolescent Health (IAAH) highlighted the various issues of adolescents and elaborated on the theme of the conference- "Young Generation: Our Global Edge".

The Guests of Honour, Shri Naresh Kumar, Chairman NDMC; and Dr. A.K. Panda, Additional Secretary and Mission Director, Ministry of Health and Family Welfare, Government of India, further highlighted the challenges of the youth and described the various government interventions and programs in place for the betterment of adolescents. The Chief Guest, PadmashreeDr.Jagdish Prasad, Director General of Health Services emphasized the role of the family in the upbringing of the children and the youth.The Souvenir of the Conference was released in inauguration.

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How to cite this article: Kishore J, Ranjan S, Sethi S. Younger Generation : Our Global Edge. *Ind J Youth Adol Health* 2017; 4(3): 47-56.

ISSN: 2349–2880

The IAAH, in recognition of the work done by individuals in the field of adolescent health, awarded the SohanLalGulyan Gold Medal to Sushumna S, a class X student from Bangalore; and elected two senior members as Fellows- Dr. Jugal Kishore, Director Professor & Head, Dept. of Community Medicine, VMMC and Safdarjung Hospital, and Dr. ManjuToppo, Assistant Professor, Gandhi Medical College, Bhopal. The members also bestowed a Lifetime Achievement Award upon Dr. Prema Bali for her immense contribution and work towards the adolescents.

The ceremony concluded with distribution of mementoes to the dignitaries, and a vote of thanks by the Organizing Secretary, Dr. Jugal Kishore.

First Session

Scientific session 2

Mental Health, Social Media and Adolescent Health

The second scientific session of the conference was on Mental Health, Social Media and Adolescent Health. This session was held on April 14, 2017 from 1400 Hrs to 1540 Hrs and was chaired by Dr R C Jiloha, Professor & Head, Psychiatry & Director School of Paramedical Sciences JamiaHamdard and Dr Dinesh Kataria Professor & Head Psychiatry, LHMC.

There were five speakers from different fields who talked about this topic.

Our first speaker, **Ms. GouranDhawanLal**, media and TV anchor talked about the role of life skill in personality of youth. She said that good livelihood skills can give us good job and money but life skills gives happiness and satisfaction in life. These life skills cannot be taught by any text books. The beauty is that it cannot be taught but learnt from life. The biggest challenge is to imbibe these life skills in our life which helps in overall growth of an individual and is important of a healthy and happy life.

Our second speaker was **Prof AchalGulati**, Director & Principal, B.S.Ambedkar Medical College and his topic was Look Before You Listen and Think before you Hear. He had given a very musical presentation and discussed about noise and music. Today there is a trend in youth of listening to very high volume music. This is doing a lot of damage to the body. The direct affect is that it can lead to deafness and there are other effects on body also like anxiety, increased heart rate. Listening to loud music while travelling or walking has been a cause of many accidents. So there is eminent need that youth understands the ill effects of loud music and learn to differentiate between noise and music.

The third speaker, **Dr. Rakesh Lal** from National Drug Dependence Treatment Centre, AIIMS talked about adolescent and youth substance abuse and what are the ways to combat it. The family plays a very important role in this because children learn from their parents.

Our fourth speaker **Wg Cdr RK Mandal**, Principal BGS World School Bangalore discussed about the role of schools in mental health of the adolescents and how he is promoting school health programme in his school. One of his students shared her experience how helpful the programme has been for her and her school mates.

Our last speaker **Dr.Pawan Sinha** , prof of political science, Delhi University spoke about the behavioural disorders in youth today and the corrective measures. He talked about spirituality and mindfulness that can help youth. He said that the increasing competition in today's youth is the cause of so many problems and in this scenario the parents play an important role. the parents along with teaching children right and wrong also need to be their friend and do not put unnecessary pressure over them.

The session was concluded by the chairs after felicitating the speakers.

Session Report

Adolescent Peproductive and Sexual Health

Session 3 – 15 April 2017, 1145hrs

Chairperson

Dr.SuneelaGarg, Director Professor & Head, Dept. of Community Medicine, Maulana Azad Medical College, New Delhi

Speakers

Dr. Swati Shiradkar, Dr. Ashok Kumar

Rapporteurs

Dr. Sunil Kumar Singh, Dr. AnirudhSaxena

- DR. Swati Shiradkar – "Importance of Sexuality Education"

Dr. Swati spoke about the journey of sexuality education in India over the ages and how far we still need to go. Critical points covered in her presentation included gender roles in sexuality, difficulties faced while bringing up both girls & boys through their school lives, with emphasis on the so-called generation gap and how it is that this generation gap is created. She then discussed the various cultural differences between India and the western world and how imbibing western culture by adolescents might indeed be a sign of their need to be noticed and listened to by their parents and loved ones. She went on to describe the findings of a study conducted by her on 9th and 10th standard students regarding comfort in accepting sexuality. The results showed that a majority of both boys and girls were shy to discuss sexuality issues but were eager to learn and wanted their teachers and parents to be more involved in sexual education with them – the concept of sexuality socialization. She concluded with the message of sexuality socialization, highlighting the importance of a wholesome involvement of all stake-holders, *viz.* parents, teachers, tutors, etc. in helping adolescents understanding sexuality and identifying themselves as individuals.

- Dr. Ashok Kumar – "Innovative training methods in ARSH"

Dr. Ashok has been actively involved in the field of adolescent health and teaching for more than two decades and his passion for the same was evident in his presentation on importance of training methods on understanding sexuality for adolescents. Adolescent Reproductive and Sexual Health (ARSH) is a multi-dimensional initiative of the Government of India for widespread coverage of adolescent health issues in the country, and Dr. Ashok is a pioneer of the ARSH initiative. Critical points covered in his presentation included the importance of the need for innovative teaching methods and the facilitation of a healthy and stimulating learning environment for the young minds to have a holistic development, especially concerning sexuality issues. Some of the methods of teaching he spoke about included Body Mapping for gauging their comfort with their own body parts, Pairing activity game, Game of beads for understanding how a male sperm causes sex differentiation of a fetus and not the female ovum, Immune system circle and crocodile river game for understanding HIV/AIDS and other STIs/RTIs and so on. He also spoke about innovative ways to make an adolescent understand the differences between sex and gender, attitudes and beliefs and sexual abuse and its prevention. He concluded the thought-stimulating presentation with the message of building partnerships between parents, teachers and adolescents for a more healthy interaction and communication, and also taught the audience a great energizing exercise of "creating" rain with just their hands.

Technical Session 4(15/04/2017)

Aesthetics Issues and Personality Development

On day two of ICYAH, a very interesting session on the burning topic among adolescents of "Aesthetics issues and personality development " was held. The session was chaired by **Dr. Dinesh Kumar Pal**, Dean Faculty of Medicine, Bharkatullah University, Bhopal, HOD, Department of Community Medicine and Medical Superintendent of the same; Co-chaired by **Dr. KiranDambalkar**, CMO In-charge, Primary Health Centre, Palam, New Delhi. The two speakers for the seeing were **Dr. ShrutiBarde** and **Ms. Nidhi Dubey.**

DrShrutiBarde, Cosmetic Dermatologist spoke on the 'Psychology of Aesthetic Dermatology'. She elaborated on the common skin and hair problems prevalent among the adolescents /youth and how they impact on their social life, mood, self-esteem and academic performance. She threw light on set of skin and face related issues triggered because of the vulnerability of this age group to perceptions created in the society.Social inhibitions, interpersonal and psychological problems and problems of sexual difficulties arising in this critical growth phase are deeply impacted by skin health or so the perception of what a healthy skin or a beautiful face should look like.She describe the factors for association between physical attractiveness with social power and status. She shared the approaches that have been evolved by her to comprehensively agrees these issues.

MsNidhiDubey, HOD Beauty, Looks Parlour gave her speech about 'Aesthetic Issues and Personality Development' in which she talked about the importance of having a good personality in adolescents. She discussed about the various ways to improve one's personality. To mention a few body language, attitude, importance of reading books, having a hobby, dressing right. First impressions are very important was stressed upon.

The session was concluded by the chairperson summarising it. With the increasing media and social networking, aesthetics has become an important area of concern and needs to be addressed soon.

Rapporteurs

Dr. Manila Sharma, PG,

VMMC & Safdarhung Hospital

Session 5

Arts, Yoga, Wellness and Nutrition for adolescents and youth

15th April, 2017

Chairpersons

Dr.Nagesh (MBBS,MD. Dean, School of Allied Health Sciences, Sharda University) and Dr.VidyaSurwade. (MBBS,MD. Director of Humatrix Healthcare Pvt. Ltd)

Chairperson Dr. Vidyaintroduced and invited the first speaker Guru Smt Kanaka Sudhakar, an eminent Bharatnatyam and Kuchipudi dance guru with several accolades in her field and also an avid research fellow in therapeutic benefits of Indian Classical Dances, she authored a book on the same topic. Guruji started her presentation by explaining the listless advantages of Classical dances, from not only improving physical health but also mental and spiritual aspects as well. She also demonstrated with her student Akshita, various mudras and how they affect the body through ways very similar to modern physiotherapy, acupressure and alternative healing techniques.

Amongst comments from the audience, Dr.Prema Bali specially mentioned how pursuing dance from an early age brings vitality and can prevent multiple geriatric problems. She also invitedGuruji for becoming a part of the IAAH and collaborating in further sessions.

The next speaker was Dr.ManishaGohel, Professor in community medicine and certified Yoga trainer from PSMC, Gujarat. She started her session by guiding the audience about origin of "YOG" in Indian shashtras and then moving to pictorial depiction of various yogasanas explaining the physiological concepts and benefits of each. She concluded by sharing her journey of personal transformation to a healthier self with the help of Yog.

The last speaker was Ms. VaniBhushanam, dietician of DeepaKarmakar and Team Nutritionist to various National level teams. She spoke on the holistic approach towards healthy diet beginning at the early stage in life only. She focused on special diet requirements for sportspersons with a balanced nutrition and fluid and electrolyte balance also educated about recovery nutrition and injury management in sports.

The chairpersons concluded the session by reiterating the need of integrating classical dance, yog and right nutrition into our lifestyles, especially for the adolescents. Dr. Jugal Kishore then felicitated the chairpersons with tokens of appreciation.

Session on Skill development

Report of PG quiz on "Youth and Adolescent Health"

A PG Quiz on "Youth and Adolescent Health" was organized during the International Conference on Youth and Adolescent Health, 2017. A total of 15 teams participated in the screening round which was organized on 14th April 2017. Of these four teams were selected for the Final round which was held on 15th April between 5 to 6 pm.

The Final quiz consisted of were five rounds – two direct question rounds, visual round, domain round and buzzer round. The quiz tested the knowledge of the participants on a wide range of topics including demography, morbidity profile, policies and programs, immunization and specific domains like growth and development, nutrition, acts and regulations, ethics in medical practice and research as well as substance abuse.

Dr.GeetaPardeshi,Professor, Dept of Community Medicine VMMC and SJH was the convener of the quiz and Dr.ShailajaDaral was the quizmaster. Dr.Rupsa, Dr.Timiresh Das, Dr.Charu and Dr.Mukesh were the scorekeepers. The final round was Chaired by **Dr.Ranabir Pal,** Professor & Head Com Medicine, ESI Medical College Faridabad and Dr.GeetaPardeshi.

The team consisting of Dr.PalakGoel and Dr.ShraddhaDeokotafrom the Department of Community Medicine, Maulana Azad Medical College, New Delhi won the quiz. Winners were given certificates and prizes.

Cultural Program

The Cultural Program of the ICYAH witnessed a confluence of cultures and talents, and was a fun-filled gathering of the delegates. The program commenced with a guest performance, in which five youthful disciples of Guru Kanaka Sudhakarji performed Bharatnatyam.

The stage was then taken over by residents and faculty members who expressed their vocal talents. Among those delegates who performed were-

- Dr. D.R. Gaur, Director Professor from Department of Community Medicine, PGI Rohtak
- Dr.Abhay Singh,
- Dr.Satyajit, Senior Resident, Lady Hardinge Medical College, New Delhi
- Dr.Rupsa Banerjee, Senior Resident, VardhmanMahavir Medical College, New Delhi
- Dr.AnirudhSaxena, PG student, VardhmanMahavir Medical College, New Delhi

Valediction Ceremony- ICYAH

16th April, 2017

The Valediction ceremony of the ICYAH at the closure of the three-day conference was graced by the presence of Shri D.C. Gupta, Former Secretary, Finance, Government of India, as the Chief Guest, and Shri S. Krishnan, Former Chief Secretary, Government of Uttarakhand as the Guest of Honour.

The Conference Chairperson, Dr. M. R. Surwade summarized the conference, briefly describing the key points and the roles played by the eminent experts that had shared their knowledge during the course of the conference.

Dr.Abhay Singh, Assistant Professor, GSVM Kanpur, shared his feedback on the conference as a delegate, and commended the organizers for conducting such an enriching conference, and specially praised the workshop on 'Communicating with adolescents'.

Dr.Prema Bali, Founding President, IAAH, in her speech described the contributions of each founding member and specially those of Shri D.C. Gupta for his unconditional support towards the conference.

The Chief Guest, Shri D.C. Gupta commended the organizers and appreciated the hard work put by the IAAH towards working for adolescent health. The Chief Guest and Guest of Honour then awarded certificates to delegates for presenting the best papers in the Oral and Poster Scientific Paper Presentation sessions. They also distributed certificates of appreciation to acknowledge the hard work by the volunteers and rapporteurs of the various session. A list of prize winners, volunteers and rapporteurs is enclosed.

Organizing Secretary, Dr. Jugal Kishore then proposed the vote of thanks and distributed mementoes to the Chief Guest, Guest of Honour, as well as Mr. Bali. The conference concluded with a commemorative photograph, followed by lunch.

List of Winners of Best Scientific Papers

Theme	Best Speaker
I- Social Media and Adolescent Health	Dr.LoveshSaini
II – Adolescent Reproductive and Sexual Health	Dr.ManishaGohel
III – Mental Health and Adolescents	Dr.Sivasankari N.
IV- Lifestyle Diseases	Dr. Rashmi Agarwal
V- Other Diseases among Youth and Adolescent Health	Dr.KartikeyYadav
VI- Important issues in adolescent and youth health	Dr.ShipraSaini
Poster Presentation Session	Dr.AshishPundhir

List of Volunteers

• AmanPanchal	• Dr.IshaParuthy
• RishabhAnand	• Shilpa
• ShamimAkhtar	• NitinDudeja
• Lakhan	• Kamran Farooqui
• Subhash Chand	

List of Rapporteurs

• Dr.ShailajaDaral (SR, VMMC)	• Dr.Timiresh Das (SR, VMMC)
• Dr.SnehaKumari (SR, VMMC)	• Dr. Sunil Kumar Singh (SR, VMMC)
• Dr.RupsaBannerjee (SR, VMMC)	• Dr. Amrita Singh (PG, VMMC)
• Dr. Surabhi Sethi (SR, VMMC)	• Dr. Umang P. Salodia (PG, VMMC)
• Dr.Mukesh Kumar (PG, VMMC)	• Dr. Aseem (PG, VMMC)
• Dr. Manila Sharma (PG, VMMC)	• Dr.AnirudhSaxena (PG, VMMC)
• Dr. Sunil Kumar Singh (PG, VMMC)	• Dr.VandanaPandit (PG, VMMC)
• Dr.Suruchi Mishra (PG, VMMC)	• Dr.NiteshChauhan (PG, VMMC)
• Dr.CharuKohli (SR, MAMC)	• Dr.NehaDahiya (SR, MAMC)
• Dr.ShraddhaDeokota (PG, MAMC)	• Dr.PalakGoel (PG, MAMC)
• Dr.ManjuToppo (GMC, Bhopal)	• Lakhan (MAMC)
• RishabhAnand (MAMC)	• Subhash Chand (MAMC)

Dr. Prema Bali Oration

Dr. Harish K. Pemde

Director Professor Paediatrics, Centre for Adolescent Health, LHMC

Dr Prema Bali Oration was delivered by Dr. Harish Pemde and chaired by Dr. Surrinder Singh, Former Professor Physiology, LHMC, New Delhi and Dr. M. R. Surwade, CEO Humatrix Pvt. Ltd. Rapporteurs were Dr. Manju Toppo, Associate Professor, GMC Bhopal and Dr. Umang P. Salodia PG Resident, VMMC & Safdarjung Hospital, New Delhi.

Dr. Harish Pemde, Dr. M. R. Surwade, Dr. Surrinder Singh

In his oration Dr. Harish Pemde elaborated journey of Adolescent Health development in Kalawati Saran Child Hospital, New Delhi and also in India. He stressed on the ways of promoting adolescent health among doctors and other health workers so that adolescent health can be linked from clinics to the community. Giving account of history he spoke about the American Academy of Pediatrics who organized a symposium on adolescent health in 1941 with the themes on physical fitness, emotional health, and nutrition in adolescents. This meeting is considered by many as the initiating force incorporating adolescent medicine into the domain of paediatrics.

The International Association of Adolescent Health was formed at the conference in Sydney Australia, 1987 with 16 member committee. Dr Prema Bali was the Founder Member and represented Asia in IAAH and this was the first involvement of an Indian health professional in Adolescent Health. Late Dr Bir Singh contributed as the Secretary and the first meeting took place in 1991. Dr. Jugal Kishore designed its logo of IAAH in 1991. IAAH organizes conferences and other programs regularly for the adolescents.

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How to cite this article: Pemde HK. Dr. Prema Bali Oration. *Ind J Youth Adol Health* 2017; 4(3): 57-58.

ISSN: 2349–2880

There was a debate going on who should look after adolescents during 90's and the Indian Academy of Pediatrics (IAP) Delhi organized first conference on adolescent health in the year 2000. IAP declared this as Year of Adolescent Care and it was decided that the pediatricians will look after children up to 18 years of age. First national conference on Adolescent Health by IAP was organized in the year 2000 in Delhi.

IAP has then conducted a number of programs in which Dr. Harish Pemde was the key functionary including the International Training Program on Adolescent Health- 2002, course manual for adolescent health in which Dr. Pemde has contributed several chapters. He has been the organizing secretary during ITPAH-2004.

In 2004, Dr. Pemde requested Dr AK Dutta, Head Pediatrics LHMC KSCH to allow to begin Adolescent Clinic in KSCH, New Delhi which started as once a week special clinic. Later it became the Centre for Adolescent Health where training for school teachers, nurses and doctors were also conducted. Faculty members from dermatology, community medicine, psychiatry etc. were bought on a single platform to provide comprehensive services to the adolescents. National ToT WHO Orientation Program on Adolescent Health was organized in which Dr. Pemde was the member of the organizing committee. Center started training of the staff nurses, teachers, counselors, and organizing national level programs such as on ARSH.

National **Technical Resource Group on Adolescent Health**, Ministry of Health and Family Welfare was constituted and Dr. Pemde was nominated a member of this group. He had participated in several consultations and meetings in the making of India's Adolescent Health Strategy 2014 and has played a pivotal role in the development of Rastrya Kishor Swasthya Kariyakaram (RKSK).

Dr. Pemde had been associated with MD Pediatrics Thesis work, ICMR Research Project, UG Student Research and Resident's Research Work and has more than 35 research papers published in peer reviewed indexed journals. Dr. Pemde has authored several chapters in various standard textbooks on adolescent health.

At the end, Dr. Pemde was honored by the chairperson's by a certificate of appreciation and a shawl for his contribution in adolescent health.

Adolescent Health : Bridging the Generation Gap

Dr. Dinesh Singh Martolia

Professor and Head, Deptt. Of Community Medicine, Govt. Medical College, Kannauj

The world today is facing the brunt of a war of ideas and ideologies between nations, states, populations or between generations within a family. Generation gap is defined as a difference of attitudes or opinions between people of different generations, leading to a lack of understanding.It refers to a perceived gap between younger people and their parents or grandparents. This generation gap tends to mount an unreasonable pressure on the adolescents in terms of behaviour, lifestyle, eating habits, beliefs and attitudes and as a consequence, intensifies the problems of adolescents.

Dr. Jugal Kishore, Dr. DS Martolia, Dr. Amarjeet Singh

The World Health Organization defines adolescence as the age group from 10 to 19 years consisting of individuals who are going through a very special phase in their lives. During this phase of development, adolescents begin the transition from childhood to adulthood.

Psychosocial adjustment is a hallmark of this phase of development because even normal individuals struggle with issues of identity, autonomy, sexuality, and relationships. “Who am I, where am I going, and how do I relate to all of these people in my life?” are frequent preoccupations for most adolescents.

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How to cite this article: Martolia DS. Adolescent Health : Bridging the Generation Gap. *Ind J Youth Adol Health* 2017; 4(3): 59-60.

ISSN: 2349–2880

Mental health problems, such as mood disorders, anxiety disorders, and thought disorders as well as psychosocial disorders, may develop or first become apparent during adolescence. Suicide is a major cause of death for this age group. Other causes of death include accidents, unintentional injuries, and homicide.

Eating disorders, such as anorexia nervosa and bulimia nervosa, most commonly develop during adolescence and are more common among girls. Many detrimental behaviors that start during adolescence, such as consuming unhealthy diet, obesity, smoking, substance use, and violence, can lead to acute health problems, chronic disorders, or morbidity later in life.

Substance use among adolescents ranges from sporadic use to severe substance use disorders. A broad range of more potent and dangerous products (eg, inhalable alcohol, pure tetrahydrocannabinol [THC], synthetic cannabinoids, prescription opioids) have become available. The consequences range from none to minor to life threatening, depending on the substance, the circumstances, and the frequency of use. However, even occasional use can put adolescents at increased risk of significant harm, including overdose, motor vehicle crashes, violent behaviors, and consequences of sexual contact (eg, pregnancy, abortion, sexually transmitted infection).

The parent who has developed an open, trusting relationship with an adolescent often can identify these problems, develop a therapeutic relationship, offer practical advice and, when appropriate, encourage the adolescent to accept specialized care. This small change in attitude in the parent generation will go long way in resolving most of the problems of adolescents.

The recent unfortunate suicides that occurred as a consequence of the Blue Whale challenge are only the tip of the iceberg of a misunderstood adolescence. Those who lost their lives were mostly teenagers who were lonely or aloof. It is a warning bell for the society to gear up and address the problems faced by adolescents with compassion or be ready for dire consequences.

We, as public health experts need to share this message with the community and pass on a helping hand to our adolescents so that they may receive an understanding atmosphere at home, at school, in the community at large. They are in that phase of life in which they will make mistakes but they need to be supported every time they fall so that they do not succumb to their failures.

Speech by Rakshita B Gawda, a student of BGS World School, Chickballapur, In ICYAH – 2017, New Delhi

Respected Chairman and dignitaries,

Good Afternoon!

I am Rakshitha of class 10th, a student of BGS World School, Chickballapur, Karnataka. I am very happy that I got an opportunity to speak to all of you in such a great gathering.

I am happy to say that our school has started the 'School Health Programme' and we are getting its benefit. We are getting many experts coming to our school, speaking to us and giving us valuable knowledge about how to take care of our own health and help others to protect their health. We have been going to villages and suggesting the unhealthy people to take care of their health.

Generally in a school the children feel that lives are boring. They do not get enough opportunity to play. They attend the lectures for hours and hours. In the big classes they do not feel comfortable to ask questions to the teachers. They go back home with many questions. Even though they try to understand the lesson afterwards they feel it difficult to understand. During the examinations they find it a pressure to write the answers. They do not find all subjects equally interesting. They do not find all teachers listening to their personal problems. They feel some students, especially

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How to cite this article: Gawda RB. Speech by Rakshita B Gawda, a student of BGS World School, Chickballapur, In ICYAH – 2017, New Delhi. *Ind J Youth Adol Health* 2017; 4(3): 61-62.

ISSN: 2349–2880

seniors, always try to bully. More so we girls take more share in this aspect than boys. Some time many students show negative behaviours. The students require someone to understand their problems and solve the problems. The students in that case seek the support of their parents and teachers. If the parents and schools do not give proper support the students gets frustrated and depressed.

I feel the school is the place where teachers know situation of the students better. If the school solves problem of the students, the students can be happy and do better in studies and in life.

In my school the situation is improving after the school has adopted the school health programme. I thank my school for bringing in the change and IAAH to support our school.

Thank you all.

Speech by Shushmna S, a student of BGS World School, Chickballapur, In ICYAH – 2017, the recipient of the Gulian Gold Medal – 2017

Respected Chairman and Dignitaries,

Hearty greetings to all of you! I am Shushumna of class 10th, a student of BGS World School, Chickballapur, Karnataka.

First of all I thank my school and the conference organizers that they have given me an opportunity to attend this prestigious conference in Delhi today. I am also thankful to IAAH that they have recognized my work under our 'School Health Programme' and have awarded me the 'Sohanlal Guliyan Gold Medal'.

Our school adopted the 'School Health Programme' on 24 November 2015 under the guidance of Dr. Jugal Kishore, Head of the Department, Community Medicine, Vardhaman Medical College and Safdarjang Hospital, New Delhi as well as the Secretary General of IAAH. Since then we have participated at several programs in our school. We are now aware about the signs of depression among the children. We have learnt that when we find any signs of depression among our fiends we should inform our teachers.

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How to cite this article: Shushmna S. Speech by Shushmna S, a student of BGS World School, Chickballapur, In ICYAH – 2017, the recipient of the Gulian Gold Medal – 2017. *Ind J Youth Adol Health* 2017; 4(3): 63-64.

ISSN: 2349–2880

In the beginning of the previous academic session we the students of VI to X standard filled a two-page form for assessment of our mental health. In that we mentioned if we were facing any mental pressure and anxiety in the school or if we were facing any problems related to studies.

We the students of VIII to X class were also given another set of two-page form to mention about social behaviours. This form was first shown to our parents and after their approval we responded to the questions. This form was to mention about how we generally behave when we face tough situation in our life while interacting with others.

In the month of September of 2016, our school asked for the volunteers who were interested to go to villages to study the health situation of the villagers. It was a team of more than 30 students who visited the houses of our nearby villages and noted the health status of the people. All three of us who have come from our school were in the team. While recording the health problems of the villagers we guided them to go for medical treatment and leave drinking, smoking, tobacco chewing etc, wherever applicable. We continued our visit to those houses once in a week for two months, till we saw some difference by creating health awareness among them. We felt very happy.

We are now aware that eating nutritious food, doing regular exercise, having proper sleep are most useful. We now that smoking, drinking, taking drugs are harmful and we should avoid them. We are also aware that we should take care of our environment and work for the wellbeing of our neighbours.

It would be a mission of my life that I will try to be healthy, continue to work for the physical and mental wellbeing of others.

Thank you all!

Workshops on Adolescent & Youth Health organized during the ICYAH 2017

Workshop 1

Communicating with Adolescents

Drishti Sharma and Surabhi Sethi

On 14th April, 2017, workshop on communicating with adolescents was organized in the Hall 1, First Floor, Convention Center, New Delhi Municipal Council, Parliament Street, New Delhi, India. It was moderated by Dr Drishti Sharma, Dr Surabhi Sethi. More than 30 Postgraduate Medical Nursing students, School teachers, Parents, Principals, Adolescent Counsellors attended the workshop. Rapporteurs were Abhishek Yadav and Ragvendra (MAMC).

Resource persons of the workshop were Dr. KG Sandthya from Population council, Dr. Drishti Sharma SR from PGIMER Chandigarh, Dr. Surabhi Sethi from VMMC & SJH New Delhi and Dr. Anshul Shukla MAMC and Ankita Rawat.

Dr. KG Santhya explained why there is need of understanding adolescents who are suffering from physical, emotional and mental health problems. Dr. Surabhi said that there is communication gaps and it can be removed. There are various techniques by which one can remove such gaps to communicate with adolescents. Through story telling Dr. Drishti explained that we can engaged the adolescents in active learning. Ms. Ankita Rawat shown the film which was directed by herself involving adolescents to explain what they think about their problems and what they want. The workshop was well accepted and rated one of the best.

Workshop 2

Workshop for Teachers on Adolescent Health

RK Mandal and Tanu Anand

The second workshop was for teachers and parents training them how to handle adolescent health. It was on first day of the conference at the Convention Center, New Delhi Municipal Council, Parliament Street, New Delhi. Moderators were Wg Cdr RK Mandal and Dr Tanu Anand.

Rapporteurs were Ms. Deepika (NLEP), Rishabh (MAMC).

A workshop of the principals of the secondary and higher secondary schools coming across India was held on 14 April 2017 in New Delhi coinciding the 'International Conference on Youth and Adolescent Health' organized by The Indian Association of Adolescent Health. The conference was scheduled for three days from 14 to 16 April 2017; and the first day of the conference was devoted for the workshop.

The Indian Association of Adolescent is a voluntary body which has been working in the field of the Youth and Adolescent Health in the country for about 4 decades. But it was the first ever initiative of the Indian association to conduct a workshop involving the school principals. The purpose of the workshop was to sanitize the principals of the schools to take positive steps towards protection of adolescent health. In the introduction Wg Cdr RK Mandal explained that there is an urgent need of training of teachers on adolescent health issues.

A total of about 50 experience principals and about 10 medical professionals attended the programme. The introductory speech of the workshop was delivered by Wg Cdr Ranjit Kumar Mandal, Principal BGS World School, Chickballapur, Karnataka, who is also the Joint Secretary of the Indian Association for Adolescent Health, Karnataka Chapter. He, in his speech, explained the need of launching adolescent health programme in schools. To highlight the gravity of the adolescent health problems, he mentioned that at a given time Indian had about 3% adolescent depressed and 80% percent of the diseases in the adulthood were caused due to some ill health or the other of the childhood. He added that during a survey carried out in a school in 2015 in Karnataka, in a semi-urban area on the physical and mental health of 381 children from VI to X class, it was found out that 375 students had some aliment or the other.

Wg Cdr Mandal mentioned that his schools had launched the 'Adolescent Health Programme' (which is termed by the WHO as making the school - 'The Health Promoting School') on 25 November 2015 and since then several programmes have been carried out involving students and staff. His school has been carrying out the programme in three dimensions – the students, staff and community. Besides conduction health awareness programme and health check of the staff and students, the staff and students have been carrying out studies of community health in the locality.

Dr. Tanu Anand, Assistant Professor Com Med NDMC Medical College spoke on epidemiology of addiction, voilence, aggression and health problems among adolescent health youths. In her presentation she alarmed the participants that there is growing concerns of rapid increase in behavioral problems among adolescents. Through health statistics she explained that problems like depression, suicide attempts, anxiety, road rage, etc. are increased.

Dr. Om Lata Associate Professor Physiology AIIMS Jodhpur involved the participants in groups to identify at risk adolescents.

Presentations highlighting all aspects of promotion of adolescent health. It was highlighted that the schools and home - both were responsible to promote good health of the students by making the students aware of the matters of life-skills. The children are to be made aware about the factors which keep them safe and healthy and help them to achieve their goals in life. The session was conducted in an interactive manner.

Workshop *3*

Adolescent Friendly Health Services

Harish Pamde and Dinesh Kataria

On 15th April, 2017 **in** Hall 1 of the Convention Center, New Delhi Municipal Council, Parliament Street the workshop on adolescent friendly health services was organized. It was attended by postgraduate students and Medical and

nursing faculty. **Moderators of the workshop were** Dr Harish Pamde and Dr Dinesh Kataria and Rapporteurs were Dr. Charu (MAMC) and Ragvendra (MAMC). Dr. Harish Pamde is a Director Professor of Paediatric and In-charge of Center for Adolescent health, Lady Harding Medical College, New Delhi. He is played a key role in designing the modules for training of national trainers on adolescent health. Dr. JG Prasuna Director Professor of Community Medicine from LHMC highlighted the need of making adolescent friendly reproductive and sexual health services. She also emphasized on quality of services. Dr. K Sharda, CMO in MCD shared her experiences of her clinic operating in a large hospital. Dr. Dinesh Kataria spoke on how mental health services could be integral part of adolescent health clinic. Dr. Srikant Basu further explained on strengthening adolescent friendly health services.

Workshop 4

"Designing Behaviour Change Communication program involving adolescent & Youth using Models"

Manisha Gohel and Uday Shankar

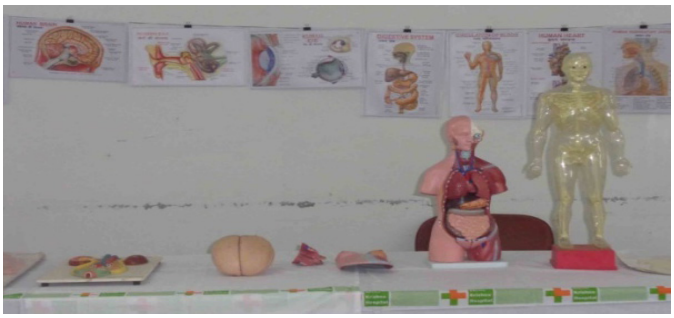
Workshop was arranged at conference room No.2 from 11.45 am to 3.30 pm during ICYAH conference at Convention Centre at New Delhi on 15th April 2017. Dr. Manisha Gohel and Dr. Uday Shankar Singh from PS Medical College, Karamsad, Anand Gujarat were the moderator of the workshop.

Workshop was started with introduction of participants to group. Total numbers of participants was 25 and they all are from different fields like teachers, medical faculties, students, social workers etc. Dr Uday Shankar Singh welcomed participants and introduced the theme of workshop "**Designing Behaviour Change Communication program involving adolescent & Youth using Models**". He briefed about Action Research in Community Health, ARCH and Charutar Arogya Mandal. He informed that ARCH is a Gujarat-based NGO which is located at Dharampur and working in tribal community since 1982. ARCH's guiding principle is to build a bridge between traditional communities and modern science in area of health, education and overall development for tribal population. He narrated participants about Community Medicine department, PSMC journey of highlighting work of NGO in Adolescent Health from Dharampur to academic field at National level . Basically the whole workshop was designed to instil the collaborative learning and experience.

Next session was conducted by Dr Manisha Gohel. She introduced Late Dr Daxa Patel who was founder of ARCH and highlighted concept of Kishore and kishori mela by ARCH. They had confronted with Issues like teenage pregnancy, early marriage, severe anaemia and malnutrition during pregnancy in tribal population. This propelled ARCH to undertake much needed adolescent education and reproductive health awareness in 1986. Late Dr Daxa Patel realized that we need to tackle the issues in early stages of their development, i.e. by intervening during adolescent age. Dr Manisha briefed about development of Kishore and Kishori Mela at Dharampur through PowerPoint presentation and videos. Key points of presentation were followings.

Development of adolescent Reproductive education models and stalls for Adolescent health education

The model evolved out of education programs through books, pictorials, charts, organ models, audio-visuals and interactive learning of reproductive system - all under one umbrella. The models had been refined through application and feedback for the past 10 years. They developed interactive learning models of human biology which are live, interactive and LED-light models and very popular amongst adolescent. The next challenge was to arrange learning atmosphere for groups of 70-80 students. Various aspects of adolescent problems especially the area which needed attention were identified. Similar to Mela-atmosphere different stalls displaying different items, skills fun games etc were developed. All needed topics were covered in 7 different stalls and added with 8th as Yoga as part of essential adolescent health education.



Stall 1.Human Body - Structure and functions

The objective of first stall was to discuss different body functions making it interesting through informal activities so as to involve the young students in discussing all kinds of body processes. At the end reproductive system is introduced having one of the prime functions “to reproduce”.

Stall 2.Female Reproductive System and its Functioning

The objective in the second stall is to provide knowledge about anatomy of female reproductive system. It aims especially to overcome misbelieves regarding menstruation and timing of ovulation. With the help of handy rubber model, anatomy of Uterus its inner lining is explained. A monthly cycle is displayed through interactive model and self designed 3-D models. It attempts to remove girl’s fears and apprehensions about this normal functioning of the female body.

Stall 3.Menstruation Cycle, variability and Menstrual Hygiene

The objective in the third stall is to relieve anxiety about irregularities of cycle in first 2 years of starting menarche. Cotton, smooth clothes, sanitary pad, drying the used clothes in Sun, a model of closed bathroom are included among exhibits in this stall. It also includes treatment of anaemia, simple dysmenorrhoea and ways to prevent infection.

Stall 4.Male Reproductive System & Fertilization

The objective in the fourth stall is to explain the normal phenomenon of night discharge, scientific information about sperm & seminal fluid production, how sperm meets ovum for reproduction etc. Attempts are made to alleviate guilt about night discharge, masturbation and sexual curiosity. Boys and girls both are made to understand the physio-psychological changes that they experience during this transition to adulthood.

Stall 5.Determination of foetus gender and growth of the foetus

The objective in the fifth stall is to understand factors that decide sex of the baby which was explained though a game. The stall also includes knowledge about the need for balance diet and nutrition during pregnancy for healthy growth of the foetus.

Stall 6.Contraception

The objective of the sixth stall is to provide knowledge about family planning especially in teenage marriages. It also explains ways for preventing STD and other genitor-urinary tract infections by using condoms

Stall 7.Emotional Changes

ISSN: 2349–2880

The objective of the seventh stall is to explain the transition from childhood to adulthood. Emotional & mental changes due to hormones, opposite sex attractions, infatuation, confusion, impulsive behaviors, rebellious behaviors, healthy body image etc. are discussed as natural phase of puberty. By explaining that this is a transient phase various alternatives to keep excited and confused mind engaged in creative activities like reading story books, music, art, sport etc are emphasized.

This stall was introduced by Community department, PSMC as realizing role of yoga during adolescent stage. Adolescents' development & health can be better addressed by introducing Yoga as a way of healthy life during adolescent period itself. Different yogasanas can be demonstrated to adolescents for their better understanding.

Stall 8.Yoga

After this session, Participants were divided in small groups. Dr Uday Shankar asked participants to discuss about use of these models at their working place. Different groups discussed and presented their views on using these models at their respective places. Handbook on Menstruation which was developed by ARCH was distributed among participants.

Dr Jugal Kishore concluded the workshop by his effective concluding remarks. Dr Jugal Kishore mentioned that it is very important to carry forward this work at our working place. He mentioned that how all of us can use these models in adolescent health program and even you start with few models, is also good initiative in adolescent health. Workshop material was provided in soft copy to participants. Dr Uday Shankar Singh thanked to participants and also IAAH for providing opportunity to conduct this workshop at ICYAH. Workshop was and supported by Dr Hemshree Parmar (resident), Bhavdeep Mungala and Chirag Contractor (students at PSMC). Rupsa Banarjee and Rishab act as rapporteurs for this workshop.

Workshop 5

Qualitative Research Tools for Adolescent Health Research

Sumit Malhotra and Shalini

On 16th April, Saturday 2017, 5th workshop of the ICYAH was on qualitative research tools for adolescent health research. Moderators were Dr. Sumit Malhotra Associate Professor from Center for Community Medicine AIIMS, New Delhi and Dr. Shalini Smanla associate professor community medicine, VMMC & SJH New Delhi. The workshop was attended by PGs and faculty. Rapporteurs for the workshop were Dr. Timiresh Das (VMMC), Rishabh (MAMC).

Resource Persons were Dr. Sumit Malhotra, Dr. Shalini, Dr. Shveta, Prof. Kiran Goswami, Dr. Ragini Sahay, Dr. Ravneet Kaur

Learning Objectives of the workshop

- Participants who attend the workshop will be able to learn:
- How qualitative research is different from quantitative research
- How qualitative research can be applied to research questions relevant to adolescent health
- Different data collection tools for qualitative research
- Sampling approaches, ethics, quality and analysis for qualitative research

This workshop intended to sensitize participants about applicability of qualitative research tools for adolescent health. The workshop comprised of seven sessions. The first session introduced key concepts related to qualitative research. It emphasized the approach as inductive to generate novel insights into phenomenon that are difficult to measure quantitatively. The design features involving naturalistic inquiry, emergent design flexibility, and purposeful sampling were enumerated. The key differences between quantitative and qualitative methods were emphasized.

The next session focused on interviews and focus group discussions. The general steps of rapport building and conduct of interviews with focus on types of interviews including in-depth interviews and key informants interviews were elucidated. The session on focus group discussion (FGD) highlighted the steps in conduct of FGD. The role of moderator and assistant moderator were discussed and ingredients of successful FGD were discussed with participants. Both the sessions emphasized using interview and FGD guide as tools for collecting data. A mock FGD was practiced with participants during the workshop. This was a very interactive and lively practice session where participants were taken through different steps in conduct of FGD.

The last sessions focused on sampling approaches, ethics, analysis and report writing for qualitative research. Different sampling approaches including maximum variation, snowball sampling, extreme variation sampling were discussed. The importance of consent and good practices while conducting qualitative research were highlighted. Key concepts related to coding, thematic analysis or grounded theory were discussed. Guidelines for reporting qualitative research and its components viz COREQ (Consolidated Criteria for Reporting Qualitative Research) were shared with the participants. The workshop ended with interactive exposure to software Atlas Ti used for analyzing qualitative research. Its basic functions and parameters assisting in analysis were demonstrated. The workshop was attended by approximately 35-40 participants.

ISSN: 2349–2880