Original Article

Knowledge regarding changes in adolescence among health service providers and teachers in a rural block of a District-Jhajjar (Haryana)

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Abstract

Context: 'Adolescence' is a period of substantial change and hence associated with the risk of many health-related problems. Teachers and grass-root level health service providers i.e. multi-purpose health workers (female/male) are one of the key stakeholders who are to understand and respond to adolescent needs. **Aims:** To assess knowledge level regarding changes in adolescence among teachers and multi-purpose health workers. **Settings and Design:** It was a cross-sectional study conducted in rural block in the field practice area attached to Department of Community Medicine, Pt BD Sharma PGIMS Rohtak (India). **Materials and Methods:** All the 49 multi-purpose health workers (male and female) [ie., MPHW (M and F)] who were working in the study area are those posted at the sub centers, Primary Health Centers, or Community Health Centers for more than six months were included in the study. In addition, four large schools with strength of more than 250 students (two girls and two boys/co-ed Senior Secondary Schools) were randomly selected by lottery technique. All the 94 teachers who were involved in teaching the classes 9-12 in those schools were included in the study. Data were collected on predesigned, pre-tested and semi-structured schedules by conducting face-to-face interviews while maintaining the confidentiality of the responses. **Statistical analysis used:** Proportions, chi-square test. **Results and Conclusion:** 68/94 (72.3%) teachers were able to mention at least one sexual change which occur in adolescents. Among the sexual changes, menarche was the most common change familiar to the teachers. 48/49 (97.96%) workers were aware of at least one sexual change. Behavioral changes (emotional/social changes) were the ones which are least conversant to both health workers 10/49 (20.4%) and the teachers 24/94 (25.5%).

Key words: Adolescent, awareness, changes, health workers, knowledge, teachers

INTRODUCTION

The World Health Organization (WHO) defines adolescents as young people aged 10-19 years.[1] There are about 1.2 billion adolescents, one-fifth of the world's population, and their number is increasing. Four out of five live in developing countries.[1] Adolescence is a period of biological, cognitive, and social change of such magnitude and rapidity that it is no revelation to find that it is associated with the onset or exacerbation of a number of health-related problems including depression,[2] eating disorders,[3] substance abuse, and dependence,[4-6] risky sexual behavior,[7] antisocial and delinquent activity,[8] and school dropout.[9] Many of the behavioral patterns acquired during adolescence (such as gender relations, sexual conduct, use of tobacco, alcohol and other drugs, eating habits, and dealing with conflicts and risks) will last a lifetime.[10] They may be in the stage of early (10-13 years), mid (14-15 years), or late adolescence (16-19 years).[1] Adolescent health as a new issue was incorporated in Reproductive and Child Health II program under National Rural Health Mission. Teachers and grass-root level health service providers i.e. multi-purpose health workers (females/males) [ie., MPHW (M and F)] are one of the key stakeholders who are to understand and respond to adolescent needs.[11] With this background viewpoint, the study was conducted to assess the knowledge level regarding the changes in adolescence among teachers and multi-purpose health workers.

MATERIALS AND METHODS

It was a cross-sectional study conducted during the period 2010 to 2012 in Block Beri, which is rural field practice area attached to Department of Community Medicine, Pt BD Sharma PGIMS Rohtak (India). There are 21 sub-centers, three primary health centers (PHCs), one general hospital (GH) and one community health center (CHC) in the area, which are being looked after by Senior Medical Officer, CHC Dubaldhan. All the 49 MPHW (M and F) who were working in the study area, that is those who are posted at these sub-centers, PHCs, or CHC for more than six months were included in the study. For selecting the teachers for the study, primarily the schools were selected and then all the teachers teaching senior classes in those schools, where adolescents are likely to be enrolled, were selected. Because of the reason that majority of the school teachers would be found in large schools and feasibility/approachability reasons, out of the total 7 Government (Govt) High schools and 19 Govt Senior Secondary schools located in the block, 4 large schools with strength of more than 250 students (two Girls and two Boys/co-ed Senior Secondary Schools) were randomly selected by lottery technique. Teachers from the two strata of girls' and boys' schools were selected separately to eliminate the possible variability in knowledge of the teachers coming in contact with adolescents of different sexes ie, male and female. All the 94 teachers who were involved in teaching the classes 9-12 in those schools were included in the study and were interviewed. Data were collected on pre-designed, pre-tested, and semi-structured schedules by conducting face-to-face in-depth interviews and the confidentiality was meticulously maintained. Ethical approval and prior permission to perform the study was sought from Institutional Post Graduate Board of Studies.

RESULTS AND DISCUSSION

The response rate was 100% as all the study participants ie., teachers and health workers completed the interview.

Knowledge among teachers

The teachers were more or less equally distributed among all the age groups except that the younger teachers ie., below the age of 30 years, were only the females as shown in the [Table 1]. Overall, number of the female teachers was more as compared to male ones.

All the teachers could express at least one physical change in the adolescents. But only 24/94 (25.5%) could narrate atleast one social and/or emotional change in them. The figure was alarming as the teachers who were considered as educated and mature adults, who regularly came in contact with the adolescents and who were expected to guide them during that period of substantial change, were themselves unaware of those changes [Table 2]. Also, 68/94 (72.3%) teachers could mention at least one sexual change in adolescents. Low figure might be due to the hesitance of the teachers to talk on such issues. In comparison to male teachers, female teachers were significantly more aware [*P* value = 0.000215] of the adolescent sexual developmental changes. The percentage of female teachers who narrated one or the other sexual change was 87%. This might be because of their own experiences when they have come across the adolescent stage. As mentioned earlier under observations, menarche was the most common sexual change narrated by teachers. This reflected that menarche was more prominent and easily recognizable resulting in more teachers being aware of this change [Table 2]. However, in a survey conducted on 200 teacher trainees from Awassa College of Teacher Education, South Ethiopia, male teacher trainees were found to have better awareness on adolescent reproductive health issues than female trainees.[12] As mentioned in [Table 3], except one, all the teachers that is 93/94 (~99%) took the changes as normal and physiological. This observation pointed out that the logical thinking prevailed in the minds of school teachers [Table 3].

Knowledge among health workers

All the health workers in this study knew at least one change which occurred among adolescents. Out of the 49 workers, 49/49 (100%) and 48/49 (97.96%) of the workers were aware of at least one physical and one sexual change, respectively which occurred in the adolescents. It was a very positive finding that health workers were knowledgeable about the sexual developmental changes which would be an advantage for taking better care of their reproductive health. However, approximately 20% workers were aware of the emotional/social changes [Table 2]. As regards to awareness of sexual developmental changes, higher percentage of workers (~98%) in comparison to teachers (~72%) could be due to the health related background of workers. On contrary, proportion of teachers who were aware of emotional/social changes (25.5%) was slightly higher than that of such health workers (~20%) probably due to more likelihood of interactions

Table 1: Age and sex distribution of study participants

Age Group	Teachers			Health workers		
	Male [*n*=40]	Female [*n*=53]	Total [*N*=94]	Male [*n*=14]	Female [*n*=35]	Total [*N*=49]
Less than 30 years	0	13 (24.1%)	13 (13.8%)	1 (7.2%)	8 (22.9%)	9 (18.4%)
30 to<40 years	10 (25.0%)	17 (31.5%)	27 (28.7%)	5 (35.7%)	11 (31.4%)	16 (32.6%)
40 to<50 years	17 (42.5%)	12 (22.2%)	29 (30.9%)	5 (35.7%)	12 (34.3%)	17 (34.7%)
50 years and above	13 (32.5%)	12 (22.2%)	25 (26.6%)	3 (21.4%)	4 (11.4%)	7 (14.3%)
Total	40 (100%)	54 (100%)	94 (100%)	14 (100%)	35 (100%)	94 (100%)

Table 2: Knowledge of teachers and health workers regarding changes which occur during adolescent period

Awareness		Male teachers [*n*=40]	Female teachers [*n*=54]	Total [*n*=94]	*P* value**	Male worker [*n*=14]	Female worker [*n*=35]	Total [*n*=49]	*P* value††
Regarding any change	Aware*	40 (100%)	54 (100%)	94 (100%)	—	14 (100%)	35 (100%)	49 (100%)	—
	Not aware	0 (0%)	0 (0%)	0 (0%)		0 (0%)	0 (0%)	0 (0%)	
Regarding various types of changes	Physical changes†	40 (100%)	54 (100%)	94 (100%)	1	14 (100%)	35 (100%)	49 (100%)	1
	Sexual developmental changes‡	21 (52.5%) (95% CI: 0.37.50 to 67.06)	47 (87.0%) (95% CI: 75.58 to 93.58)	68 (72.3%) (95% CI: 62.56 to 80.37)	0.000	13 (92.86%) (95% CI: 68.53% to 98.73%)	35 (100%) (95% CI: 90.1% to 100%)	48 (97.96%) (95% CI: 89.31% to 99.64%)	0.11
	Emotional / social changes§	7 (17.5%) (95% CI: 8.75 to 31.95)	17 (31.5%) (95% CI: 20.68 to 44.74)	24 (25.5%) (95% CI: 17.8 to 35.19)	0.124	2 (14.3%) (95% CI: 4.01% to 39.94%)	8 (22.86%) (95% CI: 12.07% to 39.02%)	10 (20.4%) (95% CI: 11.48% to 33.64%)	0.501

CI=Confidence Interval, *Aware — if the study subject could mention at least one change occurring during adolescent period, he/she was considered as "aware" of adolescent changes, †Physical changes — Boys: Growth spurt, development of muscles, oily skin, broadening of shoulders, cracking of voice, appearance of underarm hair, chest hair, pubic hair, facial hair, enlargement of penis and testes, Girls: Growth spurt, development of breasts, oily skin, widening of hips, appearance of under arm hair, pubic hair, enlargement of external genitals, enlargement of uterus and ovaries, ‡ Sexual developmental changes — enlargement and maturation of sexual organs, erections in boys, sexual desire, sexual attraction, menarche, ovulation, sperm production, ejaculation, initiation of sexual behaviour, § Emotional/social changes — preoccupied with body image, want to establish own identity, fantasy/daydreaming, rapid mood changes, emotional instability, full of energy, restlessness, attention seeking behavior, curious, inquisitive, progression from concrete thinking to abstract thinking, self-exploration and evaluation, conflicts with family over control, seek affiliation to counter instability, peer-group defines their behaviors, formation of new relationships, **Chi square test was applied, ††Fisher exact test was applied

Table 3: Perception of teachers and health workers regarding the adolescent changes mentioned by them

Perception	Teachers			Health workers		
	Male teachers [*n*=40]	Female teachers [*n*=54]	Total [*n*=94]	Male worker [*n*=14]	Female worker [*n*=35]	Total [*n*=49]
Normal	39 (97.5%)	54 (100%)	93 (98.9%)	14 (100%)	35 (100%)	49 (100%)
Abnormal	1 (2.5%)	0 (0%)	1 (1.1%)	0 (0%)	0 (0%)	0 (0%)
Total	40 (100%)	54 (100%)	94 (100%)	14 (100%)	35 (100%)	49 (100%)

of adolescent students with teachers than with health workers. There was no significant difference between male and female health workers as regards to their awareness of the various types of changes studied [Table 2].

All of the 49 workers perceived that the adolescent changes narrated by them were normal. This observation pointed out towards the rational approach of the HSPs towards health problems of adolescents [Table 3].

CONCLUSION

About 72.3% teachers were able to mention at least one sexual change which occurs in adolescents. Among the sexual changes, menarche is the most common change familiar to the teachers. Among theses, 97.96% workers are aware of at least one sexual change. Behavioral changes (emotional/social changes) are the ones which are least conversant to both health workers (20.4%) and the teachers (25.5%).

There is a need to sensitize and train teachers as well as health workers on the adolescent needs and problems related to their changes, and also to the uniqueness of adolescent emotional/behavioural or reproductive and sexual changes.

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