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Adolescents and Drugs.

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Abstract: Adolescence is a period of "curative madness" in which every teenager remakes his personality. In India, the prevalence of drug abuse which is generally low in early adolescence aged 12 and 13, rises steeply in the late teenage and is highest during the early 20's. Poor parental monitoring has been found to be associated with higher rates of adolescent substance use, particularly in terms of initiation of use at earlier ages. An exploratory study was undertaken to assess the knowledge of adolescent regarding drugs used for common ailments in senior secondary schools of Barana, Dist Ambala, Haryana, India. Objectives of the study were to assess the knowledge of adolescents regarding drugs used for common ailments and to find out the relationship of knowledge with selected variables like age, sex, mother's education, father's occupation, type of school and history of self medication. 500 school children were administered pre-tested, self structured questionnaire in January, 2008 and convenient sampling was adopted to collect data. Written permission was obtained from Principals, management and class teachers of respective schools. Informed consent was also taken from students. Data analysis was done by calculating mean, Z Test and ANOVA. Mean knowledge score of adolescents according to different categories of drugs variable antispasmodics (6.8%), antianxiety drugs (8.2%); antihelminthics (9%) bronchodilators (11.8%) antibiotics (22%) antidiarrhoeal drugs (27.8%) routine vaccines (31.4%) analgesics (32.4%), antiseptics (36.2%) antiallergics (45.1%), muscle relaxants (56.6%) antipyretics (55%), multivitamins (67.9%). general knowledge regarding common drugs (80.2%). No significant difference was observed with variables like age, sex, mother's education, father's occupation, type of school at $p > 0.05$ level except that of the history of self medication which came out to be highly significant at $p > 0.01$ level.

Key Words: Adolescents Knowledge, drugs Common ailments

INTRODUCTION

According to WHO, adolescents are defined as young people between the ages of 10 and 19 years¹. Adolescents comprise 22.8 % of our population and about 1/5th of world's population. There are an estimated 1.2 billion adolescents -one in every five person in the world today². Adolescence is an extremely enthusiastic, energetic, joyous and fun-loving period. The power to think intellectually, perform skillfully, handle things meticulously, manage daily affairs tactfully is completely lacking in an adolescent making him prey to unscrupulous elements of society apart from inflicting pain, turbulence and stress in his life.

The United Nations convention on the Right of the Child advocates the right of every child to self-determination, dignity, respect, non-interference and the right to make informed decisions. Only three countries - Australia, Sweden and France are known to have national school -based medicine education programmes and only in Sweden are they mandated³.

The WHO Global School Health Initiative launched in 1995 seeks to mobilize and strengthen health promotion and educational activities at the local, national, regional and global levels⁴. There is much public and professional concern about the irrational use of drugs⁵. The prevalence rates are high all over the world; up to 68% in European countries⁶, while much higher in the developing countries⁷ with rates going as high as 92% in the adolescents of Kuwait⁸; Our country has a prevalence rate of 31%⁹; whereas our neighbouring country Nepal has a prevalence rate of 59%⁷.

Maturity of thought and experience is lacking and selfless love is the most predominant feature of the adolescent child. In another study, 85 healthy school children were interviewed from grades k-8 and most respondents reported that they had learnt about their medications

from their mother. Children also reported that physician or pharmacists played a limited role in educating them¹⁰

A study conducted on 651 adolescent in 3 public junior high school of Nova Scotia, Canada in 1997 in order to evaluate the use of over-the-counter (OTC) medicines and self medication, revealed that 58.7% - 95.9% reported taking OTC medication for pain¹¹. A study conducted on primary school children in Uganda, concluded that children were either given medicines by the school nurse or they self medicated using pharmaceuticals including chloroquine, paracetamol, flagyl, fansidar, quinine injections, capsules (amoxicillin and ampicillin) obtained from the clinics, drug shops, pharmacies, and other unspecified indigenous medicines from their home and markets¹². The rationale for providing children with an explanation of drug effects derives from the intuitive theories perspective on cognitive development¹³. Nine hundred (900) school children of fifth grade (10-11 years of age) from ten schools in Ahmedabad, India were interviewed by means of a questionnaire about medicines, vaccines and first-aid box. Result revealed that 75% children were familiar with the term "medicine and of these, 7% children were aware of the uses and contents of the first aid box, while 7% responded correctly on queries on vaccines¹⁴. The most recent data show that by the end of eight grades, 35% of all students have tried an illicit drug^{15,16}. Furthermore, literature suggests that adolescent's basic drug knowledge has not been investigated¹⁷

Adolescents need to be reared with lot of patience, tact and affection even though maintaining discipline and setting limits on their behavior have their own role. Proper and early education regarding drugs will clear their misconceptions and myths regarding drugs abuse and lower their tendency towards experimenting new drugs on themselves. They will be enlightened about the systemic effects of drugs on body. School health program has not been much

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developed in India and school curriculum does not cater to the needs of imparting the knowledge of drugs of common use or commonly used drugs of minor ailments to any grade/class of students. Imparting knowledge about drugs will go in a long way to curb the menace of lying steating, truancy and juvenile delinquency

MATERIAL & METHODS

Cross sectional design was used in the study. Independent variables comprised of age, sex, mother's education, father's occupation, type of school and history of self medication. Dependent variable in the study was knowledge score of adolescents regarding drugs used for common ailments in senior secondary school of Barara, Dist. Ambala, Haryana. Final tool consisted of 2 parts. Part I consisted of Sample characteristics, Part II is the actual tool for assessment of knowledge regarding commonly used drugs, consisting of 35 multiple choice questions and each correct answer carries one mark. 12 broad categories of drugs were included i.e. General knowledge regarding common drugs, antispasmodics, antianxiety drugs, anthelmintics, bronchodilators, antibiotics, antidiarrhoeal drugs, routine vaccines, analgesics, antiseptics, antiallergics, muscle relaxants, antipyretics, multivitamins.

The investigator selected 500 adolescents studying in different senior schools of Barara, Dist. Ambala using convenient sampling. Prior permission was obtained from Principals, management and class teachers of respective schools. Informed consent was also taken from students. Pilot study was carried out in Dec 2007, to ensure reliability of tool and feasibility of study. Reliability of tool was established by Split Half Tehnique and was calculated by Karl Pearson co-efficient of co-relation and Spearman Brown Formula and reliability of tool was found to be 0.8 and hence the tool was highly reliable. Validity of tool was calculated by square root of reliability and came out to be 0.89. Hence the tool was valid Data collection was done in the month of January 2008. Data collection was done by calculating the mean Z test and ANOVA.

RESULTS

Drug Knowledge Score

Amongst adolescents knowledge regarding commonly used drugs was excellent (80.2%); whereas, 22% knew about antibiotics 11.8% about bronchodilators and knowledge about antispasmodics 6.8% was extremely poor. (Table 1)

Table-1: Mean knowledge score of adolescents according to different Categories of drugs used for Common Ailments.

Drugs	Mean (%)	Drugs	Mean (%)
General knowledge of drugs	0.802 (80.2%)	Broncho dilators	0.118 (11.8%)
Multivitamins	0.679 (67.9%)	Antiallergics	0.451 (45.1%)
Antipyretics	0.55 (55%)	Antibiotics	0.22 (22%)
Analgesics	0.324 (32.4%)	Antidiarrhoeals	0.278 (27.8%)
Antispasmodics	0.68 (6.8%)	Antiseptics	0.362 (36.2%)
Muscle Relaxants	0.516 (51.6%)	Vaccines	0.314 (31.4%)

Demographic Data

Table 2 Show that maximum number of adolescents 39.8% were in the age group of <12 years; as many as 75.6% had graduate mothers and 34.2% had father's occupation in a private concern Majority (84.6%) had no history of self medication; 59.6% studied in private school.

Table 2: Demographic Data

Selected Variables	Sub Categories	n	%ge
Age	<12 years	199	39.8
Mother's Education	Illiterate	70	14
	Graduate	378	75.6
	Post Graduate	52	10.4
Father's Occupation	Shopkeepers Bussiness	123	24.6
	Govt. Job	124	24.8
	Private Job	171	34.2
	Daily Wagers	82	16.4
History of self Medication	Yes	77	15.4
	No	423	84.6
Type of School	Govt	202	40.4
	Private	298	59.6
Sex	Male	230	46
	Femle	270	60

Knowledge Score versus sample characteristics

Table 3 show that the mean square of knowledge between the age groups is 1.94, whereas, within the age groups, it 119.26 this difference was statistically significant at $p>0.051$ level. The mean square of knowledge between the mother's education was 2.06 whereas, within the groups was 101.95 difference is statistically not significant at $p>0.05$ level. The mean square of knowledge between the father's occupation was 8.38, whereas, within the groups was 33320.74 difference was statistically significant at $p>0.05$ level. Then there was no effect of age mother's education and father's occupation on

Table 3: Knowledge Scores of Adolescents according to Age, Mother's Education and Father's Occupation

Variables		Sum squares	df	Mean Square	F	Level of Significance
Age	Between groups	238.52	2	1.94	0.01	Non significant
	With group	963.39	496	119.26		
Mother's education	Between groups	203.9	2	2.06	0.02	
	Within group	1021.4	496	101.95		
Father's occupation	Between groups	99962.24	3	8.38	0.0003	Non significant at $p>0.05$

*Statistical significance on the basis of Analysis of Variance (ANOVA) knowledge of adolescents regarding drugs used for common ailments.

Knowledge Scores versus sample characteristics

Table 4 reveal that adolescent who had positive history of self medication had high mena knowledge score (12.3) as compared to those who had no history of self medication (8.7) and this difference was statistically significant at $p<0.01$ level. Adolescents studying in Government school had almost equal mean knowledge score (12.07) as compared to those studying in private school (12.3) difference is statistically was significant at $p>0.05$ level. Girls (12.5) and Boys (12.7) had mean knowledge scores ($p>0.05$). Then adolescent's

Table 4: Knowledge Scores of Adolescents according to Sex, Type of school and History of self Medication.

Selected variables	Subcategories	N	Mean	S.D	"Z"
History of self medication	Yea	342	12.3	1.5	15($p<0.01$)
	No	158	8.7	3.6	
Type of School	Govt.	254	12.07	1.84	1.4($p>0.05$)
	Private	246	12.3	1.64	
Sex	Male	263	12.7	10.9	1.7 ($p>0.05$)
	Female	237	12.5	1.6	

history of self medication had a significant impact on knowledge of the latter regarding drugs used for common ailments.

DISCUSSION

Our study revealed that adolescent's knowledge regarding general knowledge of commonly used drugs was excellent (80.2%) whereas their knowledge about vaccines was 31.4% similar result were revealed in another study done in Ahmedabad, Gujarat which revealed that 75% children were familiar with the term "medicine" and only 7% responded correctly to queries on vaccines. A lack of awareness about the harmful effects of medicines, about the correct way to take medicines and about other aspects of use of medicine was also observed¹⁴. A study conducted in Govt. school of Chandigarh revealed that showed that mean knowledge score of adolescents regarding anti-diarrhoeal drugs was 27% contrary to this, a study conducted in Bangladesh reported that three-fourths of students 75% had correct knowledge of management of diarrhea¹⁸. Moreover, according to our study, mean knowledge score in Government school students was similar to (12.07) those studying in private school (12.3). A study conducted in Govt. senior secondary school of Australia found that student's knowledge about HCV was extremely poor¹⁹. History of self medication was significantly prevalent ($p < 0.01$) adolescents including indulging in self medication had better knowledge score regarding drugs used for common ailments. A study done in Karachi, Pakistan revealed that prevalence of self-medication was high in the educated youth, despite majority being aware of its harmful effects²⁰. Similar results were observed in a study done on drug practice adopted by adolescent in Sweden; this study revealed that OTC used only occasionally by 37.7% of the girls and 62.6% of the boys; 10.9% girls and 6.5 boys were daily users; analgesics were the most frequently used OTCs²¹.

Our results indicated that girls and boys had the same mean knowledge scores of 12.5 & 12.7, respectively. Contrary to this, a study conducted in Dresden, Germany revealed, female gender and chronic drug consumption as influencing factors of better drug knowledge among adolescents¹⁷. Our study concluded that there is no effect of mother's education and father's occupation on knowledge of adolescents regarding drugs used for common ailments. Contrary to this, another study done on 85 healthy school children reported that majority of children had learnt about their medications from their mothers. In another study children also reported that physicians or pharmacists played a limited role in educating them¹⁰.

Association between preventive effect of parental supervision and use of drugs by adolescents in India, needs to be explored further²². Poor parental monitoring has been found to be associated with higher rates of adolescent substance use, particularly in terms of initiation at earlier ages.

REFERENCE

1. WHO. Technical Report Series. No. 405. 1968
2. Child and Adolescent health and development. Available at http://www.who.int/child_adolescent_health/topics/prevention_care/adolescent/en/index.html as assessed on 26/02/09.
3. Fresle D, Wolfheim C. Public Education in Rational Drug Use - a global survey. Geneva. Action Program on Essential Drug. Geneva, World Health Organisation, 1997(WHO/DAP/97.5)
4. Jones JT, Furner M. WHO's Global School Health Initiative. WHO/HPR/HEP/98.4.1-6.
5. Loyola Filho AI, Lima-Costa MF, Uchoa E. Bambui Project : a qualitative approach to self-medication. Cad Saude Publica, 2004 20(6), 1661-1669.
6. Bretagne JF, Richard Molyoivd BMS, Honnorat C, et al. Gastroesophageal reflux in the French general population : National survey of 8000 adults. Presse Med, 2006, 35:23-31
7. Shankar PR, Partha P, Shenoy N. Self-medication and non-doctor prescription practices in Pokhara valley, Western Nepal: a questionnaire-based study. BMC Family Practice, 2002; 3:17.
8. Abahussain E, Matowe LK, Nicholls PJ. Self-reported medication use among adolescents in Kuwait. 2005 Med Princ Pract, 2005; 14: 161-4.
9. Deshpande SG, Tiwari R. Self medication — a growing concern. Indian Journal of Medical Sciences, 1997;51:93-96.
10. Menacker F, Aramburuzabala P, Minian N, Bush PJ, Bibace R. Children and medicines: What they want to know and how they want to learn. Journal of Social and Administrative Pharmacy, 1999; 16(1):38-52.
11. Chambers CT, Reid GJ, Mc Grath PJ, Finley GA. Self administration of OTC medicines for pain among adolescents. Arch Pediatrics Adolescent Medicine, 1997;151(5):449-55.
12. Uganda Grace Akello, Ria Reis, Emilio Pwuga, et al. Primary school children's perspectives on common diseases and medicines used: implications for school healthcare programmes and priority setting in Uganda, African Health Sciences, June 2007;7:No. 2.
13. Ingaki, K. and Hatano, G., Young. Children's native thinking about the Biological World. 2002, Psychology Press, New York
14. Chetna Desai, Girdhar A.O, Shah U.H. Knowledge and Awareness about Medicines among Primary Schoolchildren in Ahmedabad, Regional Health Forum, 2005; 2, Volume 9.
15. Johnston, L.D., O'Malley, P.M., and Nachman, J.G. (1996). National Survey Result on Drug Use from the monitoring the Future Study, 1975-1995. Volume 1, Secondary School Students. NIH Publication No. 96-4139.
16. Maculay Araxi P, Griffin Kenneth W, Gronewold Elizabeth, et al. Exploring the relationships between parenting practices and adolescent drug use, 2005, Education, Volume 49(2):67.
17. Soelben S, Krappweis J, Rosler G, Kirch W. Adolescents' drug knowledge. European journal of pediatrics, 2000; 159, (8); 608-614
18. Nath SR, Mohsin M, Chowdhury AM. Health knowledge of children in Bangladesh: An exploratory study. Public Health, 1997; 111:311-315
19. Lindsay J, Smith AM, Rosenthal DA. An evaluation of school-level factors used in a successful school-based hepatitis BMS immunization initiative, Australian and New Zealand Journal of Public Health, 1999, Apr; 23(2):135-139.
20. Syed Nabeel Zafar Reema Syad, Sana Waqar, Akbar Jaleel Zubairi, et al. Self-medication amongst University Students of Karachi: Prevalence, knowledge and Attitudes, Journal of Pakistan Medical Association, 2008, 58(4):214-217
21. Michael Westerlund, Jan-Olof Branstrandand, Tommy Westerlund. Medicine Taking behaviour and drug related problems in Adolescents of a Swedish High School, Journal Pharmacy World and science, 2008;30(3): 243-250
22. Ramakrishna GS, Sankara Sarma P, Thankappan KR. Tobacco use among medical students in Orissa, National Medical Journal of India, 2005; 18:285-289.

BOOK REVIEW

Manual of Clinical & Practical Medicine Authors: G.S. Sainani, V.R. Joshi and Rajesh G Sainani; Elsevier-2010

With the easy availability of various sophisticated investigations, the art of clinical medicine, i.e. Careful history taking, meticulous clinical examination, making of provisional diagnosis, etc. has taken a back seat diagnosis. As a result there is a high failure rate in the final examination of postgraduate students especially DNB (Medicine).

The "Manual of Clinical Practical Medicine" by Dr. G.S. Sainani an colleagues is very useful for learning the art of eliciting physical signs, their interpretation and considering the likely diagnostic possibilities. For quick understanding, diagrams, clinical photographs, boxes and bullets has been provided liberally. There is a chapter to help to the examinees in answering across the table viva-voice and emergency management etc.

In view of the above, I strongly recommend this invaluable and practical manual for all the MBBS students, postgraduate preparing for MD and DNB (Medicine) examination as well as for the practicing physicians.

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