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Prevalence of Substance Abuse among Street Adolescents in Kolkata and Suggested Mode of Prevention

Atanu Ghosh

Introduction and Context

Substance abuse is a serious concern across countries from the perspectives of family, society and nation. For quite some time there is a growing prioritization of public programmes specifically to address the health and social issues of substance abuse in developed nations and the same is gaining momentum in India as well. However researches on substance abuse have often neglected a high risk group called "Street Adolescents". Being in street such adolescents are prone to different vulnerabilities like, mental health disorder or depression (Nayar, 2002), delinquent activities (Wanger. et.al., 2001; Mundy et.al, 1990), feeling emptiness (Whitbeck, et.al., 2000), emotional, physical and sexual abuse (Pagare et.al, 2005; Ahmadkhaniha et.al., 2007; Poornima, 2007) etc. Such vulnerabilities and adverse life condition make them easy prey to alcohol and substance abuse (Pagare et.al, 2004; Auerswald, 2002; LEMaster, et.al., 2002). Studies conducted in different countries have found similar pattern of drug abuse among street adolescents (Pagare et.al., 2004; Sherman et.al., 2005; Kombarakaran et.al., 2004; Nato et.al., 1997) and these substances are inexpensive and locally available including alcohol, inhalants (like glue and paint thinner), chewing tobacco like *gutka* and medicinal drugs like sleeping pills. Injecting drug use

is generally low among them (Towe et.al., 2009).

Methods and Materials

To investigate the nature and seriousness of substance abuse among street adolescents a cross sectional study was undertaken in Kolkata Metropolitan Development Authority (KMDA) area, during January 2007 to April 2007. A total number of 408 street adolescents (311 males and 97 females) aged between 13-19 years were interviewed directly on the street. Time location cluster sampling technique was used to reach the target group. Local NGOs who are working with Street Children / Adolescents have been found to be a great help to develop the sampling frame and to reach out the target group. Relevant information in detail about the substance abuse (like age of first initiation, types of substances they are using etc.), socio-demographic details, self reported harmful symptoms related to substance abuse, treatment seeking behavior etc. was collected in a pre-designed and pre tested questionnaire. Semi structured interview schedules were used to interview adolescents. Data analysis was performed using SPSS 17 version. Bi-variate frequency distribution, Chi-square test for measuring the level of significance has been used.

Results

Out of 408 street adolescent interviewed, 311(76.2%) were males and 97 (23.8%) were females. This finding is similar to other Indian studies on street children where they have found comparatively less girls than boys (Behura et.al 2005). Table 1 shows the socio-demographic characteristics of street adolescents. Majority of the street adolescents were in the age group 13-15 years. The median age for males and females were 15 and 14 years respectively with an overall median of 15 years. Most of the adolescents have completed their primary education (Grade 1-4) only a few have completed grade 5-6. Illiteracy among females (28.9%) was comparatively higher than their male counterparts (21.5%). The present study reveals that Street Adolescents were engaged in as many as 24 different occupations. Median income of the sample population was Rs. 25/ day and this was same both for males and females. The worth for taking median over mean is, it being less affected by extreme values.

Table 1: Socio-Demographic characteristics of street adolescents by sex (n=408)

Profile	Male	Female	Total
Age Group (in Years)			
13-15	162 (52.1)	71 (73.2)	233 (57.1)
16-19	149 (47.9)	26 (26.8)	175 (42.9)
Median Age (in Years)	15	14	15
Educational Level			
Illiterate	67 (21.5)	28 (28.9)	95 (23.3)
Grade 1-2	102 (32.8)	40 (41.2)	142 (34.8)
Grade 3-4	106 (34.1)	25 (25.8)	131 (32.1)
Grade 5-6	36 (11.6)	4 (4.1)	40 (9.8)
Average daily income (in Rupees)			
Below 10	18 (5.8)	0 (0.0)	18 (4.4)
10-19	71 (22.8)	24 (24.7)	95 (23.3)
20-29	102 (32.8)	25 (25.8)	127 (31.1)
30-39	29 (9.3)	26 (26.8)	55 (13.5)
40-49	20 (6.4)	11 (11.3)	31 (7.6)
50-74	19 (6.1)	0 (0.0)	19 (4.7)
75-99	27 (8.7)	1 (1.0)	28 (6.9)
100 and more	25 (8.0)	10 (10.3)	35 (8.6)
Median Income (in Rupees)	25	25	25
Total	311 (100.0)	97 (100.0)	408 (100.0)
Grand Total	311 (76.2)	97 (23.8)	408 (100.0)

The types of substances used by male and female adolescents are presented in table 2. It also provides the significance levels (p - values) to understand sex wise difference in substance abuse behavior. Significantly more males (97.4%) have ever used any substances than their female (73.2%) counterparts ($\chi^2 = 56.835$, d.f = 1, $p = 0.00$). Multiple uses of substances have been observed among both male and female adolescents. Chewing tobacco product (*Gutka*) was prevalent (91.2%) among the adolescents followed by cigarette/*bidi* (74.3%) and inhalants like whitener (Erasing Ink) and glue (62.0%). In the present study the earliest age of initiation of substance abuse was found to be 7 years. Data presented in table 3 gives a brief picture of mean age of substance abuse for male and female street adolescents and the overall mean. It also gives the age range of initiation of substance

abuse. The overall mean age of initiation of chewing tobacco was lowest (11.0 years) followed by cigarette/*Bidi* (12.1 years), inhalants (12.5 years), medicinal drugs (12.5 years), alcohol (15.0 years) and cannabis (15.3 years).

Table 2: Risk taking behaviors of street adolescents by sex (n=408)

Risk taking behaviours	Male	Female	Total	p Value
Ever drink alcoholic beverages	111 (35.7)	4 (4.1)	115 (28.2)	0.000
Ever smoked cigarette / <i>bidi</i>	284 (91.3)	19 (19.6)	303 (74.3)	0.000
Ever used chewing tobacco products	301 (96.8)	71 (73.2)	372 (91.2)	0.000
Ever smoked <i>Ganja</i>	106 (34.1)	0 (0.0)	106 (26.0)	0.000
Ever Smoked <i>charas</i> (cannabis)	70 (22.5)	4 (4.1)	74 (18.1)	0.000
Ever sniffed/ inhaled glue	199 (64.0)	54 (55.7)	253 (62.0)	0.141
Ever used medicinal drugs	38 (12.2)	25 (25.8)	63 (15.4)	0.001
Ever used alcohol or any substance	303 (97.4)	71 (73.2)	374 (91.7)	0.000

Table 3: Distribution of respondents by mean age (in years) of initiation of different substances (n=374)

Mean age of initiation Alcohol and Substances	Male	Female	Overall	Range
Mean age of drink alcoholic beverages	15.05	15.00	15.04	13-18
Mean age of smoked cigarette / <i>bidi</i>	12.05	12.68	12.09	8-15
Mean age of used chewing tobacco products	11.11	10.58	11.01	7-14
Mean age of smoked <i>Ganja</i>	15.03	-	15.03	12-19
Mean age of Smoked <i>charas</i> (cannabis)	15.20	16.25	15.26	13-19
Mean age of sniffed/ inhaled glue	12.73	11.70	12.51	9-15
Mean age of used medicinal drugs	12.66	12.36	12.54	11-18

When enquired about the reason for the initiation of substance abuse, 'peer pressure' have been found to be the most common response. The other responses were 'to overcome loneliness, depression and tension', 'out of curiosity' etc. Adolescents who have ever used any substances (n = 374) were asked whether they had the following symptoms in last six months: 'Burning sensation in cheeks'; 'Dry cough or coughing up excessive mucus or blood'; 'Rupture of cheeks'; 'Oral infection' and 'Staining on teeth'.

A significant proportion of respondents (44%) reported to have at least one of the above mentioned symptoms. 'Staining of teeth' was the most common symptoms (33.7%) followed by 'dry cough or cough with excessive mucus or blood' (16.6%) among the adolescents (table not shown). These symptoms may have occurred because of heavy consumption of smoking

or chewing tobacco product. The respondents were also asked whether they have sought treatment for such symptoms or not. Treatment seeking behaviors of respondents have found to be very poor. They have sought for treatment only when the situation became intolerable. Majority of the respondents have reported out-reach clinics of different NGOs as a source of health services (table not shown). Service received from detoxification centers was very poor.

When it was asked the sources of availability of different drugs it was found that street girls were involved in selling cannabis (*Ganja/Charas*) product whereas tobacco product, sleeping pills and inhalants were available in *Pan* (Betel) shops or *Gumti*. Country liquor was available in some identified places which were well known by the users.

Discussion

A sizeable proportion of Street Adolescents (91.7%) were found to be indulging in substance abuse. The Supreme Court has banned selling of smoking tobacco product in railway station or compartment. But it is found in this study that a good number of street adolescents are involve in selling such products. Easy availability of different substances and multiple use of intoxicating substances among this high risk group, reflects ineffective implementation of the existing legislations (The Narcotic Drugs and Psychotropic Substances (NDPS) Act. of India 1985; New Ordinance on Drug Trafficking July, 1988; NDPS Amendment Act. 2001 etc.) made for controlling the use of drugs and the prevention of illicit drug trafficking.

Possible Interventions

Social activists, policy makers, law enforcement agencies and researchers have talked about the "Demand Control and Supply Control" approaches to combat with this situation. Supply Control is usually exerted by means of the legal framework i.e. Laws, Rules and Regulations (Nayar, 2002). The Demand Control measures however deal directly with the target group. In this paper among different Demand Control measures, we will be discussing only about the role of health promotion and education activities through community based outreach intervention.

Community based outreach services

Studies have found that several of the drug users are not accessible through the conventional centre-based services (WHO, 1996). They remain 'hidden' due to a number of factors such as inaccessibility of services, unattractiveness of facilities, distance, stigma, etc. To overcome these barriers and reach out to the target group within their own community or

local milieu, outside of the usual service settings, outreach based interventions have been suggested by social activists and researchers. Outreach services have been proved to be effective for reaching hard-to-reach or hidden population of drug users. Wherever it has been applied has yielded good results. Outreach-based interventions typically offer information about safer drug use and safer sex, provide a link between people who use drugs and social and/or medical services. It involves a number of activities like finding drug users, observing them, establishing contact and rapport with them in their natural environments; providing information about unsafe as well as risk behaviors; promoting and supporting safe behaviors, referring them to the required services etc.

The outreach workers may be selected from the community and preferably recovering drugs users (peer educators). He/She should possess the qualities like empathy, respect for the target population, genuineness, communication skill, self-disclosure, charisma, leadership qualities, discipline and conviction about the purpose. Health education and promotion modes to be used prudently to meet the demanding needs of the high risk target community. Confidentiality has to be ensured and the target group should be referred for the drug abuse treatment and HIV testing (if one is having high risk sexual behavior).

By Health Education here we meant that drug users should possess the full right to the information. It educates the target audience about the different drugs, their properties and effects, about the law and legal rights, about how to reduce risks, and where to get help if needed. The health education approach of harm reduction should focus on providing non-judgmental information. The process of imparting education encourages an open dialogue and respect for people's right to make their own decisions. Research has shown that drug users will change their behavior in the response to information about safer use, and this change could be accelerated if skills training as well as the means to ensure safety are provided (TASH, 1996). The methods of educational approaches to promote less harmful behaviors among drug users could be street plays, leaflets, videos, etc. These activities would enrich the community based outreach programmes and obtain a high acceptability among the target audience.

Conclusion and suggestions for further research

The problem of substance abuse among street adolescents is a complex problem. Synergisations of different measures are needed to combat with this situation. The 'Demand Control and Supply Control' methods should work hand in hand. Civil society organizations have also a great role to play. Action researches have to be undertaken to measure the efficacy of different mode of intervention and thereby to suggest the most client friendly cost effective mode of intervention.

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Key Elements for Designing Information, Education and Communication Strategy

T. Mathiyazhagan

The Government of India has recognized Information, Education and Communication (IEC) as a support to health care delivery since long. Now IEC has been inbuilt as one of the components in all the National Health and Family Welfare Programmes. The operational aspects of IEC with regard to population stabilization have been discussed in great details in the National Population Policy 2000¹. While appreciating the role of IEC in implementation of all the national health and family welfare programmes, the National Population Policy 2000 points out that communication of family welfare messages must be clear, focussed and disseminated everywhere in local dialects, including the remote corners of the country which could be possible through a well planned IEC Strategy. This may be designed keeping in view the profile of audience, the messages that are to be transmitted, the availability of media and access to audience, the existing monitoring and feed-back mechanisms, the availability of resources, etc. to bring about desirable changes in the behaviour of the people.

The main focus of IEC is two-fold; (i) awareness creation; and (ii) motivational activities in relation to the propagation of messages on health and family welfare programmes for the benefit of people in general. A recent example of successful IEC experiment in our country is the Pulse Polio

Immunization (PPI) Programme. The success of the programme is due to an intensive educational activity undertaken with the electronic media such as radio and television, printed materials such as newspapers, magazines, pamphlets, posters and charts; and interpersonal channels such as friends, neighbours, relatives, school children, teachers, influential and frontline health functionaries. The combined efforts of all these media provided a conducive environment to parents to see first of all what happens around, what others do and ultimately see the reality in pulse polio immunization centres, which removed their hesitation in their decision making and helped them take their children to the centres for PPI. This is one of the best examples of IEC work in our country.

The distinct roles, functions or objectives of IEC under National AIDS Control Programmes include: (i) To raise the level of awareness, knowledge and understanding of the people about HIV/AIDS; (ii) To undertake motivational activities to create an enabling environment for behavioural changes among the people through a network of various communication channels; (iii) To provide a conducive environment for the care as well as for re-habilitation of people suffering from HIV/AIDS; (iv) To organize home visits, peer counselling, and group meetings by the health functionaries to sensitize the people about HIV/AIDS; and (v) to provide a special communication package to tackle the health problems of the people, may be by interpersonal, group or mass communication approaches depending upon the intensity of the problems identified. While under the Revised National Tuberculosis Control Programme (RNTCP), the IEC is expected to facilitate (i) early diagnosis of the diseases; (ii) reducing the gap between diagnosis and initiation of treatment; (iii) compliance; (iv) wider dissemination of messages; and (v) ensuring supply and services.

Besides, the IEC has played a significant role for the success of various other health and family welfare programme like Iodine deficiency disorders control programme, leprosy, etc. The goal of the communication strategy for the reproductive and child health programme was to encourage individuals, families and communities to make informed decisions concerning reproductive and child health through a programme of health communication which facilitates behaviour change². Communication with the patient for advising how to take medicines as per prescription and report adverse effects assume great significance under National Rural Health Mission³.

Realising the importance as well as the crucial role of information, education, and communication, an attempt is made in this paper to look at the key elements for designing an IEC strategy.

Information, Education and Communication

In the inventory analysis it has been defined as those information, education and communication activities intended to increase knowledge, change attitudes and bring about a change in practices with regard to population/family planning. The IEC concept includes mass communication, informal or community education and formal in school education. In practices, IEC involves more than the informational and educational output of population/family planning programme such as films/slides, posters, literature, radio, television, campaigns, conferences and meetings. It also involves the input necessary to design and administer IEC programmes, training for communication specialists, teachers and motivational field workers. It also involves research on methods of communication, the social factors affecting family planning practices, development of audio-visual and written materials, utilization of expert advice and assistance. Finally, the funding necessary to design population programmes/family planning programmes also constitutes IEC strategy.

Key Elements for Designing IEC

1. Analysis of situation

Analysis of situation for launching an IEC programme includes three broad issues:

Where are we? (Baseline survey)

Data regarding basic infrastructure for IEC activities, IEC and other related manpower, the existing organization for communications and their capacities in terms of hardware and software for collaboration, the profile of audiences and their socio-cultural beliefs, availability and accessibility of media, availability of IEC materials, existing feed-back/monitoring and supervision mechanism, NGO's operating in the area, Mahila Mandals, disease burden of the people, seasonal diseases, morbidity and mortality, the budget availability, the on-going programmes, the kind of research to be initiated, political support etc need to be critically reviewed to have baseline information. This is one of the primary steps for designing an IEC strategy.

Where to go?

Ultimate goal is to sort out the problems observed in the baseline survey so as to bring about an improvement in the performance of the

programme in general as well as to bring about changes in the behaviour of the target audience in particular.

How to get there? (Ways and Means)

Inter-personal communication, group communication, mass communication and traditional media of communication can be used for reaching the largest number of people possible.

Besides, the following innovative IEC approaches can be supplemented to have a wider coverage of people:

- Involvement of Youths
- Involvement of Mahila Mandals
- Involvement of Voluntary organisations
- Use of Weekly Markets
- Use of Senior Citizens for propagating health messages
- Use of the executive members of the Residential Welfare Association
- Announcement through mosque loud speakers
- Preach through priest in the temple
- Preach during jaagrans/Poojas/festivals
- Sending leaflets regarding health messages through newspapers
- Sending health messages through sales girls and boys
- Display of banners in central locations of the residential colonies
- Organising Health Melas in the residential colonies
- Using Hizras (shemale) for propagating health messages
- Use of Post Man
- Recording Health Messages by the teachers in the school children's diaries

The situation analysis leads us to three major issues viz: (i) identification of the problems; (ii) prioritization of the problems; and (iii) setting objectives both long and short-term.

(i) Identification of the Problems

This can be achieved by conducting a thorough review of past experiences on the particular issue as well as by having discussion with the target audiences. For example, the author along with his group of trainees had focus group discussion with a group of ten rural women in Kot village, Panchkula, Haryana, a couple of years ago to find out their basic knowledge about health and family welfare issues as part of the professional training on

capacity building for IEC officers in communication skills under National Rural Health Mission. The discussion was centered around small family norm, contraceptives, immunization, HIV/AIDS, age at marriage and breast feeding. After having had a thorough discussion with them for over an hour, we were able to collect a bundle of problems.

(ii) Prioritization of the problems

The problems were further discussed by the participants who conducted the focus group discussion with the group of rural women and problems were also prioritized. Again, the problems prioritized by the participants were checked on the next day with the same set of rural women who took part in the focus group discussion. There was a huge difference between the problems prioritized by the participants and the rural women. The participants prioritized breast feeding as number one problem followed by contraceptives, HIV/AIDS, and age at marriage while the rural women ranked son preference as number one problem which was not at all a major issue in our discussion, though it is important. Then, when we asked them to rank the problems in order, they opined that age at marriage was number one problem followed by contraceptives. It clearly indicates that what a communicator perceives about a problem is different from what a receiver perceives. This leads us to the logical conclusion that while prioritizing the problem audience view should assume significance.

(ii) Setting objectives (both long and short term)

In this particular situation, the primary task is to help the rural women to avoid son preference and also to explain to them how a girl is as equal as a boy. Here the short term objective is to educate the rural women about gender. Also, an intensive campaign may be organized to educate the rural women to understand as how important is breast feeding, contraceptives, age at marriage etc.

The objectives should be SMART (Specific, Measurable, Appropriate, Realistic and Time Bound)

2. Available Human and other Resources

Communicator is the person who transmits the message to others. 'Communicator' could be anything, an individual, a group or an organisation. An individual could be a frontline health worker, doctor, folk artist, friend, neighbour or relative. An organization could be an All India Radio, Television, Print Media or Non Government Organization etc. The group could be Mahila

Swasthya Sangh, Panchayat Raj Institutions Members or Village Youths. To make the communication more effective as part of IEC strategy, the communicator whomsoever may be has to ensure credibility of his service.

Irrespective of whether an individual, group or organization whomsoever is influential, popular and known for good work in a particular area could be considered for IEC activities. For example, the school teachers, village pradhan, health workers, etc could be potential source of information for IEC activities for rural audience.

3. Audience Analysis and Segmentation- Identification of Target Audience

Target audience identification is a crucial stage in developing a viable IEC strategy. The first step in the target audience identification is to have an in-depth information on general socio-economic background, decision-making patterns and determinants of attitude and behaviour change of the target audience. In addition, general information on the existing socio-economic and demographic setting, availability of media and access, as well as physical infrastructure may also have to be kept in mind while designing an effective IEC strategy. We have to pin-point who are the influential, in which manner are decisions made, and when are they made? With help of all this information, we can identify and characterize the target audience. Data from various sources viz : (i) Census (ii) National or local surveys (iii) Ministry of Health and Family Welfare data (iv) Concerned department data (v) NFHS data (vi) Media reports (vii) NGO's reports and (viii) Private sector data can be used for understanding the characteristics of target audience.

The second step in the target audience identification is 'segmenting the target group' into internally homogenous groups, each differing from the other, is important for making the IEC strategy more effective. The segmentation allows us to prioritize target audience into primary (intended), secondary and, if needed tertiary groups. This could help us in efficient utilization of resources. Thus, separate IEC strategies can be developed for each segmented audience, according to their personality profile.

The author was travelling in connection with a project entitled 'Knowledge of couples about contraceptives and their adoption in Vellore district of Tamil Nadu a few years ago. The author came across an young couple, the woman may have been around 22 to 25 years of age and the man may have been around 25 to 28 years of age with four children. The women looked like an anaemic patient. While interviewing the woman, the

author was concerned about her health conditions and asked her why you should not stop producing further any more children. She had quite good knowledge about contraceptives but she had no freedom from her husband as well from her in-laws to adopt any kind of contraceptives methods. Also, she was blaming her husband that he was responsible for producing more number of children. She asked the author to talk to her husband, and when the author approached her husband, he requested him to consult his parents, when his parents were consulted they said that they are not responsible for anything because the couple is married, having four children and they should take their own decisions. We cannot interfere with their life. Ultimately, decision was pushed on from one to another. With great difficulties, her husband agreed to permit her wife to go in for some temporary methods of contraceptives like Coper-T. The matter was brought to the notice of concerned block medical officer as well as the ANM. The medical officer advised the ANM to follow-up her for next opportune moment to fit Coper-T. When the opportune moment came, the woman denied to go in for adoption of Coper-T. When she was asked to explain the reasons for such a decisions, she replied that an old woman in her village informed her that a woman nearby village had three children and fitted Coper-T, very soon after that, in a few days, she started bleeding profusely and died leaving behind all the three children. Therefore, i am afraid of taking such a risk, she replied. So, in communication, segmentation of audience always plays a very important role and also we have to find out who is out target audience and who are the people likely to interfere with the programme.

The third step in target audience identification is to (i) Know exactly who our audience is and look at everything from his/her point of view; (ii) The audience action is what counts; (iii) People take action only when it benefits them; (iv) All our activities should maximize the benefits and minimize the barriers; and (v) Base decisions on evidence and keep checking in.

The target audience should be decided in such a way to reach the largest number possible who have similar needs, wants, etc. So we may have to (i) describe action precisely;(ii) Identify the exact benefits and barriers that will influence the action and (iii) develop the activities to include most effective channels, language, etc to make the communication activity more effective.

4. Availability of Media and Access

The reach and effectiveness of message depends upon the availability of media and the target audience access to media. Today, the availability of media all over the country is much better; however, the media are urban

oriented. For developing an effective IEC strategy, we should take stock of all the available media and their access in a particular area. We should also keep in mind the credentials of each of the media. All the available media can be grouped into broadly four major categories viz: (i) Inter-personal communication; (ii) Group communication; (iii) Mass communication; and (iv) Traditional media of communication.

Each medium has its own merits and demerits. A medium effective in one situation may not be effective in another situation. So, selection of medium is crucial for undertaking any communication of messages. Studies have revealed that use of interpersonal communication is more effective as compared to mass media. Mass media such as radio, Television and printed materials are cost effective but lack immediate feedback. Mass media can be more effective for creating awareness while interpersonal communication can be more effective in helping audience to take right decisions. If we combine both interpersonal communication and mass communication, our task will become easier. The multi-media approach has worked better as compared to single medium when tried independently. In rural areas, still people tend to listen to traditional mode of communication. The local media/ folk media available in the rural areas should not be ignored.

Preference for various channels of communication

The preference for various channels of communication was studied in Pali district of Rajasthan (2001)⁴ and Mandla district of Madhya Pradesh (2005 and 2008)^{5&6}. (Table 1).

Table 1: Preference for various channels of communication

Methods	Pali (Rajasthan.)	Mandla (M.P.)
IPC	63.0%	72.8%
Radio	27.0%	10.0%
Television	17.0%	3.9%
Print Media	14.0%	5.6%
Traditional Methods	4.0%	7.8%

Among all the channels of communication, the respondents preferred 'inter-personal communication' as number one choice, probably because of

its unique qualities such as strong, friendly, persuasive, face to face, and useful for sharing a delicate matter like adoption of family planning methods.

Combination of Multi-Media

When we tried in combination of different media in Mandla district of Madhya Pradesh, the respondents preferred inter-personal communication followed by traditional media as number one choice (34.4%). The second choice preferred by the respondents was inter-personal communication followed by radio (29.4%). Because the availability of both Radio as well Television was limited. This is probably due to their poor economic conditions together with the problem of electricity supply.

Table 2: Choice of Combination of Multi-Media

Sl.No.	Choice of Combination	Yes	Percentage
1	IPC followed by T.V.	25	13.9
2	IPC followed by Radio	53	29.4
3	IPC followed by Traditional Media	62	34.4
4	IPC+Radio+T.V.+Traditional Media	23	12.8
5	Don't Know	17	9.4
	Total	180	100

Media Reach and Effectiveness

In another study conducted in four states namely, Rajasthan, Uttaranchal, Bihar and Orissa to find out the reach and effectiveness of IEC materials of the Ministry of Health and Family Welfare (2006)⁷, it was found that again among all communication activities, IPC stood first. Further, the findings of the study revealed that (i) Film/TV/Radio (as No.1 choice) followed by poster/chart (as No.2 choice) were preferred by the community members; (ii) Pamphlets and folders were least preferred by the community members; (iii) Poster was very popular among all the health functionaries, irrespective of their position for all the subjects in all the districts under study; (iv) Booklets, pamphlets and leaflets were also preferred as second choice for all the subjects in all the districts under study; and (v) Stickers/wall paintings were also preferred specially for subjects like Leprosy, TB, Malaria and HIV/AIDS.

Of course, the choice of media would differ from person to person or group to group, irrespective of their availability. Therefore, suggesting an appropriate medium while developing an IEC strategy for an individual or group would be difficult. However, effort should be made to choose those media which have access or people have preference.

5. Design of Materials and Messages

Design of material is equally important for making the communication strategy more effective. It could be audio, video and visuals and should suit the level of the audiences. Before taking up these materials to the audience for communication, it is better if they are pre-tested for making them more effective and appropriate. In general, it should meet the level of understanding of the audiences, whether literates or illiterates, according to their need.

As per the analysis of the situation, now we have target audience's profile, their problems, media availability and access and resources. In light of these, the message has to be tailored to suit the audience needs. Therefore, our challenge is to design a message which will go right to the heart of the identified audience. The objective of each message is to overcome the obstacles to change and facilitate behaviour change on a sustainable basis. Messages must present a practical and useful alternate to the problem. Finally, we must consider only one target audience at a time, i.e. prioritize, and also operate with the belief that the target group has no knowledge of the problem, solutions, or incentives and benefits of adopting the proposed behaviour.

Content factors are additional dimensions to be considered in the process of message design. Careful attention must be given to ensure that the message facilitates total comprehension by all with regard to the nature of the problem, importance of the problem and the need to overcome the problem.

Design factors are the next consideration while designing the message. The factor such as language, socio-psychological and cultural belief, religions etc. do contribute to the appropriate design of the message. While messages should be target specific for each group, the IEC strategy should incorporate a distinctive style that encourages understanding of each message by the audience. Finally, design factors play a crucial role in maintaining the interest of the audience in the message⁸.

Motivational factors are also equally important to make the messages more effective to the audience. So, the message must explicitly state why the proposed behaviour is desirable, stressing immediate tangible benefits if possible. Messages that develop an empathy with the target audience and arouse concern for the implications of not adopting the desired behaviour will exert a stronger persuasive influence on the target group.

Lastly, the message should have the following characteristics as suggested by the Centre for Communication Programmes, Johns Hopkins School of Public Health, USA⁹.

C-Command Attention
 C-Cater to the Heart and Head
 C-Clarify the Message
 C-Communicate a Benefit
 C-Create Trust
 C-Convey a Consistent Message
 C-Call for Action

Now let us consider a commercial message 'buy one, get one free'. This slogan has become more popular among the traders and customers. This in addition to fulfill all the characteristics of a message as mentioned above, it has become a part and parcel of the marketing strategy. The message has sensitised the people so much that they ask for such a scheme before buying a product. Thus, the message complements the promotion of a product. Such an approach would be an ideal one in the endeavour of promotion of health and family welfare programmes in the country.

Message should be very simple, complete, accurate, timely and relevant to the needs of the target audience. The messages should not be guided by the expert analysis but they should have emotional power to influence the people who are neither expert nor actively involved in the programme.

6. Implementation

Implementation is the business of 'executing the proposed plan into action'. Implementation should constantly check the issues of proposed plan with reference to who, what, when, where and how?

7. Monitoring and Evaluation

Monitoring is the supervision of the on-going activity of a particular programme. Monitoring and Evaluation help the IEC team to know-how far the IEC activities have influenced the proposed behaviour of target audience in general. More specifically evaluation will help us in understanding whether:

- are the problems identified meeting the needs of the audience?
- are audience segmented according to their needs?,
- are the chosen media having access to target audience ?
- are the messages developed in tune with the understanding of the audience and their needs?

This will also facilitate us to understand the strength, weakness, opportunities and threats of the strategy.

8. Time and Budget

These are two additional inputs which go a long way in deciding the success of IEC strategy. Depending upon the availability of time and budget the entire IEC strategy has to be framed.

9. Re-Designing or Replanning

In the light of the observations made in evaluation, corrective actions have to be undertaken to set the IEC in motion in the desired direction, because communication is an ongoing process, not a onetime effort or product. Significant sustained changes in attitudes, behaviour and community norms require time and repeated efforts. Planning and replanning should become part of the IEC strategy.

Conclusion

Information, Education and Communication (IEC) has always been a significant component of the Government of India's family welfare programmes. The role of IEC has been clearly realised in programmes like HIV/AIDS, PPI, tuberculosis, leprosy, iodine deficiency disorders control programme etc. Hence, while designing an IEC strategy, serious thought may have to be given to right from identification of problems, targeting audience, assessing the media availability and access, design of materials and messages to monitoring and evaluation.

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Study of Knowledge and Attitude towards Environmental Education among Secondary School Students

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Introduction

The United Nations Conference on Environment and Development in 1992, the Earth Summit, gave high priority in its Agenda 21 to the role of education in pursuing the kind of development that would respect and nurture the natural environment. It focused on the process of orienting and re-orienting education in order to foster values and attitudes of respect for the environment and envisaged ways and means of doing so. By the time of the Johannesburg Summit in 2002 the vision broadened to encompass social justice and the fight against poverty as key principles of development that is sustainable. The human and social aspects of sustainable development meant that solidarity, equity, partnership and cooperation were as crucial as scientific approaches to environmental protection. Besides re-affirming the educational objectives of the Millennium Development Goals and the Education for All Dakar Framework for Action, the Summit proposed the Decade of Education for Sustainable Development as a way of signaling that education and learning lie at the heart of approaches to sustainable development.

Development in Environmental Education

The Stockholm Conference produced an action plan for human

environment and resulted in the establishment of United Nations Environmental Programmes (UNEP) which, together with UNESCO, launched the International Environmental Education Programme (IEEP). IEEP organized an International Workshop on Environmental Education in Belgrade in October 1975. The results of the deliberation of this workshop were spelled out a framework and statement of objectives and guiding principles for environmental education. The Belgrade workshop was followed by a series of regional meetings. The regional meetings were followed by the Inter-governmental conference on Environmental Education which was held in Tbilisi, Georgia, USSR in October 1977. The meeting marked the culmination of the first phase of the environmental education programme attended by representatives from 66 Member states of UNESCO, the Conference was highly significant in the development of environmental education. Following the Tbilisi Conference, the Member States reacted positively by undertaking the development of environmental education and by introducing legislation to protect the social and physical environment. As a follow-up to the Tbilisi Conference, a Regional workshop on Environment Education was held in Bangkok in September 1980.

The first International conference on Environmental Education was held in New Delhi (1981) in which the late Mrs Indira Gandhi observed that Environmental Education is to help arouse social consciousness and make community aware of the fact that the good of the individual and that of community are both harmed by ecological disruptions. In 1985 second International conferences on Environmental Education was held at New Delhi.

Environment education is the process of recognizing values and clarifying concept in order to develop skills and attitude necessary to understand and appreciate the inter-relatedness among man, his culture and his biophysical surroundings. It also entails practice in decision making and self-formulation of code of behaviour about problems and issues concerning environmental quality. Environmental education appears to be process that equips human beings with awareness, knowledge, skills attitudes and commitment to improve environment. Environmental education should be a continues life long process, beginning at the preschool level continuing through all formal and non-formal stages and should inter-disciplinary discipline in making a possible a holistic and balanced perspective.

Need and Importance of the Study

Several seminars and conferences have been organized at national and international level on 'environment'. Most of the experts and scientists of different disciplines have realized the importance of "environmental

awareness” but it will not serve the purpose. They also recognize the urgent need for an introduction of “environmental education”. Under the environmental education theoretical and practical aspects are emphasized the awareness confines to cognitive level whereas educational environment includes cognitive, psychomotor and affective levels.

National Policy on Education (1986) emphasizes thus; “There is a paramount need to create a consciousness of the environment. It must permeate all ages and all sections of society beginning with the child. Environmental consciousness should inform teaching in schools and colleges. This aspect will be integrated in the entire educational process”.

Environmental Education is interdisciplinary in nature. It involves subject matter from natural sciences and the social sciences. NCERT has developed national curricula for all stages of education specially emphasizing the aspects of population, land, resources and their uses, food and nutrition, conservation, pollution, health and hygiene and man in nature of environmental education.

The inquisitive man constantly seeks for answers and solutions to the many problems. At the apex of this search is the quest to know the “self” human self manifests itself through the various activities that are performed by him/her. Scientific and Technological developments have set mankind to disequilibrium with the environment. If a proper environmental consciousness is not developed, the collusion between the growth ethics and natural limits is bound to occur. The environmental education plays a significant role to make the people aware about the various problems of environment. It is very important to impart knowledge about environment and environmental issues in India, Hence the environmental education is included in the formal system of schooling in India. The Researcher tried to assess the level of knowledge and attitude towards Environmental Education among the secondary school students.

Statement of the problem

The problem under investigation is “**Study of knowledge and Attitude towards Environmental Education among secondary school students from selected schools in the city of Chennai, Tamilnadu**”.

Objectives of the present study

- To assess the level of Knowledge on Environmental Education among the XI standard students.

- To assess the level of Attitude towards Environmental Education among XI standard students.
- To find the difference in knowledge on Environmental Education with regard to Sex, Educational stream, Type of school, Residence, Parents Educational level and Family Income. (SES)
- To find the difference in Attitude towards Environmental Education with regard to Sex, Educational stream, Type of school, Residence, Parents Educational level and Family Income.(SES)

Design of the study

The present study used descriptive survey method considering it to be more suitable for this purpose in order to reach meaningful conclusions. In this connection the following Predictor (Independent variable) and Criterion (Dependent variable) variables are considered as relevant for the study.

Variables

Independent Variables

1. Sex
2. Educational stream
3. Type of School
4. Residence
5. Parent's Educational Qualification
6. Family's Annual Income

Dependent Variables

1. Knowledge on Environmental Education
2. Attitude towards Environmental Education

HYPOTHESIS:-There are two major Null Hypotheses framed for the present study.

1. There is no significant difference in Knowledge between
 - a. Male and Female
 - b. Arts group and Science group
- c. Government schools and Private schools.
- d. Rural and Urban students.
- e. Low SES students and High SES students

2. There is no significant difference in Attitude between
 - a. Male and Female
 - b. Arts group and Science group
 - c. Government schools and Private schools.
 - d. Rural and Urban students.
 - e. Low SES students and High SES students

Study Tools

In order to test the hypotheses, Knowledge inventory and Attitude inventory were used to assess the level of Knowledge and Attitude towards Environmental education. The Knowledge and Attitude inventory were prepared and validated.

Description of study tools

The respondent's degree of Knowledge on Environmental Education was assessed by a 29 item inventory. The score on the knowledge was obtained by adding the number of correct answer that the respondents gave. The respondent's attitude towards Environmental Education components was assessed by a total of 40 items of Likert type response scale is Agree, Disagree and Undecided. Scores on the attitude sub-scales were obtained for each respondent by assigning a value of '1' through '3' for response options ranging from Agree (3) to Disagree(1) with an uncertain midpoint (2) (including reverting negative items) and obtaining the mean score for each independent variables.

Samples

The Knowledge and Attitude inventory were prepared separately for the main investigation. The sample was randomly selected, which is drawn from XI standard students from the purposively selected higher secondary schools in the city of Chennai. The sample consists of 250 students. Among them 130 are boys and 120 are girls. The distribution of the same is given in the following table.

Table No.1.0: Showing the details of sample.

S.No.	Name of the Schools	Boys	Girls	Total
I	Government school	50	50	100
II	Private school	80	70	150
	Total	130	120	250

Main Study

The validated inventories the Knowledge and Attitude on Environmental Education were made use of in the main study data. The study was carried out in the purposively selected schools.

Data Collection

The Knowledge and Attitude inventories with the instructions were distributed to the students one after another. The inventories were administrated to the different schools on different days. The class teacher helped the investigator to establish rapport with the students and in selecting their responses after clearly explaining the real purpose of investigation. The inventories also carried clear instructions to this effect. The students were then asked to record their responses in the form of tick mark. They were informed that there were no right or wrong answers to any statement, and the best answer was that which they felt was true of them. They were asked to answer all the items without any omission.

Statistical Techniques

The students' responses in each test are scored using appropriate keys and were analysed through statistical measures like mean median mode standard deviation quartile deviation Karl Pearson's product moment correlation and t-test.

Testing of Hypothesis

Hypothesis.1: There is no significant difference in knowledge on Environmental Education between. a. Male and Female; b. Arts group and Science group; c. Government schools and Private schools; d. Rural and Urban students; e. Low SES students and High SES students.

Table No 2.0: Showing mean, standard deviation and 't' values in knowledge on Environmental Education by personal variables.

Since the obtained 't' value is less than the table value, the mean difference is not significant. In other words, they (male and female) are similar and comparable in terms of their Knowledge on Environmental Education.

Since the 't' value is less than the table value the obtained mean difference is not significant. In other words, they (Science and Arts) are similar and comparable in terms of their Knowledge on Environmental Education.

Since the obtained 't' value is greater than the table value it is significant at 0.05 level and stated that there is significant difference in knowledge between the Rural and Urban students. The result indicates that urban students are slightly better than the rural students with regard to knowledge on Environmental Education.

Since the calculated 't'-test value is greater than the table value, it is stated that there is significant difference in knowledge on Environmental Education between the students of Low SES and High SES.

The obtained 't' value is greater than the table value and is significant at 0.05 level. It is stated that there is significant difference in the mean score of Knowledge on Environmental Education between the students from government and Private schools. The result indicated that government school

Variables
SEX
SES
SUBJECT
RESIDENCE
MANAGEMENT

students are having higher mean score value in Knowledge on Environmental Education than the Private school students.

Hypothesis.14: There is no significant difference in Attitude towards Environmental Education between a. Male and Female; b. Arts group and Science group; c. Government schools and Private schools; d. Rural and Urban students; e. Low SES students and High SES students.

Table No. 3.0: Showing mean, standard deviation and 't' values in Attitude towards Environmental Education among students by their personal variables.

Variables		N	Mean	S.D.	t	L.S
SEX	Male	130	13.01	3.591	3.787	0.05
	Female	120	12.70	3.401		
SES	Low	166	13.62	3.422	1.142	0.05
	High	36	14.12	3.635		
SUBJECT	Arts	125	14.01	3.591	3.787	0.05
	Science	125	15.70	3.401		
RESIDENCE	Rural	197	12.02	2.45	1.919	0.05
	Urban	53	11.21	2.72		
MANAGEMENT	Government	100	14.2	3.40	5.76	0.01
	Private	50	17.5	3.71		

Since the 't' value is greater than the table value the obtained mean difference is significant at 0.05 level. Therefore it is stated that there is significant difference between male and female students in their Attitude level. When comparing these groups, Male students are having more mean score value than the female students towards Attitude on Environmental Education.

Since the 't' value is greater than the table value the obtained mean difference is significant at 0.05 level. Therefore it is state that there is significant difference between Arts group and Science group students in their Attitude level. When comparing these groups, Science group students are having higher mean score value than the Arts group students towards Attitude on Environmental Education.

Since the obtained 't' value (1.919) is significant at 0.05 level, it is stated that there is significant difference between the students of Rural and Urban schools with regard to their Attitude towards Environmental Education.

Since the obtained 't' value is higher than the table value it is significant at 0.01 level. It is stated that there is significant difference in self concept between the students from government and private schools. The results indicate that the students from private schools are better in Attitude level towards Environmental Education than the students from government schools.

Since the obtained 't' –test value is greater than the table value, there is a significant difference in Attitude level towards Environmental Education between the students of Low SES and High SES.

Major Findings

The following are the major findings of the present study;

1. There is no significant difference in Knowledge on Environmental Education between Male and Female students of XI standard.
2. There is significant difference in Attitude towards Environmental Education between Male and Female students of XI standard.
3. There was significant difference in Knowledge on Environmental Education between Low Socio Economic Status and High Socio Economic Status students of IX standard.
4. There was significant difference in Attitude towards Environmental Education between Low Socio Economic Status and High Socio Economic Status students of IX standard.
5. There is no significant difference in Knowledge on Environmental Education between Arts group and Science group students of XI standard.
6. There is significant difference in Attitude towards Environmental Education between Arts and Science group students of XI standard.
7. There is significant difference in Knowledge on Environmental Education between Rural and Urban school XI standard students.
8. There is significant difference in Attitude towards Environmental Education between Rural and Urban Schools XI standard students.
9. There is significant difference in Knowledge on Environmental Education between the XI std students from Government schools and Private schools.
10. There is significant difference in Attitude towards Environmental Education between the XI std students from Government schools and Private schools.

Educational Implications

Human population today is at exponential phase of its growth resulting in a phenomenal increase of human beings and limited sources at its command has created a situation which threatens the existence of man himself. It is of great importance that at this time, when the world is reflecting more and more upon man environment interaction, we all remind ourselves that the total life of an individual, his behaviour patterns, decisions and well-being effect and are affected by the environment within which he lives and interacts. The role of education in this task cannot be over-emphasized. Efforts geared towards that end should, therefore, be considered in all modern day formal and non formal education programmes. It is only the education which we can develop in an individual certain attitudes, skills and knowledge that will enable him to interact successfully and live in harmony with the forces and elements that surround him and sustain his life. The need of the day is to make individuals realize their capabilities and improve upon capabilities to help solve the problems of the environment. Thus, with the creation of awareness and realization of capabilities in the populace, individual would be in a better position to act in more appropriate ways to protect the environment. We will have to transform man from a destroyer of the environment into a protector of the environment.

In order to acquaint the students with the knowledge of environment suitable well organized curriculum interested to the students at different levels is required. The present study is a humble attempt in this direction to assess the level of knowledge and attitude of the students towards the environmental education. Analyses and conclusions of the present study clearly showed that the need of new teaching learning techniques in the formal as well as non formal educational process in the form of programmed text in environmental Education which will help the students to perform better in related field changes. This study contributes a new teaching-learning in the form of assessing the level of knowledge and attitude towards environmental education in the form class room instruction. These kind efforts will help to produce talent and caliber among the students who will be 'environmentally literate citizenry' in future. Such sustained efforts should be made to improve the coverage of formal school and non formal adult education programmes.

5.8. SUGGESTIONS

The following suggestions are given for making the environmental education programme successful;

- Environmental education should result in the development of an ecological ethics-a change in attitude of man towards man, society and nature,

in realization of man as part of nature, not alien to it.

- The learning materials on environmental education should be produced according to the local needs. The text books and teaching aids should be developed to supplement instruction. Writing of text books on environmental education should be encouraged.

- Trained teachers in Environment Education should be appointed in schools.

- Teachers, parents, public, doctors, engineers, planners, administrators and scientists should be involved in environmental education programme.

- A committee including the students, teachers, parents and administrators should be appointed to evaluate the environmental education programmes.

- The general public should be educated about the environmental degradation and improvement of the environmental quality through mass media by incorporating them through regular programmes of A.I.R., T.V. and visual aids etc.

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Substance Use and Health Status of Men in Rural Tamil Nadu

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Introduction

Alcoholism and use of other substances among men is a serious public health problem affecting both poor and rich. Though prevalence of substance use in India may be low as compared to industrialised countries, its effect on health of individuals and on social well-being is of great concern. Substance use in poorer households affects its members in many ways, through its impact on household income, physical and mental health not only of the substance-user but of all members of the household, and on violence against women and children.

Alcohol and tobacco related death and disability has been a major concern for health planners and researchers in recent decades. The use of alcohol and psychoactive drugs causes at least 1, 23,000 deaths globally every year. While on the one hand the recorded alcohol consumption among adults has fallen steadily in most developed countries since 1980, on the other it has risen steadily in the developing countries and countries of former Soviet Union.

In India illicit liquor consumption is estimated to cause about 800 deaths and 3000 disabilities annually and 50 percent of road accidents. Annually,

tobacco related conditions are reported to cause 6, 35,000 deaths in India. Almost one half of all cancers in men are believed to be the outcome of tobacco consumption in form or other. In India, it is estimated that over 142 million men and 37 million women above 15 years of age are regular tobacco users. Recognising the major health problems associated with substance use, World Health Organization and World Bank considers the global health impact of alcohol and tobacco on par with unsafe sex.

Though a number of studies have been carried out in India and abroad, substantiating the relationship between substance use and health risks of urban population, especially among students, youth, truck drivers and urban migrant labourers, there is hardly any about its impact on rural population.

It is against this backdrop that RUWSEC- a grassroots women's organization in Tamil Nadu, India, with its focus on Women's health and well being through women's empowerment—attempted to carry out the present study. The study also is grounded in RUWSEC's ongoing engagement with changing attitudes and behaviour related to the use of tobacco and alcohol from the perspective of its relationship with the social construction of masculinity. The study, with its focus on rural poor community will fill an important gap in the knowledge base on the nature and extent of the problem.

Review of Literature

Prevalence of alcohol/ tobacco use

The prevalence of alcohol and tobacco use among men in India varies between states. In a study in Kerala 7604 male respondents reported that only 44.2 percent were non-users of alcohol; 30.4 percent consumed alcohol regularly and 25.4 percent occasionally. Similarly, another study in Rajasthan carried out in a rural community revealed that the prevalence of alcohol use was 24.7 percent. Another study among university students in India reported that 18.7 percent of males were current users of tobacco products. One more study among college students found that the prevalence of tobacco use was 10.8 percent. According to data base of NFHS-2 (1998-99) among men aged 15 years and above in Tamil Nadu, 21 percent drink alcohol, 27 percent smoke and another 13 percent chew panmasala or tobacco.

Differentials in substance use

Examining differentials in substance use by socio economic characteristics of population, a study carried out in Rajasthan found that

alcohol use was found to be significantly associated with marital status, age, family structure, and educational and occupational status. Similarly Colleges with residences/hostels showed a higher percentage of smokers than non-hostel institutions. Smoking was associated with a family history of tobacco use and having friends who smoked and used alcohol.

In Tamil Nadu (1998-99) the proportion of men who drink or smoke or chew pan masala rises with age. The rate is significantly higher in rural areas than in urban areas. The survey also reported that the alcohol consumption or smoking habit is higher among illiterate and low-income group.

Associated risks

Substance use particularly alcohol use is related to high rate of unsafe sexual behaviour. In a study among men taking treatment for alcohol dependence in a de addiction centre in south India, it was found that high-risk sexual behaviour was associated with heavier drinking. Studies on injecting drug users in Madras (Chennai) have shown a significant association of daily use of alcohol with indulgence in risky sex with commercial sex workers. In addition, NACO has also reported an association between risky sex and alcohol use¹⁰.

Health Consequences

Numerous studies have emphasized the serious health effects of long-term heavy drinking, from an increased risk for having accidents to developing liver cancer. A study by a Japanese cancer centre of 58,000 men and women has found that men who drink alcohol regularly are twice as likely to develop colon cancer than men who do not drink at all. Similarly the prevalence of *leukoplakia* was higher among alcohol and tobacco users than non users. In India, 48 percent cancers affecting male cancers and 20 percent affecting female are tobacco-related. Similarly another study done in Chennai indicated that thirty percent of deaths among elderly men and about 10% percent of the deaths among female in old age can be attributed to smoking in India.

In Tamil Nadu 1.5 percent of population was reported to be suffering from asthma and the prevalence of tuberculosis (TB) is 479 per 100,000. The TB prevalence rate is more than twice as high for males (660 per 100000) as for females 301 per 100000 (NFHS-2). Smoking is more widely prevalent among men than women. This may explain the reason for high prevalence of TB among men as relative to women.

Objectives and Methodology

- The main objectives of the study were to
- Estimate the prevalence of alcohol and other substance use and to study the socio-economic and demographic correlates.
 - Look into the nature and pattern of substance use and to assess the specific characteristics of those willing to stop this habit.
 - Study the linkage between substance use and health status of men.

Methodology

Data were collected from all men aged twelve and above in 63 hamlets in Kancheepuram district, Tamil Nadu where RUWSEC works with men to sensitise them about Reproductive health and Gender issues under one of its programmes. Members involved in this programme carried out the survey during November-December 1999. A semi-structured questionnaire also was used to collect information from the households.

Information on substance-use, its nature and extent were based on self-reports by respondents. The data therefore may under-report the prevalence. However, it is a useful starting point to plan interventions since it gives some idea of the extent of the problem.

Definition of terms used

Substance users

The term ***substance users*** used in the study refers to persons who had the habit of using one or more of the following substances at the time of the study: Alcohol, Toddy, Cigarette, Beedi, *Panparag*, and Betel leaves with tobacco chewing, Snuff and Ganja.

Occasional users, regular users and Addicts

For the purpose of the study, different categories of substance users were defined on the basis of frequency of the substance use. Those whose use of substance were confined to once in a month or twice or thrice in a year or even less frequently were defined as *occasional users*; while those who were using the substances twice or thrice in a week or every day put in the category of *regular users*. Persons who were using the substances more than once a day and unable to remain without its use even for a single day were termed as *addicts*.

The Study Area and Population

As per 2001 census of India, Tamil Nadu is the sixth largest state in India in terms of population (62.1 million). The literacy rate of population aged seven and above was 73 percent in 2001 and the male & female literacy rates were 82 percent and 65 percent respectively. According to the Annual report 2001 – 2002 of the Ministry of Social Justice and Empowerment, Government of India, in 2001 the state had the third highest number of addicts registered in India.

The study covered 63 hamlets in Thirupporur and Thirukazhukundram blocks of Kancheepuram district. The population in these hamlets are socially and economically marginalized. According to RUWSEC'S Data Base (based on baseline and follow up Health survey in 1996-97 and later respectively), there were 5423 households, covering a population of 23,883 persons, with 12,016 males and 11,867 females in the year 1999. 90 percent of the population in the hamlets belonged to scheduled caste and the other ten percent from other backward castes. There was a big gender gap in the literacy ratio. The literacy rate of population aged seven and above was 59 and 40 percent for males and females respectively.

The data on substance use among men was collected during November – December 1999.

Findings from the study

The following major heads present the findings of the study:

- 1) Substance use in men and characteristics of the Users
- 2) Substance use and its impact on the Health Status

Characteristics of the Study population

There were 9871 men aged 12 and above years in the study area of 63 hamlets. Higher proportion of the population under study was very young; about half of them (48 percent) were below 30 years, followed by one fifth in the 30-39 years and only seventeen percent were aged 50 or above. The mean age of the population was 34 years.

Overwhelming 97.6 percent men in the sample area were Hindus, two percent were Christians and the remaining (sixteen) were Muslims. A large majority of men in the study belonged to socially and economically marginalised caste (Scheduled caste) and the remaining to the other caste

group. The literacy rate of the male population covered by the study was more or less equal to the district rate of 59 percent (census 2001).

Nearly 63 percent of men aged 15 and above were married with eighty two percent engaged in economic activities. Only one out of four men belonged to households that possess their own land while others work as wage labourers; about 70 percent men were agriculture labourers.

Substance use among men and their characteristics

The following section describes the prevalence and patterns of substance use and its differentials by social economic conditions. It also reflects how many of those surveyed were willing to stop the habit.

Prevalence of substance use

Table 1 shows that out of 9871 males in the study area, the prevalence rate was about 16.45 percent (15.09 percent were current alcohol users, 6.32 percent smokers and 3.86 percent *panparag* users (tobacco based chewing substance). About three fifths (58 percent) of substance users were using multiple substances. On average, substance users were using two substances (1.69). Usually use of liquor co-exists with use of other substances, i.e. most of the alcohol users had multiple habits.

Table 1. Prevalence and type of Substance use in Men

Type of Substance	Users	%	Prevalence Rate Population aged 12+
Alcohol	1490	54.16	15.09
Cigarette/ Beedi	624	22.68	6.32
<i>Panparag</i>	381	13.85	3.86
Others	256	9.31	2.59
Total	2751**	100.00	16.45

Nature of the substance use

Alcohol was the single most commonly used substance with 54 percent of users, followed by 23 percent who smoked cigarettes and beedis. Although

panparag has been available only in recent times, it was used by 14 percent of those interviewed. Only nine percent chewed pan [betel leaves] with tobacco, used snuff and Ganja. (Of this 9 percent chewed tobacco with betel leaves).

Frequency of use

A little more than three fourth of substance users were regular users and of them five percent were addicts. Only about one fourth (24 percent) of the substance users were occasional users.

Table 2 provides information about substance users by type and frequency of use. While looking at the type of substance by the frequency of use, it was found that three-fourths of other substance users (pan and tobacco chewing, snuff and ganja users) and majority (63 percent) of smokers were daily users. However, a considerable proportion among liquor and *panparag* users fell under the category of occasional users (30 and 27 percent respectively).

Table 2. Substance users by type and frequency of use

Type Of Substance	Frequency of Use					Total
	1	2	3	4	5	
Alcohol	243	207	493	491	56	1490
	16.31	13.89	33.09	32.95	3.76	54.16
Cigarette/ Beedi	59	27	143	341	54	624
	9.46	4.33	22.92	54.65	8.65	22.68
Panparag	58	43	110	163	7	381
	15.22	11.29	28.87	42.78	1.84	13.85
Others	16	4	39	171	26	256
	6.25	1.56	15.23	66.80	10.16	9.31
Total	376	281	785	1166	143	2751
	13.67	10.21	28.54	42.38	5.20	100.00
USED CODES:						
1. Using 2-3 times a year.						
2. Using once in a month.						
3. Using weekly one or two times						
4. Using daily						
5. Using two or more times a day (Unable to be without these substances)						

Age distribution of substance users

The age of substance users ranged between 12-70 years, with nearly one third of substance users between 30-39 years, followed by twenty four percent in 20-29 years age group and two percent were adolescents. Age desegregated data by type of substance use indicated that panparag users were younger and other substance users were comparatively older. In other words the average age of the panparag users was seven years less than the alcohol and other substance users.

Age at starting substance use

In general, adolescents began by experimenting with cigarette/ beedi smoking followed by panparag and alcohol consumption and progressed to other substances. It is clearly seen from the study that higher proportion of users had developed the habits in the age ranging from 20-23 years. The mean age at which a person started drinking, smoking and panparag ranged between 20 –23 years. In this age group, men have earning capacity, they also remain in a state of wavering mind and are vulnerable to peer pressures. Combined together, these factors contribute to their increasing susceptibility to substance use and addiction. Nearly 60 percent of the users started the habit when they were below 23 years. The study has shown that the other habits like 'chewing betel leaves pan; tobacco chewing and snuff developed at a later age.

Age as a determinant of substance use

Age is an important determinant of the nature and frequency of use. Generally, a person goes through two or three stages to become an addict: occasional use leading to regular use and culminating to addiction. It is also clearly seen from the study that men started using substances occasionally at young age and subsequently became addicted in their middle years. In this study area higher proportion were occasional and regular users (24 and 29 percent respectively). The mean age of occasional users was 35 years and 43 years for addicts. It is very clear that addiction is like an elevator wherein frequency of use increases with age; the mean age of users increased with frequency of use (Table 3).

Table 3. Prevalence of substance abuse among men aged 12 and above cross-classified with selected variables

1.Age						
<i>Age group</i>	<i>Using one or more substances</i>	<i>%</i>	<i>Not users</i>	<i>%</i>	<i>Total Males</i>	<i>Chi-square</i>
12 - 19	26	1.14	2263	98.86	2289	839.12
20 - 29	335	14.01	2057	85.99	2392	"a"
30 - 39	519	27.14	1393	72.86	1912	
40 - 49	457	30.86	1024	69.14	1481	
50 - 59	204	22.37	708	77.63	912	
60+	83	9.38	802	90.62	885	
2.Religion						5.78
Hindu	1597	16.57	8041	83.43	9638	"b"
Christian	27	12.44	190	87.56	217	
Muslim	0	0.00	16	100.00	16	
3.Caste						23.84
SC	1506	17.08	7310	82.92	8816	"a"
BC	118	11.18	937	88.82	1055	
4.Marital status						911.95
Married	1461	26.39	4076	73.61	5537	"a"
Un married	143	3.46	3989	96.54	4132	
Widower/Divorced	20	9.90	182	90.10	202	
5.Literacy						233.13
Literate	665	11.61	5064	88.39	5729	"a"
Illiterate	959	23.15	3183	76.85	4142	
6.Occupation						508.87
Working	1573	21.37	5789	78.63	7362	"a"
Not working	51	2.03	2458	97.97	2509	
7.Landowning status						1.83
Land owing	395	15.59	2138	84.41	2533	N.Sig
Landless	1229	16.75	6109	83.25	7338	
8. Family size						25.86
1	2	7.41	25	92.59	27	"a"
2 - 3	325	18.01	1480	81.99	1805	
4 - 5	729	17.26	3495	82.74	4224	
6 - 7	507	15.80	2701	84.20	3208	
8 +	61	10.05	546	89.95	607	
Total	1624	16.45	8247	83.55	9871	
Note: Sig "a" - Significant at 0.01 level. Sig "b" - Significant at 0.05 level; N.Sig - Not Significant.						

Social and economic determinants of substance use

Table 4 shows the prevalence of substance use among men by socio economic and demographic (SED) characteristics. The study points to a significant relationship between religion, caste, marital status, literacy, and working status with the prevalence rates.

Table 4: Sub Stance Users Cross Classified With Background Variables

AGE GROUP
RELIGION
CASTE
LITERACY
OCC STATUS

The rate was higher among Hindus than Christians and it was six percent higher among dalits than in other castes. The association between caste and substance use was statistically highly significant. This suggests people belonging to socially and economically marginalised caste are more likely to use the substances.

There seems to be a highly significant association between prevalence of substance use and marital status. The prevalence was 26 percent among those married and 10 and 3 percent among widowers and unmarried respectively. This difference could be due to the influence of age factor.

Education is an important determinant of substance use. The rate was 12 points higher among illiterates than literates. This may be because educated men have more access to information and hence better awareness about the side effects of using substances. Alcohol, smoking and other substance usage were significantly higher among illiterate men. However, panparag usage was noticeably higher among educated persons (57 percent of panparag users were literates).

Similarly the prevalence was 10 times higher in working people as compared to non working men. The association between two was proved statistically significant. This difference could be due to two factors: age and availability of cash in hand. This was also corroborated by the fact that no significant difference was observed by among men with land holdings of different sizes.

Determinants of frequency of substance use

It emerged from the study that the economics and easy availability of the type of substance men used was one of the important determinants of frequency of use. Among alcohol and *panparag* users, noticeable proportion (thirty percent) was occasional users but majority (86.91 percent) among those who smoked and used other substances, used them regularly. It is obvious that these two substances were relatively cheaper and readily available in petty shops in villages. Equally important is the fact that alcohol and *panparag* were jointly used. The association between the price and availability of the substances and frequency of their use is statistically highly significant.

The data indicates that the proportion of regular users and addicts, though not statistically significant, was relatively higher among dalit men. Similarly religion did not seem to have any association with frequency of use. Among

other social factors, education was found to have a significant relation with frequency patterns. While about thirty percent of literates used the substance occasionally, among illiterates, a large majority of eighty percent were found to be regular users and addicts. Similarly, the study points correlation between the landowning status and frequency of use. For instance, in comparison with about one third of the occasional substance users in landowning households, four fifth among landless households were regular users. Importantly, agricultural daily wage labourers used the substances more frequently than the others. As explained above, one's place in Caste and class hierarchy coupled with one's education and occupational status found to be intersecting with the frequency of the substance use. In addition, age was positively correlated with frequency of substance use— among users below 20 years about half were occasional users, while of substance users aged over 40 years, only four out of five were regular users. The data makes it clear that men started using the substances occasionally at their young age and become regular users and addicts in the middle ages.

Attitude towards Substance use

As part of RUWSEC's reproductive health programme, periodic workshops are held in the villages about the issues and problems of substance use. To gauge the impact of such workshops a lead question as to whether the respondent will like to stop the habit was included in the study.

1438 men out of 2751 substance users (52.27%) stated "Yes" when asked whether they would like to stop the habit of substance use. As is visible from the table 5 the willingness to stop the habit varied in accordance with the social and economic conditions of men. The main differences observed were as follows:

Table 5. Substance users' willingness to stop the habit cross classified with selected variables

Variables	Willing to stop	%	Not willing to stop	%	Total Males	Chi-square
Religion						
Hindu	1419	52.44	1287	47.56	2706	1.85
Christian	19	42.22	26	57.78	45	Not Sig
Caste						
SC	1340	52.26	1224	47.74	2564	0.0015
BC	98	52.41	89	47.59	187	Not Sig
Marital status						
Married	1228	49.74	1241	50.26	2469	81.35
Un married	197	79.12	52	20.88	249	"a"
Widower/Divorced	13	39.39	20	60.61	33	"a"
Literacy						
Literate	616	54.23	520	45.77	1136	2.96
Illiterate	822	50.9	793	49.1	1615	"c"
Occupation						
Working	1378	51.79	1283	48.21	2661	7.73
Not working	90	66.67	30	33.33	90	"a"
Landowning status						
Land owned	979	55.77	795	44.23	1774	1.85
Landless	1066	51.15	1018	48.85	2084	"b"
Type of substance						
Alcohol	841	58.44	649	43.56	1490	126.86
Cigarette/Beedi	262	47.99	282	50.01	544	"a"
Pan/Chewing	259	47.94	282	50.06	541	"a"
Others	76	29.69	186	70.31	256	"a"
Frequency of use						
Occasional users	452	68.80	205	31.20	657	94.48
Regular users	986	47.09	1108	52.91	2094	"a"
Total	1438	52.27	1313	47.73	2751	

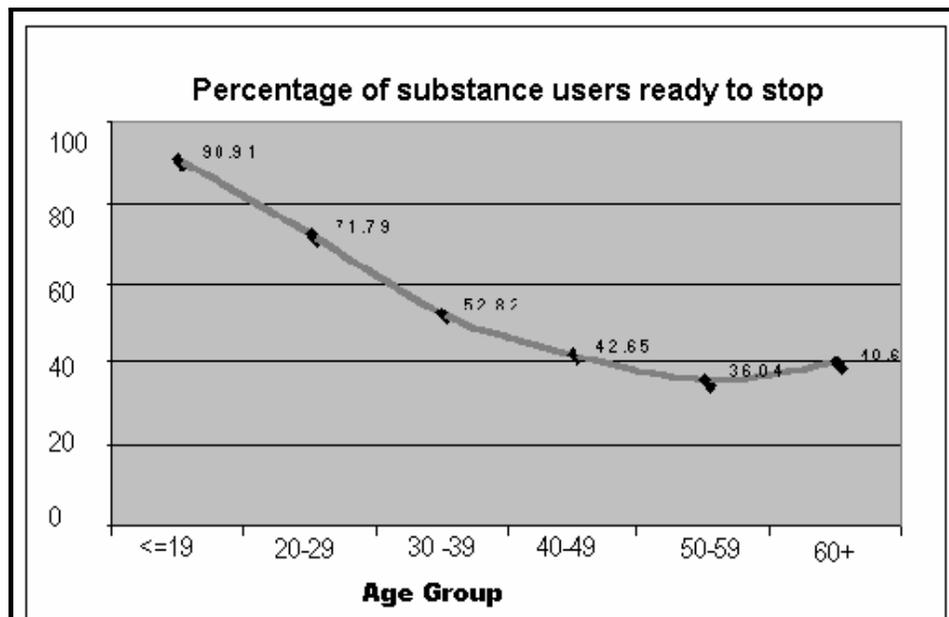
Note: "a" - Significant at 0.01 level of significant. "b" - Significant at 0.05 level. "c" - Significant at 0.10 level. **Not Sig** - Not Significant.

An analysis of the responses by type of substance, it was found that majority of panparag users and 56 percent of liquor users showed willingness to stop using them. A higher proportion (53 and 70 percent respectively) of them were not interested to stop the habit. This may be because of the prevalent perception among the population that that smoking and pan chewing are not bad habits.

An inverse relationship was observed between the frequency of use and willingness to stop the habit. When the frequency of use increased the willingness to stop the habit decreased, i.e., majority of occasional users was ready to stop it, while 47 percent of regular users were resistant to behaviour change in relation to the substance use.

Graph 1 shows a highly significant negative correlation between increase in age and interest to stop substance use. The likely reason for this pattern may lie in the degree of addiction as among young male population there were more occasional users as compared to majority of addicts among the older age group. Similarly, Unmarried, unemployed and land holders showed higher inclination towards giving up the substance use.

Graph 1



Attitude towards stopping substance use did not vary much by religion and caste. Proportion willing to stop the habit was slightly higher in literates as educated men were aware of the consequences of using substances. The association between the willingness with age, marital status, literacy, occupation and land owning status, type of substance and frequency of use were statistically significant. Overall unmarried, educated young men were more willing to stop substance use.

More than half of the substance users were ready to give up the habit. Intervention strategies thus could be focused towards this target group to have encouraging results to effectively wean them off substance use.

Substance Use and Health Status

The following section analyses the linkages between substance use and health status of men. It is seen from the table 6 that there is a close association between substance use and morbidity. The prevalence of general

morbidity is more than 8 times greater among substance users as compared to non-users. Here, the general morbidity refers to self reported health problem on the day of survey; 41 percent of substance users had one or more illness on the day of survey whereas among non-users the prevalence rate was as low as 5 percent.

Table 6. Substance Users Cross Classified With General Health Status Aged 12 And Above

	General Morbidity		Reproductive Morbidity		Total
	Had One Or More Problem	Had No Problem	Had One Or More Problem	Had No Problem	
Substance Users	665 40.95	959 59.05	42 2.59	1582 97.41	1624 100.00
Not Users	52 3.12	774 96.88	7 0.87	814 99.13	821 100.00
Total	717 44.07	1733 87.96	49 1.47	2396 98.84	2445 100.00

The study also revealed that joint aches and pains were very common among the substance users, particularly among the users of alcohol. Generally, men start drinking occasionally as 'pain killer' and become addicts. This in turn leads to various disorders with severe aches and pains. Similarly respiratory infections were slightly higher among substance users than non-

The proportion of men suffering from reproductive morbidity is three times greater among substance users as compared to non-users. It implies that skin itches and pains in the private parts were high in the substance users group. The possible reasons could be high intake of alcohol, raised level of blood sugar leading to skin diseases and itching in the genital areas: one of the symptoms of diabetes. Secondly, the substance users are less careful about their personal hygiene. The lack of personal hygiene itself could lead to skin diseases. However, no tangible relation was seen between the frequency of substance usage and morbidity.

Conclusions and way forward

The prevalence of substance usage among men is very high. Nearly one sixth of the men in the study area reported that they had habit of using one or more substances. Importantly, three out of four substance users in the area were either regular users or addicts. Men started using these substances occasionally in their adolescence and graduated to becoming regular users and finally became addicted to the substances. The frequency of usage increased with age. The study underlined the linkages between

availability of cash in hand and beginning/ strengthening the habit of substance use. As majority had started using substances in their late adolescence and early twenties age and majority of occasional and regular users showed a high level of willingness to stop these unhealthy practices, any intervention through public health education should be strategically directed to this age group to yield effective results in the arena of public health.

What is needed at this juncture is intervention in the form of support services for de-addiction for those who want to stop. This coupled with awareness about health and other consequences of alcohol and use of other substances may contribute to reduce the socio-economic consequences at all levels, individual, domestic, and community, arising out of substance use.

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A Case Study on Some Common Problems of Adolescents in Tripura

Braja Gopal Majumder
Nirmalendu Acharjee

In all civilized lands, criminal statistics show two sad and significant facts: First, that there is a marked increase in crime at the age of twelve to fourteen, not in crimes of one but of all kinds, and that this increase continues for a number of years. While the percentage of certain grave crimes increases to mature manhood, adolescence is preeminently the criminal age when most first commitments occur and most vicious careers are begun. The second fact is that the proportion of juvenile delinquents seems to be everywhere increasing and crime is more precocious ... the significance of these facts for ethics, sociology, genetic psychology, and for the efficiency of education and religion, as well as for the success of a form of civilization, is profound and complex.

G. Stanley Hall (1904)

Introduction

Hall first characterized adolescence as a period when delinquent & criminal behaviors of the adolescent are likely to emerge. His observations and insight are now found to be recognized by a good number of scholars of psychology, Psychiatry, Criminology and Sociology. In spite of number of criticism of Hall's observation during his period, he nevertheless deserves credit for establishing relationship between age and problem behavior of the

adolescents and the negative effects of the problem behavior on society. According to Smith¹ (1988) the studies on the problem behavior of the adolescents are so great that thousands of research papers on the antecedence, correlates and consequences of adolescent problem behaviors in the Berkeley's Springs Conference held at West Virginia in April, 1991. Moreover, papers contributed in this field of behavioral science by Feldman & Elliott (1990), Leone (1990), Millstein et al (1992), Rogers & Ginzberg (1992) etc. may be recognized as pioneering works during earlier part of Nineteenth of the 20th Century.

Although some Govt. of West like USA did not recognize adolescents as a group of paying attention on the part of the Gove. till 1972, Moran and Vinovskis held that adolescence has been viewed since the mid 19th Century. Ketterlinus et al. pointed out that these diverse problems have now attracted the scholars to pay serious attention. They also characterized two distinct disciples pertaining to these problems. While one focuses on sociological research on delinquency, drug use, school related problem behaviors, the other is much concerned with sexual risk and it's relation with sexually transmitted disease, pregnancy and parenthood etc.

In his "biosocial Theory" pertaining to adolescent problem behavior Lichard Udry held the view that both social and biological factors play formative role in the origin of adolescent problem behaviors. The longitudinal study of 350 women who were born in 1960 conducted by Udry focused on different aspects since their prenatal period. It was observed by Udry that the personality difference even at the age of 5 resulted differences in problem behaviors in their adolescents. In an interesting study Cathy Spatz Wisdom reviews that childhood victimization generated due to childhood negligence may turn to delinquency, violence, runaway, sexual promiscuity, pregnancy, alcohol and drug abuse, self-destructive behaviors, or suicide etc. in adolescence. So adolescence behaviors and problematic role of adolescent boys & girls deserve much attention on the part of parents, teachers and research scholars of the day.

Thus adolescence is a period of stress and strain in human life. It is a time of emotional tension leading to psychological disequilibrium. During this period, the young adolescents become vocal. Their relationship with parent takes a different turn but intimate relationship develops with the peers. They get interested in the opposite sex and sexual curiosity. This finally may result in demoralization, anxiety and frustration. During this period the adolescents prefer to spend more time with intimate friends rather their family members. The sexual urge thus generated, sometimes leads them to be

more interested about opposite sex and hence to lose interest in studies. They usually keep certain matters to themselves confidential and do not share with parents.

Under these circumstances, they required to be nursed carefully by the parents & teachers with sympathetic consideration of the problems usually faced by the adolescents. So, it is required to assess the needs of the adolescence.

Objective

The main objective of the study focuses on the behavioral pattern of the adolescents.

The behavioral patterns so far investigated constitute some common forms, like-

- i) Behavioral attitudes towards their family members & also to their peer friends.
- ii) Their professional choice.
- iii) Choice of life partner.
- iv) Their role in the society.

Hypothesis

With a view to investing the above objectives, the following hypothesis were assumed by us

- A) The adolescents will be more friendly to their peer friends.
- B) The adolescents desire secured income based choice of profession
- C) They prefer Self-choice in respect of partners.
- D) Their involvement in reading habit is satisfactory.
- E) Their involvement in extra –curricular activities for leisure period is satisfactory.
- F) They possess positive social role.

Methodology and Relevant Observations

The study was conducted by organizing three camps on different aspects of PDE (Population Development Education) in three districts of Tripura.

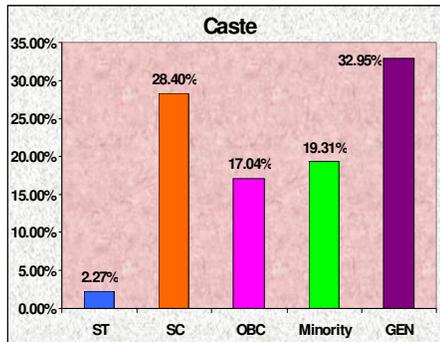
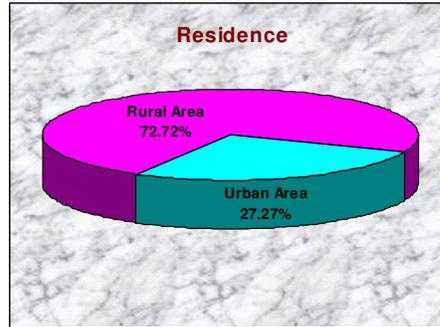
88 number of adolescents with different social categories & different social environment were interacted by us in these three camps. A

questionnaire consisting of 30 items were administered to 88 number of adolescents under the present study.

The following is the profile of the responding adolescents

a. Residence

It reveals from the observation that 72.72% of the adolescents have been living in Rural Area and 27.27 % in urban area.

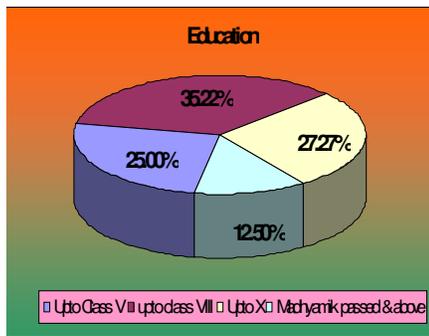
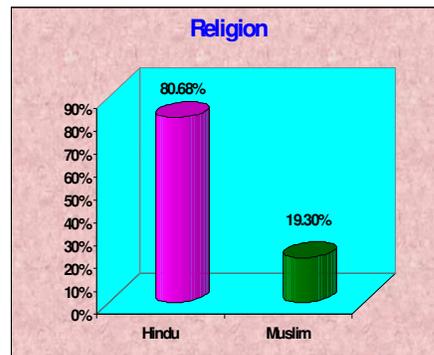


b) Caste

It is found that 32.95 % of the respondents belong to General Category 19.31 %, Religious Minority, 17.04% OBC , 28.40% SC and 2.27% are ST.

c) Religion

In the above mentioned three camps, it has been observed that all the respondents belong to Hindu and Muslim. Among them 80.68% are Hindu and 19.3 % are Muslim.



d) Education

Among the total respondents none of them are found illiterate, 25% of the respondents had education upto junior basic school, 35.22% read upto class VIII, 27.27% of the respondents had

Role of Voluntary and Confidential Counseling and Testing Centers (VCCTCs) In Overcoming HIV/AIDS

Manoranjan Kumar

Introduction

It is generally assumed that AIDS should be the concern of health professionals. The truth is that AIDS is not a mere health problem and that it has now acquired dimensions which perhaps have very few, parallels in the history of mankind. It affects all of us, either directly or indirectly.

Why AIDS so scary! There are two principal reasons, Firstly; there is no vaccine or cure for AIDS. The Second scary aspect of AIDS is that it attacks most of the age group of 15-45 years. This age group represents the major work forces in the country as well as sexually active segment of the population. If this age group gets decimated, as it has already happened in several parts of Africa, the social and economic consequences would be catastrophe.

AIDS is an auto immune deficiency syndrome (AIDS) caused by the human immunodeficiency virus (HIV). During very early HIV infection as well as the last stage of AIDS, the extent of virus in the body (VIRAL LOAD) is the highest; they find an opportunity to flourish and so are aptly called opportunistic infections (OIs). Some of these infections are namely tuberculosis, Fungal Infections, Kaposi's sarcoma (Skin Cancer) etc.

The virus that causes AIDS was first identified in the United States of America (USA) in the early 1980s, When previously healthy homosexual men began to suffer and die on account of Peculiar infections like

Pneumocystis Carinii Pneumonia (P.C.P.), then researchers soon found evidence of the disease in Europe and Africa, and eventually all over the world. After much discussion among scientists they identified a new syndrome and later named it as AIDS.

HIV is the micro organism which is responsible for AIDS. In 1983 Dr. Luc Montagnier initially called them LYMPHADENOPATHY ASSOCIATED VIRUS (LAV) and HUMAN T. LYMPHOCYTOTROPIC VIRUS TYPE III (HTLV – III). The nomenclature committee of viruses finally named it as Human Immuno Deficiency Virus (HIV).

HIV Virus can be categorized into two types namely HIV - I & HIV - II.

HIV – I accounts for the majority of infections all over the world and have at least 10 sub-types.

HIV- II which is found Primarily in West Africa appears to be less easily transmitted and progresses slowly to disease than HIV – I.

These Viruses are specific because they only affect human beings. In this connection people have doubts whether these viruses affect other species like cats, dogs, insects etc.

There are many theories about the origin of HIV e.g. Old Human Disease, Animal Disease, Man Made Virus, Change Theory etc. But as Mr. Kenneth Kaunda, Ex-President of Zambia puts it, “What is more important than knowing where this disease came from, where it is going”.

India’s HIV/AIDS Statistics: The Third National Family Health survey(NFHS-3)is, Coordinated by the International Institute for Population Sciences, Mumbai (IIPS)under the aegis of MOHFW, GOI conducted in 2005-06 .

The NFHS-3 is the first national survey in India to include HIV testing. Previously, national HIV prevalence was calculated primarily from Sentinel Surveillance among pregnant women. Because the Surveillance estimates were not based on representative sample of adults in India.

NFHS-3 was designed to provide a national estimate of HIV in the household population of women age 15-49 and men age 15-54, as well as separate HIV estimates for each of the six high prevalence states (Andhra Pradesh, Karnataka, Maharashtra, Manipur, Nagaland, and Tamil Nadu).

Previously it was estimated that around 5 million people living with HIV/AIDS in India more than in any other country. The results of NFHS-3 led a major revision of the prevalence estimated in July 2007. It is now that around 2.5 million people estimated in India are living with HIV.

Back Calculation suggests that the HIV prevalence in India may have declined slightly in recent years, through the epidemic is still growing in some religious and population groups.

HIV statistics 2005-06: The NFHS-3 measured HIV prevalence among the general adult population of India as presented in Table below. The survey found that rate among men (0.36%) to be considerably higher than that among women (0.22%).

HIV prevalence by age

Table: Percentage distribution of HIV reactive among women and men age 15-49 who were tested by age, India ,2005-6			
Age Group	Male	Female	Total
15-19	0.01	0.07	0.04
20-24	0.19	0.17	0.18
25-29	0.43	0.28	0.35
30-34	0.64	0.45	0.54
35-39	0.53	0.23	0.37
40-44	0.41	0.19	0.30
45-49	0.48	0.17	0.33
Total	0.36	0.22	0.28

(Sources: NHFS-3 REPORT 2005-06)

Table shows that HIV prevalence rates for men than women in every age group except age 15-19, where the rates are very low overall. Women and men have similar age patterns with HIV prevalence increasing with age group through age 30-34 and generally decreasing with age thereafter.

After Infection

HIV Kills by weakening the body's immune system until it can no longer fight infection. As the immune system becomes compromised by HIV OIs. In this OIs TB easily attack the body. T.B. is one of the most common among OIs in AIDS patients.

HIV/AIDS generally progresses over a decade to its final stage but there is a long period after infection in which the infected person is largely free of sign and symptoms.