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AIDS CONTROL IN THE ARMED FORCES: AN OVERVIEW

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ABSTRACT

Prevention of the spread of HIV/AIDS is a global challenge. The spread of the disease in the armed forces would have disastrous consequences for the security of any country. In order to contain its spread in the Indian army, armed forces medical services have implemented a comprehensive HIV/AIDS control system that provides an integrated, preventive, promotive and curative services (or its troops. The measures include policy formulations, IEC activities, surveillance, training, coordination and research. These efforts are aimed to bring about behavioural changes to prevent HIV infection at the individual level, as well as to build capacity at the macro level to deal with the multifaceted challenges of this deadly disease. As an outcome of these strategies, the Indian army has managed to keep the prevalence of the infection at a low level among its personnel.

Keywords: HIV/AIDS, Armed forces, IEC measures, AIDS education, Surveillance.

The HIV/AIDS pandemic continues its expansion across the globe with approximately 10,000 new infections occurring every year. UNAIDS and WHO recently projected that globally there were more than 40 million persons living with HIV or AIDS at the end of the year 2001V The first case in India was detected in 1986, since than prevalence of HIV has been reported from all states and Union territories. It is estimated that there were almost 3.86 million people living with HIV/AIDS in India at the close of the last millennium. The spread of this epidemic is showing disturbing trends in that it is spreading from urban to rural areas and from individuals practicing high-risk behaviour to the general population, especially, the unsuspecting spouses.

Evolution of AIDS Control in the Armed Forces

The Armed Forces have the advantage of having a hierarchical and comprehensive health care delivery system that provides integrated preventive, promotive and curative services under the aegis of the Director General Armed Forces Medical Services (DGAFMS). While he is the medical advisor to the Defence Minister, his subordinate executive medical officers serve as advisors to the respective non-medical commanders at all levels. It is envisaged that once commanders (senior non medical officers who command officers and soldiers in war and peace at all levels in a pyramidal system of accountability) are convinced of the need to control HIV/AIDS among soldiers, the service ethos and exemplary-cum-legendary discipline of the Indian Armed Forces will

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ensure success of a well-planned IEC strategy. To that extent one must admit that we have an inherent advantage over our civilian counterparts engaged in AIDS control. It was decided to exploit this to our advantage while executing the IEC strategy for AIDS control. The aim is to achieve desired behavioural changes making use of the state of the art techniques of Behavioural Change Communication (BCC).

Accordingly, the DGAFMS in 1992, formed a central Armed Forces AIDS Control Organisation (ACO) in the Department of PSM, AFMC, Pune, as the Central agency to plan and devise a comprehensive strategy of disease surveillance, prevention and control of HIV infection in the Armed Forces. The Prof. And HOD of PSM was appointed as the ex-officio Chairman, Heads of Department of Microbiology, Medicine, Dermatology, Transfusion Medicine and Psychiatry at AFMC are the members and the epidemiology trained PSM specialist officer posted in PSM Dept as its member secretary

AIDS Control Organisation (ACO) in the Armed Forces

ACO has been entrusted with the following functions:

(a) Policy Formulation: Development of draft policies on all aspects of prevention and control of HIV infection including surveillance, testing, disinfection, treatment and disposal procedures.
(b) IEC Activities: It includes development of IEC strategies, advocacy plans and various types of prototype health educational materials for use in Armed Forces. This also entails implementation, monitoring and evaluation of IEC activities. Besides, ACO is responsible for development of training material and curriculum for various categories of medical and paramedical personnel.
(c) Surveillance: Maintaining a computerized surveillance system of HIV infection in the Armed Forces and publishing periodic surveillance reports.
(d) Training: Training of Command Nodal Officers and Officer In Charge (OIC) IEC nodes through workshops, visits and consultations.
(e) Coordination: Liaison with and coordination of blood safety and blood banking services.
(f) Research: Research activities related to HIV/AIDS prevention in the Armed Forces.

The Armed Forces has various Commands which function as a cohesive system controlling subordinate headquarters and units during war and peace. At the Command level a Command IEC cell (CIEC) was created. The Senior Adviser (PSM) posted at every Command Headquarters is designated as the Command Nodal Officer for the conduct of IEC activities. In all major military stations we have an existing Station Health Organisation (SHO) that is commanded by a specialist in PSM. His responsibility is to provide comprehensive health care to the military station. He is also the adviser on health matters to the local senior executive medical officer (SEMO) of the station who in turn is the medical and health adviser to the local non-medical commander. These SHO's were designated IEC Nodes tor implementation of all IEC activities at the grass root level. They form the backbone of our AIDS control programme. The commanding Officers (COs)/OICs of 52 SHOs were designated as Officers in charge (OICs) nodes and were to provide the technical support to the Command Nodal Officers. These OIC nodes were equipped with communication and database management equipment and trained by ACO to become effective centers to carryout activities. Their job responsibilities entailed the following:

I. The OIC IEC node under directions of nodal officer will plan an IEC strategy and conduct health educational activities among the target population. The population will include not only permanent/ static formations/units, but also all the lodger formations/units under War Establishment (WE).

II. OIC node should work in close liaison with the Station commander and the Senior Executive Medical Officer (SEMO) to organize the IEC activities.

III. In each station in consultation with SEMO he should incorporate other PSM specialists in the station/other specialist medical/dental/nursing officers and other suitable paramedical and non-medical personnel to form an "IEC team" and train them as "resource persons".

IV. Identify the target population viz. recruits, cadets, soldiers, etc in his designated area.

V. To plan advocacy efforts through interpersonal communication. They will enlist cooperation and support of Formation/Unit commanders and ladies' organizations such as Army Wives' Welfare Association (AWWA), Air Force Wives' Welfare Association (AFWWA) and Navy Wives' Welfare Association (NWWA) to mobilize people's involvement in the IEC activities. They will develop & implement innovative approaches to involve the community of wives of all ranks, religious teachers in military units and Non-governmental organizations (NGOs).

VI. Creation of IEC resource within all units and train them as Peer Group Educators (PGEs) who are capable of conducting IEC activities as a priority task for IEC nodes.

VII. Participate in the behaviour surveillance surveys and other surveys in coordination with ACO.

VIII. To develop liaison with State and District level AIDS control societies so that they can help in conducting sessions in Armed Forces units locally.

IX. To liaise with NGO's involved in AIDS Control in their area.

X. Translate material developed by HQ ACO into local/ regimental languages of the station.

XI. The OIC node must plan in advance and organize and observe the World AIDS day on 01 Dec. every year effectively. HIV/AIDS related educational activities such as exhibitions/workshops/ panel discussions/seminars should be organized on all important occasions that arise in the station/units. All the venues of Formation Commander's conference, unit raising days, melas, etc should be exploited to plan an IEC activity. Suitable health educational material may be distributed on such occasions.

XII. Special IEC efforts/arrangements will be made by the respective/nearby IEC nodes at all transit camps/sainik aramgahs/Traffic Check Posts and other suitable locations in consultation with Command Nodal Officer.

XIII. HIV/AIDS education of adolescent school children in school settings and NCC cadets in NCC camps should be undertaken.

XIV. OIC Nodes will submit a quarterly report (in triplicate) on activities conducted, which will be forwarded to the HQ ACO by the Command Nodal Officers for onward submission to Office of the DGAFMS.

The IEC Kit

After a lot of research and painstaking efforts, ACO has developed a range of IEC products as an IEC kit. These are culture specific, customized and tailor-made to suit the Armed Forces. They have been developed keeping in view particular target groups. To facilitate use, codes have been given to these IEC products. OIC Nodes are required to choose, a particular item for use as per the situation and the forum in which they are interacting. The following material has been developed and has been supplied by HQ ACO to IEC nodes.

Compact disc on HIV/AIDS (ACO-1): This is an informative package of HIV/AIDS for commanders. It consists of two parts, viz., an interactive session and session of question answer on modes of transmission, administrative procedures and blood safety. This will be handy for Commanders. They can be given the CD at the end of a meeting or an advocacy session so that it serves as a ready reckoner for them. The Nodal Officers/OIC Nodes/SEMOs will hand it over to Senior Commander and Unit Commanders personally during interactions. A feedback is requested after a Jay -.r a few days. These are also recommended to be placed at unit libraries, station computer dubs/ computer training institutions so that even the junior leaders have access to it. Efforts are being made to ensure that a CD is available wherever a computer is placed.

Hand book on *HIV/AIDS for Commanders (ACO-2, ACO-2 Hindi):* OIC nodes interact regularly with Comm.indets. This book titled 'Fighting HIV/AIDS on a war footing" contains all the information required by the Commanders to prevent HIV/AIDS in the Armed Forces. It is written using military glossary and will assist commanders in updating their knowledge about AIDS. The Hindi version is recommended for use by Junior Commissioned Officers (JCOs)/Non-commissioned Officers (NCOs). It is handed over to Senior Commanders and Unit Commanders by the Nodal Officers/OIC Nodes/SEMOs/SMOs personally during interactions or mailed through DO letters. A feedback is requested after a day or a few days. We also recommend placing this Handbook at unit libraries so that the junior leaders can have access to it.

Handbook on HIV/AIDS for Medical, Dental and Nursing Officers (ACO-3): This is a scientific document meant to update the knowledge of MOs, dental and nursing officers. After having gone through this, the concerned officers would be in a position to understand the epidemiology of the disease and can assist the IEC team in their activities. These are distributed to all the above categories of officers posted to local medical/non-medical units during interpersonal meetings by OIC nodes. This will help enlist their cooperation in the IEC effort.

Handbook on HIV/AIDS for Paramedics (ACO-4): This is a brief compilation about the HIV/AIDS problem and the prevention programme in the Armed Forces. It also includes procedures for testing, notification and surveillance of HIV infection in the services. This is useful for education of our paramedicals like Nursing Assistants, Lab Assistants, Senior Technical Assistants, etc. as well

as a ready reference for them while imparting health education to the community. The scale of distribution is one per paramedical staff. It is given to the paramedicals at the end of the training session to be conducted for them, in small batches in each station by the EC Node.

Colour Laminated Posters (ACO-5.1-5.8, ACO-5.1-5.8 H): A set of eight posters both in English and Hindi has been prepared. These are illustrative pesters depicting our concerns, causes, preventive measures and desirable positive attitudes to achieve reduction of disease burden in the Armed Forces setting. The scale of distribution is one set per strength of a military sub-unit such as a Coy/ Sqn/ Bty or a minor unit. OIC nodes distribute the same and ensure that these are displayed at recreation rooms/common rooms, dinning halls, etc. Proper utilization of the posters by having permanent display in unit lines is insisted upon.

Video Film for Health Education (ACO-6 H): A 30-minute video film-highlighting preventive measures against HIV/AIDS has been developed in Hindi. This is screened to troops and families at unit level meeting as well as prior to conducting training sessions/group discussions.
OHP Slides (ACO-7H), and 35 mm Slides (ACO-8 H): It is ensured that all medical units and training establishment RMOs are issued a set each. These are for use by Nodal Officer, SEMOs and OIC Nodes and RMOs/MOs for conducting a variety of IEC sessions such as panel discussions, seminars, focus group discussions. They can also be effectively used during World Health Day/World AIDS day campaigns. Commanding Officers' hospitals can also use them during discharge parades by making persons awaiting the discharge to attend a brief slide show taken by a STA/Hospital attendant/other paramedical staff.

Flipbook for Health Education (ACO-9, ACO-9 H): This flipbook illustratively depicts all aspects of prevention of HIV / AIDS. It is meant for use by Peer Group Educators (PGEs) while conducting Small Group Discussions and personal counseling. During training sessions for potential "Resource Persons" and "Peer Group Educators" the use of this flip chart book is demonstrated so that it works as a handy tool for them whiie educating soldiers and their families. All trained PGE's are monitored for effective use of their flipbook.

Folders (9" *X 15') for Personnel (ACO-10 H), Hand Bills for Personnel (ACO-11, ACO-11 H):* These have been developed exclusively for Armed Forces personnel. It illustratively describes in simple language the modes of transmission of AIDS, a brief on unsafe sexual practices, preventive measures and the methodology of correct use of condoms. This is distributed to personnel during health education sessions. They are also distributed during pay parade, Sainik Sammelans, etc. so that everybody has access to this information. This is attached to the movement order/leave certificate of personnel so that they deliberate on them at leisure.

Folders (9" X 11") for Personnel and Families (ACO-12 H), Handbills for Personnel and Families (ACO-13, ACO-13 H): Developed both in English and Hindi, illustratively describe in simple language the modes of transmission of AIDS and preventive measures. This is distributed at Family Welfare, Ladies Clubs, and health educational sessions for wives of service personnel as well as to clientele in appropriate health care settings.

Handbook on HIV/ AIDS for Personnel and Families (ACO-14H): Developed in Hindi, this book explains in brief the problem of HIV, modes of transmission and preventive measures against

AIDS/HIV. It is distributed during lectures, talks and discussions with potential peer group educators.

Manual on Biomedical Waste Management and Hospital Infection Control (ACO-15): This contains graphic details on biosafety, disinfection and sterilization procedures. This will be of assistance in proper disposal of biomedical waste. Besides, it has details on management of biomedical waste and post-exposure prophylaxis of Health Care Workers against HIV. This is distributed to all hospitals and other health care establishments in the area of responsibility of the OIC node.

Other Measures

HIV Surveillance: OIC nodes develop close liaison with the specialists and MOs at the local Military Hospital and the Laboratory and with a view to find out confirmed or suspected cases of HIV. They take part in the generation and processing of HIV data in their area. All forms generated are checked for accuracy of data. For this, they have a proactive policy so that no case is missed. Such data is then epidemiological analysed to find out the source of infection, so that preventive/EC strategies in the Station could be suitable strengthened and then passed on to HQ ACO so that OIC nodes contribute actively to the Armed Forces AIDS surveillance system. At all stages due concern for unit and individual confidentiality is maintained as occurrence of HIV in a unit is always a sensitive matter and units/individuals detest probing, unless they are taken into confidence.

Promotion of Condom Usage: There is an attempt to make condoms available in pienty in all Armed Forces units and other settings. Condoms are procured locally from civil sources. OIC Nodes sany out an initial survey in their stations to assess the availability of condoms at all times. Sources of supply are identifieo and bottlenecks in the supply chain removea. This entails regular liaison with local health authorities and NGOs. Feasibility of procuring and installing condom vending machines in area frequented by troops like Transit Camps, Sainik Aramgans, Movement Contrc Offices (MCOs) etc is being explored.

Prevention of HIV/AIDS Transmission in Health Care Settings: Resources required for achieving this objective and ensuring observance of universal precautions and safe disposal of biomedical wastes in all health care institutions are specifically being earmarked for this activity from the existing Armed Forces medical stores organizations. This is primarily the responsibility of the SEMOs. The OIC Nodes are to maintain close liaison with the SEMO and to assist them in conducting educational sessions for the paramedical personnel

Monitoring and Evaluation

Effective and continual communication with Command Nodal Officers and ACO is very essential for the success of the project and this is maintained through all available channels of communication. The activities of the IEC Nodes are constantly monitored. They are sending a quarterly report on their activities, on the uniform protocol sent by HQ ACO, to Command Nodal Officers. This is further compiled by the Command Nodal Officers and forwarded to HQ ACO.

Besides, Command Nodal Officers periodically visit the IEC Nodes to monitor the progress of IEC activities in the station. They conduct Focal Group Discussions during these visits

to evaluate progress. HQ ACO is also doing monitoring in the torm of visits by Chairman and faculty members of ACO in consultation with the service HQs/Command/Formation HQs.

CONCLUSION

The Armed Forces Medical Services have embarked on AIDS control by creating an IEC infrastructure, developing IEC materials and activities with the intent of reaching out to whole of the Armed Forces and their families. These efforts are aimed at bringing about behavioural change to prevent HIV infection at the individual level, as weli as capacity building at the macro level to deal with the multifaceted challenges of this deadly disease. The prevalence of HIV / AIDS in the Armed Forces is therefore being contained at a low level by effective implementation of this strategy.

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एचआईवी/एड्स के प्रसार की रोकथाम, आज विश्व के लिए एक बड़ी चुनौती बन गई है। सशस्त्र सैनिक बलों में इस रोग के प्रसार के परिणाम किसी भी देश की सुरक्षा के लिए अत्यन्त भंयकर हो सकते हैं। भारतीय सेना में इस रोग के प्रसार की रोकथाम के उद्वेश्य से सशस्त्र सेना चिकित्सकीय निदेशालय द्वारा एचआईवी/एड्स नियंत्रण के लिए एक व्यापक प्रणाली लागू की गई है, जिसमें सैनिकों के उपसा तांम रवे कव प्रसार की रोकथाम आदि कव बारे में व्यापक प्रावधान किए गए हैं। इस प्रणाली में नीति–निर्माण, सूचना शिक्षा तंथा संचार निगरानी, प्रशिक्षण, समन्वयन और शोध आदि पक्षों को समाहित किया गया है। इन प्रयासों का उद्वेश्य एचआईवी संक्रमण की रोकथाम कव लिए व्यक्ति स्तर पर उसके व्यवहार में परिवर्तन लाना तांम इस घातक रवे की चुनौतियों का सामना करने कव लिए मेकरो स्तर पर क्षमता–निर्माण करना है। इस रणनीति कव परिणामस्वरूप भारतीय सेना को अपने कार्मिकों में इस रोग के प्रसार को अल्प स्तर पर रखने में सफलता मिली है।

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KNOWLEDGE, ATTITUDE AND BELIEF ON HIV/AIDS AMONG THE FEMALE SENIOR SECONDARY STUDENTS IN SRINAGAR DISTRICT OF KASHMIR

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ABSTRACT

Awareness on HIV/AIDS among adolescent female secondary school students, Srinagar district, Kashmir, was assessed through a study of their knowledge, attitude and belief about the disease. It was interesting to note that approximately one foudh of the respondents have never heard of the disease. From those who were aware, 49.12 percent had no idea of the causative agent Though the main source of information dissemination was electronic followed by print media, about 26 percent of the respondents had the perception that the disease is yet to reach the State. Ignorance of various risk groups within the society was also very much wide spread. A majority of the respondents (87.56 %) believed that the presence and spread of HIV/AIDS in the society were due to degradation of moral values among people Many had expressed their reservations of discussing HIV/AIDS related issues with their parents. Hospitalization was preferred as a better way of managing AIDS patients by 48.44 percent of those interviewed. The above findings, in general, indicate a poor awareness of HIV/AIDS among educated adolescents in the capital city which indirectly reflects a much worse scenario of the illiterate rural counterparts who form bulk of the State's population.

Keywords: Adolescent females, High-risk behaviour, Modes of transmission, Vulnerability.

AIDS, the disease without borders, has already assumed pandemic proportions. India has at least 3.86 million HIV positive patients and 12,000 full-blown AIDS cases have already been reported[1 s]. The disease is mainly a problem of the young adults with more than 40 percent of the patients under 25 years of age.

Adolescence is a period of great physical, mental and emotional turmoil, and the teenagers, in search of their identity, very often start experimenting with intravenous drugs or sex, both making them vulnerable to contracting HlV Many adolescents are less likely to be aware of HIV/AIDS and the modes of its spread. Since prevention is the key to AIDS control, empowerment of youth with knowledge about high-risk behaviour and its ominous relation with HIV is a most

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effective tool to contain the pandemic. Planning an appropriate HIV awareness progiamme for a specific target group must be relevant to its needs, and can be designed only after determining the existing knowledge, belief, attitude and practice pattern of that particular group. A number of KABP studies conducted in different parts of India reveal widespread ignorance and misconceptions among this vulnerable age group. No such assessment has ever been attempted in the state of Kashmir. The present study was thus undertaken to assess the extent of knowledge, nature of beliefs, and current attitudes of adolescent students in the senior secondary schools towards HIV/AIDS. The findings would also provide gainful insight to policy planners and HIV/AIDS programme managers in deciding strategic programmes among the target groups.

METHODOLOGY

The study was conducted from July to December 2001. A total of 2,250 girl students of Class XI and XII, were selected randomly, from different government higher secondary schools of Srinagar district. They were asked to fill a pre-structured, pre-tested questionnaire within the school premises. Since the questionnaires were in English, help of the local female teacher was taken, where needed, in order to explain specific questions and to ensure appropriate individualized responses.

FINDINGS

It was interesting to note that 24 percent of the adolescents had never heard of HIV/AIDS. Among those aware, only about a half of the respondents (48.44%) attributed the cause to a germ or a virus. Rest were either ignorant of the causative agent (49.12%) or blamed it to insects (1.56%) or even bad air or stale food (0.44%) Knowledge about modes of transmission was scanty among those who were aware of the disease. A little less than half of the respondents (43.04%) had no idea about the possible modes of transmission (Table 1). Only 23.11 percent blamed it to the use of infected needles, 20.44 percent to sexual contact and 7.33 percent to infected blood. Only 3.56 percent were aware of the fact that HIV/AIDS could be transmitted from mother to child. Wrong perceptions on the modes of spread of the disease were prevalent. Most of the respondents believed that HIV/AIDS could also spread through handshake (82.22%), eating with the victim or sharing cups & utensils with him (64%), or use of fomites (52%). Only a few had the (4.67%) knowledge that sharing toothbrushes or blades of patients could transmit the infection to others; the majority (76.22%) was ignorant while a sizeable proportion (19.11%) did not comment at all (Table 1).

The chief source of information about HIV/AIDS to the vast majority of respondents (73.34%) was the media (electronic 47.78%; print 25.56%). Other sources (Table 1) included friends (9.11%), teachers (6.0%), parents (2%) and siblings (1.78%). About 26% of respondents believed that HIV/AIDS has not yet reached the State while the majority (74%) expressed otherwise. Again, 65.37 percent believed that it could never pose a serious problem to them.

About 38.5 percent of respondents aware of the disease either had no idea of an effective preventive measure or mostly had wrong perceptions (Table 2). Those with a correct knowledge of various preventive measures (61.5%), a great majority named abstinence (24.45%) followed by sterilizing needles before injections (21.78%) as the main measures for an effective

prevention. Other scientifically correct responses were practicing safe sex (4.22%), avoiding drug addiction (3.56), and ensuring safe blood practices (2.47%)

TABLE 1
AWARENESS AMONG ADOLESCENT FEMALES ON HIV/AIDS ETIOLOGY AND its MODES OF SPREAD

1.	Total population under study:	2,250
2.	Percentage who had heard about HIV/AIDS:	76%
3.	Perceptions about the causative agent/factor	
	Germ/Virus:	48.44%
	Insects/bad air/stale food:	2.44%
	No idea at all:	49.12%
4.	Knowledge about established modes of transmission	
	a) Correct awareness	
	Use of infected syringes-	23.11%
	Sexual contact	20.44%
	Use of infected blood-	7.33%
	Sharing of toothbrushes/blades-	4.67%
	Mother to child-	3.56%
	b) False perceptions about spread of HIV/AIDS	
	Handshake-	82.22%
	Eating with the patient-	64%
	Use of fomites-	52%
5.	Source of awareness	
	Electronic media-	47.78%
	Print material (including textbooks)-	25.56%
	Friends-	9.11%
	Teachers-	6.00%
	Parents-	2.00%
	Siblings-	1.77%

Ignorance about various at risk groups was widespread. 46.83 percent had no idea about any high-risk group while 26.05 percent believed that pregnancy, poverty, illiteracy, adulthood or adolescence, per se; make people more vulnerable to contracting HIV/AIDS (Table 2) Only 34.23 percent had correct perceptions on various high risk groups such as persons with multiple sex partners (8.44%), populations sharing used needles (7.55%), boys and girls having illicit relations (6.6%), recipients of multiple blood transfusions (4.44%), drug abusers (3.11%), drivers 2%), and prostitutes (0.6%).

A majority of respondents (87.56%) attributed the presence of HIV/AIDS in Kashmir to the degradation of morai values, of which 76.6 percent believed that it was occurring in the general population, irrespective of gender, age and social stratum. A majority (5.33%) believed that moral values were decreasing particularly in boys; and equal proportion thought decrease in moral values was more rapid among girls. Responding to reasons behind moral degradation in Kashmir, the majority of respondents (74.88%) blamed TV (satellite channels 57.11%; doordarshan 17.77%), westernization (45.33%), weakening faith in religion (26%). free intermixing of boys and girls (21.56%) and lax parental control (18.44%). Other frequently cited reasons were affluence (12.89%), co-education (11.11%) and a need or desire for more money (8.67%).

TABLE 2
AWARENESS ABOUT PREVENTION AGAINST HIV/AIDS

1.	Preventive measures	
a)	Correct perceptions:	61.56%
	Abstinence-	24.45%
	Sterilizing syringes and needles-	21.78%
	Practising safe sex-	4.22%
	Avoiding drug addiction-	3.56%
	Safe blood practices-	2.47%
b)	Incorrect perceptions:	38.44%
2.	The high-risk population **for** HIV/AIDS	
a)	Correct perceptions:	34.23%
	People with multiple sex partners-	8.44%
	Needle sharing populations-	7.55%
	Premarital sex-	6.67%
	Drug abusers-	3.11%
	Long route drivers-	2.00%
	Prostitutes-	0.67%
b)	Incorrect/ no perceptions:	65.77%

The majority (65.13%) was not able to name any particular group to be targeted for health education on HIV/AIDS. Those who answered (34.87 %), 11.78 percent targeted adolescent boys and girls and 8.22 percent their parents. The rest (14.8%) had all wrong perceptions on various special target groups to be included in the AIDS awareness campaigns (Table 3).

Asked whether the respondents ever discussed HIV/AIDS with someone, 43.11 percent admitted that they never pulled enough courage to discuss the topic with anyone Of the 56.89 percent who admitted having discussed HIV/AIDS at some time with anyone, 35 78 percent disclosed to have discussed it with their friends, 10.89% with their sisters, and 9.12 percent with

their teachers Only a very small minority admitted to have discussed it with their parents (including mothers) or brothers (Table 3).

Half of the respondents (48.44%) expressed that AIDS patients must not be managed at home but should be hospitalized. 28.67 percent believed they could be treated as out patients with extra precautions. Another 2 percent were in favour of giving necessary support but advocated isolation, ostracizing, shunning, boycotting and even expulsion from school if positively identified (Table 3).

TABLE 3
ATTITUDES TOWARDS THE DISEASE AND ITS VICTIM

1.	Ever discussed HIV/AIDS with:	
	Friends:	35.78%
	Sister:	10.89%
	Teachers:	9.12%
	Brothers:	0.66%
	Father:	0.22%
	Mother:	0.22%
2.	Population that should be targeted for HIV/AIDS education:	
	Incorrect / no knowledge:	85.13%
	Correct perceptions:	14.87%
	Parents of adolescents:	11.78%
	Adolescents (Boys and girls):	8.22%
	All adults:	3.78%
3.	Attitude towards patients of HIV/AIDS	
	Hospitalization and isolate:	48.44%
	Treat as outpatient with extra-precautions:	28.67%
	Ostracize/shun/abandon/isolate boycott/expel from school:	5.55%
	Give necessary support:	2.00%
	No opinion:	17.56%

DISCUSSION

Adolescents form a sizeable proportion of the population. The National Family Health Survey (NFHS-2), 1998-99, found approximately 22 percent of India's population comprised of Ihe 15-19 age group. Adolescence is the most volatile period of life, with the children attempting to shed parental restrictions while seeking new identity or making new contacts. Peers and the friends from opposite sex become more important who seem to exert more influence than the previous role models (parents and teachers). Experimentation with new friends, new behaviour with drugs, and even sex, pose additional challenges for adolescents and parents alike. Girls suffer more acute and dramatic physical, mental and emotional change with little support forthcoming from

parents, families or teachers. Because of their greater vulnerability, they may fall prey to exploitation during this period, which may culminate into an unwanted pregnancy or a sexuaiiy acquired disease including HIV.

In 1991, it was found that 25 percent of the world's HIV cases were in their 20s indicating the fact that it must have been acquired during their adolescent period[17]. In 1992, the World Health Organization advocated utilizing young children and adolescents as a potential resource for prevention of HIV transmission. This resulted in the inclusion of HIV/AIDS education in school curricula and in devising special drives for teenage education all over the globe. Already one decade has passed, and a dramatic progress in teenage education has been observed in many countries like Thailand and Sri Lanka. India, however, has made a very slow progress A recent Indian study, in which the performance scores of adolescents (19 or less) were plotted on the Likert and Murphy Technique Scale of Assessment, revealed that most of them fared an average poor or at best a fair score which was statistically much lower in case of female adolescents. Our AIDS-prevention and control efforts remained largely concentrated on groups already practicing high-risk behaviour (like commercial sex workers, intravenous drug users and long route drivers etc.). Thus, the other potential risk groups, like older school children, adolescents and younger adults, who, because of their vulnerability deserved simultaneous attention, continued to remain as a low priority. Studies across India have shown a markedly variable pattern of HIV/AIDS awareness in different regions; however, the situation overall is not very much encouraging.

This is the first ever AIDS awareness study performed among the adolescents in Jammu and Kashmir State. The studied population comprised of 16-18 year old senior secondary students from various girls' schools of Srinagar. The sample was solely from urban females residing and studying in the capital city, thus supposed to be better informed than their rural counterparts. The results, however, revealed a poor awareness among the respondents. Even less than a half of those interviewed knew that it is caused by an infective agent. The figure was much less than the awareness of 74 percent reported by their counterparts in other parts of India. The predominant route of HIV transmission in India is heterosexual with more than 83 percent cases detected being sexual However, only 20.5 percent of the respondents in the current study blamed sex as a mode of spread of the disease. This was significantly less than that reported (66% to 99%) by others elsewhere in India.

Contaminated needless and syringes were the likely risk factor in transmission of the disease was expressed by 23 percent of respondents in this study as against 72 to 98.5 percent in other studies. A mere 3.5 percent knew that HIV could be transmitted perinatally in complete contrast with 83-96 percent awareness reported in other studies. Misconceptions about the spread of infection too were widespread. There were those (82.2%) who believed that HIV could be transmitted by either shaking hands with the patient or eating with him/sharing cups and utensils (64 %) or sharing fomites and toilets (52 %). Such misconceptions ranged between a low of 6 and 26 percent among other populations studied in India.

About 38.5 percent of the cohort surveyed could not think of any effective preventive measure. 25 percent believed that total premarital abstinence is the best method of prevention. This is in agreement with the general prevailing belief among women in our State. In J&K, the NFHS-2 (1998-99) found that the most frequent preventive method (24.9%) cited by young married women (15-24 years) was avoiding sex outside marriage. Only a minority (4%) of our

respondents compared to 59-72 percent reported in other indian studies had heard about condom use for practicing safe sex. This is well below the figures quoted in NFHS-2 survey for J&K which reported 15.9 awareness in married females who believed condom use as a preventive measure. Sadly, 66 percent of our respondents were unable to name any high-risk group Only a . few could identify them correctly.

The main source of AIDS-awareness for adolescents was the media, especially the T.V., followed by print media (including textbooks). This is suggestive of the fact that incorporation of HIV/AIDS as part of the curriculum has not made the desired impact. There may be two possible reasons for this; one, the teachers' reluctance to discuss the subject with the students and second being the education system itself which allows such a crucial subject like HIV/AIDS to get bypassed from the curriculum. In our study, teachers were cited as an important source of awareness by a mere 6 percent of the respondents. The NFHS-2 reported TV as the most common source of health awareness in J&K. This most important source of health education needs to be viewed in the background of the awful negative influence it can have on an adolescent. Our respondents had blamed it directly for encouraging permissive behaviour which they perceive as an underlying factor in perpetuating HIV/AIDS transmission in a conservative society. Friends, who because of their own ignorance and misconceptions could be dangerously misguiding, formed the 3rd most important source of information. Discussions around HIV/AIDS were most frequently made with friends followed by sisters. Very ironically, a mere 0.22 percent could discuss HIV with their mothers which reflected the prevalent parochial parental attitudes. Matters pertaining to sex, sexuality and reproduction continue to be a taboo in conservative societies. The present findings are supported by data from NFHS-2 and those generated by ICMR-interventional programmes for adolescents which reported that only 15 percent of the mothers conversed with their daughters on the subject of menstrual cycle; 66-73 percent felt shy to talk on the subject indicating the extent of inhibitions we share in communicating with our young adolescents.

CONCLUSION

The present study shows a dismal picture of HIV awareness among the urban, educated adolescents, which indirectly points out to much worse awareness among the rural, illiterate counterparts. In view of the fact that globally 6000 new infections occur each day among the 15-24 year olds, the widespread ignorance about HIV/AIDS among female adolescents in Srinagar district is a serious matter and needs to be addressed appropriately through intensive HIV/AIDS awareness campaigns in all the high and higher secondary schools of the state.

Lkkjka'k

कश्मीर के श्रीनगर जिले के उच्चतर माध्यमिक विद्यालय की किशोर छात्राओं में एचआईवी/एड्स के बारे में उनकी जागरूकता का अनुमान लगाने कव लिए उनके ज्ञान, अवधारणा तथा विश्वास का अध्ययन किया गया था। इस अध्ययन से एक बहुत रोचक निष्कर्ष प्राप्त हुआ है कि लगभग एक–चौथाई उत्तरदाताओं ने इस रोग के बारे मे कभी कुछ नहीं सुना था। जिन छात्राओं को इस रोग के बारे में जानकारी थी, उनमें से 49. 12% छात्राओं को यह पता नहीं था कि यह रोग किस कारण होता है। यद्यपि, सूचना प्रचार–प्रसार का मुख्य स्रोत

मुद्रित माध्यम के पश्चात इलैक्ट्रोनिक माध्यम था किन्तु लगभग 26% उत्तरदाताओं का यह सोचना था कि यह अभी तक इस रोग का प्रसार उनके राज्य में नहीं हुआ है। समाज के जोखिमग्रस्त समूहों में इस रोग के प्रसार के प्रति जागरूकता को अत्यधिक अभाव पाया गया था। अधिकांश उत्तरदाताओं (87.56 %) का विश्वास था कि लोगों में नैतिक मूल्यों के पतन के कारण समाज में इस रोग का प्रसार हुआ है। अधिकतर उत्तरदाताओं को एचआईवी/एड्स संबंधी मुद्दो के बारे में माता–पिता से चर्चा करने में संकोच महसूस होता था। साक्षात्कार की गई छात्राओं में से 48.44 % द्वारा एड्स के लिए अस्पताल में उपचार कराने को एक अच्छा उपाय बताया गया था। उपरोक्त निष्कर्षों से सामान्यतया यह संकेत मिलते हैं कि राजधानी की शिक्षित किशोरावस्था की लड़कियों में एचआईवी/एड्स संबंधी जागरूकता का अभाव था, जिससे अप्रत्यक्ष रूप से यह अनुमान लगाया जा सकता है कि यह स्थिति अशिक्षित ग्रामीण समुदाय में भी भयावह होगी, जो राज्य की जनसंख्या का सबसे बड़ा भाग है।

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BREAST-FEEDING PRACTICES IN A MATERNAL AND CHILD HEALTH CENTRE IN DELHI

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ABSTRACT

A study of breast-feeding practices in a maternal and child health centre in Delhi revealed that though 92.4 per cent mothers breast-fed their children, it was only 26.6 per cent who exclusively breast-fed up to four months of age. 67.3 per cent of the mothers breast-fed their children on demand. While 22.0 per cent of women were found to have initiated breast-feeding within two hours of giving birth, it was delayed for a day (12.2%) or even two days (17.1%) for others. Initiation of immediate breast-feeding was found significantly correlated with the literacy status of mothers. The frequency of breast-feeding was 5-8 times per day among 45.6 percent of those interviewed. The period of breast-feeding was up to six months of age of the child in majority (73.7%) of the cases Bottle-feeding was also a common practice among 65.8 per cent of mothers. Problems related to breast-feeding were reported mainly from illiterate mothers. The above findings support the need to increase awareness among mothers on the importance of breast-feeding. The campaign may be successfully spearheaded through formal lactation counselling and infant feeding and management programmes by government and non-government organizations.

Keywords: Breast-feeding, Top feeding, Literacy status, Infants.

The best food for growth and development of infant is breast milk. Its anti-infective 'immunizing' property, freedom from contamination risk, psychological benefits to both mother and the child, nutritional superiority over animal milk makes it more advantageous, especially in a developing country like ours[1]. Breast-feeding has declined worldwide in recent years, as a result of urbanization, marketing of infant milk formulae and maternal employment outside the home[2]. Studies in India have also shown a decline in breast-feeding trends, especially in urban areas[34]. WHO and other international agencies have recommended that mothers should breast-fed the children exclusively for 4-6 months from birth and continue breast-feeding along with appropriate supplemented food up to second year[56]. This is due to the fact that by five to six months of age, babies need additional food besides breast milk, which supplies energy, protein and other nutrients. Since this forms one of the most sensitive periods, the combined effects of inadequate and unhygienically prepared supplemented food that is prone to infections may ultimately lead to increased risk of growth retardation. The present study was therefore undertaken in a maternal and child health centre in Delhi to obtain information on the practices of breast-feeding among mothers and its correlation, if any, with their literacy status.

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MATERIALS AND METHOD

This was a clinic-based observational study conducted in the month of October 2000, in a Maternal and Child Health Centre, Mehrauli, Delhi, the field practice area of Safdarjang Hospital. All the mothers coming to this centre for their children's immunization on Wednesday were interviewed. Mothers not accompanied by their children were not included in the study. A pre-coded, structured questionnaire was used to obtain information on mother's education, working status and income. Information was also collected on feeding practices adopted, breast feeding status, initiation and duration of breast feeding, containers used for top feeding and its cleaning practices etc. The data was evaluated by chi square test using SPSS software. A value less than 0.05 were considered statistically significant.

FINDINGS

Three hundred fifty four breast-feeding mothers were included in the study. 187(52.8%) mothers had male babies while 167 (47.2 %) had females. 32.2 per cent of mothers included in the study were illiterate. 20.3 per cent had education up to primary level, 21.5 percent up to middle level, 17.2 percent up to secondary level and the rest 8.8 percent were college educated.

Information collected from mothers on the status of breast-feeding revealed that while a majority (327 or 92.4 %) of them breast-fed their children, exclusively breast-feeding up to four months of age was practiced only by 26.6 percent (94) of the mothers. 67.3 percent breast-fed their children on demand; rest 32.7 percent breast-fed their children according to a fixed schedule. No significant difference in the feeding practices based on their literacy status was observed in this group. In contrast, a more significant ($P<0.001$) correlation with the initiation of breast-feeding practice to the literacy status of mothers was observed. More than two third of literate mothers initiated breast feeding within six hours of birth compared to one-fifth of illiterate women. Frequency of breast-feeding was also reported less amongst the illiterate women. Majority (73.7 %) of women continued breast-feeding up to six months of age Only 4.9 percent women continued it beyond one year. Mainly, it was illiterate mothers who reported problems during breast-feeding. These included insufficient milk, inflammatory disorders of breast and problems related to infant illness. In majority of these cases breast-feeding to children was discontinued.

Approximately two-third of the mothers preferred to provide their children something other than breast milk. Graduate mothers wanted to supplement more compared to other literate ones. Irrespective of the literacy status, 65.8 percent of mothers were found using bottles for top feeding their children. The preference to bottle feeding was found increasing ($P<0.05$) consistently as per the increase in the literacy status among mothers. Plain water was used as a method of cleaning feeding containers by more than half of mothers. Only few mothers sterilized the containers by boiling (28.9 %). Use of ash as a method of cleaning was not practiced by graduate mothers. Only some illiterate mothers preferred ash (28.4 % each) while others used either soap (38.3 per cent) or water only to clean the containers.

DISCUSSION

Infant-feeding practices influence child survival and development. Traditionally most Indian women start breast-feeding early and they breast-fed their children for longer periods.

However, in the present study, 92.4 per cent mothers were found to breast-fed their children, which is in fact, lower than the value reported in the baseline country assessment report. Several other studies have indicated that the trend in breast-feeding is slowly declining. Breast-feeding was uniformly practiced in all literate groups as shown in Table 1. These findings are no different than those earlier reported. However, exclusive breast-feeding by mothers as derived from our study is much lower than the values reported by others. This may be because of the area, which is representative of an urban population from where the samples are selected. Moreover, many educated women in our study population were working mothers. This substanfiates the fact that educated working mothers spent more time outside their home and were compelled to adopt alternative feeding practices for their children (Table 1).

Early initiation of breast-feeding is very crucial for prevention of childhood malnutrition and also to promote healthy child development. Early contact through breast-feeding is also important for the development of psychological bonding with the mother and child. Breast-feeding initiated early for the first child was also shown to be associated with higher prevalence of subsequent breast-feeding practice[10]. In the present study, the breast-feeding pattern was observed to be healthy, though not optimal, as more than two third of mothers initiated breastfeeding within 24 hours. A good correlation with n the literacy status of women and initiation of breast-feeding was found evident in our study. The less literate the mother was the more delay in the initiation of breast-feeding. The duration of breast-feeding too was found to be influenced by literacy status of mother. Mothers having high literacy also practiced longer duration of breastfeeding. 67.3 per cent of mothers fed their children on demand (Table 1) Demand feeding has earlier been reported to be a common practice in India, a factor, which has a positive influence on breast-feeding. This is also recognised as one of the ten steps to successful breast-feeding as recommended by WHO/UNICEF.

The weaning before four months was started by one-fourth of mothers and this trend was. observed higher among literate mothers. Interestingly, bottle-feeding was found to be popular among the educated mothers since most of them were, infact, working mothers. Only water or ash was used to clean the feeding containers; an observation found to be more common amongst the illiterate and less literate mothers (Table 2).

These findings from the present study clearly highlight the importance of educating the women on the importance of breast-feeding and the knowledge may be imparted even at the school or college level. There is also a need to target illiterate and less literate women on this aspect along with the information on good hygienic practices while feeding or cleaning the feeding containers. Regular orientation programmes on lactation counselling for women may also be arranged by the health providers to educate women on these aspects.

To conclude, it is important that a formal lactation counselling and infant feeding management should be included in the curriculum prepared by teaching institutions for health care professionals. Women organizations too, need to be associated for active dissemination of information on breast-feeding to the educationally deprived women.

TABLE 1

CORELATION BE I WEEN BREAST-FEEDING PRACTICES AND MOTHER'S LITERACY LEVEL

	Mothers literacy status					
Variables	**Illiterate**	**Primary**	**Middle**	**Secondary**	**Above**	**Total**
Child breast-fed Yes	**106 (93.0)**	**(90.3)**	**71 (93**.4)	**56(91.8)**	**29 (93.5)**	**327 (92**.4)
			When breast-feeding initiated			
Within 2 hrs	10(9.4)	8(12.3)	22(31.0)	19(33.9)	13(44.8)**	72 (22.0)
2-6 hrs	12(11.3)	11 (16.9)	16(22.5)	19(33.9)	9(31.0)	67 (20.5)
6-12 hrs	13(12.3)	9(13.8)	11(15.5)	9(16.1)	5(17.2)	47 (14.4)
12-24 hrs	19(17.9)	12(18.5)	8(11.3)	5(8.9)	1 (3.5)	45(13.8)
24-48 hrs	22 (20.8)	8(12.3)	7 (9.9)	2 (3.6)	1 (3.5)	40(12.2)
>48 hrs	30 (28.3)	17(26.1)	7 (9.9)	2 (3.6)	0 (0.0)	56(17.1)
			How often breast-fed			
1-4 times	35 (33.0)	6 (9.2)	15(21.2)	16(28.6)	5(17.2)	77 (23.5)
5-8 times	42 (39.6)	31 (47.7)	35 (49.3)	25 (44.6)	16(55.2)	149 (45.6)
c -12 times	19(17.9)	21 (32.3)	17 (23.9)	13(23.2)	7(24.1)	77 (23.5)
>12 times	10 (9.4)	7(10.8)	4 (5.6)	2 (3.6)	1(3.5)	24 (7.3)
			How long breast-fed			
1 -6 months	76 (71.7)	47 (72.3)	57 (80.3)	43 (76.8)	18(62.1)	241 (73.7)
7-12 months	29 (27.4)	16(24.6)	12(16.9)	11(19.6)	2 (6.9)	70 (21.4)
13-18 months	1 (0.9)	2(3.1)	2(2.8)	1(1.8)	3(10.3)	9 (2.8)
19-24 months	0(0.0)	0 (0.0)	0(0.0)	1(1.8)	6 (20.7)	7(2.1)
			Breast-feeding as per			
Fixed time	33 (31.1)	20 (30.8)	22(30.9)	23(41.1)	9(31.0)	107 (32.7)
On demand	73 (68.9)	45 (69.2)	49(69.1)	33(58.9)	20 (69.0)	220 (67.3)
			Any problem in breast-feeding			
Yes	15(13.2)	4(5.6)	8(10.5)	3(4.9)	4(12.9)	34 (9.6)
			Anything apart from breast-feeding			
Yes	81 (71.1)	52(72.2)	55 (72.4)	44(72.1)	28 (90.3)	260 (73.4)

** (p<0.001)

TABLE 2

PREFERNCE ON FEEDING PRACTICES IN DIFFERENT LITERACY GROUPS

	Mother's literacy status					
Variable	**Illiterate**	**Primary**	**Middle**	**Secondary**	**Above**	**Total**
			Container used			
Cup/bowl	31 (38.3)	20(38.5)	19(34.5)	14(31.8)	05(17.9)	89 (34.2)
Bottle	50 (61.7)	32(61.5)	36(65.5)	30(68.2)	23 (82.1)*	171 (65.8)
			Method of cleaning			
Water only	23 (28.4)	10(19.2)	12(28.8)	12(27.3)	00 (00.0)	57 (21.9)
Soap	31 (38.3)	16(30.8)	20(36.4)	10(22.7)	11(39.3)	88 (33.8)
Boiling	04 (04.9)	17(32.7)	18(32.7)	19(43.2)	17 (60.7)	75 (28.9)
Ash	23 (28.4)	09(17.3)	05(19.1)	03(06.8)	00 (0.0)	40(15.4)

(*p<005)

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दिल्ली के मातृ एवं शिशु स्वास्थ्य केन्द्र में स्तनपान कराने संबंधी आदतों के बारे में किए गये इस अध्ययन से प्राप्त निष्कर्षों से पता चलता है कि यद्यपि 92.4 प्रतिशत माताओं द्वारा अपने शिशुओं को स्तनपान कराया गया था, किन्तु 26.6 प्रतिशत माताओं द्वारा ही चार माह की अवधि तक शिशु को आहार के रूप में पूर्णतया स्तनपान ही कराया गया था। शिशुओं द्वारा 67.3 प्रतिशत माताओं द्वारा मांगने पर ही शिशु को स्तनपान कराया गया था केवल 22.0 प्रतिशत महिलाओं द्वारा शिशु जन्म के दो घंटों के भीतर ही शिशु को स्तनपान कराना प्रारम्भ कर दिया गया था, किन्तु अन्य महिलाओं द्वारा शिशु को स्तनपान कराने मे एक दिन 12.2 प्रतिशत या दो दिन 17.1 प्रतिशत की देरी की गई थी। शिशु को स्तनपान कराना शीघ्र प्रारम्भ करना उल्लेखनीय रूप से माताओं के शिक्षा स्तर से जुड़ा पाया गया था। साक्षात्कार की गई माताओं (45.6 %) में शिशु स्तनपान कराने की बारम्बारता प्रतिदिन 5–8 बार पाई गई थी। अधिकांश केसों में (73.7%) शिशु को छह माह तक की अवधि तक पिलाने की आदत भी देखी गई थी। स्तनपान से जुड़ी समस्याओं का उल्लेख मुख्यतया अशिक्षित महिलाओं द्वारा ही किया गया था। उपरोक्त निष्कर्षों से यह संकेत मिलता है कि महिलाओं को स्तनपान के महत्व के बारे में जागरूक करने की आवश्यकता है। सरकारी गैर सरकारी संगठनों द्वारा स्तनपान परामर्श, शिशु आहार तथा प्रबन्धन कार्यक्रम चलाकर इस बारे में सफल अभियान चलाया जा सकता है।

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FEEDING PRACTICES VERSUS NUTRITIONAL STATUS OF INFANTS IN A RURAL ICDS BLOCK OF ORISSA

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ABSTRACT

Breast-fed babies are the best fed babies. In order to obtain information on infant-feeding practices such as exclusive breast-feeding, types of feeds taken in nonexclusive breast-feeding, age of onset of weaning and continued breast-feeding along with weaning; the present study was undertaken in a rural block (Khallikote) of Ohssa where integrated child development project (ICDS) was also ongoing. Of the total 383 infants included in the study, only 33 (8.6%) were exclusively breast-fed for a period of 4-6 months while 118 (30.8%) for less than a month. Only 19 (4.9%) of the infants were exclusively breast-fed upto more than 6 months of age. Nutritional status of 152 infants in the 0-6 months age group, as determined by weight for age criterion, was completely normal for 78.8 percent of the infants exclusively breast-fed compared to 36.3 percent partially breast-fed or 12.8 percent top-fed ones. Infants (231) between 6-12 months, those weaned but continued breast-feeding were found nutritionally normal in 53.1 percent of the cases compared to those only weaned (29.3%) or only breast-fed (21.1%). The findings from the present study support the contention that though the rural mothers breast-fed their infants, they had little understanding on the real concept and advantages of exclusive breast-feeding.

Keywords: Breast-feeding, Infants, Malnutrition, Supplementary food, Weaning.

Every child has the right to be adequately nourished for normal growth and development. Breast-fed babies are the best fed babies. In our prevailing conditions and among poor communities, exclusive breast-feeding for the first 4-6 months provides optimum benefits on infants growth and development. To keep pace with the growing needs, some extra energy and protein supplement is required for a child weaned at 4-6 months of age. It is estimated that about one-half to two-thirds of the world's population today suffer from hunger and malnutrition[1]. Too early or too late weaning will make the child vulnerable to infection and growth retardation. The present study was therefore initiated to find out the feeding practices adopted by the mothers in a rural block of Orissa so that proper intervention measures, if needed, may be implemented to prevent malnutrition among the infants.

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MATERIALS AND METHOD

The population of Khallikote block was 119,262. Ten percent of the population was surveyed for obtaining results within 95 percent confidence interval. A simple random technique using the card method was adopted and a population of 13,005 was covered. All infants, 383 in number, 0-1 year of age group were taken as the study population. Information on the feeding practices adopted, exclusive breast-feeding as per duration, types of feeds given in non-exclusive breast-feeding, age of onset of weaning and continued breast-feeding along with weaning was collected. This was correlated with the nutritional status of these infants. Weight for age was taken as the criteria to assess the nutritional status.

FINDINGS AND DISCUSSION

The study population consisted of 383 infants of which 152 (39.69%) were in the age groups of 0-6 months and 231(60.31%) in the age groups of six months to one year 33 infants (8.6%) out of 383 were exclusively breast-fed for the period of 4-6 months whereas 118 (30.8%) were exclusively breast-fed for less than one month only. 19 (4.9%) of the infants in the more than six months age group were still on exclusive and continued breast-feeding. These findings were similar to that reported by Agarwal et al. The other major feed among non-exclusive breast-feeding cases were boiled water in 194 (58.61%), animal milk in 66 (19.94%), water and honey in 39 (11.78%) and powdered milk in 32 (11.78%) cases. These data are similar to those reported earlier. In an environment with no facility for clean water coupled with poor personal hygiene, the practice of feeding water and other fluids during exclusive breast-feeding is in fact hazardous for child's health since it exposes them to the risk of infectious diarrhoeal diseases. Data from 304 infants (> 4 months of age) on the onset of weaning revealed no significant difference in both the sex groups (Table 1). However, significantly higher percentage of male infants continued the benefit of breast-feeding along with weaning compared to female infants who were breast-fed for a shorter time period (Table 2). Similar findings on breast-feeding for a shorter duration in case of the girl child were also reported from a study from National Institute of Nutrition, Hyderabad.

TABLE 1
DISTRIBUTION OF INFANTS (>4 MONTHS) AS PER THEIR ONSET OF WEANING

AGE OF ONSET	WEANING		TOTAL
	MALE	FEMALE	
Less than 4 months	11 (7.91%)	19(11.52%)	30 (9.87%)
4-6 months	22(15.83%)	21 (12.73%)	43 (10.86%)
6-8 months	49 (35.25%)	54 (32.73%)	103 (33.88%)
8-12 months	49 (35.25%)	61 (36.97%)	110(36.18 %)
Not yet weaned	8 (5.76%)	10(6.06%)	18(5.92%)
TOTAL	**139 (45.72%)**	**165 (54.28%)**	**304(100%)**

x2=1.6168, P< 0.50, df=4, n=304)

TABLE 2

DISTRIBUTION OF INFANTS (4 12 MONTHS) AS PER THEIR FEEDING PRACTICES

SEX	**FEEDING PRACTICES**			**TOTAL**
	WEANING + BREAST-FEEDING	**ONLY WEANING**	**ONLY BREAST-FEEDING**	
MALE	77 (57.04%)* (55.40%)	54 (35.76%) (38.85%)	8 (44.44%) (5.75%)	139 (45.72%) (100%)
FEMALE	58 (42.96%) (35.15%)	97 (64.24%) (58.79%)	10 (55.56%) (6.06%)	165 (54 28%) (100%)
TOTAL	**135 (100%) (44.40 %)**	**151 (100%) (49.68%)**	**18(100%) (5.92%)**	**304 (100%) (100%)**

(x^2=10.379 *P<0.01.df=2, n=304)

The biochemical composition of human milk makes it as the best infant food during the initial months of life with unparallel nutritive contents, anti-infectious, and behavious stimulating properties. While analyzing nutritional status by using weight for age criteria it was seen that out of 152 infants (0-6 months of age) who were exclusively breast-fed , 78.8 percent were nutritionally (12.8%) in top fed infants. Only 39.5 percent infants were found nutritionally normal in the partial breast-fed and much less (12.8%) in top fed infants. Only 39.5 percent infants were found nutritionally normal in 0-6 months age group (Table 3).

TABLE 3

NUTRITIONAL STATUS OF INFANTS (<6 MONTHS) AS PER THEIR FEEDING PRACTICE

TYPES	**GRADES OF MALNUTRITION**				**SUB-TOTAL**	**TOTAL'**
	Normal	1	2	3		
EBF	26 (78.79%)	7 100%	0	0	7(21.21%) 100%	33(100%) (21.7%)
PBF	29 (36.25%)	28 (54.91%)*	17 (33.33%)	6 (11.76%)	51 (63.75%) (100%)	80(100%) (52.6%)
TOP FEEDING	5 (12.82%)	8 (23.53%)	15 (44.12%)*	11 (32.35%)	34(87.18%) (100%)	39(100%) (25.7%)
TOTAL	**60 (39.47%)**	**43 (46.74%)**	**32 (34.78%)**	**17 (18.48%)**	**92 (60.53%)**	**152(100%) (100%)**

(x2=31228, *P<0.001.df=2. n=152) EBF-Exclusive breast-fed, PBF-Partial breast-fed)

In the 6-12 months age group consisting of 231 infants, those who waned but continued breast-feeding were nutritionally normal (53.1%) compared to those who were only weaned for this finding comes from the reongnition that infection and malnutrition are intermingled with socio-cultural of feed over-dilution, unclean habits, and the reduction in the amount and frequency of feed because of unafordability.

TABLE 4

FEEDING PATTERN VERSUS NUTRITIONAL STATUS OF CHILDREN (>6 MONTHS)

FEEDING PATTERN	**GRADES OF MALNUTRITION**				**SUB-TOTAL**	**TOTAL**
	Normal	1	2	3		
ONLY BREAST-FEEDING	4 (21.05%}	6 (40.0%)	9 (60.0%)	0	15(78.95%) (100%)	˚ 19 (100%) (8.20%)
WEANING AND BREAST-FEEDING	51 (53.12%)	29 (64.44%)	11 (24.44%)	5 (11.12%)	45 (46.88%) (100%)	96(100%) (41.60%)
ONLY WEANING	34 (29.31%)	46 (56.10%)	28 (34.15%)	8 (9.75%)	82 (70.69%) (100%)	116(100% (50.20%)
TOTAL	**79 (34.20%)**	**91 (59.87%)**	**48 (31.58%)**	**13 (8.55%)**	**152 (65.80%) (100%)**	**231 (100%) (100%)**

(x2=26.732, PO.001, df=6, n=231

CONCLUSION

The study has revealed that though the rural mothers breast-fed their infants they had very little understanding on the concept of exclusive breast-feeding. There was also a lack of awareness regarding proper weaning practices. It is therefore important that the mothers are made aware of the importance of right time of weaning, use of locally available weaning foods and the continuation of breast-feeding along with weaning for optimal growth and development of the child. This would also help to improve the nutritional status among their children.

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स्तनपान द्वारा पोषित शिशु, सर्वोत्तम पोषित बच्चे होते हैं। शिशु आहार संबंधी अभ्यासों जैसे पूर्णतया स्तनपान कराना, स्तन्यविमोचन के उपरान्त किए जाने वाले आहार के प्रकार, स्तन्यविमोचन की आयु तथा स्तन्यविमोचन के साथ–साथ शिशु को स्तनपान कराना प्रारम्भ रखने संबंधी अभ्यासों के बारे में सूचनायें एकत्र करने के उद्वेश्य से प्रस्तुत अध्ययन का संचालन उड़ीसा राज्य के ऐसे ग्रामीण ब्लॉक में किया गया था, जहां समेकित बाल विकास योजना भी लागू थी। इस अध्ययन के अर्न्तगत शामिल कुल 383 शिशुओं में से केवल 33 (8.6 %) शिशुओं को आहार स्वरूप 4–6 महीने तक केवल स्तनपान ही कराया गया जबकि 118(30.8%) शिशुओं को एक महीने से भी कम अवधि तक स्तनपान कराया गया था। केवल 19 (4.9%) शिशुओं को ही छः माह से अधिक आयु तक स्तनपान कराया जाता रहा था। शारीरिक भार तथा आयु के मानदण्ड के अनुसार आंशिक रूप से स्तनपान वाले 36.3% शिशुओं अथवा 12.8 प्रतिशत उच्च आहार द्वारा पोषित शिशुओं की तुलना पूर्णतया स्तनपान वाले 6 माह तक की आयु के 152 (78.8%) शिशुओं का पोषण स्तर बिल्कुल सामान्य पाया गया था। 6–12 माह की आयु के शिशओं

(231), जिन्हें स्तन्य विमोचन के उपरान्त भी स्तनपान कराया जाता रहा था उनमें से 53.1 % का पोषण स्तर सामान्य पाया गया था जबकि उनकी तुलना मे स्तन्य विमोचन वाले शिशुओं (29.3%) अथवा केवल स्तनपान पर रखे गये शिशुओं (12.1%) का पोषण स्तर अपेक्षाकृत कम स्तर का पाया गया था। प्रस्तुत अध्ययन से प्राप्त निष्कर्षों से इस बात को समर्थन मिलता है कि यद्यपि ग्रामीण महिलाओं द्वारा शिशुओं को स्तनपान कराया जाता था, किन्तु उन्हें शिशुओं को पूर्णतया स्तनपान कराने के फायदों तांम इसकी वास्तविक अवधारणा की कम जानकारी थी।

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ELIMINATION OF NEONATAL TETANUS IN RURAL PUNJAB

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ABSTRACT

Epidemiological elimination of tetanus in the newborn and the puerpehum is not a distant dream. This is due to the fact that the presently available heat stable toxoid antigen is highly effective and can be delivered in a reasonably aseptic way. In the present study we analysed the neonatal tetanus data, for 11 years (1991-2001), collected from 10 identified villages in Punjab, located in the field practice area of the Department of Community Medicine, Dayanand Medical College and Hospital, Ludhiana. In total, 4,081 deliveries were covered and 4,064 (99.58%) mothers were protected against tetanus during the period by administration of 2 doses of TT/booster as applicable. Yearly percentage of TT/booster coverage ranged from 98.14 percent (1991) to 100 percent (1995 onwards till 2001). There were no untrained birth attendants in these villages and registration of births was 100 percent. Not a single case funtionatal/puerperal tetanus was reported during this period. Further, among the Ah& studied amongst infants, not a single death was due to neonatal tetanus. Thus, it concluded that protection of mothers through TT immunization coupled with invitably clean delivery would lead to a complete elimination of neonatal tetanus.

Keywords: Neonatal Tetanus, Ante-natal Care, TT immunization, Surveillance, Elimination.

Neonatal tetanus (NT) has been a killer with 80-90 percent fatality rate It tends to occur in areas witn poor access to health care and has been one of the most under reported ailments. Consequent upon the inclusion of Tetanus toxoid (TT) immunization of pregnant women in the Universal Immunization Programme (UIP) in various countries, there has been a significant decrease in the estimated global deaths due to NT from 4,08, 000 in 1990 to 2,48,000 in 1997. Five countries in the South East Asia (SEA) region viz. Bhutan, Korea, Maldives, Sri Lanka and Thailand have declared complete NT elimination. World Health Assembly (1989) resolved to eliminate NT by 1995, aiming to reduce the incidence to one case per 1000 live births for each health block. This goal was revised in 1996 and the target date was reset till the year 2000. The mid-decade and year 2000 goals were to protect 80 and 90 percent of children respectively against NT through proper vaccination of mothers.

Operational research has shown that training of birth attendants for practicing the 'three cleans' i.e. clean hands, clean delivery surface and clean cord care, coupled with two doses of adsorbed tetanus toxoid between 16-36 weeks of pregnancy and booster only, if previously immunized, can lead to effective prevention of neonatal tetanus.

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In India too, the progress towards elimination of NT has been significant except in the States of Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh, Orissa and Assam, where TT immunization coverage levels are below the national average. These States also account for 70 percent of deliveries that are conducted by untrained personnel.

The present study was undertaken to analyse the prevalence of NT in 10 identified villages of Punjab located in the field practice area of the Department of Community Medicine, Dayanand Medical College and Hospital, Ludhiana.

METHODOLOGY

The Department of Community Medicine of Dayanand Medical College and Hospital, Ludhiana, Punjab (DMCH), provides comprehensive health care to its adopted area of 10 villages in Block Dehlon, District Ludhiana. Its Rural Health Centre is located at village Pohir (RHC Pohir) since 1991. Since 1991, the combined population served by RHC Pohir is shown in Table 1.

TABLE 1
POPULATION COVERED BY RURAL HEALTH CENTRE (DMCH), LUDHIYANA, PROVIDING COMPREHENSIVE HEALTH CARE (1991-2001)

YEAR	NO. OF VILLAGES	POPULATION
1991	07	10,365
1992	07	10,573
1993	08	14,895
1994	09	16,702
1995	10	19,221
1996	10	19,344
1997	10	19,530
1998	10	19,646
1999	10	19,602
2000	10	19,975
2001	**10**	**20,002**

Each family is registered and a comprehensive record has been maintained by a family folder system. Those in need of services are entered in the master register and services are provided through regular home visits.

Keeping the married women in the fertile age group under surveillance and by regular home-visits and recording their last menstrual period, 100 percent pregnancies were detected. Once confirmed, the pregnant woman was entitled for special care and her name was entered in the maternal section of the master register. Antenatal care was provided through regular home-visits and advice on nutrition, antenatal clinic attendance, TT immunization, arrangement for delivery and family planning were also provided.

Those women, who failed to avail the services of the antenatal clinic at RHC, were given at least two doses of adsorbed tetanus toxoid at home and those protected earlier within the last three years were given a booster dose.

A very close rapport was maintained with the 'dais' and though the staff at the center provided both support and supervision.

There was no untrained 'dais' in any of the villages as most of them were already trained at RHC.

FINDINGS AND DISCUSSION

Table 2 shows the extent of ante-natal TT coverage in the RHC Pohir area for 11 years, for the period 1991-200. There were 4,081 deliveries during this period. Majority of the deliveries was conducted at home by trained personnel, and the rest at RHC/other institutions. Antenatal TT coverage was over 98 percent between years 1991 to 1994 and 100 percent from year 1995 to 2001 with an overall percent coverage of 99.58 percent.

TABLE 2
ANTENATAL TT COVERAGE BY RURAL HEALTH CENTRE AREA (DMCH), LUDHIANA DURING THE PERIOD (1991-2001)

S. No.	YEAR	DELIVERED MOTHERS	INJ. TT TAKEN	% Protection
1	1991	323	317	98.14
2	1992	353	347	98.30
3	1993	409	409	100.00
4	1994	423	418	9881
5	1995	430	430	100.00
6	1996'	396	396	100.00
7	1997	409	409	100.00
8	1998	345	345	100.00
9	1999	348	348	100.00
10	, 2000	318	318	100.00
11	2001	327	327	100.00
	Total	**4081**	**4064**	99.58

The cause of infant/neonatal mortality in the area was analysed for the same period It is pertinent to mention that 100 percent pregnancy outcomes in this area were known and documented (Table 3). It was found that not a single case of neonatal tetanus was reported during this period among a total of 224 infant/neonatal deaths. Sachar et al reported similar findings from another rural block of Ludhiana district for the period 1976-1980 in which a similar strategy of antenatal and intra-natal care was deployed. Further, records revealed no maternal deaths due to puerperal tetanus during the same period (data not shown).

The study thus reinforces the concept that efficient antenatal TT coverage coupled with reasonable safe delivery practices would certainly lead to a path of achieving complete elimination of NT.

TABLE 3
CAUSES OF INFANT NEONATAL DEATHS IN RURAL HEALTH CENTRE AREA (DMCH), LUDHIANA (1991-2001)

	0-7 days	7-28 days	28 days -1 years	Total
Total No. of Deaths	103	30	89	224
Premature/ LBW	35	5	12	52
B. Asphyxia	35	-	-	35
Congenital Abnormality	13	3	10	26
Aspiration	12	1	6	19
Diarrhoea	-	9	21	30
Pneumonia	-	3	7	10
Septicaemia	4	4	13	21
Jaundice	1	3	12	16
PEM	-	-	2	2
Others	3	2	6	11

CONCLUSION

This micro-study leads us to believe that it is possible to achieve complete elimination of neonatal tetanus on a community basis, provided sound strategies are adopted such as:

1. Detection of all pregnancies, as early as possible, by systematic surveillance of all married women in the fertile age group,
2. Full ante-natal TT coverage/booster dose as applicable under UIP,
3. Ensuring each and every delivery attended by trained dais, and
4. Proper supervision, adequate training and support to local dais in each village.

Lkkjka'k

नवजात शिशुओं और प्रसूतिकावस्था में टेटनेस का जानपादिक विलोपन कोई दूर की बात नहीं है। ऐसा इसलिए संभव है कि वर्तमान स्थिर तापमान टाक्साइडएंटीजन काफी प्रभावशाली है और पर्याप्त आपूतिदूषित विधि से इसे दिया जा सकता है। इस अध्ययन में हमने पंजाब में लुधियाना के दयानन्द मेडिकल कालेज और अस्पताल के कम्यूनिटी मेडिसिन विभाग के फील्ड प्रैक्टिस एरिया के 10 अभिज्ञात गांवों से 11 वर्षों की अवधि (1991–2001) के बारे में नवजात

टेटनेस से संबंधित आकड़ों का विश्लेषण किया गया था। अध्ययन में कुल 4,081 प्रसवों को कवर किया गया था। और गर्भावस्था के दौरान टीटी/बूस्टर की दो खुराक देकर 4,064 (99.58%) माताओं को संरक्षित किया गया था। टीटी/ बूस्टर कवरेज की वार्षिक प्रतिशतता 98.14% (1991) से 100% (1995 से 2001 तक) थी। इन गांवों में कोई अप्रशिक्षित दाई नहीं थी और 100% जन्म पंजीकरण कराए गये थे। इस अवधि में नवजात/प्रासविक टेटनेस का कोई भी केस नहीं पाया गया था। इसके अतिरिक्त अध्ययन काल में मरने वाले नवजात शिशुओं में कोई भी शिशु टेटनेस से नहीं मरा था। इसप्रकार यह निष्कर्ष सामने आया है कि पर्याप्त सुरक्षित प्रसव के साथ–साथ टीटी के टीकाकरण से नवजात टेटनेस का पूर्ण विलोपन संभव हो सकता है।

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