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#### **EDITORIOALS**

#### **ELECTRICAL STIMULATION IN MEDICAL SCIENCES : FROM BASIC TO APPLIED.**

**Dr. Janardan V. Bhatt MD.MD.PhD. Editor.**

The concept of electricity in living tissue is not new. In early part of 18th century. John Hunter, Cavendish, etc demonstrated electricity in eels, rays (fishes) to stun their prey with electric shock. It was Luigi-Galvani who demonstrated muscular contraction by electrical stimulation. He took a dissected frog outdoor on the upstairs porch and attached wire on it. As the lightning broke out at the same moment, the muscles fell into multiple contraction. He concluded that electrical current stimulate the muscle and produce

muscular contraction. He also proved further that electrical phenomena could be produced by muscular contraction. In 19th and 20th century, research continued with the invention of galvanometer, micro electrodes, cathode ray oscilloscope. These inventions lead us to understand the structure and functions of excitable tissues like neurons, skeletal muscles, cardiac muscles and smooth muscle. So in these inventions, the electrical stimulation method contributed a lot to understand the neuro anatomy and neuro physiology of central nervous system. By the end of previous millennium the concept of electrical stimulation was well advanced to treat the various disorders of excitable tissues like nerves and muscles and Central Nervous System.

The 1<sup>st</sup> and well established electrical stimulation therapy is electro-convulsive Therapy (ECT). The ECT was and is used widely to treat various resistant psychiatric disorders i.e. drug resistant depression, schizophrenia etc. The electrical current here used is stronger enough to stimulate various brain structures and has significant impact on brain physiology from transient to long term one.

Most specific use of electrical stimulation is used in cardiology to treat the various serious bradycardia and heart Blocks in the form of artificial pace-maker therapy. The pace-maker therapy was later on further advanced to treat various tachyarrhythmia also in the form of over drive pace-maker therapy. Pace-maker technology is extremely flourished in last millennium. The electrical therapy is used to treat ventricular-tachycardia/flutter/fibrillation, atrial tachycardia, flutter, & fibrillation, and other life threatening supra-ventricular tachyarrhythmia in the form of D.C. Shock therapy. Defibrillation therapy is further advanced to implantable defibrillator device for the management of resistance and recurrent ventricular tachycardia and fibrillation.

In all patterns of skeletal muscle weaknesses i.e. paresis, paralysis, neuropathies, myopathies etc the direct stimulation of muscle or indirect via nerve stimulation, the electrical stimulation therapy is widely used as a part of physiotherapy. Wide range of electrical stimulation devices are developed for these purpose with providing adequate comfort to the patient.

Electrical stimulation of organs with smooth muscles i.e. stomach, intestine, rectum, urinary bladder, are understudy and some are already available for the clinical use. One such example is gastric-electrical stimulator a pace-maker device to offer relief to people with severe gastroparesis in diabetes. The FDA has approved the gastric pace-maker for clinical use. Electrical stimulation of sacral-nerve roots to urinary bladder is used to achieve continence and voiding of urinary bladder. In this therapy electrodes are implanted and activated via trans-cutaneous radio frequency current. Stimulation of anterior S3 root activate urethral & bladder smooth muscle. This therapy is useful in patients with spinal cord injury and paraplegia. In patients with spinal cord injury and paraplegia electrodes causes erection of penis sufficient for coitus in 50% of implanted male. Seminal fluid emission has been reported by electrical stimulation with electrode implanted in rectum. Hypogastric nerve stimulation also produces successful seminal emission.

Recently the electrical stimulation therapy has gained a lots of attraction in neurology for the management of pain. The electro-analgesia the transcutaneous nerve stimulation deliver low intensity high frequency electrical stimulation over the painful area. Though the results are variable, in selected cases it gives significant pain relief. Electrical stimulation of acupuncture needle also affect by endogenous opoid system. Electrical stimulation of posterior column of spinal cord, periaqueductal grey matter, thalamus and mid-brain also associated with profound analgesia but it is available in only limited center and cost is the major drawback.

Recently, implantation of micro-electodes and electrical stimulation in the area of basal ganglia is also found to be useful for the management of parkinson's disease and other involuntary movements (by micro electrode implanted in the brain).

In diagnosis of various neuro-muscular disorders, the electrical stimulation is widely used in the form of electro myography (EMG) and measurement and study of nerve conduction velocity. These methods are useful for the diagnosis of neuropathies, myopathies and disorders like myasthenia gravis.

In the late past of last century, neuro-scientists have tried to develop non-invasive methods to stimulate the brain, thereby avoiding, brain surgery and open craniotomy. The most recently, the vagus nerve stimulation in the neck has been established & approved by PDA for the treatment of certain neurological disorders like drug resistance epilepsy and partial onset seizure disorders. This therapy is also considered for the treatment of drug resistant depression.

With the study of successful outcome of vagus-nerve stimulation for drug resistant epilepsy and depression there are other areas of potential clinical promise with vagus nerve stimulation. Those are anxiety disorders, general anxiety or panic disorder, obesity, sleep disorders, pain disorders, memory disorders etc. Vagus nerve stimulation build on a long history of investigating the relationship of autonornic signals to limbic and cortical function and is one of the newest method to alter physiological brain function. The known anatomical projection of vagus nerve suggest that vagus nerve stimulation also might have other neuro psychiatric applications. Additional research is needed to clarify the mechanism of action of vagus nerve stimulation and potential clinical utility.

Sir William Osier "Our Main business is not to see what lies dimly at a distance but to do what lies clearly at hand"

## **EDITORIOALS**

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## **DISASTER PLANNING**

**Dr. Jay K. Sheth - Junior Lecturer, Dept. of P&SM**  
**Dr. K. N. Trevidi - Prof., & H.O.D. of P & SM**

What constitute a Disaster

According to WHO, A disaster is any occurrence that causes damage, economic disruption, loss of human life and deterioration of health and health services on a scale sufficient to warrant an extraordinary response from outside the affected community or area.

The word disaster came from the French word 'Desastre'. 'Des' means bad or evil and 'astre' meaning star. Thus Disaster means bad or evil star, as it was believed previously. According to Webster's Dictionary, disaster is a calamitous event, producing great material damage, loss and distress. According to oxford dictionary, Disaster is a calamity or a sudden misfortune. Colin grant defines disaster as a catastrophe causing injury and/or illness of 30 or more people.

Disaster are also defined as situations of unforeseen, serious and immediate threat to public health and disruption of human ecology, which exceeds the resources of the community stricken and which cannot be absorbed by the adjustment capacity of the affected community within its own resources. Thus, in simple words disaster is an unforeseen event either by its very occurrence or by its magnitude, with which the community affected is unable to cope and thus needs to call for external assistance.

The committee on challenges of modern society defines disaster as one of sufficient severity and magnitude to warrant emergency assistance. Turner (1976) defines disaster as an event, concentrated in time and space, which threatens a society or a relatively self-sufficient subdivision of a society with major unwanted consequences as a result of the collapse of precautions, which had hitherto been culturally accepted as adequate.

Importance of disaster plans

The above definitions implies that the disaster is the result of an immediate situation or the result of a long set process, which disrupts normal human life in its established social, traditional and economic system. Disasters cause sudden disruption to the normal life of a society and cause damages to property and lives to such an extent, that normal social and economic mechanisms available to the society all get dispersed. People and officials are both caught unaware and in the circumstances lose their sense of initiative and direction. Consequently, relief work is hampered and unnecessarily delayed. In such cases, the existence of a disaster-preparedness plan is like a "god send". The distraught officials then have at their hand, a complete set of instructions, which they can follow and also issue directions to their subordinates and the affected people. This has the effect of not only speeding up the rescue and relief operations, but also boosting the morale of victims, peoples and officials to cope better in a disaster situation.

Disaster plans are useful not only in disaster situations but also serves to be useful in pre-disaster situations, when warnings have to be issued. The plan again serves as a guidance to officials and precious time is saved which might otherwise be lost in consultations with senior officers and getting formal approval from authorities. As it is neither economical nor practicable to protect every item and the entire population against extremely rare events, response plans are also formulated.

Whether Disaster Plans are really required?

The need for disaster preparedness plan is sometimes questioned. Proponents of this view are of the opinion that disasters will occur whether we like it or not, 'therefore it is better for nature to take its course, then use all available means of assistance to build for a better tomorrow. However, international experience mostly indicates that where plans did not exist or planning was inadequate, then the effects of disaster on countries and their peoples have been worse than would have otherwise been the case. A senior disaster management official is said to have remarked: "When we look back on the disaster and what it did to our country, there is no doubt that hundreds of people are alive today because we had proper disaster plans." Thus not having a disaster plan in the situation of a disaster may itself actually serve to be a disaster!!!

Planning

A Plan is a blue print for taking action. Planning results in formation of a plan with clear & coherent approach towards specified objectives by allocation of resources & responsibilities & consequently improves coordination. Planning is a continuous, systematic & coordinated process of teamwork. It is not a process in which some specialized agency or team acts in isolation. The planning process essentially needs to be action oriented, to involve a wide range of people and organizations and to produce an end result which has the agreement and support of all those involved.

Why there is need for careful planning?

- Increasing need for mitigation & relief
- Inflation of expectation especially in a disaster situation
- Limited resources for counter-disaster "measures
- Increasing understanding & awareness regarding disasters
- Felt-Need for prevention

The object of planning is

- To match limited resources
- To eliminate wasteful expenditure
- To develop the best course of action to accomplish a defined objective
- To anticipate future situations & requirements to ensure the application of effective and co-ordinated countermeasures.

Significance of Disaster Plans

A disaster preparedness plan essentially contains measures to be taken before, during or after disaster strikes. It contains an inventory of what materials are available where and with whom, and the delegation of responsibilities among various government officials and departments. It gives guidelines about partnership with other bodies like NGO's, social workers and international agencies. Thus, in an emergency situation, authorities have a ready guide at hand and are fully aware of the steps to be taken. Competent plan execution by the administration has numerous advantages. It ensures that the effect of the disaster is minimized & that, should disaster strike, the time taken to return to normalcy

is minimized. Disaster preparedness plans also contain certain long-term, wide-ranging measures to be carried out. It might include special measures for specific disasters.

Characteristics of disaster planning: Few important characteristics are as follows

#### Nature and Scope

There is no rigid standard format for disaster preparedness plans. In fact, the reverse applies, in that the format needs to fit the circumstances in which the plan is being made and the requirements, which it is designed to meet. However, certain common features tend to apply to most plans. Planning process involves consideration of a wide range of disaster related matters in order to decide what is eventually included in the plan.

However, not all aspects will be related to all levels of plans, neither will all aspects assume equal importance in different plans. Such measures are complex & interdependent, most effectively applied through a diversity of integrated services. The ultimate format of a plan should best be suited for fitting together the various resource organizations and other ' components that make up the plan.

#### Practicability-Viability

A plan has to be practical if it has to succeed. For this purpose, it needs to be revised carefully at periodic intervals and amended as necessary to keep it up-to-date and fully viable for the purposes for which it is designed.

#### Clarity of Aim

The aim needs to be carefully and accurately selected, because it determines the whole thrust and scope of the plan. All information, directions and instructions, which are included in the plan, then need to be in line with the aim.

#### Realism

The plan must be realistic in the sense that it relates to an accurate assessment of the disaster threat and that it takes into account the scale and capability of counter-disaster resources, which are available.

#### Flexibility

Because disaster circumstances tend to vary and do not necessarily follow set patterns, counter-disaster plans need also to be flexible. Flexibility is best achieved by planning to cope with the full range of possible disaster threats and ensuring that, within the overall plan, response arrangements can be rapidly adapted to new and changing circumstances. Planned decentralization, where appropriate, is a useful adjunct towards achieving flexibility

#### Coordination

The planning process is a cooperative process. A coordinator can make the task simpler and more effective. There should always be full consultation with all concerned, particularly to ensure that mutual agreement is reached on responsibilities designed within the plan. Since coordination of effort is a key factor in counter-disaster activities, the plan should include the optimum system for direction/coordination.

### Provision of legal Authorization

The planning process, and the plan itself, should include provision for legal authorization, thus making the plan a lawful instrument of the government. It is generally recommended that this should occur whether or not disaster legislation exists.

### Definition of responsibility

It is critically important that responsibilities are clearly and unambiguously defined in plans. This reduces to a minimum the possibility of misunderstandings, duplications and omissions in the various activities the plan covers. Of equal importance is the fact that clear definition of responsibility significantly helps in achieving coordination of effort

### Ease of Use

The plan should be formulated in such a way that it is easy to use. References within the plan should be clear and readily identifiable. Also, the body of the plan needs to be kept as clear and concise as possible, with annexes being used of very detailed information for the authority in-charge to have at their hand while managing the disaster situation. During the drafting of the plan it should be remembered that the plan must be easy to use. In most cases, the plan will be used under difficult disaster circumstances when, perhaps, communications are adversely affected; therefore, everything possible should be done during planning to assist the user.

### Plan components

There are a number of options for dividing the plan into sections or components. One way this can be achieved is to have:

A main plan (or main action plan) which contains the primary parts of the plan, such as the threat, the main requirements for dealing with the threat, resources, organizations, direction and coordination, warning, operational implementation or the plan, counter-disaster operations, recovery policy, post-disaster review, etc.

Sub plans which are a part of the main plan but which may be required to amplify parts of the main plan which need special consideration, such as welfare, evacuation, public information and so on.

Special plans which may be required to deal with special contingencies such as an outbreak of exotic animal disease, which would require specialist personnel and procedures. Such special plans would normally be designed to work in harmony with the main plan and utilize the overall counter-disaster organization as necessary.

Few important aspects that essentially needs to be considered especially in a disaster plan are

- Communication
- Leadership - Qualities & responsibilities Guidelines for Assistance
- List of resources
- Public awareness programmes
- Community participation
- Role of various agencies

- Protection of livestock Information - Collection, organization & Dissemination
- Search, rescue & evacuation measures
- Measures for shelter & reconstruction
- Measures for resettlement
- Measures for social & economical rehabilitation Emergency health operations
- Measures for food & Nutrition
- Measures for safe drinking water
- Measures for hygiene, sanitation & community health during disasters
- Measures for predictability, forecasting & warning
- Human behavioral response at individual community & Institutional levels
- Components of Monitoring & Evaluation etc.

**N.B.:** The points described by no means cover all the aspects nor do their sequence has any significance.

Disaster planning essentially involves all aspects of disaster including Prevention, Mitigation, Preparedness/Response, Recovery & Rehabilitation.

#### Prevention

Prevention measures are those, which are aimed at impeding the occurrence of a disaster event and/or preventing such an occurrence having harmful effects on communities. Such measures need to be implemented from higher levels after evaluating cost-effectiveness analysis & sometimes legislation is also resorted to. It mainly includes structural & nonstructural measures designed to prevent/reduce the effects of disaster when they occur. It seems more appropriate for such measures to be applied as a series of programmes or regulations rather than as plans.

#### Mitigation

Mitigation is also defined as "Measures aimed at reducing the impact of a disaster". The concept of mitigation recognizes that all disaster events are not preventable &/ or feasible and that application of such measures can moderate or reduce the disaster effects.

#### Preparedness/Response

The combined categories of preparedness & response generally tend to constitute the most widely used basis for counter disaster plans, which might be called action plans. Effectiveness of response depends much on good preparedness.

#### Recovery-Rehabilitation

It requires more flexible approach to deal with recovery & rehabilitation through arrangements which, depending on circumstances, are specific to each disaster event.

#### Advocacy Planning

In this approach, planning team acts as catalytic agents, presenting choices to various groups or organization like local self-government, Non-governmental organizations, Community based organizations, while seeking support for that approach which seems to bring most benefits to a wide range of beneficiaries at a cost that is affordable. Planning related activities command popular support when they are seen through a good public

information policy, to be directed towards achieving public good and access amenities and services and projects that reduce vulnerability to natural disaster are likely to command respects.

#### Role of Planner

It is virtually important for the planner, throughout the planning process to keep certain critical points in consideration. Being a person trained in a wide range of abilities ranging from administrative procedures to elementary structural engineering, he occupies a unique position as being able to perceive, from various standpoints, conflicting issues that might arise from time to time. Such a skill comes in most handy to settle the contentions of disputing professionals. The planner has to take on the responsibility of keeping the aim of the plan clear & formulating further planning keeping an eye on the aim. On the planner also lies the responsibility to seek guidance from various other experts whenever required. Obviously, the responsibility carried by disaster management planners is an enormous one. If the planners get the plan wrong, then the repercussions can be very severe and widespread, possibly involving the loss of many lives. On the other hand, accurate and meticulous planning not only produces an effective plan, it also provides the focus for successful disaster management overall.

#### Types of Disaster Planning

An effective approach to reducing risks and disaster mitigation has long-term and short-term goals.

**Long-term Planning & Short Term Planning are to be put into action.**

**Words are put into action**

**Action speaks louder than words**

Disasters can be met with effectively only if a judicious combination of long-term and short-term planning is applied. While the results of short-term planning are more apparent and faster, the ultimate reduction in damage from disasters is achieved only through long-term planning.

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## CHANGING TRENDS IN CAESAREAN SECTION

**DR. BABU S. PATEL, M.D. Asst. Professor of Obstetrics  
and Gynaecology Smt. NHL Muni. Medical College, Sheth VS General and  
Sheth CM Hospital, Ellsbrldge, Ahmedabad.**

"The art of surgery has not replaced the older art of obstetrics; it has only softened it, for it is of a gentler kind."-Marshall, 1955.

Caesarean section is almost certainly one of the oldest operation of great antiquity and its origin is lost in mythology. It was performed on dead woman before burryingther along with child, she was carrying. Only around 1500 A.D., caesarean was performed on live woman.

In the days of modern obstetrics, focus of obstetric thinking has changed increasingly towards the perinatal survival and prevention of birth trauma to the baby. The awareness of perinatal mortality and morbidity associated with safety of caesarean section, expert anaesthesia, potent antibiotics, blood transfusion facilities and better neonatal care have increased incidence of caesarean section very fast.

The rising caesarean section rate in the United Kingdom continues to generate much debate. In Scotland the caesarean rate rose from 8.5 % in 1975 to 16% in 1994. The unpublished data of one of the teaching institute of Ahmedabad explore caesarean rate of 1.4% in 1955, 2.68% in 1960, 3.2% in 1965, 4.1% in 1970, 6.5% in 1975 and 11.2% in 1985. The caesarean rate of our institute of the year 1999 is 20.22% and of 2000 is 22.14%. Thus there is fast, stedy and definite rise in incidence of caesarean everywhere. But the question is ' Is a rising caesarean section rate inevitable?

Analysis of different studies provide interesting information. Most sections (50%) are carried out as emergencies during labor, 35% as elective operations and 15% are undertaken as emergencies before labor. About half (50%) of all singleton caesarean sections are in primiparous women, and among primiparae, emergencies during labor was responsible for about 35% of caesarean sections.

Four indications are accounted for 80-85% of total caesarean sections.

- 1 .Elective operation for breech presentation.
2. Emergency section before labor because of suspected growth retardation and/ or fetal distress.
3. Emergency section during labor because of failure to progress and/ or fetal distress.
4. Repeat caesarean section- none of the above indications.

Interestingly, maternal requests of 8% in singletone fetus and 20% in previous caesarean cases for elective caesarean section have been recorded.

The findings of retrospective studies have suggested that the caesarean section rate could be reduced in certain categories. Reducing the section rate in primiparae is of utmost importance if the overall section rate is to fall without an increase in fetal morbidity. There is scope to increase the vaginal delivery rate(16%) after one previous caesarean section. Thus, if a substantial portion of previous-caesarean patient can deliver

vaginally - and experience indicates that 60% or more can - the number of caesarean , medical risks and costs can be reduced. Collected studies in U.S.A. for the last 40 years show an overall 79.6% VBAC.

**For every ailment under the sun, There is a remedy or there is none;  
If there is one, try to find it; If there be none, never mind it.**

**ORIGINAL PAPERS & ARTICLES**

**DRETROSPECTIVE STUDY OF PREVALENCE OF  
FALCIPARUM MALARIA IN AHMEDABAD. Dr. Jyotiben S. Deokule, Prof. &  
H.O.D. Microbiology  
Smt. N.H.L. Muni Medical College.AHMEDABAD : 6**

Malaria is one of the commenest public health problem. Due to associated high morbidity & mortality rate in falciparum malaria it is necessary to use the easy and sensitive screening method for the laboratory diagnesis of Falciparum maleria.

The patients of Falciparum malaria were first seen in Ahmedabad in the year 1974-1975. After that the rate of Falciparum malaria is increasing day by day. We studied total 17,774 peripheral blood smears of the partients attending Q.P.D. or admitted in Sheth V. S. General Hospital during the year of 1999 and 2000. We stained the smears with conventional field stain (for thick smears) and Leichman stain (for thin smears) and in many cases Q.B.C. was also used. Out of total 17774 blood smears examination 997 were positive for malaria parasite. 488 were positive for P. Vivax. 509 were positive for P. Falciparum Year wise breakup shows

Year	Total BSE	Total Malaria Positive	P.V.	P.F.
1999	6755	491	191	300 60%
2000	11015	506	303	203 40%

The percentage of cases of cerebral malaria out of total P. Falciaprum malaria are %

Year	P.F.	%
1999	17/300	5.7%
2000	11/203	5.4%

During previous two years i.e. 1997 and in 1998 the percentage of cerebral malaria 9.7% & 10% respectively The total rate of P. Falciparum malaria cases was also high i.e. about 60 to 65% of total malaria cases.

The rate of PI. Falciparum malaria is reduced in the year 2000 it may be due to better

preventive measures, decreased mosquito density and prophylactic use of antimalarial drugs.

The study also shows declining incidence of cerebral malaria. The reason may be early and more sensitive diagnostic facility & better & early treatment.

## **CANCER INCIDENCE IN AHMEDABAD URBAN AGGLOMERATION AREA**

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Ahmedabad Urban Agglomeration Area has an area of 255 sq. kms and a population of 33,38,786 with a sex ratio of 890 females per 1000 males as per 1991 census. The estimated population for the year 1997 was 39, 67,781. The population Based Cancer Registry collects information on cancer from over 50 sources all over the area and population defined and data of the calendar year 1997 is presented. Eleven collaborating hospitals (Gujarat Cancer Research Institute, Municipal Corporation Hospitals, Government hospitals and others), Vital Statistics Division of Dept. of Public Health of Ahmedabad Municipal Corporation, private consultants etc. contribute to this.

A total of 2815 cancer cases (1641 males and 1174 females) were registered during 1997. The proportion of cancer cases in males and females was 58.29% and 41.71% as against 53% and 47% of their distribution in the population. The Crude Incidence Rate per 100,000 per year in males was 78.1 and in females 62.9. The corresponding Age Adjusted Rates were 121.6 and 90.8 respectively. Thus a clear male preponderance is observed. The total cancer incidence in the world is estimated around 290 per 100,000 population for developed countries and 182 per 100,000 population in developing countries\*. The incidence in India ranges from 110 to 130 per 100,000 population<sup>2</sup>. There are wide variations in the incidence of urban and rural areas.

### **Cancers in Broad Age groups and in both Sexes:**

Cancers in pediatric age group (0-14 years) were about 3%. The 35-64 years age group, which constitutes 25.5% of population, cancer morbidity is observed to be 62.4% of total cancers. Over 25% of the cancer load (maximum for any age), was observed in the elderly (over 65 years), who represent 3.5% of the population.

The leading sites in the men are Lung, Oesophagus, Base of tongue, Piriform Fossa and Larynx. In women, they were Breast, Cervix, Oesophagus Ovary and Lung. Nearly half (48.5%) of all cancers occurring in men and the first six sites in men were related to tobacco use as against 16.01 % of them in women. Lymphatic Leukemia and Lymphoma

topped the list of childhood malignancies. In the young adult males (15- 34 years age group). Testis, Brain, Myeloid Leukemia were common sites. Bronchus and Lung, Other parts of mouth, Oesophagus, Base of tongue and Larynx were leading sites in men from 35 years onwards. In the geriatric group also, same sites topped the list. In the females, Breast and Cervix topped the list from 15 years onwards to the oldest age group. Myeloid Leukemia ranked third in young adult women and Brain ranked fourth. In the 35-64 age group, Oesophagus appeared in the third place followed by Ovary.

Microscopic Verification of diagnosis is an indicator of reliability of diagnosis of cancer. This could be achieved in about 80% of all cases. Death Certificate Only constituted 8% of cases. Mortality / Incidence Ratio was 22%. Cancer mortality data constituted 616 total resident deaths during

**Table : NEW CANCER CASES BY SITE AND SEX IN AHMEDABAD YEAR 1997**

SITE	MALE		FEMALE		TOTAL	
	No.	%	No.	%	No.	%
Lip, Oral Cavity & Phx	422	25.72	99	8.43	521	18.51
Digestive Organs & Peri	252	15.36	138	1.75	390	13.85
Respiratory & Intrathoracic	252	15.36	49	4.17	301	10.69
Bone Articular Cartilage	27	1.65	12	1.02	39	1.39
Skin	31	1.89	15	1.28	46	1.63
Mesothelial & Soft Tissues	25	1.52	21	1.79	46	1.63
Breast	3	0.18	279	23.76	282	10.02
Genital Organs	83	5.06	258	21.96	341	12.11
Urinary Organs	60	3.66	18	1.53	78	2.77
Eye, Brain & CNS	52	3.17	48	4.09	100	3.55
Thyroid & Other Endocrine	11	0.67	11	0.94	22	0.78
Secondary	124	7.56	51	4.34	175	6.22
Others & Unspecified	162	9.87	96	8.18	258	9.17
Lymphomas & Leukemias	137	8.35	79	6.73	216	7.67
All Sites	1641	100.00	1174	100.00	2815	100.00

the year. The crude cancer death rate was 15.5 as against crude incidence rate of 71 per 100, 000 population. Base of the tongue is predominantly affected site in men (M:F ratio :: 9:1) with a median age of incidence of 54.2 years. Breast and Uterine Cervix topped the list, accounting for 24% and 13.5% of all malignancies respectively in females. The median age of incidence of either site was 50 years in them.

### **Cumulative Cancer Incidence Rate:**

It is a summary measure of the experience of a population over a longer time span. It is a good approximation to actuarial or cumulative risk. The probability of development of any cancer is one in 13 in men and one in 15 in women if one survives up to the age of 64 years. Considering life expectancy of 64 years in either sex in this city. The probability of a woman developing a breast cancer is one in 60 and that of a cervical cancer is one in 114. In men the probability of developing a lung cancer is one in 139 and that of a tongue is one in 156. References:

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## **"REVIEW OF LIVER BIOPSY AS A LIVER FUNCTION TEST IN THE ERA OF ADVANCED HEPATOLOGY"**

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### **Introduction**

To conquer the liver disease and decrease the number of patients dying of liver failure is the Ultimate challenge for researcher and medical professionals. One side, the number of its causes and aetiological factors are added day by day including types of hepatitis viruses i.e. A,B,C,D,E,F,G, etc... So the spectrum of disorders of liver is increasing on one hand, and spectrum of treatments available for liver diseases are also increasing on other hand. In this situation knowledge of type and degree of liver injury is essential. The number of non-invasive liver function test, is increasing day by day. In this setup, the invasive test i.e. liver biopsy appears to be forgotten. The liver biopsy is the most important method for assessing the pattern and degree of liver injury and even it can fore tell the prognosis also. In this article we have tried to evaluate the liver biopsy its outcome, with its therapeutic perspectives.

## Material & Method.

Consecutive 104 patients, presented with suspected liver diseases, i.e. Jaundice, Portal hypertension, were undergo liver biopsy procedure after ruling out the contraindication. The patients were screened clinically, hematological and biochemical liver biopsy was done by using wim-silverman lever biopsy needle under local anesthesia. Usual histopathological procedures were carried out and the tissues were stained with H&E, PAS, and retic stains.

## Observation

Total 104 patients, 58 male - 46 female age range from 2 Vi years to 64 years (mean age 42.3) were presented to our institute during January 2000 to Dec 2000 and were recruited in the study. Following table summaries the pattern of Histopathological diagnosis.

Name of the disease	Total No.104
Micro nodular Cirrhosis	26
Macro nodular Cirrhosis	04
Mixed Cirrhosis	11
Chronic Hepatitis	12
Mild fatty changes	11
Mild fibrosis in portal triad	08
Tuberculous Granuloma	04
Liver abscess	04
Hydatid-cyst	04
Giant cell hepatitis/Neonatal	05
Idiopathic hepatitis	
Dubin Johnson's syndrome	01
Solitary Cyst	02
Alfa 1 anti trypsin deficiency	01
Passive Venous Congestion	02
Extra madullary hematopoiesis	02
Budd Chairy syndrome	01
Peliosis hepatica	01
Normal Histology	05
Total n=104	

## Discussion

From the table it is evident that cirrhosis of liver is leading diagnostic outcome of all the histopathological lesion. The micro nodular cirrhosis is more frequent finding than macro nodular. Only 8% of cirrhosis patients have positive hepatitis B Virus antigen positive. This suggest that there remains a large quantum of patients with cirrhosis with negative virus markers. Unfortunately even-large medical centers do not have facilities for other hepatitis virus markers. Large number of drugs are also found to be responsible for hepatotoxicity and these drugs may also produce cirrhosis of liver. Incidentally in clinical setup, it is easy to blame a drug-hepato-toxic, but it is difficult to prove. Now a days, certain drugs like Interferon, Lamidudine, Ribavirin are found to be curative in hepatitis-

B & C. So all efforts must be made to detect HCV. RNA, by RT-PCR. In these circumstance, one should also consider the fact that viruses of hepatitis are also infect the transplanted liver. In this study eleven cases were having mild fatty changes in the liver. In early stage, In early stage, such fatty changes in the liver are reversible if the offending agents i.e. alcohol, certain drugs are removed. Otherwise such changes may progress to cirrhosis of liver. In this situation one should also consider a condition called non-alcoholic steatic hepatitis (NASH). The hepatitis is similar to alcohol type but the patient is not alcoholic in clinical setup. The natural history and prognosis of NASH needs further study. In this condition glycaemic control, treatment of obesity, hyperlipidemia and avoidance of hepatotoxic drugs are the mainstay of treatment.

Mild fibrosis is another histological findings. Here also, in early stage the fibrosis is reversible. Incidentally newer form of therapies are found to be useful to revert and prevent the fibrosis i.e. abstinence from alcohol antiviral therapy, copper-chelation for Wilson's disease, phlebotomy for Hemochromatosis, discontinuation of hepato-toxic drugs, gamma interferon, anti oxidants, cytokine-directed therapies, collagen synthesis inhibitors i.e. TGF-B antagonist, relaxin, Halofuginone, retinoids, pentoxifylline and certain Chinese herbal medicine. Chronic hepatitis are more frequent pathological lesion. Such conditions are usually associated with viral and drug induced chronic hepatitis. In such condition also certain drugs are proved to be useful to suppress the inflammation, i.e. Cytokine, antogonist, interleukin 1 receptor, antagonist urodeoxycholic acid (UDCA), prostaglandin E, colchicine, milotilate, translast, interleukin-10 etc.. In such'condition antiviral agents and removal of hepatotoxic drugs is also mandatory and even curative. Among the remaining lesion i.e. hydatid eyst (4), Tuberculous granuloma (4), liver abscess (4), etc. are worth to consider for liver biopsy because of potentiality of curitive in nature. Other rare lesion which are found in our study are peliosis hepatica(1 ), extra madullary hematopoesis (2), Dubin Johnson's syndrome (1), Giant cell Hepatitis (5), Alfa-1 Antitrypsin deficiency(1). These lesions are though rare but can and will be managed effectively by liver transplant therapy in near future.

#### Conclusion & implication.

From the study, it is evident that the cirrhosis of liver is the leading diagnosis outcome among all the histopathological lesions.

This suggest that the lives biopsy is considered to late in the clinical setup for the management of hepatic disorders. Though in such lesions and other types of lesion i.e. Alfa-1-Antitrypsin deficiency, the iiver transplantation is now accepted as effective therapy. In such diseases, with the availability of the antiviral therapy all the efforts should be made to diagnose viral etiology. In this context it is recommended that liver biopsy should be considered in early stage when a liver disease in potentially curative stage. Recently recognition of mechanism of cellular basis of hepatic fibrosis, large number of antifibrotic therapies are available and may reduce mortality and morbidity in patients with chronic liver diseases. Autoimmune hepatitis are also potentially manageable by newer immuno modulatory agents and soon be available for clinical use. It is also further recommended that the cirrhosis of liver itself is a disorder of wide varieties of causes including unknown environmental toxins, biochemical agents. This

requires systematic epidemiological study. The gene therapy is on the horizon for the hereditary and genetic disorders of liver but for the diagnosis of such disease the liver biopsy is mandatory. So we conclude that in clinical setup, for the management of liver diseases the liver biopsy should be considered in early stage before the disease reaches irrecoverable and unbeatable stage & develop some contraindication of liver biopsy.

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God grant me the serenity To accept the things I cannot  
change; The courage to change the things I And  
the wisdom to know the difference.

### **EVALUATION OF OSTEOPOROTIC COMPLICATIONS IN INDIAN MENOPAUSAL WOMEN**

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#### ABSTRACT

Majority of Indian women, about 80% would attain menopause by their 50th year of life. The average Indian menopausal age is 46.7 years. Bone loss due to lack of oestrogen begins soon after menopause. Clinically osteoporotic complications appear after one decade of menopause. Osteoporosis is a disease which is usually clinically apparent only when fractures occur. Screening women by bone densitometry can prevent delay in diagnosis. Oestrogen replacement therapy is logical and first line intervention. Study of 50 postmenopausal women having fractures is presented with effect of age on osteoporosis and fracture outcome.

#### INTRODUCTION :

Menopause, an enigma until recently, is now increasingly understood. In the western world, women are more aware of changes in her body and menstruation, whereas in India, menstruation is considered to be a social taboo and menopause is by and large is a welcome event for most women. The average life span in Roman times is believed to be 25 years. Since 1900, however the life expectancy has rapidly increased and now has approached 75 to 80 years. These means women are likely to spend a third of their lives in a state of oestrogen deprivation losing bone mass rapidly.

Osteoporosis is one of the most common skeletal disorders in the world leading to skeleto-muscular morbidity in the elderly women. The rate of bone loss accelerates considerably with menopause. Women lose 50% of their total skeleton by their 70 years while men lose nearly 25% by ninety years. The most prevalent sequel is fracture proximal femur, compression fracture of the vertebral bodies, fracture of the ribs and distal radius.

#### MATERIAL AND METHOD:

A prospective study of 50 women with fracture of bones, aged more than 40 years was carried out. Detailed menstrual, obstetrical history with associated menopausal symptoms was noted. General, systemic, gynecological and orthopedic examination with routine and specific investigations like hormonal profile, bone x-ray and bone density was carried out in all cases. Management of menopause and fractures was followed with prognosis.

#### RESULTS:

TABLE I Relation of Age of women and Presenting Complaint

Age	41-50	51-60	61-70	71-80	>80	Total
Backache	3	1	18	7	8	37
Loss of height	0	0	8	6	8	22
Deformity	1	0	5	3	4	13
Joint Pain	3	0	10	4	6	23
Fracture	4	6	23	9	8	50

In our study, majority of women achieved menopause at the age between 46 to 50 years, with average of 46.7 years. All the patients had symptoms and signs of fracture. 37 had backache, 23 had joint pain, 22 had decrease in height and 13 had bony deformity. Above all 46% had vulvovaginal, 36% had urogenital, 22% had psychological and 16% had vasomotor symptoms. Vasomotor and psychological problems were seen in immediate period of menopause whereas vulvovaginal and urological symptoms were with increasing frequency after first decade of menopause.

Age	41-50	51-60	61-70	71-80	>80	Total
Grade I	0	0	0	1	3	4
Grade II	0	0	5	4	3	12
Grade III	1	3	12	2	1	19
Grade IV	1	3	6	1	0	11
Grade V	3	1	0	0	0	4
Grade VI	0	0	0	0	0	0

Singh et al have graded changes in the trabeculae of upper end of femur in six groups. It depends on the trabecular changes seen on x-ray, from normal to almost total bone loss; even the principal compressive trabeculae do not stand out in radiograph and are markedly reduced in numbers.

Degree of osteoporotic grade is directly proportional to age of woman. Older the woman is, more severe the disease. Severe osteoporosis was found from 60 years and above. Process of osteoporosis starts soon after menopause or during perimenopausal age but significant (moderate to severe) osteoporosis are noticeable after one decade of menopause. Earlier the menopause, earlier the osteoporosis.

Osteoporotic fracture starts with milder decrease in bone density and increases with loss of bone density. Most of fractures occur with moderate osteoporosis. Majority of fracture femur neck, distal radius, distal humerus, and proximal humerus required surgical treatment with added risk of surgery and anesthesia. Fracture of vertebrae was treated conservatively. The outcome is affected not only by the age of the patient but also by the other associated conditions. The outcome is usually fair to good when fracture occurs at younger age before 60 years. Prognosis is worsened with increasing age. There was 50% mortality above age of 70 years. In our study, 7 women had artificially induced menopause. These women had osteoporotic complications average 10 years earlier as compared to natural menopause, but severity of osteoporotic changes and complications were almost identical in both groups.

#### DISCUSSION :

Osteoporosis is a multifactorial disease characterized by low bone masses that leads to enhanced skeletal fragility and a consequent fracture risk. It represents a major health problem particularly in older women with significant physical, psychological and financial consequences. According to World Health Organization about 30% of the postmenopausal women have osteoporosis<sup>2</sup>. It has been referred to as the silent epidemic because it is usually clinically apparent only when fractures occur by which time disease is well established and perhaps irreversible. Skeletal bone is continuously repaired and reformed by a process known as remodeling and osteoporosis develops from bone remodeling imbalance. Peak bone mass starts declining from around middle age at the rate of 0.3-0.5% per year. Women suffer accelerated period of bone loss following their menopause, which may be as much as 5% or more of trabecular bone, and 1.5% of cortical bone per year<sup>3</sup>. The disease is asymptomatic till its endstage fragility fractures. Screening women by bone densitometry prevents this delay in diagnosis. Several tests are available to assess bone density like dual energy x-ray absorptiometry is the most common. The casual relationship between both natural and surgical menopause and osteoporosis has been confirmed to be due to oestrogen deficiency induced accelerated bone loss<sup>4</sup>. Oestrogen acts directly on osteoblast in stimulating bone formation and indirectly inhibits osteoclasts differentiation and activity.

Osteoporosis is a preventable as well as treatable disease. Various pharmacological and non-pharmacological modalities are available to reduce the incidence of osteoporosis or osteoporosis related fractures, pain and deformity in established disease. Pharmacological therapy includes oestrogens, SERMs, biphosphonates or calcitonin, Calcium and Vitamin D. Non-pharmacological modalities include physical activity, lifestyle modification and soy products consumption. Therapeutic efficacy is monitored with follow up serial BMD measurements. These strategies to reduce the incidence of osteoporosis and its related

complications will help older women lead a healthy, productive and social life in their later years.

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**MPACT OF REPRODUCTIVE PHYSIOLOGY  
EDUCATION IN THE ERA OF A.I.D.S**

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Keywords: Reproductive Physiology Education, A.I.D.S Education. School Education, Behavioural approach.

**REPRODUCTIVE PHYSIOLOGY EDUCATION : R.P.E.**

INTRODUCTION

The epidemiological studies have taught us a lesson that the AIDS is prevailing among the persons with particular behaviours like persons having multiple sex partners, homosexuals, and intravenous drug users sharing same needles. In India still the commonest mode of transmission of HIV Virus is heterosexual behaviour (74% Park). So the school based A.I.D.S & R.P. Education is mandatory measure to make the AIDS control program effective. Behavioural point of view if one wants to control AIDS, it is fundamentally essential to modify the high risk behaviours to health pattern of behaviour. It is difficult to change or modify the behaviors once it is established. But it is possible to prevent the establishment of high risk behaviour by providing the AIDS related health education in time, during the time of physical, mental, social and moral growth and development of children. So the right place of this education is the school.

Even in the absence of the vaccine, further spread of HIV can be prevented. People can be convinced and helped by providing the A.I.D.S & R.P. Education like methods of transmissions of HIV virus, avoiding risky behavior and other educational programs. When the prevention has been approached in this way, the results have been markedly successful. But except few countries, this tried and tested approaches have not applied

widely enough to make a real impact on this pandemic. One reason is that preventive education programs have been starved of resources.

This project with school students is focused to their perception of AIDS transmission, Drug abuse, contraceptives, and their attitudes towards people with AIDS. Such research may be associated with taboos and social resistance when the educational intervention is focused on school students. In this context WHO mentions that appropriate information and education for the prevention of AIDS should be provided prior to the onset of sexual activities. Preadolescent as well as adolescent boys and girls should receive appropriate education regarding HIV/AIDS & reproductive physiology. Adolescents & school students are therefore a priority group for HIV/ AIDS prevention.

#### MATERIAL AND METHOD

With a view to assess (a) the existing awareness, attitudes, beliefs, and knowledge about AIDS/R.P. education (b) know the impact of A.I.D.S & R.P. Education by comparing the scores achieved among those groups of students who have previously exposed to lecture/discussion session on AIDS & R.P.E. and those groups who were not exposed to such session (c) increase awareness of AIDS, the research project "Impact of school based AIDS education among Secondary school students in Ahmedabad" was implicated.

To assess the existing knowledge, beliefs on AIDS and R.P. education, a Questionnaire (Total thirty [30] question) was prepared in Gujarati & English following the WHO guideline on AIDS education for school student. All the students group were divided into two groups. The experimental group [n1] is the groups whom the questionnaire was presented after brief introduction of the project, class room based lecture/discussion and question answer session on AIDS/R.P. Education. The control group [n2] of students were given the questionnaire without such information session. The students were encouraged to answer and opine all the question. To fill the questionnaire in answer sheet students were assured and told to feel free to share their views. Students were also told that it is not compulsory to write their name, roll number, name of the school etc. on the answer sheet except their age and sex. There were total thirty items about AIDS/R.P. education in questionnaire. Their were four sub items in question No. 13, making the each question carrying

3 score/making total score of the questionnaire 100. Total

4 urban and 2 rural schools were approached by consulting the principals of the schools and explaining the aims of the project of AIDS/R.P. education. The student were approached in their class room after discussion with the class teachers.

#### A.I.D.S & R.P. EDUCATION PROGRAM QUESTIONNAIRE

Please give your opinion regarding following question on H.I.V. & A.I.D.S. & R.P.E.

(1) Is the sex education is in your current curriculum of school education?(2) Do you think that the sex/A.I.D.S. & R.P. Education should be in your syllabus?(3) What is A.I.D.S.?(4) What is H.I.V.?(5) What is the difference between H.I.V. Positive and A.I.D.S.?(6) What is Immunity (Immunity system?)(7) What is C.D.4 / T4 Cells?(8) What is Virus?(9) Who are at high risk of H.I.V. and A.I.D.S.?(10) How the A.I.D.S. istransmitted?(11) How the A.I.D.S is not transmitted?(12) What are the laboratory tests

for H.I.V. and A.I.D.S.? (13) What is the term (meaning of) sex, Gender, sexuality, and S.T.D.? (14) What is the natural function of sex?(15) What is the Physiology of reproduction?(16) What do you know about the contraceptives?(17) What is Condom? (18) If not given in school how will you receive the A.I.D.S & R.P. Education? (19) What do you know about the risks of Drug abuses?(20) Are the drug-Abuser are at high risk of A.I.D.S? (21) What is Safer sex ?(23) What are the option of safer sex?(24) Why the young student should receive the AIDS education instead of Adults?(25) How the blood born AIDS transmission can be prevented?(26) Will you Donate your blood Voluntarily? Why?(27) What are the problems of Patients with A.I.D.S.(P.W.A.)?(28) Is the treatments of AIDS available?(29) Is the Vaccine for the AIDS available? (30) What should be your attitude towards the H.I.V positive and AIDS people?

### Observations

The project assessed the impact of school based A.I.D.S & R.P. Education comparing the responses given by experimental (n1) and control groups (n2), in each question and total scores achieved by each group. Total 976 student out of them, 678 students were included in experimental group (n1) and 298 student were included in control group (n2) Their distribution according to age, sex, schools, Gujarati medium versus English Schools, rural & urban areas Experimental and control groups etc. are summerised in table A.B.C.D. & E.

The comparision of mean scores achieved by each n1 and n2 group is showed significant difference in the mean score achieved by experimental group (n1 Scores 63.3 SD 34.01), control group (n2 15.78 SD 7.21 PO.01). There was significant difference among the responses of the various questions of the questionnaire on A.I.D.S & R.P. Education and is summerised in table No. E (P<0.01).

Table E shows the impact of AIDS education programme by comparing the students responses of AIDS Eduction Questionnaire (30 question N=30) among the experimental and control group. The table shows that the experimental group's correct response superior than control group considering the correct responses.

### Observation tables.

A- Table showing distribution of students according to various school in Gujarat

Urban	Boys	Girls	Total
1	-	107	107
2	132	83	215
3	142	47	189
4	131	61	192

### Rural School

1	105	86	191
2	-	82	82

Total 6	510	466	n=976
		Total n =	
		976	

B-Table showing distribution of students according to Rural and Urban area

Area	Boys	Girls	Total
Urban	405	298	703
Rural	105	168	273
Total	510	466	n-976
		Total n=976	

C-Table showing distribution of students according to

Medium	Boys	Girls	Total
Gujarati	379	405	784
English	131	61	192
Total	510	466	n-976

D-Table showing distribution according to n1 & n2

Group	Boys	Girls	Total
Edperimental	405	273	678
Control	105	193	298
Total	510	466	n-976

TABLE-E SHOWING COMPARISON OF STUDENT RESONSES OF A.I.D.S & R.P. EDUCATION QUESTIONNAIRE AMOUNG EXPERIMENTAL GROUP (n1) GROUP & CONTROL GROUP (n2) GROUP

No. of Qs	Correct responses % n1 Group	Correct responses % n2 Group	p value
Q-1	84.8%	84.0%	N.S.
Q-2	98.2	92.0	N.S.
Q-3	93.9	20.4	<0.01
Q-4	58.0	16.6	<0.01
Q-5	54.9	15.4	<0.01
Q-6	36.0	10.3	<0.01
Q-7	13.0	3.7	<0.01
Q-8	79.2	22.4	<0.01
Q-9	27.2	7.7	<0.01

Q-10	82.0	23.5	<0.01
Q-11	87.8	25.2	<0.01
Q-12	77.8	20.3	<0.01
Q-13	0.0	0.0	N.S.
Q-14	97.0	24.4	<0.01
Q-15	2.0	0.57	N.S.
Q-16	33.0	9.4	<0.01
Q-17	95.5	27.4	<0.01
Q-18	91.2	26.2	<0.01
Q-19	57.3	16.4	<0.01
Q-20	95.0	19.2	<0.01
Q-21	2.8	0.8	N.S.
Q-22	12.0	3.4	<0.01
Q-23	0.0	0.0	N.S.
Q-24	91.0	21.5	<0.01
Q-25	27.3	7.8	<0.01
Q-26	90.0	5.18	<0.01
Q-27	14.8	4.2	<0.01
Q-28	52.0	11.5	<0.01
Q-29	98.2	25.3	<0.01
Q-30	83.0	23.8	<0.01

n1=678=> M : F = 405 : 273, n2=298=> M : F =105 : 193

### Discussion

Analysing the various items in questionnaire, it is found that the AIDS/R.P. education is not in the syllabus of secondary school students. Those who mentioned that it is in the syllabus they further mentioned that it is either omitted in the regular teaching or taught inadequately. Student were asked to respond whether the A.I.D.S & R.P. Education should be in the school education, n1 98.2% and n2 92% responded positively to include the AIDS/R.P. education in school curriculum, considering, the fear of AIDS.

Actually very few studies are done to study the impact of school based A.I.D.S & R.P. education in India. Sharma et al surveyed the sex behaviour of adolescent & found that contrary to popular belief and notion, some adolescent are sexually active and that they are not adequately educated to prevent and protect themselves against STD, AIDS and unwanted pregnancies. Authors recommended to utilise a group of trained and motivated teacher in school to impart A.I.D.S & R.P. Education to the "students. Sharma et al found student responses to this approach very encouraging. Nicolopoulos T.P, et al after survey of 3242 adolescent raise seriousness of the problems by the fact that high risk behavior was attributable to insufficient information and education on AIDS. The authors recommended the permanent and long term educational intervention program which might be applied in any country. Schonfeld D.J. et al conducted AIDS Survey for kids (ASK n=189) Children in experimental group as compared to control group showed significant (P<0.001) gain in their level of understanding on AIDS & its

Prevention. The result were unaffected by controlling for gender, race, socioeconomic status etc, although education intervention more children ( $p < 0.001$ ) in experimental group than the control group responded correctly on cause germ theory (41 % v/s 13%) mother to infant transmission (54 v/ s 15%) blood transmission (83 v/s 40%) sexual transmission (56 v/s 30%) less than 50% student responded incorrectly about H.I.V. transmission by casual contact. The author concluded that multifaceted AIDS educational program can advance children's conceptual understanding, factual knowledge and decrease their misconception about AIDS without increasing their fear. Abolfotout M.A. et al, carried out similar study to assess the level of knowledge, attitude and belief on AIDS among secondary student's in Asir region and assess the impact of one session A.I.D.S & R.P. Education lecture and by using questionnaire., With experimental group ( $n_1=335$ ), and Control Group ( $n_2=503$ ), the result showed marked variability in correct responses in various item & between group. Both group were particularly, less aware about casual contact can not spread AIDS. Fear of getting AIDS were significantly less in  $n_1$  group ( $p < 0.01$ ) Author recommended that A.I.D.S & R.P. Education through a comprehensive school program and active involvement of school health authority to prevents AIDS.

Levy S.R. et al use 10 class room session & five booster session to provide A.I.D.S & R.P. Education to school student Post intervention measures indicated that programs affected students intentions to perform specific protected behaviour in long term study. Sundwood J. et al utilized medical students & persons with AIDS (PWA) to provide school based A.I.D.S & R.P. Education to secondary school students ( $n=1161$ ) by 1.5 hour class room session and used questionnaire to assess the impact. There was significant ( $p < 0.01$ ) increase in AIDS knowledge score. Authors also observed significant ( $p < 0.01$ ) improvement in intention to engage H.I.V. safe behaviours. Authors concluded that medical students and P.W.A can be used to provide school based A.I.D.S & R.P. Education. Lupton D et al in their studies of responses of questionnaire A.I.D.S & R.P. Education, the student identified strong need of information about H.I.V-AIDS and STD. Rural and suburban students reported that they had insufficient access to information. They found significant difference in responses between various ethnic groups. Castanecda et al found that community agencies can play an important role in H.I.V., A.I.D.S, R.P. Education & its prevention. These agencies and N.G.O.s (Non Government Organisation) can provide A.I.D.S. & R.P. Education by using local languages. They can use various audiovisual aids to provide education depending upon geographical region & choice of people. Ozer E J et al found peer-led school based AIDS educational intervention very promising. They developed peer educator rating scale to assess the participants responses. There was overall improvement in knowledge attitude scale. Shewllhart W C found the CD Rom technology in class room teaching effective. Stoking J.K. et al recommended interactive educational software. For the school student package are now being produced in varieties of language & distributed over CD Rom, floppy disk & Laser Video Discs. Software development can be encouraged in the field of school based A.I.D.S & R.P. Education. Rush K et al found poster assignment the most succesful strategy to facilitate the education about sexuality. The authors concluded that this non traditional learning activities are very useful to build knowledge, examine value & attitudes and develop helping skills. This education process involve both structured and informed interaction opportunities and can be added to the classroom text. Stevenson

H C et al investigated the impact of AIDS video education intervention in 194 teenagers. Post assessment showed high AIDS risk knowledge scores.

The adolescent students need participatory learning methods which built on their knowledge and experience and allow them to explore and discover their own values and options and make their own decision. In meeting the special needs of adolescents in AIDS prevention, it is important to educate school teachers about AIDS & R.P. Education for adolescents. The teachers must learn to listen the young student's fear and misconception and must able to respond with accurate informations. In this context, WHO recommend to consider "following four points :- [1] Adolescents are attracted by risky behaviours [2] Accurate information should be conveyed in order to dispel the fears, misunderstandings and prejudices. [3] Education should be given at the level of adolescents [4] Appropriate approach and medium should be used to provide the education.

The school education must see that the young students learn to avoid risky behaviours and learn to express the responsible, healthy human sexuality. To develop concept of responsible, health sexuality, necessary education and training should begin early in life with respect to attitudes and relationships. The multifaceted AIDS/R.P. education programme can modify the student's conceptual understanding and factual knowledge about AIDS and can decrease their misconception about AIDS. This can be achieved by direct educational intervention. The untrained students may indulge pervert experiment to get new kicks in the absence of proper guidance.

#### Conclusion:

A project documented the fact that the existing knowledge of H.I.V. and AIDS/R.P.E. awareness is not adequate among the secondary school student considering the fear of and pandemic nature of AIDS. The study also documented the student's demand of implementing the AIDS education in school curriculum. The project further documented fact that there is significant increase level of knowledge & awareness of AIDS, without any hazard or increasing fear of AIDS if A.I.D.S & R.P education is given in class room set up. Considering the fact that commonest mode of transmission of AIDS in youth is sexual mode, the brief anatomy and physiology of human reproductive system, human sexuality, safer sex, safer sex techniques must be taught in context to prevention of AIDS. By the study it is also found that AIDS education is not in the curriculum of secondary school student considering the global benefits, A.f.D.S & R.P. Education should not be ignored in schools and such education can be integrated in to regular curriculum like general science lifesceince biology, psychology etc. such A.I.D.S. & R.P. Education can be provided by the school teachers after training them adequately. The ministry/department of general education and ministry/department of health/school health education should take synergistic actions to implement the A.I.D.S & R.P. education in secondary school level at ninth and tenth grade students. In classroom setup the false belief of students can be heard and cleared by discussion. Behavioral point of view, it is further emphasized that it is very difficult to change the behaviour when it is attempted in later stage. The multifaceted A.I.D.S. & R.P. Education proposed here is in early stage in life, for the prevention purpose.

To conclude the multifaceted comprehensive holistic approach is required as an educational intervention, if our efforts to prevent H.I.V. infection & AIDS on long term basis are to be effective. What is really needed is value based A.I.D.S & R.P. Education. In relation to AIDS education particularly, school decision makers must not abrogate their responsibility towards those in their care (the students).

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## **ZINC: IN HEALTH & DISEASE**

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### **INTRODUCTION:**

Zinc is an essential trace element for growth and development. It plays a major role in bone structure and as a metalloenzyme.

### **SOURCES:**

Human breast milk a special zinc binding ligand which increases the bioavailability of zinc to the infant. The zinc content of the colostrums is high which declines as lactation progresses in both term and pre term mothers. Mean concentration in India mother is as follow.:

- 36.1 (3.3) micromol/liter in first week.
- 24.4 (3.1) micromol/liter in third month.
- 22.6 (2.0) micromol in sixth month.
- 22.2 (1.9) micromol/ liter in ninth month.

### **ANIMAL SOURCES:**

Shellfish, beef, chicken and red meats.

### **PLANTS SOURCES:**

In the germ portions of whole grain cereals, legumes and nuts.

### **RECOMMENDED DAILY ALLOWANCE:**

First year of life: 3.5 mg/day 1-10 years of life: 10 mg/day

### **ADULTS**

Pregnancy and lactation: 20-35 mg/day Requirements increased in patients receiving parental nutrition, increased catabolism and gastrointestinal losses.

### **ZINC METABOLISM IN THE BODY:**

zinc concentrations are highest In bone and skeletal muscle (29%-57%). It is primarily an intracellular ion.(95% of total body zinc)

Zinc content in new born: 60 mg

in Adult female: 1.5 gm

in Adult male: 2.5 gm

After ingestion, it is taken up by enterocyte of proximal small intestine. Uptake across the brush border occurs by a carrier mediated mechanism and also by diffusion. From the enterocyte some Zn after binding with albumin or an alpha-2-macroglobulin carried to portal circulation to liver. The remainder binds with metallothionein. It is excreted when enterocyte is shed. So when Zn level in body is high there is stimulation of

metallothionein synthesis. When Zn concentration in body is low a carrier mediated mechanism predominates and with high Zn intake, passive diffusion comes into play.

#### FACTORS INFLUENCING ABSORPTION:

1. Bioavailability of food stuffs:

Animal foods are good sources of Zn. There are certain amino acids in these food stuffs that increases Zn solubility. Also these food stuffs are devoid of constituents that inhibit Zn absorption.

2. Cysteine and histidine enhance Zn absorption.

3. Pregnancy, lactation, corticosteroid enhance Zn absorption.

4. Acute infections increase Zn absorption.

5. Phytates, phosphates, iron, copper, lead, calcium inhibit absorption.

6. Zn absorption decreases with age.

#### EXCRETION:

Zn is mainly excreted in feces, small amount excreted in urine. Significant losses occur in diarrhoea and fistulae. Urinary losses increase during hypercatabolic state and following aminoacid infusion.

The average losses of Zn per day

In feces- 1-5 mg

Urine - 400-600 microgram

Dermal-1 mg

#### FUNCTION:

Zn helps to stabilize the structures of RNA, DNA, and ribosomes in the binding of transcription factors. It also stabilizes some hormone receptor complex.

Assessment of Zinc status :

Best assayed from hair and leucocytes. Plasma Zn levels are less definitive in assessing mild grades of deficiency.

#### CLINICAL MANIFESTATIONS OF ZINC DEFICIENCY :

Mild Zn deficiency is frequent in infants and children than severe deficiency. It is usually associated with other micronutrient deficiency.

Severe deficiency:

Growth retardation

Delayed sexual maturation (impotence, hypogonadism, oligospermia)

Impaired appetite.

Delayed healing of wounds.

Alopecia

Acrofacial skin lesions.

Glossitis, nail dystrophy.

Immune deficiency.

Behavioral disturbances.  
Night blindness, photophobia,  
Impaired taste (Hypogensia)  
Acrodermatitis enteropathica (AE)  
Zinc status in systemic disorders:  
Zn deficiency occurs in:  
Severe malnutrition.  
Chronic diarrhoea.  
Acute infectious hepatitis.  
Nephrotic syndrome.  
Diabetes.  
Sickle cell diseases  
Heavy parasitic load.  
Cystic fibrosis  
Patients receiving TPN  
Any acute infections.

#### USES :

Zn deficiency states as described above  
In dermatological condition like:  
Acne vulgaris  
Recurrent furunculosis  
Hair fall  
Other uses:  
Wilson's disease  
Rheumatoid arthritis

#### TREATMENT OF ZN DEFICIENCY:

Usually 1 mg/kg/day to 5-15 mg/kg/day  
In malabsorption and acrodermatitis enteropathica 20- 40 mg/day

Zn acetate is the drug of choice. It is soluble, can be administered in liquid form and is not a gastric irritant. After oral therapy dermatitis clears in 2 weeks and serum Zn levels normalizes after 3 weeks. ZINC

#### PREPARATIONS:

#### TOXICITY:

Acute:

Doses in excess of 200 mg/day are typically emetic, also causes epigastric pain, diarrhoea nausea.  
Isolated outbreaks of Zinc toxicity occurs after consumption of foods and beverages contaminated with Zn from galvanized containers.  
Zn toxicity also occurs after inhalation of Zn oxide fumes. Signs develop within 8 hrs. and include hyperpnoea,

profuse sweating and generalised weakness. Signs of toxicity disappear by 12 to 24 hrs.

Chronic toxicity:

Long term ingestion of excessive Zn causes secondary copper deficiency due to competitive interaction between these elements with regard to intestinal absorption. About 25 mg/day of Zinc supplementation causes copper deficiency and in excess of 150 mg/day can lead to low serum HDL levels, gastric erosion and depressed immune function.

CONCLUSION:

Zinc is a vital micronutrient for the human body. Indian data suggests that isolated Zinc deficiency is not a significant problem in pregnancy, infancy and childhood. Routine Zinc supplementation is not advocated currently in pregnancy, newborns, breast fed infants and children.

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## **HENYLPROPANOLAMINE IN COLD REMEDIES-HOW MUCH RISK?**

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Introduction:

Sympathomimetics like phenylpropanolamine (PPA),ephedrine, pseudoephedrine and phenylephrine are widely used as nasal decongestants, in cough and cold remedies available as prescription drugs and also over the counter (OTC). These drugs act directly by stimulating the adrenergic receptors or indirectly by releasing noradrenaline from adrenergic nerve endings or by both. PPA has a predominantly indirect action. Noradrenaline by stimulating alpha-1 receptors causes mucosal vaso-constriction resulting into decongestant effect.

Clinical Pharmacology:

In healthy volunteers, the doses of PPA used for cough and cold, produce rise in mean blood pressure by 18mm Hg associated with increased stroke volume and peripheral resistance. Mild appetite suppression and in some individuals, an increased feeling of alertness were the psychological effects.

Indications:

(1) Nasal Decongestants: Extremely widely used singly or as a fixed dose combination with paracetamol, antihistaminic, phenylephrines, cough expectorants and/ or

suppressants in treatment of common cold, sinusitis allergic rhinitis etc.

(2) Urinary Incontinence: Due to bladder neck dysfunction also in children with enuresis due to neurogenic bladder.

(3) Appetite Suppressants in Obesity: In doses up to 150mg/day can produce moderate weight loss of about 0.14 kg/wk. It was approved for this purpose in U.S. However, after recent report of 16 fold increased risk of hemorrhagic stroke in women taking PPA for this purpose, use of PPA has been included as one more risk factor for stroke in women (see adverse effects below).

**Adverse Drug Reactions and Safety:** There has been controversy regarding safety of PPA and a number of adverse effects have been reported. Adverse effects vary in severity from headache and elevated blood pressure to cardio-pulmonary arrest, intra-cranial hemorrhage and death. Mild effects include blurred vision, dizziness, anxiety, agitation, tremors, confusion and hypersensitivity reactions. Psychiatric effects like restlessness, irritability and sleep disturbances have been reported in patients most of them <15 years. Severe adverse reactions like hypertensive crisis with encephalopathy, seizures, cardiac arrhythmias, psychosis and acute tubular necrosis have been reported. Recent study conducted in US suggests PPA may be linked with 200 to 500 hemorrhagic strokes per year, specially in young women using PPA as appetite suppressant. The risk is estimated 16 times compared to non-users. Following this report US-FDA has issued warning to discontinue the use of OTC products containing PPA.

#### Risk Groups and Contraindications:

1. Neonates and children <2 years - more vulnerable to CNS effects. Pseudoephedrine is a better alternative. Extreme caution regarding dosage is required if PPA is used.
2. Children < 12 years - SR preparations.
3. Female patients (refer to risk above) Pregnancy, lactating mothers - data not available.
4. Elderly may be hypertensive &/or on multiple drug therapy, increased risk of stroke.
5. Overweight - may be hypertensive &/or on diet aids
6. CVS disorders - Hypertension especially severe/poorly controlled, severe and poorly controlled IHD.
7. Mood spectrum disorders, psychosis and family history of psychiatric disorders.
8. Diabetes mellitus, Hyperthyroidism, Prostatic hypertrophy.-Glaucoma.
9. Moderate to severe renal failure.
10. Patients on MAO-Inhibitor drugs.
11. Duration not > 7 days for OTC products containing PPA.

#### POTENTIALLY HAZARDOUS DRUG INTERACTIONS:

DRUG/S	EFFECT
1. MAO-Inhibitors	Severe B.P. elevations
2. NSAIDS e.g. Indomethacin	Hypertension

3.Caffeine Increased pressor effect

4.Atropine Sustained hypertension

5.Thioridazine Ventricular Arrhythmias From the account of ADR above it is obvious that PPA is associated with a number of well authenticated adverse effects raising a question regarding its safety at least when used as OTC product. The ADR's may be more frequent when used as OTC product (non-prescription) because OTC drugs are considered innocuous by the patients and hence may be overused or used in presence of potential risk factors. Moreover, as OTC products are multi-ingredient preparations, drug interactions rather than 'true overdose' were probably responsible for some of the adverse reactions.

Conclusion:

So what do we conclude? Should there be a ban on OTC use of PPA containing cough and cold products and allow its use as prescription drugs only?

Answer is difficult because:

(1) In India, studies parallel to those like Swedish Adverse Drug Reaction Committee or as in US don't exist.

(2) Even the prescription only drugs are available over the counter easily.

The situation is confusing and hence no steps of removal of PPA from cough and cold remedies are likely unless we also have a centralized system of ADR reporting in India, if not in India, in Gujarat at least in Ahmedabad. Meanwhile, utmost caution in use of PPA in presence of risk factors, especially in young children, female patients, hypertensives and elderly is required, not only in use of PPA, but also in deciding the dosage.

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## IABETIC FOOT

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One will be surprised to know that 50 - 70% of non-traumatic amputations are due to diabetes mellitus. Foot lesions are a major problem in the subject of Diabetes. Either such patients have to stay in a hospital for a long time or they have to loose toe/toes or foot. It

is health as well as a big economical problem. Statistically it has been found that in big institutions, admissions due to foot problems has shown a sharp rise. It is one of the most dreaded complications seen in diabetics. We can say that the cost both psychosocial as well as economical is tremendous for these patients, for the family as well as for the nation.

The incidence of diabetic foot is said to be 0.8% in all diabetics but the percentage increase as the age advances and it is upto 8% after the age of 55-60 years. Out of all the admissions for Diabetic foot lesions; 70% require surgical intervention and result in amputation of toe or foot in 40%.

#### AETIOPATHOGENESIS:

With a big problem of infection, the main factors which predispose a diabetic to foot problems are ischaemia and neuropathy.

**Ischaemia :** Of course micro vessel haemodynamics are also to be considered with microangiopathy in developing ischaemia. Micro vessel involvement is 16% more in diabetics than in common people. Atheromatous changes in more distal vessels is important, leading to distal gangrene.

One unpublished data also emphasize that 20% of such cases did not show any changes like atherosclerosis. 20% had mild changes and 60% had shown advanced changes of atherosclerosis.

Impaired perfusion due to vascular insufficiency to the tissues play a key role which is due to atherosclerotic changes in the peripheral blood vessel and changes in micro circulation. Recent data strongly suggest that neuropathic changes noted in diabetic foot subjects may be secondary to vascular insufficiency resulting from involvement of endoneural vessels.

**Neuropathy :** There is involvement of myelinated and unmyelinated fibres of nerves along with axonal degeneration. Loss of touch sensations and non-feeling of pains result in infections and ulcers remained unnoticed till they reach a significant stage. There is a motor and sensory involvement along with autonomic involvement too. Loss of tendon reflex, sensory loss or impairment along with loss of vibration sense and loss of perspiration in the foot part do take place. There is small muscle imbalance leading to deformities due to these parts coming under unwanted stress-pressure. Autonomic involvement leads to loss of perspiration and drying of skin leading to cracks and fissures which may get involved by infection and also increase the capillary permeability making the foot swollen and oedematous. Due to Atherosclerosis, peripheral pulsations may be absent or weak.

**Infection:** Along with ischaemia and neuropathy important factor is infection. The above two factors are responsible for predisposing foot to infection. Most of the infections are mixed with 20% Staphylococcus aureus but in 30% cases Staphylococcus aureus are sole agent. Many patients do have complaints of numbness and tingling sensation in the soles, coldness in the feet and pain in the calf or foot itself. Areas on examination may show normal weak or absent dorsalis pedis and tibialis pedis pulsations. Skin over the foot may

feel cold and dry. There may be loss of hairs on the dorsum of foot. Over the bony points skin may be dry and, rough tin heels, sides of the soles and dorsum of toes leading to fissures and cracks.

Other factors:

Faulty nutrition may have some contribution to the development of diabetic foot like more intake of PUFA-6 fat in diet. Increased and unbalanced intake of PUFA-6 along with deficiency of PUFA-3 in the diet is important in promoting insulin resistance and its associated disorders, such as decreased fibrinolysis, increased vascular and platelet reactivity, dyslipidaemias, etc. It may affect some humoral and cellular immune defence mechanism to promote infection.

Some processed and preserved foods are deficient in many vital antioxidants and protective nutrients thereby potentiate oxidative damage initiated by high intake of PUFA-6 & less of PUFA-3.

Management: A multidisciplinary approach involving a diabetologist, orthopaedic or general surgeon, a good-trained nurse, a social worker, vascular surgeon and an educator do play a part.

Proper control of diabetes to near euglycemic state is needed. Use of short acting human insulin before breakfast, before lunch and a combination of long and short acting insulin before dinner is recommended.

Drugs like tricyclic antidepressants, anticonvulsants, phenytoin, carbamazepine and mexiletine do work. Newer therapies like aldose reductase inhibitor like Sorbinil or nerve growth factor and n-6 essential fatty acids do work. For ischaemia fibrinolytic agents, Calcium channel antagonists, antiplatelet aggregating agents Pentoxifylline and methyl Xanthine derivatives do work.

Proper control of infection with the help of pus culture and sensitivity and utilization of proper antibiotics for a proper period do well.

Surgical treatment : This includes surgical intervention depending on severity of infection, debridement and dressing, I & D etc. Dressing with Betadine, Honey, Metronidazole and Hydrocolloid dressing do work well.

Recently more emphasis is put on fish oil dressing.

Decompression Surgery, Vascular Surgery i.e. infrapopliteal bypass Surgery are carried out. Recent trends are end diastolic pneumatic compression boot; that is also known as circular boot is also given importance. Then ultimately above knee or below amputation with rehabilitation and artificial limb, Jaipur foot can be carried out.

Total contact plaster casts for dry ulcers allows early ambulation and return to work eliminating the need for prolonged non-weight bearing.

But prevention of foot problems is better than treating the established complications. All patients who are high risk should undergo a basic foot care training by an educator or a trained nurse.

Trivial trauma like shoe bite, injury while cutting nails or trimming corns is best to be avoided as that causes the beginning of this problem. So the aim of treatment lies in prevention, early detection and treating the situation and prevention of recurrence.

Good hygiene, avoiding bare foot walking, daily inspection of feet for cracks or other injuries which have passed unnoticed, careful pedicure also help in avoiding foot problems. Dryness if you find should be overcome with cold cream or petroleum jelly. Avoiding unfitting shoes is a must.

One most important thing to be noted is the economical burden on family, state & nation

## **NEW DRUGS COLUMN LEFLUNOMIDE**

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**LEFLUNOMIDE:** (A new drug for Rheumatoid arthritis) Leflunomide is a new disease modifying antirheumatoid drug in pipeline for the treatment of rheumatoid arthritis. It is an isoxazole derivative. Its active metabolite A771726 causes reversible inhibition of dihydro-orotate-dehydrogenase, an enzyme which is required for de novo synthesis of pyrimidine -ribonucleotide uridine monophosphate (r-UMP). Thus, leflunomide causes decrease in the level of r-UMP which in turn inhibits proliferation of activated lymphocytes and offers clinical relief to the patient. Apart from this primary action other mechanisms are also responsible for its effectiveness. Leflunomide is effective by oral route and has plasma half-life of about 15-18 days.

**ADVERSE EFFECTS:** It is a well-tolerated drug. Gastro-intestinal effects like dyspepsia, diarrhea, and nausea are most common. Other adverse effects like reversible alopecia, hypertension, weight loss, respiratory infections. and increase in serum hepatic amino-transferases have been reported.

**CONTRAINDICATIONS:** Contraindicated in pregnant females and to be discontinued in male patients wishing to father a child. Phase-3 clinical trials have reported significant improvement in terms of reduction in tender joints, swollen joints, morning stiffness duration, ESR, levels of C-reactive protein and patient pain assessment. Radiological changes show that leflunomide slows disease progression.

**Dosage:** Loading dose of 100 mg for 3 days, followed by 10-20 mg daily. Therapeutic effects of leflunomide is seen within 4-weeks. Now-a-days as there is trend of starting

early aggressive therapy with disease modifying anti-rheumatoid drugs, this drug which is soon expected to be available in India, offers new hope for rheumatoid arthritis patients.

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**PARECOXIB: (A newer COX-2 inhibitor)**

**DR.N.R.AGRAWAL & DR.V.J.PATEL**  
**DEPT. OF PHARMACOLOGY, SMT NHL MMC, AHMEDABAD**

In the present time use of selective cox-2 inhibitor (e.g. Celecoxib, Rofecoxib) has increased dramatically, so as to avoid the adverse effects caused by COX-1 inhibition (like GIT side effects), which always remained a problem with the usage of non-selective inhibitors like aspirin and other NSAIDS.

PARECOXIB is a recent addition to the existing selective COX-2 inhibitors.

Parecoxib (sodium) is available as an injectable preparation, to be used IV or IM.

Rapidly hydrolysed by liver to active product VALDECOXIB. It is to be used in dose of 20-40 mgs IV/IM. It is well tolerated with a few side effects.

S/E- Nausea, headache, backache, dizziness, abdominal pain, vomiting, tachycardia, somnolence, pruritus, abnormal breath sounds have been observed.

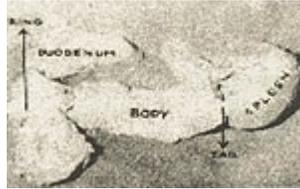
Parecoxib is found to be effective in .postoperative conditions like Dental pain, Gynaecological, Orthopedic and Surgical cases.

Clinical trials have shown that IV Parecoxib 20-40 mgs has greater analgesic activity as compared to IV morphine 4 mgs and similar to 30 mgs IV ketorolac. Parecoxib administration IV 40 mgs for 7 days produced fewer gastric erosions/ulcers as compared to ketorolac.

Reference: 1. Druas 2000. VOL-61. NO-8, 1019-1229

**CASE REPORTS "ANNULAR PANCREAS"**

**Dr. A. K. Pathak, M.S., Prof. & H.O.D. Of Anatomy**  
**Smt. N.H.L. Municipal Medical College, Ahmedabad : 380006.**



Annular Pancreas is a rare congenital anomaly due to defective fusion of its two developmental components ventral and Dorsal buds. The incidence of the anomaly is of the rate of 1:2500. The abnormality was detected as difficulty was encountered by students in clearly identifying various parts of duodenum.

A patient aged 62 yrs. died in Medical ward due to severe hemoptysis. His body was sent to Dept. of Anatomy. While carrying out dissection had difficulty second part duodenum, the complete pancreatic routine students in identifying of and head of pancreas on dissection a ring of tissue was found encircling the narrow second part of duodenum. The portion of duodenum proximal to the ring was much dilated. The main duct was seen opening in its normal site. Bile duct was seen passing through the tissue forming part of the ring. Other congenital anomalies of the gut were not detected.

### **Histology**

Microscopic examination of the pancreas tissue forming the ring showed normal pancreatic tissue.

The annulus encircles the second part of duodenum its part is narrower than posterior. It is drained by an anterior duct which may communicate with the main duct or less commonly accessory duct of pancreas. Some times bile duct passes through the ring of pancreatic tissue. The specimen showed uniform ring of pancreatic tissue with considerable narrowing of second part of duodenum. Dissection to bring out duct system in ring showed anterior duct opening in main duct. The encircled portion of the duodenum was very narrow.

It is rare chance to see the anomaly in a living person and especially in a cadaver. In spite of severe narrowing the second part of duodenum the patient had no obstructive symptoms. He died due to Bilateral Pulmonary tuberculosis

### **TWO LOBES SPLEEN**

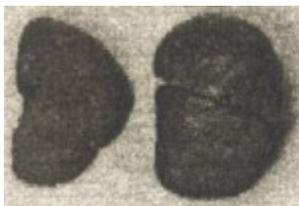


Dr. Bharat D Trivedi, Asso. Professor, Anatomy, M.S. (Anatomy) M.S. (Surgery), LL.B.

Smt. NHL Municipal Medical College, Ahmedabad :6.

An unusual presentation of the spleen was found during the routine dissection in a male cadaver of old age Indian origin Gujarat Region. Normally diaphragmatic surface is convex smooth. The superior border separates the diaphragmatic surface from the gastric impression. It is usually convex upward and is ended by one or variable depth, the lobulated spleen in early lobulated spleen mark near its lateral two notches of The notches indicate character of the fetal life. The earlier character of the disappear, but is indicated by the presence of notches on its upper border in the adults.

The spleen is subject to various anomalies of development including complete agenesis, multiple spleen and persistent lobulation. The variation in relation with two lobes spleen can be explained in the basis of embryology. The spleen may retain its fetal lobulated form or there may be deep notches on the diaphragmatic surface and inferior border in addition to this usually present on the superior border.



## OBITUARY

### TRIBUTE TO LATE DR. K.C. DAVE Ex Prof & Head, Pharmacology Deptt.

Prof. Dr. K.C. Dave, one of the pioneer member of Academy of applied basic of medical science is no more with us physically. However, his spirit will always be there with us in all our endeavours aimed at improving education in our institute.

Prof. Dr. K. fishnakant Chhabilal Dave was born on 12 th NOV 1938 in Kotda village of Kutch. His ambition to become a doctor grew with him as he saw his father, an Ayurvedic Practitioner serve his village people with his healing touch. A bright student, he obtained MBBS degree in 1961 from B. J. Medical College Ahmedabad with a few medals to his credit. Then joining M. P. Shah Medical College, Jamnagar, his progress continued with B.Sc [Medical] in 1964 followed by M.D, [Pharmacology] in 1966. After working as Assistant Professor for six years at Jamnagar he joined our College as Professor & Head of Pharmacology Department in 1972 and continued till August 2000 till he retired. .

During his tenure of 28 yrs, Pharmacology Department has developed to the level to be considered one of the best departments in our college by the students. He was an excellent teacher with great insight in use of teaching techniques. He has guided several students for M .D (Pharmacology), PhD (Pharmacology) and M.Sc (Medical).

As a pharmacologist, his peers in different colleges of Gujarat and also in other states respected him. He has large number of publications to his credit in national and international journals. He has participated in several symposia, workshops and meetings organized by I MA, ICMR etc. He has given talks on All India Radio on topics like Pharmacology & Essential Drugs in Gujarati language, increasing awareness in lay persons. Gujarati Vishvakosh had invited him to an article on Drug Misuse, Abuse and Addiction.

He established a Nuclear Medicine Centre in the VS.Hospital and was Professor and in-charge of the Center till he retired.

His interest in education deepened with involvement as a coordinator of Educational Technology Group of NHL Municipal Medical College from 1990, later named as Medical Education Unit.

Under his guidance and the leadership of Dr K. J. Nanawati, additional Dean, the Educational Technology Group conducted 10 workshops covering about 190 teachers of our college.

The 11th workshop was held in August 2000 with 20 participants when the activities of Medical Education Unit were renewed under leadership of our Dean Lt. Col. Dr. A.R.N.Setalvad. Apart from this, other activities were regularly carried out like, orientation programmes for first and second MBBS and for intejns. He has been honoured with many Memberships & Fellowships and was awarded with 'Vijay Ratna' in November 1995 by the International Friends Society of India, New Delhi. He also led this Institute as Dean in 1998-99.

This multifaceted man was also a good orator, a poet, a writer, a flute player, involved in all artistic facets of life and very sensitive to different aspects of human being & life.-He breathed his last on 11th November 2000 at Surendranagar, following an inspiring lecture he delivered at the orientation programme for first MBBS entrants at C.U.Shah Medical College, Surendranagar, where he had joined as Professor & Head after retirement. He is survived by his wife, a son and a daughter. With his passing away this world has lost a great Pharmacologist, Educator and above all a great human being.

May his soul inspire us in all our educational endeavours. Dr Varsha J Patel, Prof. & Head (Pharmacology Deptt)

**LATE DR. RAJANKUMAR D. BHATT**



Dr. R. D. Bhatt, Pioneer member of the academy and Associate professor of Physiology, Smt. NHL Muni. Medical College, Ahmedabad was born on Dt: 29/08/1949 and passed away in the afternoon of Dt: 04/02/2001 at the age of 52. He obtained his MBBS, MD (Medicine) and MD (Physiology) degree from this institute. He started his career as Junior lecturer of physiology and became Associate professor of physiology. He was a very popular teacher among the medical students. He was also a professor in charge of Gymkhana of NHL medical college. During his tenure in Gymkhana, the Gymkhana activities flourished a lot. Wide varieties of extracurricular activities (out door and indoor) were observed and enjoyed by the students under his leadership. Because of his outstanding noble nature and academic knowledge, large number of graduate and post graduate students of this and other medical institutes were seeking his advice and guidance for their career. He was one of the members of editorial committee of Academy of applied basic medical sciences. The academy is deeply grieved by his untimely demise.

Dr. Jyotiben Deokule  
Chair person  
Academy of applied basic medicine sciences.

#### **MESSAGE OF WHO – 2001**

### **Mental Health - Stop exclusion, Dare to care**

Dr. Jay K. Sheth - Junior Lecturer, Dept. of P&SM World Health Day is celebrated every year by the World Health Organization on 7th April with one World Health Day Theme to focus attention of international community on a specific aspect of public health issues of worldwide concern. World Health Day 2001 is a global advocacy activity dedicated to mental health issues with the theme "Mental Health - Stop exclusion, Dare to care"

The message is one of concern and hope. It incorporates two universal messages:

1. All societies need to focus on a reduction in the treatment gap of mental health disorders. Meaningful knowledge has been gained on many problems. The benefits of this knowledge have yet to reach all populations, particularly the underprivileged. Thus the emphasis is on "Provide better care; ensure access to care, insist on equity in care."
2. The pervasive effects of social exclusion resulting from stigma and discrimination and the out-dated nature of many mental institutions, prevents people in need from seeking treatment. Less exclusion, less discrimination is emphasized to help those afflicted and their families to lead better and more productive lives and encourage those in need to seek treatment.

Mental health is an integral component of Health as it is defined by WHO that "Health is a state of complete physical, mental & social well being and not merely an absence of disease or infirmity which enabled him to live a socially & economically productive life." With a balanced mental disposition, one is more effective in coping with the stresses of

life, can work productively and fruitfully, and is better able to make a positive contribution to the community. The prime objective of the theme is to impact public opinion and stimulate debate on how to improve the current condition. The prime objective of the theme is to impact public opinion and stimulate debate on how to improve the current condition of mental health around the world. No country and no person is immune to mental disorders and their impact in psychological, social and economic terms is very high. Of every four people who turn to the health services for help, at least one is troubled by these disorders, which are often not correctly diagnosed and thus not treated. We have solutions to treat many disorders and to permit persons with mental/brain disorder to become functioning members of the community. Yet, societies still raise barriers to both the care and the reintegration of people with mental disorders. The plan is to highlight the key concerns of care and exclusion as demonstrated by a limited number of disorders: depressive disorders, schizophrenia, Alzheimer's disease, alcohol dependence, epilepsy and mental retardation. The selected disorders are representative worldwide of the gap between available means of intervention and their application for both mental and neurological disorders.

The road ahead is long. It is littered with myths, secrecy and shame. Institutions that violate basic human rights, stripping one's dignity through inhumane care still exist today. Yet we feign ignorance or actively ignore this fact & perpetuate a vicious cycle. This may be because we do not have sufficient data to begin addressing the problem. An estimated 400 million people alive today suffer from mental or neurological disorders or from psychosocial problems. Suicide is seen as a relief. As estimated 1 suicide death takes place every 40 seconds in the world. Five out of the ten most disabling disorders are psychiatric in nature. Majority of people with depression do not receive adequate treatment. There is no justification in ethics, science or society to exclude persons with a mental illness or a brain disorder from our communities. There is room for everyone.

Many countries are engulfed in conflict and civil strife with a large number of refugees and displaced persons resulting in an adverse impact on the mental health and well being of the affected populations. Wars and disasters contribute to the growth of psychological and socio-economic burden. Family disruption and other family related stressful events contribute to anxiety, depression, different psychosomatic disorders, phobias and post-traumatic stress disorders.

When the problem is psychiatric people don't know how to react because they can't see anything. But just because you can't see someone's pain, it doesn't mean they don't need your care and support. At least something can be done for all such patients. The facts show us that persons suffering from a mental illness or a brain disorder can not only improve but also contribute to society. Increased attention should be given to psychosocial interventions aiming to ensure that after treatment the patients can independently function at home and in society. If the families have been educated, supported & helped to teach how to help the mentally ill person the story of mentally ill persons would have been different. Now is the time to speak out so that families can know that they are not alone, that they have nothing to be ashamed of.

Mental health' care is a collective and continuous undertaking. It implies acting to preserve and recover that, which makes people human, alongside with the spiritual life. It also requires a healthy environment, one that is peaceful, in which all people may prosper, where tolerance is generalized, and where violence is diminished. Without this, we are all at a greater risk for ill mental health. We have to work together to make the change. Dare to challenge the myths and the misconceptions. This is an opportunity as well as a challenge. Let us pledge to work towards a day when good health will also mean good mental health.

Academy oration 2001 a public lecture program was held on 21 st Feb 2001. The subject was over coming the fear of earth-quake. The speakers were Dr. V. D. Shah (Ex Prof, of Psyc., Dr. Sohan. Derasari Ex. Asst. Prof, of Psyc., Dr. H. Jana Ex. Prof, of Phys., Dr. D. Pestonji from IIM, Dr. J. R. Trivedi, Geologist, PRL, Mr. Navinbhai Shah of Navin Institute of Spiritual Psychology) The programme was held at Gajjar Hall, Alimedabad : 6 the programme was very successful. 1) The views expressed in the articles are of the authors of each article and not of A. J.A.B.M.S. 2^ CODV riaht reserved.