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Journal of Indian Academy of Forensic Medicine (JIAFM)

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Editor-in-Chief

Dr. Mukesh Yadav

From Editor's Desk

I feel immense pleasure to present before you the third issue of JIAFM 2007. I assure you about the quality of research papers and quality of printing in future issues. Your valuable suggestions are always encouraging me and I heartily welcome for future suggestions. On behalf of Executive Committee of IAFM for the years 2006-2008, I took resolution to further improve the quality and status of our Journal. We always learn from mistakes and try to improve upon these.

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Editorial

Gift / Punishment on Doctor's Day

It is indeed important that both doctors and patients be made aware of the existence of Doctor's Day and at the same time, of its relevance and significance in the larger context of healthcare in India. Is First July is designated as Doctor's Day all over the World? No, it is Doctor's Day only in India. For example, in USA, Doctor's Day is celebrated on March 30 every year.

So how did First of July get to be designated Doctor's Day in India**. Dr. B.C. Roy** was born on **July 1, 1882** at **Bankipore** in **Patna, Bihar**. After completing graduation in medicine from Calcutta, he completed his MRCP from Bartholomew's Hospital in the U.K. and FRCS from London and returned to India in 1911. Then he began his carrier as a physician. He dedicated his life to the upliftment of Indian society, especially, the downtrodden. He excelled not only as a physician and educationist but even as a freedom fighter, joining Mahatma Gandhi in the Civil Disobedience Movement. Dr. Roy became the leader of the Indian National Congress and later the Chief Minister of West Bengal. He passed away on July 1, 1962, on his birthday. Doctor's Day is celebrated on this day in India. He was honoured with Bharat Ratna and the B.C. Roy Memorial National Award was instituted to honour him in 1976.

On National Doctor's Day, there is need to remember the lost ethical values by most of the doctors in this noble profession. The status of demigod given by the society for saving the life, giving new life, who with his expertise, knowledge and skill, fights the deadliest of diseases in the human body, he is the ray of hope in every heart. But for him, several lives would perish or degenerated. Research, clinical tests, medicine and surgery, and above all the will to combat an ailment is what derives those in this profession. If, the 'Oath of Medical Ethics' is supposed to be their life line, then why is that for some, the very 'Medical Oath of Hippocrates' fades in memory and the nobility of the profession is lost amidst the green bucks? Why is it that ethics and moral values take a back seat giving way to avarice? That too at the cost of human life, blood, pain and trauma?

Is it a gift or punishment on the Doctor's Day when news published in the **Hindustan Times, on July 1, 2007** on Page Three that **"Doctors suspended for turning away HIV+ Woman"**? The U.P. Government has suspended Professor and Acting HOD of Gynaecology Department of L.L.R.M. Medical College, Meerut, U.P., along with her junior Assistant Professor, for irregularities in delivery of a HIV Positive patient on June 29, 2007. Both doctors were suspended on the basis of the report sent to the government by the District Administration. Chief Development Officer (CDO), Mr. Jacob and SDM Sadra C.P. Singh had probed the matter and found the doctors guilty for not providing adequate facilities in the labour room and also of ignoring humanitarian concern at every level. The suspension order reads that both doctors were suspended with immediate effect for irregularities in delivery of a HIV Positive patient. In their reply to the Principal of the Medical College, the doctors have said the charges leveled against them are baseless. Doctors from NACO who probed the matter have also given a clean chit to the doctors but the State Government seems to be in no mood to be lenient against the erring doctors.

The husband of a pregnant HIV positive patient had alleged the doctors for refusing to treat his wife when she was in labour, for fear of getting infected. He was forced to deliver the baby while the doctors stood by and watched. This is a very strange fact that Voluntary Counseling and Testing Centre is also established in the same Medical College with the help of NACO, raises serious doubts about the tall claims of awareness about the disease.

Although the Acting Principal termed the decision as harsh, as they should have been given a chance for explanation on the charges leveled against them. No doubt that doctor are demoralized and require a moral boost on this Doctor's Day gift / punishment to members of medical fraternity.

But the greatest gift on this auspicious occasion of Doctor's Day is given by the husband of the ill fated woman who gave in writing that he does not want any action against the doctors. His action certainly has given a message to whole medical fraternity to rethink on the issue of providing healthcare services to children of lesser god i.e. poor patients on humanitarian grounds on the principles of medical ethics.

Mukesh Yadav

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Problem of Unrecognized Medical Degree / Diploma Who is at fault?

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Abstract

Medical education is the subject matter of both Union and State Governments and Medical Council of India is the sole supervising body of medical education and maintaining its standard. Problem of recognition of medical degrees / diplomas is prevalent in almost all the States of India and in most of the medical specialties. Holders of unrecognized degree / diploma may face problem of employment / promotion, etc. Thus, leading to filing of litigations in the court, some of which are decided and others are still pending in the Indian Courts.

This paper deals with review of this problem, brief discussion of relevant court decisions, Government Orders and Medical Council of India (MCI) notifications, etc. thus, help in solving the problem to great extent by making concerned persons aware about the issue and to take initiative to solve the problem of very much public interest.

Key Words: Unrecognized Medical Degree / Diploma, Employment, Promotion, Medical Council of India, Court.

Introduction:

The problem of recognition of degree / diploma and employment is not new issue as apparent from various courts' decisions and other relevant documents of Government and Medical Council of India (MCI). Since medical education is still in infancy in India as private medical colleges are mushrooming and as India is a developing economy many problems are bound to arise. This problem is prevailing in many States of India like Jammu & Kashmir, Himanchal Pradesh, Punjab, Haryana, Uttar Pradesh, Bihar, Tamil Nadu, Delhi, etc.

Author himself had received an interview call from the **PGIMER, Chandigarh**, for the post of **Assistant Professor** scheduled to be held on **06-12-2005,** and concerned authority has asked for **certificate from MCI** in this regard as a condition to appear before the interview board. Similar is the position with the Union Public Service Commission (UPSC), New Delhi, which asks for letter of recognition of degree issued by the MCI before they allow appearing for the interview.

In a very interesting case in which a doctor, holder of M.D. (Pathology) awarded by M.L.B. Medical College, Jhansi, U.P., which is not recognized by the MCI. He was given appointment as Senior Lecturer at Government Medical College, Chandigarh on adhoc basis and continues his job for more than five years till he received a call of interview for the same post on permanent basis through UPSC, New Delhi. But unfortunately his candidature was rejected by the UPSC, after allowing him to appear for the interview on the ground of unrecognized degree.

In another more interesting case from Allahabad, U.P., one doctor, holder of Diploma Cardiology from G.S.V.M. Medical College, Kanpur, U.P., which is not recognized by the MCI, faced criminal charges and remain in prison for few months not under section 304-A, IPC but under charges of 'culpable homicide not amounting to murder' i.e. under 304 IPC, part -I for the death of one of his serious patient, for no fault of him, but to hold unrecognized diploma awarded by a Government Medical College of U.P.

Employment/ promotion and unrecognized degree / diploma:

Various High Courts and Hon'ble Supreme Court of India on many occasions had ruled in favour of candidates possessing unrecognized degrees / diplomas like:

Judges, J.S. Khehar and **Rajiv Bhalla** of **Punjab and Haryana High Court** while delivering judgment on the issue of recognition of degree and problem of promotion on 09-02-2005, observed that "The **fourth contention** of the learned counsel for the respondent is that the petitioner has no locus stand to impugn the selection and promotion of respondent No. 3 Dr. S.S. Sangwan to the **post of Dean (Medical)** as the petitioner himself is ineligible for appointment by promotion to the aforesaid post under the 1988 Rules. In this behalf, the petitioner acquired the qualification of **M.D. (Forensic Medicine) from the Medical College, Rohtak,** and that he was awarded the aforesaid Postgraduate Degree, by the **Maharishi Dayanand University, Rohtak**. In this behalf, it is pointed out, that the qualification of M.D. (Forensic Medicine) awarded by the Maharishi Dayanand University, Rohtak, has not been recognized by the MCI. It is, therefore, asserted that the petitioner does not even fulfill the basic qualifications for the post of Dean (Medical). [Page No. 21-23] [1]

Court further observed that "So far as the fourth contention advanced on behalf of the respondent is concerned, reference will have to be made to the qualifications prescribed for appointment to the post of

the Dean (Medical), in Appendix 'B' of the 1988 Rules (details whereof have already been extracted above). The essential minimum qualifications for appointment to the post of Dean (Medical) comprise of **three essential ingredients**. **Firstly**, a basic University qualification included in the schedule to the Indian Medical Counsel Act, 1956, **Secondly**, M.D./M.S. or equivalent Postgraduate qualification, and **thirdly**, five years teaching experience as Professor (Medical). The fact that the petitioner possesses the **first** and **third essential eligibility conditions** is **not disputed**. The only issue which arises for determination is, whether the qualification of M.D. (Forensic Medicine) acquired by the petitioner in 1980 satisfies the second requirement in Appendix 'B' of the 1988 Rules, noticed above. In our view, the qualification of M.D. (Forensic Medicine) possessed by the petitioner has to be accepted as relevant qualification for satisfying the second requirement. Our aforesaid **conclusion is based on firstly**, on the fact that the qualification of M.D. / M.S. or equivalent postgraduate depicted as an essential qualification for appointment to the post of Dean (Medical), is a requirement in the verbatim, even for appointment to the post of Professor (Medical). The petitioner was appointed as Professor in the Institute of Medical Sciences as far back as on 1-06-1981. At the aforesaid juncture, the qualification possessed by the petitioner, was considered to be sufficient for appointment to the post of Professor. It is not open to the respondent at this juncture to assert, that the same postgraduate qualification, which was accepted to determine the eligibility of the petitioner for appointment to the post of Professor, is not acceptable for determining his eligibility for promotion to the post of Dean (Medical). **Secondly**, while Appendix 'B' of the 1988 Rules expressly indicates, that the basic University qualification possessed by an incumbent must be one of the qualifications included in the schedule to the Indian Medical Council Act, 1956, there is no such prescription / requirement in so far as the M.D. / M.S. qualification is concerned. It is, therefore, misconceived for the respondents to assert, that only such M.D. / M.S. qualifications are to be considered as valid for the purposes of eligibility as have been recognized by the Medical Council of India. **Thirdly**, the petitioner acquired the qualification of M.D. (Forensic Medicine) from the Medical College, Rohtak i.e. the very institute, wherein he is claiming appointment by promotion to the post of Dean (Medical). It is difficult to accept, that the respondent would not accept the postgraduate qualification acquired from the institute itself, as a valid postgraduate qualification for appointment to the post of Dean (Medical). In fact, it would be pertinent to mention, that the official respondents in the instant writ petition did not dispute the eligibility of the petitioner for appointment by promotion to the post of Dean (Medical). The instant objection was raised only at the hands of respondent No. 3. In view of the deliberations recorded above, it is not possible for us to accept even the fourth contention (advanced by the learned counsel representing respondent No. 3) [Page No. 23] [1]

Recognition of degree and employment is not a new issue:

The problem is not a new issue as apparent from the Letter written by the Secretary, U.P., Sri G.K. Joshi, to all Heads of Departments and Principal, Heads of Offices. The contents of letter are as follows:

"Subject: Recognition of the degrees and diplomas awarded by the Universities established by law in India for purposes of recruitment to services under the State Government.

Sir,

I am directed to say that the question of recognition of the degree / diploma awarded by the Universities as established by law in India for purposes of recruitment to services and posts under the State Government has been under their consideration for some time past. In the light of the decision taken by the Government of India and in consultation with the Lok Seva Ayog, Uttar Pradesh [UPPSC] it has been decided that in the case of degree / diploma awarded by Universities in India which are incorporated by an Act of the Central or State Legislature, no formal orders recognizing such degrees / diplomas need be issued by Government. Such degrees / diplomas should be recognized automatically for purposes of employment under the State Government". [2]

In a case from Rajasthan, Court observed that "Post-graduate medical degree granted by a University duly established by statute in this country which has also recognized by the Indian Medical Council – Ipso facto to be regarded, accepted and treated as valid throughout our country – In absence of any express provision to the contrary, such a degree does not require to be specifically recognized by other Universities in any State in country before it can be accepted as a valid qualification for the purpose of appointment to any post in such a State be accepted as a valid qualification for the purpose of appointment to any post in such a State. [7]

Bench comprising of Judges A.D. Koshal, J., R.B. Mishra,J., V. Balakrishnana Eradi. The judgment of the Court was delivered by Eradi, J.

On March 3, 1972, the Rajasthan Public Service Commission (for short, 'the Commission') issued advertisements inviting applications for the recruitment of two Lecturers in Forensic Medicine for Medical College, Medical & Public Health Department in accordance with the Rules. [Para 5] [7] The appellant had, by then, obtained the **M.D. degree in Forensic**

Medicine from the University of Bihar, Muzaffarpur in1970 and had been functioning as Lecturer in Forensic Medicine in one of the Government Medical Colleges in Rajasthan on a temporary and adhoc basis from **December 31, 1970 onwards**. [Para 6] [7]

In response to the aforesaid advertisement published by the Commission, the appellant applied for appointment to one of the posts. However, by the impugned letter (Annexure IV) dated July 21, 1973, issued by the Secretary of the Commission, the appellant was informed that his application for the post of Lecturers in Forensic Medicine was rejected since he did not possess the necessary academic qualification. A representation made by the appellant to the Public Service Commission for reconsideration of the matter did not meet with any favorable response and hence the appellant approached the High Court by filing the writ petition under Article 226 of the Constitution out of which this appeal has arisen. During the pendency of the writ petition, the Commission conducted the interview of the remaining candidates and selected respondents 3 and 4 for appointment to the two posts and on the basis of the said selection the State Government appointed respondents 3 and 4 as Lecturers. The appellant thereupon amended the writ or direction canceling the interview and selection conducted by the Commission as well as the consequential appointments given by the State Government to respondents 3 and 4 as Lecturers in Forensic Medicine. [Para 7] [7]

Court further observed that "The sole ground on which the appellant was treated by the Commission as ineligible for consideration was that the post-graduate degree in Forensic Medicine possessed by the appellant is not one awarded by the University of Rajasthan and the said degree has also not been recognized by the University of Rajasthan as an equivalent qualification. [Para 10] [7]

The University of Bihar, at Muzzafarpur is one duly established by statute and is fully competent to conduct examinations and award degrees, the degree of Doctor of Medicine (Forensic Medicine) M.D. The University of Bihar is included in the Schedule to the Indian Medical Council Act, 1956 as a degree fully recognized by the Indian Medical Council which is the paramount professional body set up by statute with authority to recognize the medical qualifications granted by any University or Medical Institution in India. [Para 11] [7]

The conclusion that emerges from the aforesaid discussion is that the appellant was fully qualified for being considered for appointment to the two posts of Lecturer in Forensic Medicine advertised by the Commission on November 16, 1972, and that the Commission acted illegally in treating the appellant as not being possessed of the requisite academic qualification and excluding him from consideration on the said ground. [Para 13] [7]

Accordingly, we allow this appeal, set aside the judgment of the Division Bench of the High Court and restore the judgment of the Single Judge, subject to the modification that in carrying out the directions contained in the judgment of the learned Single Judge, the Commission should treat the appellant as a fully qualified candidate in the light of the finding recorded by us that at the relevant time the appellant possessed not merely the prescribed academic qualification but also the requisite experience of two year's medicolegal work. The appellant will get his costs throughout from respondents 1 and 2 in equal shares. [Para 14] [7]

In a case, Court observed that "Where the Post-graduate course was started by the Ranchi University with the consent of Medical Council of India and the State of Bihar had recognized such degree imparted by the Ranchi University, held, it could not be contended that degree obtained after pursuing said course was of no value as the same had not been recognized so far by the Medical Council of India". [8]

In another case, Court observed that "**Thus, it was incumbent upon the respondent No. 1 University to have awarded only that degree which is recognized one** and to amend the degree from that of M.D. (Pathology and Microbiology) to M.D. (Pathology) as this is the only change in nomenclature of the degree. For the fault of the University, the students cannot be made to suffer. Since they have acquired qualification, degree in M.D. (Pathology and Microbiology) should be amended as the Schedule to Act of 1956, does not recognize the degree in M.D. (Pathology and Microbiology)". Court further observed that "**The petitioner and such other similar students are being deprived of their right to education and other fundamental rights enshrined under Articles 14, and 21 of the Constitution of India which make it clear that the petitioner and such other students cannot be dealt with in such an arbitrary manner.** The respondents are bound to act within the purview of Medical Council Act, 1956. **If the degree is not amended, it may be detrimental to the students who have passed out the examination by making hard efforts to obtaining the degree and their qualification would go in waste". [Para 8]** [9]

Therefore, same action ought to have been taken by the respondent No. 1 University to amend the degree of the students who have

been taken by the University to amend the degree of the student who have passed prior to 1997 when it has decided to amend it prospectively. Though the University realized the situation and its mistake and they have passed the resolutions in this respect in 1997 the student of 1990 to 1996 are being still awarded by the degree with nomenclature on the basis of same course as M.D. (Pathology and Microbiology). **The action taken is discriminatory. Right to Education is a fundamental right. Under Article 21 of the Constitution of India no one can be deprived of fruits of his hard labour in pursuit of degree in question by prescribing a wrong nomenclature. Medical Council had indicated it's willing to treat degree as one in M.D. in Pathology as same course which should have been enough for University to amend it and act like Devi Ahilya University, India**. [Para 8] [9]

"….the stand of the M.P. Medical Council is proper that it only recognizes the degree which is in tune with the nomenclature mentioned in the Schedule". [Para 9] [9]

Mr. Arun Mishra, J. finally directed that "Thus, the communication of the University Annexure P-7 is quashed and the respondent No.1 University is commanded to amend the degree of the petitioner from that of M.D. (Pathology and Microbiology) to that of M.D. (Pathology). **It is made clear that similar treatment be also given to the other similarly placed students by the respondent No. 1.** In the facts and circumstances of the case, parties to bear their own costs. Petition allowed. [Para 10] [9]

A Bench comprising of **Judges N.M. Kasliwal**, **J**. and **M.M. Punchi, J**. delivered the judgment on **April 26, 1991and observed that** "The controversy has been raised before us that the M.Ch. degree course in **Neurosurgery** awarded by **Rajendra Medical College, Ranchi University** is not yet recognized for the purpose of Indian Medical Council Act, 1956 and a letter of MCI dated **27-02-1991** has been placed on record in this regard. Learned counsel for the respondent No. 5 has tried to contend that M.Ch. degree obtained by the appellant was of no value, as the same has not been recognized so far by the MCI. We find no force in this contention, as this course was started by the Ranchi University in 1980 with the consent of the Medical Council of India and the State of Bihar has recognized such degree imparted by the Ranchi University and even before this Court learned counsel appearing for the State of Bihar accepted this position. We are not concerned in this case about the value of such degree for places outside State of Bihar, but so far the present case is concerned which relates to the post of Assistant Professor in Patna Medical College and Hospital, Patna which post is under the Bihar Government, no such objection can be maintained by the Respondent No. 5". [8]

Recent Developments:

In a recent case filed before **Hon'ble Chief Justice Ajay Nath Ray** and his companion **Judge Jagdish Bhalla,** of **Lucknow Bench of Allahabad High Court,** while delivering interim order [R-5] on **April 20, 2005** observed that "This is a Public Interest Litigation (Writ Petition under Article 226 of the Constitution of India) filed by the writ-petitioners, which described themselves as Doctors. They are final year **students of M.B.B.S. Course** at **B.R.D. Medical College, Gorakhpur**. The main substance of the writ petition is that the Post Graduate courses of the said Medical College have been substantially de-recognized by the Medical Council of India but this fact notwithstanding, admissions are going on in these Colleges and the Post Graduate Medical Courses even now. We are informed from the Bar that counseling is on from this day, i.e. today with regard to such Post Graduate Medical Courses". [5]

Some other Colleges are also named in the petition like **Maharani Laxmi Bai Medical College, Jhansi** and **S.N. Medical College Agra**. As for as we have been able to gather today, these colleges are **not legal personalities** and are **not Bodies Corporate**, these are basically **State instrumentalities**. The State also appears to have issued directives to at least the **B.R.D. Medical College, Gorakhpur**, **not to admit students and not to recognize students to Post Graduate Courses**. [5]

The **writ-petition is directed towards making the recognition available again to these colleges** by **increasing the teaching staff, making the Laboratories better equipped**, and such like. We are told that a writ petition has also been filed in the **Delhi High Court** (since the Medical Council is in Delhi) and that in the said writ, **orders have been passed** calling for **reports and for bettering of facilities** and that the matter is due to be heard again on the **28th of this month (28-04-2005**). [5] **In these circumstances we admit the writ petition**.

Until further orders of the Court the respondents, their servants, officers and agents, the respective colleges including B.R.D. Medical College, Gorakhpur, and their Principles, Professors, employees and servants are restrained from taking any steps towards any fresh admission of any medical student to any course or seat

which is not at the time of admission recognized by the Medical Council of India.

It is clarified that if the Medical Council grants recognition the restriction against impressed by our order would automatically be lifted as the restriction order themselves clarify. Case is still pending and final decision is awaited till date.

Letter [3] written by the **Director Medical Education, U.P.** introduced to **Principals of Medical Colleges Kanpur, Agra, Allahabad, Meerut, Jhanshi, Gorakhpur** and **Registrar, King Gorge Medical University** on the subject of **'Recognition of Postgraduate Medical Courses'** asking principal's to take appropriate action as per MCI norms to get Postgraduate degree recognized, and to fulfill deficiencies pointed out by the MCI during previous inspections and inform the MCI of action taken in this regard.

The MCI Letter [4] written by the **Secretary, MCI** introduced to the **Secretary (Health), Govt. of U.P.** on the same subject mentions that "I am directed to inform you that various postgraduate medical courses are being run in the medical colleges in your State which are yet to be approved / recognized u/s 11 (2) of the IMC Act, 1956. (List enclosed) You are requested to direct the authorities of the medical colleges to approach the Registrar of the University to which the Medical College is affiliated to forward its formal request through the Central Government as required u/s 11 (2) of the IMC Act, 1956 for arranging for the inspection by the Medical Council of India at the time of practical examination of respective PG Courses.

In addition you are requested to direct the college authorities to send compliance regarding the deficiencies pointed out by the Council in respect of the postgraduate courses which have yet not been recommended for recognition for further necessary action in the matter". [4]

Role of MCI, Central Government, State Government, University:

So far as the admissions to unrecognized medical seats are concerned, we have, although prima facie, a very strong view. The Medical Council is the over all supervisor of Medical Education in India. Whether an institution is fit to admit students for the purpose of study ultimately with the aim of receiving medical degrees from that institution, is a matter, which is in the sole decision of Medical Council. If the Medical Council de-recognizes institutions, courses or seats, then and in that event it means that those institutions, those courses or those seats, as the case might be, are not fit for producing qualified doctors of that level or that mentality, specialty. [5]

In such an event, it is the job of every public authority in India to see to it that these deficient institutions do not admit students or grant them degree which would have inbuilt and hidden incapacity and inadequacy and which would forever in future be of definite danger to the citizen of India at large.

Just as an unqualified man practicing medicine is a threat to public health, so also is a **half qualified** or **badly qualified** person is a **similar danger to the public**. If anything the danger in the second case is more. Thus, a degree from an unrecognized institution, course or seat is a misrepresentation. It is a misrepresentation of a permanent nature which is likely to mislead many and unknowing patient. [5]

Most important case came before the Hon'ble Supreme Court on this issue is that of 1999 [6], judgment delivered by a Bench of **Hon'ble Chief Justice of India M.M. Punchhi**, and his companion **Judges K.T. Thomas** and **D.P. Wadhwa, JJ**. **(Under** Constitution of India, **Arts. 226, 254)**

Apex Court observed that "It is the Medical Council / Dental Council which can prescribe the number of students to be admitted in medical courses / dental courses in a medical college or institution. It is the Central Government, alone which can direct increase in the number of admissions but only on the recommendation of the Medical Council. Universities and the State Government of Karnataka had no authority to allow increase in the number of admissions in the medical colleges in the State. No medical college can admit any student in excess of its admission capacity fixed by the Medical council subject to any increase thereof as approved by the Central Government and that Sections 10-A, 10-B and 10-C will prevail over Section 53(10) of the State Universities Act and Section 41 (b) of the State Government Capitation Fee Act. **To say that the number of students as permitted by the State Government and or University before June 1, 1992 could continue would be allowing an illegality to perpetuate for all time to come".** [Par 31, 32] [6]

"It is not that only future admissions will have to be regulated on the basis of capacity fixed by or determined by the Medical Council. Plea of the State Government that power to regulate admission to medical college is prerogative of the State has to be rejected".

It is the Medical Council, which is primarily responsible for fixing standards of medical education and over seeing that these standards are maintained. It is the Medical Council, which is the principal body to lay down conditions for recognition of medical colleges, which would include the fixing of intake for admission to a medical college. The Medical Council Act is reliable to Entry 66 of List 1 of Schedule 7 to Constitution. [6]

Summary and Conclusions:

The problem of non-recognition of degree results in unnecessary litigations in various courts, denial of job to many degree holders, not receipt of call for interview by UPSC, New Delhi, and PGIMER, Chandigarh, mental harassment of candidates, etc.

Over and above when one go into the background of this problem it is very easy to make out that this problem is the result of insensitive authorities on the issue and not fulfillment of Minimum Standard Requirement Criteria fixed by the MCI and directly related to quality of medical education and denial of right to health care (under Article 21 of Indian Constitution) of general public.

Responsibility should be fixed on concerned authorities for not responding in time and raising the problem out of control. No initiative was taken by the faculty members due to reasons best known to them. It might be for the reason of insecurity for themselves or no awareness about the procedure of recognition by the MCI. It might be due to bureaucratic or technocratic insensitivity about the issue.

It is a very important issue of public interest related to violation of **Article 21, 14, 16 of the Indian Constitution** and **other statutory provisions.** This problem of non-recognized degree / diploma awarded by many Indian Universities is also in violation of the Indian Medical Degree Act, 1916, the Indian Medical Council Act, 1956, and it's Regulations, etc.

MCI suo motu may recognize these degree / diploma and apply the 1993 rules afresh while inspecting and allowing permission for admission to only new courses without affecting the rights of old candidates.

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3. Director Medical Education, U.P. Letter No. ME/ Student Cell/ 2007/ 3225-26, dated 31-05-2007
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Civil Responsibilities of Mentally ill

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Abstract

Obligations of mentally ill persons towards society are a debated issue. We need to understand their civil and criminal rights and also the rights of society against and towards such persons. In the present paper an attempt has been made to outline the civil responsibilities of mentally ill and the related laws.
Key Words: Mentally Ill, Civil Responsibilities, Testamentary Capacity.

Introduction:

Health is defined as "the state of complete physical, mental and social well being and not merely an absence of disease or infirmity". [1] Physical health of a person can be assessed by clinical and laboratory examination. Social aspect is also not very difficult to ascertain. The mental status is tricky to evaluate and is the one which actually determines other two health parameters. If a person is mentally ill then he cannot be perfect in social and physical aspects.

Mental illness is defined as "mental disorder which needs constant or recurrent care and treatment other than mental retardation". [2] Any act committed by a person has both physical and mental elements. Civil transactions like marriage, divorce, inheritance, contracts, will etc. are invalid in absence of 'sound and disposing mind' i.e. ***compos mentis***. For criminal acts like assault, murder etc law considers presence of motive to be a necessary component and most of the allegations turn baseless in absence of clear motive. Here again to form an intent or motive presence of sound mind is mandatory. Although even in absence of such sound mind, there is commission of physical act but it will not have any credibility.

We all are part of society. Interaction amongst various members is mandatory to fulfill basic requirements and to lead a happy life. During these interactions an individual have to follow certain guidelines and his action is guided by various obligations. These are his civil responsibilities. Breach of such responsibilities is an offence against another individual in contrast to criminal responsibilities, which constitutes an offence against the state. In present study, an attempt has been made to study prevailing Indian Legislations on the subject of civil responsibility of the insane.

1. Management of property and affairs:

Chapter VI **(Sections 50-54) of Mental Health Act, 1987**, outlines the legal procedures to be followed in respect of a mentally ill person possessing property, for the custody of such persons and management of his property. [3]

In such case usually the court takes action on request of relative of such persons. Court will conduct inquiry to that effect. If it is proved that insanity exists to such a degree so as to make him incapable of managing his own affairs then court appoints a guardian for the same. [4] If later on at any stage under further enquiry it is shown that insanity has ceased the court may order removal of guardian and all further proceedings will thus cease. [5]

Court may even order sale of his property or part of property in order to:

a. Bear expenses of his treatment and maintenance, maintenance of such members of his family who are dependent on him. [6]
b. Payment of his debts.
c. Payment of cost of any judicial inquisition, and of any cost incurred by order or under authority of court. [7]

2. Contracts:

Dealt with under **Indian Contract Act (Act IX of 1872)**. [8] Section 6, 11 and 12 of this Act deals with responsibility of insane with regards to contracts. Contract is an agreement enforceable by low. Agreement simply means an accepted proposal.

Section 6: Says that a proposal is revoked by death or insanity of the proposer, if the fact comes to the knowledge of the acceptor before acceptance.

Section 11: Says that every person above the age of majority and of sound mind is competent to contract.

Section 12: Says that if at the time of making a contract if a person is capable of understanding it and of forming a rational judgment as to its effects then he is considered to be of sound mind. [7]

If at the time of making a contract either party is of unsound mind and the fact is known to other party and it is shown that advantage is taken contract is invalid. On the other hand if other party is unaware of this fact and contract is a fair one then it is valid. Insanity which develops subsequent to the contract does not make it invalid unless steps are taken for its dissolution or the performance of service becomes impossible. [5]

3. Consent:

Section 90 of Indian Penal Code deals with this issue. In this regards it says that if the consent is given by the person who, from unsoundness of mind, or

intoxication, is unable to understand the nature and consequence of that to which he gives consent then such consent is invalid. [9]

A person of unsound mind does not understand the nature and consequence of his act so he is incapable of giving a valid consent.

Any consent given or contract made by an insane person during Lucid interval (period of sanity between two periods of insanity) is valid and a binding on him.

4. Competency as a witness:

This is guided by **Section 118** of **Indian Evidence Act, 1872**. Any person is competent to testify as a witness provided he understands the obligation of oath. He should be able to understand the nature of questions put to him. [10] An insane person is not incompetent to give evidence unless he is not able to understand to give evidence unless he is not able to understand the questions or is unable to give rational answers to them. [3]

If such a person can only dist cut the facts run by him (without making interpretations) it can be accepted. The competency for this purpose is decided by presiding officer of the court. Lucid interval is an exception to this concept.

5. Marriage and Divorce:

Guided by the **Hindu Marriage Act (Act 25 of 1955)** [7] and **Marriage Law Amendment Act, 1976**. [3]

Marriage is considered null and void if either partner was mentally ill at the time of marriage (unfit to give consent) and other was unaware of fact or if consent was obtained by fraud. Marriage is also invalid if person is unable to give valid consent for the act or if can give consent but by mental disorder is unfit for procreation. [5] Marriage is not considered null and void if person becomes insane after marriage.

Insanity developing subsequent to marriage is not the ground for divorce, but divorce can be granted if insanity is incurable even after continuous treatment for over 3 years. [6]

According to section 13 of Hindu marriage act, divorce can be granted if either partner has been incurably of unsound mind, or has been suffering continuously or intermittently from mental disorders of such an extent that the other partner can not reasonably be expected to live with him / her. [7]

6. Adoption:

Under the **Hindu Adoption and Maintenance Act (Act 78 of 1956)** any Hindu male 'who is of sound mind and is not a minor' can adopt a child, with the consent of his wife unless, she has been declared to be of unsound mind (Section 7). The some holds good for female also. The person capable of giving in adoption should also be of sound mind. [7]

7. Testamentary capacity:

It is the ability to make a valid will. According to **Section 31 of IPC** "will" denotes any testamentary document. Testamentary disposition is regulated by **Indian Succession Act (Act 39 of 1925)** Section 2(4) of act defines will **"as the legal declaration of the intention of a testator with respect to his property which he desires to be carried into effect after his death"**. [9]

For purpose of making a valid will a person should have 'sound and disposing mind' (*Compos mentis*) which has to be decided by medical evidence. Sound and disposing mind is one, which has capacity of recollecting, judging and feeling the relations, connections and obligations of his family and blood relations. [5]

Any person of any age can make a valid will unless his mental functions are deranged to each an extent that he can not understand the nature and consequence of his act. Even a deaf and dumb person is entitled to make will. [3]

An insane person is devoid of free will hence 'will' made by him is invalid unless made during lucid internal. An intoxicated person or a person suffering from delusions can make a will if they are able to understand and evaluate extent of their property and delusions are unrelated to their property. [8]

For this purpose most common symptom of absence of legal capacity is impairment of memory. Prejudices, dislikes and hatred however ill found cannot be termed as insane delusions. Such person is entitled to dispose his property in the way he likes.

Comments:

To fulfill any responsibility it is necessary to understand it, which in turn requires a sound mind. A mentally ill person cannot understand the nature and consequences of his actions and thus falls short of his responsibilities.

In our country, there are plenty of civil and criminal laws and procedures, regarding dealings with mentally abnormal offenders. These legal orders interact with mental disorder in order to protect the interests of mentally ill, society and the state. These legislations are enacted mainly to protect the society from dangerous manifestations of mental illness.

As for criminal responsibilities basis for civil responsibilities is also soundness of mind. Any deal finalized by a mentally ill person is invalid. For want in this context proof of insanity beyond reasonable doubt is not mandatory. A simple test showing him incapable of judging the act is sufficient.

Person is not liable for punishment in such cases. If some damage have been incurred to another person by his insanity, then he is liable to pay damages for it. Amount of damages and methods of procuring them lies to discretion of the court.

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Cryonics: A step towards immortality
Anatomical, Medicolegal and Ethical Implications

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Abstract
The inestimable value of human life is a cardinal feature of Jewish Law, which includes an obligation for maintenance of our own health and self preservation. Rabbinical Assembly's, Committee on Jewish Law and Standards, states that "the preservation of human life is obligatory, not optional".
Cryonics is an attempt to protect the gift of human life, through low temperature preservation, if necessary for hundreds of years, until they can be revived and cured of whatever illness or injury caused their legal death.
The objectives of this article are:
(a) To strengthen the concept of cryonics, through experiments performed, and cytoarchitectural results obtained thereof, by many research workers in both animals and human beings.
(b) To logically discuss the legal and ethical issues associated with cryonics.
In the end an attempt has been made to introduce the concept of **nanotechnology** and **nanomedicine** which will make revival a reality someday.
Key Words: Cryonics, Cryoprotectant, Cryobiologist, Legal Death, Neurosuspension, Vitrification, Nanotechnology, Nanomedicine, Ethical Implication.

Introduction:
The dream of escaping mortality has tantalized humanity for thousands of years. It occurs in all primitive cultures and modern world religions. Even Buddhism, which rejects the concept of an after life, offers the solace of reincarnation.
Benjamin Franklin [1] was probably one of the first to dream of preserving dead bodies for future repair. In 1773, after observing how the heat of Sun reanimated flies preserved in a bottle of wine, he wrote "I wish it were possible from this instance to invent a method of embalming drowned persons, in such a manner that they may be recalled to life, however distant".
When the possibility of cryonics rose many question came to mind of scientists like:

- Why do we want to do such a thing to ourselves?
- What could someone hope to gain by it? Why do we think that we can be stored for so long?
- What is the chance that we really come back?

Answers to all these questions became apparent when an eminent Professor of Physics, **C.W. Robert Ettinger** (Father of Modern Cryonics) [2] published a book titled "The prospect of immortality" in 1964. He promoted the idea that a person frozen after legal death might rationally hope to be reconstructed at sometime in future when medicine has acquired the ability to cure most of diseases.
A major breakthrough occurred in 1966, when a **Japanese Scientist, I. Suda** [3] froze isolated Cat brains after perfusing them with glycerol, then re-warmed under carefully controlled conditions. Electromyography studies showed that the brains regained some functions even though they had been frozen for a month or more.
In 1966, Cryonics Society of Michigan and then Cryonics Society of California were formed. The **first person** to be cryogenically frozen was a 73- years old **Psychologist, Dr. James Bedford**, who was suspended in 1967. His body is reportedly still in good condition at **Alcor Life Extension Foundation**. By the late 1970's there were about six cryonics companies in US, but to preserve and then maintain each body indefinitely was so expensive, many of those companies wound up closing shop by the following decade.
Major breakthrough in the possibility of treatment came into light, when **E. Drexler** [4] published his book "The Engines of Creation" in 1986. In this book he propounded the concept of **Nanotechnology-machines** on the molecular scale capable of repairing individual cells.
Today only a handful of companies offer full cryopreservation services including **Alcor Life Extension Foundation** in **Arizona** and **Cryonics Institute** in **Michigan.** In early 2004, Alcor had more than 650 members and 50 patients in cryopreservation. Some cryobiologists are hopeful that, using **Nanotechnology,** first cryonic revival might occur somewhere around 2040.

Technique of Cryonics:
Once a person has decided to undergo cryonic suspension, he or she has to join a Cryonic Facility by

paying an annual membership fee to be a member of that Cryonic Facility. Then, when a person is pronounced "legally dead" heart has stopped working, but some cellular brain function remains by a Competent Authority, an Emergency Response Team led by Local Funeral Director comes into action. The team stabilizes the body, supplying the brain with enough oxygen and blood to preserve minimal brain function.

Then, body is packed in ice and injected with an anticoagulant to prevent blood from clotting. A medical team awaits the arrival of the patient (legally dead individual) at the Cryonics facility. Once the patient has transported to Cryonics facility the actual "freezing" begins. The cryonists first replaces the water from the cells with a **glycerol based chemical** mixture **(cryoprotectant).** The goal is to **protect** the organs and tissues from forming ice crystals**.** This is known as "**vitrification**". Once the water from the body is replaced with the cryoprotectant body is cooled on a bed of dry ice until it reaches the temperature of **minus 130 degree centigrade**. Then the body is inserted into a tank filled with liquid nitrogen at a temperature of about **minus 190 degree centigrade**. Body is stored with the head down, so that if there were ever a leak in the tank, brain would stay immersed in the freezing liquid.

Due to heavy cost some organizations **preserve the brain only (neurosuspension).** Hopefully who have been preserved this way, technology will come up with a way to clone or regenerate the rest of the body.

Ethical Implications:

Cryonics is based on a view of dying as a process that can be stopped in the minutes, and perhaps hours, following legal death. Scientist (5) has argued that "death" based on cardiac arrest or resuscitation failure is purely a social construction used to justify terminating care of dying patients. In this view, legal death and its aftermath are a form of euthanasia in which sick people are abandoned. Ethical and theological opinions of cryonics tend to pivot on the issue of whether cryonics is regarded as interment or medicine. If cryonics is interment, the religious beliefs about death and after life may come into consideration. Resuscitation may be deemed impossible by those with religious beliefs because the soul is gone, and according to most religions only God can resurrect the dead. Expensive interment is seen as a waste of resources. If cryonics is regarded as a medicine, with 'legal death' as a mere enabling mechanism, then cryonics is a long term coma with uncertain prognosis. It is continuing to care for sick people when others have given up, and a legitimate use of resources to sustain human life. Cryonists believe that future technical advances will validate their view that cryonic patients are recoverable, and therefore never really dead. Cryonics is not in conflict with religion any more than medicine is in conflict with religion. Heart bypass surgery extends human life and is fully compatible with religion. Similarly, cryonics may also extend human life by preserving people for future medicine; Extending human Life is not in conflict with religion. To refuse new life extension technologies, could be a sin comparable to suicide.

Legal Implications:

Cryonics can only be applied to a person who has been pronounced "legally dead" by a team of authorized health professionals like in case of The Transplantation of Human Organ Act, 1994 in India. When a person is ready to be a cryonic member, he or she has to sign some core documents, which include **Cryonic Suspension Agreement**, the **Uniform Donor Form** and the **Next- of- Kin Agreement**. The contracts must be witnessed or notarized so that there can be no doubt a **CI member's desire** for cryonic arrangements. It is important for cryonists that their next of kin are informed and will not interfere in implementing cryonic arrangements when and if the time comes to implement them. Ted Williams a famous baseball legend was embroiled in a bizarre custody battle. Since his death in 2002 he has been stored in Alcor Life Extension Foundation. His daughter, Bobby- Jo Williams fought in Court to get back her father's body and charged her half brother **John-Hennry** to sell their father's DNA. But her half brother informed the Court that he signed a pact to preserve all remains of his father. The sibling's finally reached a settlement: Ted Williams was allowed to stay where he was, and John-Hennry (half brother) promised not to sell any of his father's DNA. [6]

By custom and law dead bodies are objects, not persons with rights or protections. This removal of personhood is a cultural obstacle not faced by living persons even with the poorest prognosis. For this reasons cryonists advocate all cryonic subjects "patients" and agree that morally they should not be considered dead, even though that is their status under present law.

Perspective:

The dream of escaping mortality is powerfully seductive. It is a worthy dream, but it will only come true if it is pursued on a cautious, skeptical rational basis. Attention to details high ethical standards, state-of-the art techniques, continuing research, and impeccable financial management are indispensable if cryonics is to fulfill the promise which first excited public imagination more than twenty years ago. To fulfill the promise, scientific support for cryonics based on cytoarchitectural studies showing substantial preservation of brain cell structure and other vital organs (see Table No. 1) and projections of this on to

future technology, especially molecular **nanotechnology** and **nanomedicine** has to be taken into account. In future some techniques likely to be available are:

Nanotechnology and Nanomedicine:

1. Repair at the level of the cell:

A. Ability to design enzymes to produce specific repair function such as:

a. Re-naturing denatured proteins
b. Joining broken lipoprotein complexes.
c. Annealing broken strands of DNA and RNA.
d. Giving a cell or organism possessing them the ability to metabolize new substrates, like novel cofactors or construct essential amino acids.

B. Specially constructed bacteria or macrophages able to replicate themselves, spread throughout a specific target tissue, and carry out specific repairs according to the programmes designed into their DNA and RNA. These may be so designed to operate at" unnatural temperatures, and utilize metabolic pathways not presently found in nature.

C. Ability to introduce into a cell DNA, or organelles (such as mitochondria), which it may have lost, and ability to introduce entirely new form of organelles.

D. Ability at will, to modify the developmental programme of a cell.

E. Several different types of repair bacteria able to work together in an integrated fashion for optimal repairs to every cell of the body.

2. Repair at the level of whole organism:

A. Understanding the physiology of aging and combined it with the ability to reverse it.

B. Control over growth and development.

a. Growth of an entire and well formed body from a head alone.
b. Re-growth of injured or lost brain tissue.
c. Growth of other organs which have been lost or damaged.

C. "**Substitute organs**", from others which have been lost.

Table showing experimental results of cryo preservation

Sr. No.	Type of Tissue	Preservation Temp.	Technique of Preservation
1.	**Brain**	**(-98°C)**	Brains perfused with glycerol and stored at -98°C, **showed no return of electrical activity. (**3)
		(-20°C)	Cat brains perfused with glycerol and stored for 280 days recover electrical activity. Upon re-warming to -39°C and perfusion with fresh donor blood; **appearance of tissue in light microscope "almost normal".** (11)
		(-20°C)	Cat brains stored for 7.25 years, thawed slowly over 12 hours. Brains perfused with glycerol before freezing. **Spontaneous electrical activity from thalamus and Cerebrum.** (3)
2.	**Kidneys**	**(-196 °C)**	Whole rabbit kidneys frozen in liquid nitrogen, without cryoprotective agents: **kidney epithelium grew in culture.** (7)
		(-79 °C)	Whole dog kidneys perfused with cryoprotectant (DMSO), stored for one year. Cell culture taken from thawed kidneys immediately after thawing: **Growth in culture of all cell types the same as that of controls.** (8)
		(-50 °C)	Kidneys perfused and cooled to minus 50 degree centigrade, DMSO used. **Out of 37 kidneys treated, four supported life long term in dog after other kidney was removed. (**9)
		(-20 °C)	DMSO used **two out of 14 kidneys functioned long term.** (10)
3.	**Tissue fragments**	**(-196 °C)**	One mm thick tissue slice taken from human cadavers, stored in liquid nitrogen for months: **all showed growth in culture after thawing**. Tissues were: ovary, pituitary, thymus, kidney, etc.(6)

Summary and Conclusions:

It has often been said that cryonic revival will be a **Last-In-First-Out [LIFO]** Process. In this view preservation methods will get progressively better until eventually they are demonstrably reversible, after which medicine will begin to reach back and revive people cryo preserved by more primitive methods. Revival of people cryo preserved by the current combination of **Neurovitrification** and '**Deep Cooling'** may require decades or even more, if it is possible at all.

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Mode of Death
Shifting From Coma to Syncope
Sports Utility Vehicle (SUV) Accidents

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Abstract

Road traffic accident is a major cause of death assuming epidemic proportion worldwide. After America, India has the largest network of roads. The total length of the road is about 33, 44,000km, out of which national highways occupies only 2% of total road length, whereas they bear 20% of the traffic load. One of the main reasons of the overcrowding of the roads is the tremendous rise in number of vehicles due to increasing distance from residence to workplace, intensive marketing campaign of newer sports utility (SUV) cars by depicting them in movies, media advertisements and easy finance availability has developed a craving to possess these sports utility vehicles in youths (both in males and females).

These sports utility vehicles are nowadays becoming the rapid killer of the victims met with road traffic accidents (pedestrians, pedal cyclist and motor cyclist).

The present study is based on prospective and retrospective cases of road traffic accidents involving SUV's, since January 2005 to December 2006. The present study has shown that young adults predominantly males in their most productive year of life (21-30 years) are especially prone to road traffic trauma2. Pedestrians constitute the largest group of victims 78 cases (65%) followed by cyclist 18 cases (50%), spot death unavoidable in 83 cases (55.33%) and the thoraco-abdominal trauma found in 97 cases (80.83%)2,4.

The findings of study under score the continue need for preventive strategies; aim to reduce trauma related mortality, particularly those regarding road traffic safety. The study also suggest that the large proportion of death were preventable, if underlying lesion or sequelae of injuries had been promptly addressed but unfortunately the front design of these sports utility vehicles is responsible for causing thoraco-abdominal trauma, leading to rapid death by causing haemorrhagic shock generated from involvement of the structures of thoraco-abdominal region.

Key Words: RTA, SUV, Thoracoabdominal Injury, Mortality

Introduction:

India is facing a well established epidemic of death due to road traffic accidents. Due to increasing urbanization distances from workplace, inspiration from movies SUVs has made a recent entry in the automobile market and people feel crazy to possess them due to their external design, cosmetic looks, speed and pick-up etc.The older, commonly used vehicles like Fiat, Standard etc. are hardly to found moving on the roads. The prototype of Jeep and Ambassador are largely utilized in Government setup.

Jaipur is a state capital of Rajasthan and is one of the fastest developing cities in India and having a population of plus 39 lacs and five national highways connects it with other states of the country.

The SUVs become constant threat to the road users particularly pedestrians, pedal cyclists and motor cyclists. The R.T.A. related mortality and morbidity in last three years are given in the table below:

Year	Total No. of Cases	Mortality	Morbidity
2004	2043	347	1911
2005	2367	416	2150
2006	2379	453	2133

Source: Dainik Bhaskar dt. 19/01/2007

Up-to December 2006, 9640 Sports utility vehicles were registered in Jaipur city, out of them 664 women were registered owners of these SUVs.

The epidemiological impact of SUVs accidents are specifically studied prospectively and retrospectively from Jan 2005-Dec2006 with following aims and objectives and out comes of study are-

Material and Methods:

The present study is based upon prospective and retrospective cases of road traffic accident involving sports utility vehicles, since January 2005 to December 2006. Only those cases are included in the study in which head injury and thoraco-abdominal trauma was deemed to be major

contributing factor to the demise of the patient and for which adequate clinical/postmortem records are available.

Patients clinical data including age and gender wise distribution, interval between traumatic events and death, associated injuries or complications, type of offending vehicle, type of victim (pedestrian, motor cyclist and pedal cyclist) and manner of accident are recorded for the study.

Attention has also been made for detection of the injury to the chest, abdomen, pelvis, individually and in combination. The detail of injuries to lung, liver, spleen, kidney and perforation of viscera were recorded. Note was also made of cases where surgical aid was given. Postmortem examination is conducted in Jaipur city at five different places. The data were selected from these centers as well as from the files of motor vehicular accidents claim cases.

Aims and Objectives:

1. To ascertain the extent, position, depth and pattern of injuries.
2. To relate the survival period, where no operative procedures were taken.
3. Suggestions for preventive strategies aim to reduce trauma related mortality particularly those regarding sports utility vehicle accidents.

Observations:

There were total 150 cases, who had sustained injuries due to SUV accidents out of them 128 were Males and 22 were females2, 3. Out of these 150 cases, 120 cases succumbed to death. The most vulnerable victims were in the age group of 11 – 30 years (among them 58 cases are of 21 – 30 years age group 37.5%) followed by 11-20 years 32 cases (21.3%) 2.

Out of 120 fatal cases 97 cases irrespective of gender has sustained fatal thoraco- abdominal injuries, where as remaining 23 cases has sustained head injuries (18.2%). Out of 97 fatal thoraco-abdominal injury cases 23 cases of combined chest and abdominal injury died on the spot, whereas 6 cases died after 6 hour of the accident2. Fatal chest injuries were found in 8 cases out of them 4 died at spot due to gross involvement of heart. Amongst the organs in the chest, involvement of lung was seen in 54 cases out of them 42 were associated with fracture of ribs and heart was involved in only 21 cases.

In the abdomen, liver was the commonest organ (55 cases) involved followed by spleen (20 cases) and kidneys (15 cases) 2. Intestinal perforation was seen in (9 cases) followed by perforation of bladder (6 cases) and stomach (4 cases). The primary impact in the form of throwing of the victim in air was seen in 150 cases out of them 78 victims struck by the front of the vehicle, 8 persons fall on

The hood of the vehicle and 14 persons were thrown into air, 42 stuck from behind. Violent breaking by sports utility vehicle was seen in 8 cases. 8 persons who fell on the hood of the sports utility vehicle and 14 persons who were thrown in the air were the pedestrian who were crossing the express highway and the roads of outskirts of the city when the sports utility vehicles speed was very high.

Most of the persons who sustained injuries by sports utility vehicle from behind were crossing the road, when the vehicle was coming down the slope on the flyover (it is worth to mention here that Jaipur city is connected with many of its satellite colonies by wide roads with flyovers).

83 victims of sports utility vehicle accidents succumbed to death on the spot and these victims have injuries to thoraco-abdominal frame work and other vital structures which are co relatable and attributable to bumper less designing of these vehicles for their cosmetic look and aerodynamic features. Highest numbers of cases hit by the sports utility vehicles were the road users without any vehicle (pedestrian).

Jaipur city daily witnesses a large number of rural populations coming for work in construction industry from rural outskirts on bicycle and motorcycle, who have very little knowledge of traffic rules and experience of driving in crowd of city, get easily victimized.

Table 1
Total no. of cases age and gender wise due to SUV

Age Group	Total No.	%	Male		Female	
			No.	%	No.	%
0-10	5	3.33	3	2.34	2	9.09
11-20	32	21.33	28	21.88	4	18.18
21-30	58	38.67	48	37.50	10	45.45
31-40	24	16.00	21	16.41	3	13.64
41-50	17	11.33	15	11.72	2	9.09
51-60	14	9.33	13	10.16	1	4.55
Total	150	100.00	128	100.00	22	100.00

Table 2
Age and gender wise fatality due to SUV

Age Group	Total No.	%	Male		Female	
			No.	%	No.	%
0-10	3	2.50	2	1.94	1	5.88
11-20	26	21.67	24	23.30	2	11.76
21-30	44	36.67	38	36.89	6	35.29
31-40	20	16.67	15	14.56	5	29.41
41-50	15	12.50	13	12.62	2	11.76
51-60	12	10.00	11	10.68	1	5.88
Total	120	100.00	103	100.00	17	100.00

Table 3
Age and gender wise distribution in fatal Thoraco-abdominal injuries

Age Group	Total No.	%	Male		Female	
			No.	%	No.	%
0-10	2	2.06	1	1.15	1	10.00
11-20	20	20.62	19	21.84	1	10.00
21-30	38	39.18	35	40.23	3	30.00
31-40	17	17.53	14	16.09	3	3.00
41-50	11	11.34	10	11.49	1	10.00
51-60	9	9.28	8	9.20	1	10.00
Total	97	100.00	87	100.00	10	100.00

Table 4
Age and gender wise distribution in fatal head injuries

Age Group	Total No.	%	Male		Female	
			No.	%	No.	%
0-10	1	4.35	1	6.25	0	0.00
11-20	6	26.09	5	31.25	1	14.29
21-30	6	26.09	3	18.75	3	42.86
31-40	3	13.04	1	6.25	2	28.57
41-50	4	17.39	3	18.75	1	14.29
51-60	3	13.04	3	18.75	0	0.00
Total	23	100.00	16	100.00	7	100.00

Table 5
Period of Survival in thoraco-abdominal injury

Period	Survival No.	Chest only	Abdomen Only	Combined Chest and Abdomen	Fracture Pelvis	Chest & Pelvis Fracture	Abdomen & Pelvis Fracture	Combined Chest, Abdomen & Fracture Pelvis
Spot Death	49	4	7	23	4	3	4	4
6 Hrs	37	4	4	6	6	4	9	4
7-12 hrs	5	-	-	-	3	-	2	-
13-18 hrs	2	-	-	-	2	-	-	-
19-24 hrs	2	-	-	-	-	-	2	-
1-7 days	2	-	-	-	-	-	-	2
Total	**97**	**8**	**11**	**29**	**15**	**7**	**17**	**10**

Table 6
Involvement of thoracic organs with or without fracture ribs in fatal Thoraco-abdominal injuries

Organ involved	No. of cases	Lungs			Heart	
		Contusion	Laceration	Both	Haemo-pericardium	Rupture of heart
With fracture ribs	42	6	37	11	19	-
Without fracture ribs	12	8	4	-	2	-
Total	54					

- Injuries were present in thoracic organs in different combinations

Table 7

Involvement of abdominal organs in fatal thoraco-abdominal injuries

Organ	Type of injuries			Total no. cases	% out of 97 cases
	Only contusion	Only Laceration	Both		
Liver	0	55	0	55	56.70
Spleen	0	20	0	20	20.62
Kidneys	10	5	0	15	15.48
	Perforation				
Stomach	4			4	4.12
Intestines	9			9	9.28
Bladder	6			6	6.19
• Injuries were present in abdominal organs in different combination					

Table 8

Victims involved in different type of primary impact by SUV

Type of impact	No. of cases
Struck by front of vehicle	78
Persons falling on the hood	8
The feet slides forward (thrown into air)	14
Person struck from behind	42
Breaking violently at the time of impact	8

Table 9

Period of Survival in SUV injuries

Period	No.
Spot Death	83
During Transit	13
Hospital Death	24
Total	120

Table 10

Type of victim in fatal SUV injuries

Victims	No. of cases	Percentage
Pedestrian	78	65.00
Cyclists	18	15.00
Scooterist	5	4.17
Motorcyclist	15	12.50
Others	4	3.33
Total	120	100.00

Discussion:

Steadily increasing incidents of fatal Road traffic accidents cause a panic among all sectors of life. The persons involves in RTA sustains large variety of injuries. It is always not possible to associates injuries sustained by pedestrian with specific features of automobile design especially when the victims are children or accident is of low speed type. Injuries to pedestrian are presented in three patterns

1. Primary impact injury (The first part struck)
2. Secondary impact injury (further injuries caused by vehicle)
3. Secondary injuries sometime called tertiary injuries (caused by victim striking on the object such as "the ground")

Primary impact injury

The part of the body involved depends upon the position of person in relation to the vehicle when struck i.e. whether crossing the road from one side to other or walking with or against the traffic. The injuries, also depending upon the relative heights of various parts of vehicles i.e. Bumper, fenders, radiators, door handles etc.

- **If the person is struck from behind** : The back of legs are first struck, if the foot is fixed, a fracture results and the buttocks & back will come in contact with the car and then pushed forward, he may sustain a fracture dislocation of the lumber or thoracic spine, sometimes associated with the fracture of adjacent ribs. The detached portions of vertebral column may move forward transecting the cord and thoracic aorta. **In our study 42 cases depicts such type of injuries**.

If the feet slide forward:

- The whole body will fall backwards with a secondary impact of the head against the wind shield or he may be thrown into the air and strikes the ground. **37 cases depicted this pattern of injury.**
- **If the persons fall on the hood:** The tangential force directed by the

hoods to the buttock and thighs may cause separation of skin and Subcutaneous tissue from the muscles, producing a pocket in the upper thigh and buttock. Large amount of blood found collect in this pocket, which is often not seen externally. **In our study this injury is seen in 8 cases**.

If the victim is struck by front of vehicle: He may sustain so called bumper injuries on legs. These injuries may be severe with fracture and extensive soft tissue damage. The tibia bone is fractured with forward displacement of bone fragment, fracture are usually spiral or wedge shaped, the base of triangular fragment of bone indicate the side of impact and the apex point in the direction in which the vehicle was traveling. In 78 cases, it is observed that classical injury caused by colliding with the front of vehicle as described in older books, "the bumper injuries" on leg leading to spiral or wedge shaped **fracture of tibia bone is typically found absent in these sports utility vehicle accidents. Instead of this the fracture of pelvis, ribs, vertebrae and injury to abdominal visceras found in maximum number of cases and were responsible for spot death (83 cases) and death during transit (13 cases).** It is pertinent to note here that a projection on the front of the vehicle commonly known as bumper is missing in the design of SUV's for cosmetic and aerodynamic look. The contour of the front of vehicle and height which corresponds with the lumbosacral part of vertebral column of an adult in standing position causes fatal compression of the abdominal wall leading to injuries to vital abdominal organs.

The injuries by the protruding objects such as door handles were typically absent in these cases as compare to older vehicle FIAT and AMBASSADOR where doors have projecting handles.

Typically rolling injuries in the form of combination of grazes and bruises are found absent in the sports utility vehicular accidents.

Recommendations:

The present study reveals that road traffic accidents caused by Sports utility vehicle (SUV) involves the chest and abdomen which is a very serious condition because the injury to the vital organs present in these two cavities are sufficient to cause death in ordinary course of nature 1,2,4,7,8. It is therefore suggested that traffic rule should be made stricter and offender should be heavily punished. The victims having such type of thoraco-abdominal injuries must get immediate surgical aid, so more accident trauma management centers should be opened near all the busy roads, so that time taken for transportation of victim to big hospital is reduced.

The manufacturer of the such type of sports utility vehicles who mainly concentrate on the cosmetic and aerodynamic design of these vehicle without providing any projected bumper, pedestrian safe rated grill guards and bull bars8 which was provided in older models of the vehicles as in Jeep, Ambassador, FIAT should made it a design feature again in the interest of the victims of the SUV accident. They must introduce car-level bumpers to reduce the possibility of the other vehicles sliding under SUV in a collision specially in Indian scenario where pedestrians are commonly victimized by vehicular accidents and sustain thoraco-abdominal injuries which are always almost fatal.

The younger generation which is lurking upon to possess SUV should be educated to maintain a safe distance in between two vehicle, because the driver behind is always breaking to allow space once a period of time fatigue sets in and in sheer moment of rage, the breaking breaks and another victim is claimed. In addition to this the people must be educated about road discipline at the time of overtaking and coping up of time deficit by driving the sports utility vehicle on the road.

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Evaluation of Mechanical Injuries in Homicidal Deaths (A retrospective study of 5 years)

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Abstract

Jamnagar region, Gujarat state, enjoys a relatively low incidence of homicide in India. The following study examined 120 cases, (67.04%) of homicides where death was produced by inflicting various mechanical injuries on the body, reported during the years 2000 to 2004. Incidence of homicidal deaths due to mechanical injuries was 24 cases per year. It formed about 2.89% of all the total medico legal autopsies conducted during the period. Mechanical injuries were quite common in homicidal deaths involving as many as 92 male and 27 female victims. Majority of the victims were in the age group of 21 to 40 years with 77 cases, (64.17%). Blunt force was the most commonly employed method seen in 58 cases, (48.33%). It was followed by sharp force seen in 38 cases, (31.67%) and sharp and blunt combine forces seen in 23 cases, (19.17%). Incidence of fire arm injuries was quite rare in the present study. Head injury was quite common in homicide. Maximum external injuries were seen on the head and mostly they were produced by hard, blunt and heavy weapons. Stab injuries were commonly seen on the chest and abdomen. In the present study 35 cases, (29.17%) showed presence of defence wounds. Defence wounds were commonly seen in the male victims.

Key Words: Mechanical Injuries, Homicide, Visceral Injuries, Defence Wounds, Jamnagar.

Introduction:

Violence has been always an integral part of the human civilization since its inception. Human beings have been progressively expertising in producing various types of weapons both for offensive and defensive purposes. The present society also witnesses an increase incidence in the use of these weapons day by day. With rapid modern day advancement in science and technology we can only further anticipate more sophisticated and refined mechanical injuries. There is always a beast in every man, no matter how civilized the world is to day.

Jamnagar, though a peaceful place in Gujarat, is not an exception. Here, we try to highlight various aspects of mechanical injuries seen in homicidal deaths. We reviewed 179 cases of homicide whose post mortem examinations were conducted in the Forensic Medicine Department, M.P. Shah Medical College, Jamnagar, Gujarat (India) during the years 2000 to 2004. It is really thrilling and exciting to take up the present study in such a unique region in Gujarat, the birth place of Mahatma Gandhi, the birth place of ***Ahinsa*** (Non violence).

Material and Method:

We reviewed retrospectively 179 cases of homicidal deaths brought during the year 2000 to 2004 at the Forensic Medicine Department, M.P. Shah Medical College, Jamnagar. Out of these 179 cases we choose only 120 cases where there were mechanical bodily injuries resulting directly to death of the person. By mechanical injuries, here we mean only those visible bodily damages produced due to breach in the natural continuity of the body tissues by the application of mechanical violence. It includes various types of sharp and blunt force injuries as well as fire arm injuries. However, we excluded cases of thermal and chemical injuries and violent mechanical Asphyxial deaths. Different mechanical injuries were analyzed by taking various parameters like nature of the wounds, gross appearance, age and sex wise distribution of the victims, number of injuries, etc. Then these findings were compared with the works of other workers.

Observation:

Out of the total 179 homicidal cases, 120 cases, (67.04 %) were due to mechanical injuries including fire arms. Male victims outnumbered the female victims with a male female ratio of 3.2:1.

In an average, we observed mechanical blunt injuries to be the most common injuries. There was only one case of fire arm in the year 2004. (Table No.1)

As most of the injuries were blunt in nature in majority of the cases they looked superficial. It was followed by wounds having superficial and deep appearance, 44 cases, (36.67 %). (Table No.2)

Majority of the victims were from the age groups of 21-

30 years and 31-40 years. The least incident was seen in the age group above 71 years of age. (Table No. 3)

In average males received more body injuries as compared to females. In two cases, (1.67 %) male victims received as many as 36-40 countable numbers of injuries. (Table No.4)

Irrespective of type of injuries head, chest, upper limbs, face and abdomen received most of the injuries. Chop and cut/incise wounds were seen commonly on the head. Chest and abdomen were the main elective sites of stab injuries. Most of the stab injuries were due to single edged weapons. Abrasions were commonly seen on upper limbs and they were multiple in numbers in most of the cases. (Table No.5)

Stab injuries were seen in 47 cases, (39.17%). Male victims were commonly involved in homicides due to stab injuries. Stab injuries, when they were present, were multiple in majorities of the cases. (Table No.6)

In over all, maximum numbers of skeletal injuries were associated with blunt injuries. Skull bones received highest number of blunt injuries, 31 cases, (29.52 %). Rib injuries were mostly associated with sharp weapons, 11 cases, (10.48 %). Skeletal injuries of both upper and lower limbs were exclusively due to blunt weapons. (Table No.7)

Internal injuries affecting the viscera and blood vessels were produced by sharp penetrating weapons and fire arms, 63 cases, (80.77 %).Lungs were most frequently involved internal organs seen in 27 cases,(34.62%).Major blood vessels, heart and small intestine were also commonly involved. (Table No.8)

Mechanical injuries were also seen in other cases of homicide. Mechanical injuries were most commonly associated with ligature strangulation though they were also seen in cases of burns and hanging. (Table No. 9)

Arm, elbow, fore arm and back of hand were the common sites for the defence wounds. Only one defence wound was seen in the palm. (Table No. 10).

Discussion:

Though incidence of homicide fluctuates from year to year its incidence is not receding with the passage of time. The abrupt increase in incidence in the year 2000 could have been due to the Gujarat cyclone that mainly affected Saurashtra and Kutch regions in the year 1999. It led to huge loss of lives, properties, houses, cultivation leading to scarcity of food and money.

When considering the methods of homicide prevalent in Jamnagar region, blunt force was the most common method used which was followed by sharp force and then combination of sharp and blunt forces. Sharp and blunt weapons include a very wide range of weapons including common house hold items like kitchen knife, wooden stick, iron bar, axe, spade, sickle, sword, etc.

Male victims were commonly involved in homicides due to mechanical injuries. In this regard the present study is in the same line with most of the authors. The male predominance may be explained by the fact that males by nature indulge in more violent activities as compared to females. In society, revenge is also usually aimed at males, women and children being generally spared. Higher incidence of homicide was seen in the age group of 21-40 years, 77 cases, (64.17%). Persons in this age group are more active, violent, and more vulnerable to the fast changing social trends and culture and usually they get married by this age. Most importantly they are the main bread winners of the family. However, Kominato et. al [1] reported 46-55 years to be the most commonly involved age group.

Male victims also showed presence of more multiple injuries as compared to the female victims. As the majority of the external injuries were due to blunt force, they appear mostly either superficial or superficial and deep. In one case of a 45 years old male farmer there were as many as 37 countable injuries out of which 29 were stab injuries (6 stabs on the chest, 19 on the abdomen and 4 on the limbs). Interestingly consumption of alcohol was also observed in this case. In 30 cases, (25%) there were uncountable numbers of multiple body injuries in the form of abrasion and contusion. Reasons for the multiplicity of injuries may be manifold. One reason, for example, may be firm determination on the part of the perpetrator to make doubly sure that the victim is dead or will not recover later on. Another reason may be the theory of an extreme hatred and frenzy resulting into over killing. It may also be simply due to involvement of multiple assailants or just because the victim goes on fighting for a longer duration.

Kominato et.al. [1] Dikshit et.al.[2] and the present study observed use of blunt weapons in the majority of the cases, whereas Avis, [3]Hunt et. Al [4]and Ghangale et.al. [5] reported sharp weapons to be the commonest type of weapon used in homicides. However, quite contradictory to this, Murphy, [6] Sinha et.al [7] and Fimate et.al [8] observed fire arms as the most commonly used weapons in homicide with a similar explanation of easy availability of license and non license fire arms in their respective study areas. They also come up with other explanation that method or weapons used may be quite variable according to socio economic status of the population and the political situation of the state.

Head injury is quite common in homicide. It is true that fatal blunt force injuries inflicted with intention to kill a person will be on the head. Maximum external injuries were seen on head, 127 external injuries, (19.87%). It was followed by the chest bearing as many as 121 external injuries, (18.94%). Most of the external head

injuries were contusions and lacerated wounds produced by hard and blunt weapons. Amongst the sharp injuries, chop wounds were most commonly seen on the head. It can be explained by the fact that in majority of the cases homicide was entertained by farmers by using commonly available house hold weapons like wooden stick, axe, spade, iron pipe, stone, etc. Modi [9] also quoted a similar observation that in India most of the scalp injuries are generally produced by blunt weapons. Fimate et.al. [8] mentioned that killing by fire arm at the head to be the most commonly perpetuated method of homicide seen in 67.99%.

Skull bones showed maximum skeletal injuries, seen in 47 cases, (44.76). They were mostly caused by hard and blunt objects. The skull bone showed cut type of fractures seen in 11 cases, (26.19%). Accordingly cranial cavity was commonly involved, 68 cases, (45.53%). Similar fatal cranial involvement by blunt weapons was also reported by Ghangale et.al. [5] Avis [3] and Ström et. al. [10] we can safely say that head is the site of choice for fatal blunt injury. However, killing by crushing the head was rare for obvious reason as it involves more force and bigger weapon. Skull bone fractures were followed by fracture of ribs with 14 cases, (13.33%).

Rib bones fractures were the second most common fractures seen in 14 cases, (13.33%). Majority of the rib fractures were due to sharp penetrating weapons. Here, the intention may not be to fracture the bone, but to penetrate into the chest cavity. Sharp cuts of the ribs are merely an accidental in the process of stabbing.

Amongst the sharp injuries stab injuries were the most common wounds. As reported by the other authors, the chest remained the commonest site for all types of stab injuries. The abdomen was the second site of choice for stab injuries. Out of the 206 stab injuries, 187 injuries were due to single edged knives. The reason for choosing chest and abdomen to be the elective sites for stabbing may be explained by the general common believe perpetuated amongst people that chest and abdomen contain vital parts of the body and so chances of death of the person is almost sure. At the same time it is easier for a sharp weapon to penetrate the chest or abdomen with a fatal outcome.

The third common site for the stab injury in the present study was the neck region. It was usually associated with stab injuries at other sites on the body. External jugular vein, carotid artery or air passage was commonly involved with death on the spot. Though the site is narrow, short and protected by the chin the of stab injuries. Defence injuries were commonly seen in male victims. assailant still choose the neck for stabbing probably because of its vital link and easy penetrability by sharp and pointed weapons. Stab injury in the neck was almost always fatal.

Viscera were commonly involved in cases of sharp and pointed weapons. Lungs were involved in as many as 27 cases, (34.62%). It was followed by injury to the major blood vessels and heart with 10 cases, (12.82%) and 9 cases, (11.54%) respectively. Heart and major blood vessels were injured exclusively by sharp force.

In 12 other cases, (10%) there were other associated bodily injuries like abrasions, contusions, blunt head injuries, etc. They were seen in cases of burns, ligature strangulation, throttling and hanging. Ligature strangulation and throttling were commonly associated with blunt type of head injuries. The magnitude of the associated blunt head injury was also severe enough to cause death of the victim in itself. Accordingly, in such cases cause of death was also given as 'died due to….. asphyxia and blunt head injury.' From this we could safely say that double methods had been adopted by the assailant, first the victim was hit on the head and then asphyxiated to doubly ensure the death of the person.

Though defence wounds are not specified, here we want to refer only those injuries seen on the upper limb(s) as the defence wounds. They are consistent when the victims try to save himself, either by raising his hand to prevent the attack, or by grasping the weapon. Out of the total 120 cases, only 35 cases, (29.17%) showed presence of defence wounds. Defence wounds were commonly seen in male victims and those bearing multiple body injuries. This might be explained by the fact that single fatal injury did not generally alert the victim and was unexpected by the victim. Abrasions were the most common type of defence wounds seen in 22 cases, (26.83%). In over all forearm bore the maximum number of defence wounds, 17 cases, (14.17%). Palm was the least common site of defence wounds with only 1 case, (0.83 %).

Conclusion:

Mechanical injuries are always a common cause of death in homicide. It formed about 67.04% of all homicides. Male victims outnumbered the female victims. Majority of the victims were from the age group of 21 to 40 years. Blunt force injuries were commonly seen in majority of the cases and the head was the site of choice for blunt injuries. The chest and abdomen received the maximum number

Table No. 1
Year Wise Distribution of Wounds

Nature Of Wounds	2000	2001	2002	2003	2004	Total
Sharp	15	7	4	5	7	38
Blunt	15	13	9	9	12	58
Sharp & Blunt	9	1	5	4	4	23
Fire arms	-	-	-	-	1	1
Total	39	21	18	18	24	120

Table No. 2:
Gross Appearance of Wounds

Gross Appearance	No. Of Cases	%
Superficial Only	45	37.50
Deep Only	31	25.83
Superficial & Deep	44	36.67
Total	120	100

Table No. 3:
Age and Sex Wise Distribution

Age	Sex Of The Person			Total
	M	F	UK	
0-10	1	8	1	10 (8.33)
11-20	3	2	-	5 (4.17)
21-30	40	7	-	47 (39.17)
31-40	25	5	-	30 (25)
41-50	13	3	-	16 (13.33)
51-60	8	1	-	9 (7.50)
61-70	2	0	-	2 (1.67)
71-80	0	1	-	1 (0.83)
Total	92	27	1	120 (100)

M= Male F= Female UK= Unknown Sex

Table No. 4:
Distribution According To Number of Injuries

No. Of injuries	*No. Of cases*			*Total (%)*
	M	*F*	*UK*	
1	10	8	-	18 (15.00)
2	9	1	1	11 (09.17)
3	5	3	-	8 (06.67)
4	12	1	-	13 10.83)
5	8	2	-	10 (08.33)
6-10	16	7	-	23 (19.17)
11-15	9	-	-	9 (07.50)
16-20	1	-	-	1 (00.83)
21-25	1	1	-	2 (01.67)
26-30	1	-	-	1 (00.83)
31-35	-	-	-	-
36-40	2	-	-	2 (01.67)
Multiple	17	5	-	22 (18.33)
Total	91	28	1	120 (100)

Table No. 6:
Sex Wise Distribution of Stab Injuries

Stab Injuries	Sex Of The Person		Total (%)
	Male	Female	
Single	10	2	12 (25.53)
Multiple	27	8	35 (74.47)
Total	37	10	47 (100)

Table No. 7:
Cases Distribution According to Skeletal Injuries

Skeletal	*Type of Injury*			*Total (%)*
	Sharp	*Blunt*	*Sharp & Blunt*	
Skull Bones	13	31	3	47 (44.76)
Facial Bones	6	3	-	9 (8.57)
Neck Bones	3	3	-	6 (5.71)
Vertebrae	3	1	-	4 (3.81)
Clavicles	1	-	-	1 (0.95)
Sternum	1	1	-	2 (1.90)
Ribs	11	3	-	14 (13.33)
Scapulae	1	-	-	1 (0.95)
Upper limbs	-	9	-	9 (8.57)
Pelvis	1	-	-	1 (0.95)
Lower limbs	-	11	-	11 (10.48)
Total	40	62	3	105 (100)

Table No. 8:
Viscera and Blood Vessels Involvement

Viscera & blood vessels	*Sharp force*	*Blunt force*	*Sharp & Blunt*	*Total*
Brain	3	4	-	7 (8.97)
Lungs	24	1	2	27 (34.62)
Heart	9	-	-	9 (11.54)
Liver	4	3	-	7 (8.97)
Spleen	2	1	-	3 (3.85)
Kidney	2	1	-	3 (3.85)
Stomach	1	-	-	1 (1.28)
S. intestine	7	1	-	8 (10.26)
L. intestine	1	-	-	1 (1.28)
M.B. vessels	10	-	-	10 (12.82)
O. generation	-	2	-	2 (2.56)
Total	63	13	2	78 (100)

S=Small L=Large O=Organ M.B= Major Blood

Table No. 9:
Mechanical Injuries in Other Cases

Other Method	No. Of Cases	%
Burns	2	16.67
Throttling	2	16.67
Ligature Strangulation	7	58.33
Hanging	1	8.33
Total	12	100

Table No. 5:
Distribution According to Sites of Injuries

Body parts	*Sharp injury*				*Blunt injury*					*Grand Total (%)*
	Cut/Incise Chop	*Single Edged Stab*	*Double Edged Stab*	*Total*	*Abrasion*	*Contusion*	*L.W.*	*Crush*	*Total*	
Head	51	-	-	51	-	32	42	2	76	127 (19.87)
Face	26	2	2	30	17	5	33	-	55	85 (13.30)
Neck	14	23	2	39	3,2M	11	2	-	16	55 (8.61)
Chest	16	66	9	91	8,4M	20	2	-	30	121 (18.94)
Abdomen	2	68	3	73	5,7M	4,3M	-	-	9	82 (12.83)
Genital	-	-	-	-	1,1M	1	-	-	2	2 (0.31)
Up. limbs	24	16	1	41	26,5M	18	14	-	58	99 (15.49)
Lo. limbs	2	12	2	16	15,6M	21,2M	16	-	52	68 (10.64)
Total	135	187	19	341	75,25M	112	109	2	298	639 (100)

LW=Lacerated Wound Up= Upper Lo= Lower
M=Multiple in numbers (For easy calculation multiple injuries denoted by M were excluded

Table No. 10:
Different Types and Sites of Defense Wounds

Type Of Wound	Arm	Elbow	Forearm	Wrist	Back Of Hand	Palm	Finger	Total
Abrasion	2	6	5	2	6	-	1	22
Contusion	4	-	2	2	3	1	-	12
LW	3	3	5	-	-	-	-	11
Incise/Chop	2	3	2	3	3	-	3	16
Stab	6	1	5	-	-	-	-	12
Total	17	13	19	7	12	1	4	73

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Issue of Failed Sterilization, Medical Negligence and Compensation A global Review

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Abstract

It is a general perception among the medical fraternity that failure of sterilization operation leading to unwanted pregnancy is not a medical negligence on their part. But situations do arise when it may amounts to medical negligence and compensation may be awarded by the court as damages. In case of Government employees it may be a case of vicarious liability and for which state has to pay for the fault of its employees.

This paper deals with global and Indian scenario of the problem, views of various courts in India and across the globe on the question of medical negligence, compensation and vicarious liability, etc. It also discusses these issues in detail in light of decision of the Supreme Court of India in Santra case of 2000.

Key Words: Sterilization, Medical Negligence, Compensation, Consent, Unwanted Child, Supreme Court.

Introduction:

"Medical Negligence plays its game in strange ways. Sometimes it plays with life; sometimes it gifts an Unwanted Child"- **S. Saghir Ahmad, J. (2000).** [1] Compensation in case of a failed sterilization depends on the prove alleged charges of negligence, personal injuries suffered by the patient, disturbance of the family finances, maintenance of the child and the public policy of the country, benefit or pleasure derived of child birth, etc.

Reasons for medical negligence cases:

It was observed by the Court that: "In recent days there has been increasing pressure on hospital facilities, falling standard of professional competence and in addition to all, the ever increasing complexity of therapeutic and diagnostic methods and all this together are responsible for the medical negligence. That is apart there has been a **growing awareness in the public mind** to bring the negligence of such professional doctors to light. [37]

In a case Court pointed out and observed that **"It is a great mistake to think that doctors and hospitals are easy targets for the dissatisfied patient.** It is indeed **very difficult to raise an action of negligence.** Not only there are **practical difficulties in linking the injury sustained with the medical treatment** but also it is **still more difficult to establish the standard of care in medical negligence** of which a complaint can be made. All these factors together with the **sheer expense of bringing a legal action** and the **denial of legal aid to all but the poorest operate to limit medical litigation** in this country". [37]

Global Scenario on the issue of negligence and compensation:

Before coming to those cases, let us have a look around the Globe on the issue of compensation in case of failed sterilization.

A. Position in England:

Principles of Public Policy: On the question of "failed sterilization", as stated in a book: "Failed sterilization: Where the defendant's negligent performance of a sterilization operation results in the birth of a healthy child, **public policy** does not prevent the parents from recovering damages for the unwanted birth, even though the child may in fact be wanted by the time of its birth. **Damages are recoverable for personal injuries** during the period leading up to the delivery of the child, and **for the economic loss involved in the expense of losing paid occupation** and the obligation **of having to pay for the upkeep and care of an unwanted child. Damages may include loss of earnings for the mother, maintaining the child** (taking into account child benefit), and **pain and suffering to the mother**". [2]

In a case [3] in England, a woman who had approached Hospital Authorities for sterilization was awarded damages not only for **pain and suffering on account of pregnancy** which she developed as a result of failed sterilization, but also damages for the **disturbance of the family finances,** including the **cost of layette** and increased accommodation for the family**.** The Court, however, **did not allow damages for future cost of the child's upbringing up to the age of 16 years, on a consideration of public policy.** The Court held that **the public policy required** that the **child should not learn that the Court had declared its life to be a mistake.** The Court further held that the **joy of having a child** and the **pleasure derived in rearing up that child have to be set off against the cost in upbringing the child. The doctrine of public policy,** however, was not

followed in another case [4] and it was held that there was **no rule of public policy** which precluded recovery of damages for pain and suffering for maintaining the child.

So also, in another case [5] in which a vasectomy was performed on the husband who was also told, subsequent to the operation, that contraceptive precautions were not necessary. Still, a child was **born** to him and **damages for the child's upkeep up to the seventeenth birthday were awarded,** though for an agreed sum. The Court of Appeal in its judgment [6] held that the joy **of having a child could be set off against the trouble and care in the upbringing of the child, but** not against pre-natal pain and distress**,** for which **damages had to be awarded.**

In another case [7] which related to a negligently performed vasectomy operation**,** damages were awarded for the future private education of the child**.**

In another case [8] damages were awarded in the case of negligence in the termination of the pregnancy and it was held that these damages will include general damages for pain and discomfort associated with the pregnancy and birth as also damages for economic loss being the financial expenses for the unwanted child in order to feed, clothe and care for and possibility to educate the child till he becomes an adult. On these considerations, general **and** special damages **including the** cost of maintaining the child until the age of 18 were allowed. **The judgment was followed in two other cases. [9, 10]**

B. Position in Scotland:

In a case [11] in Scotland, public policy considerations were rejected and cost of rearing the child was also awarded.

C. Position in USA:

In three cases [12, 13, 14] in the United States of America, damages were not allowed for rearing up the child**. In the** first of these three cases **[12], the** Supreme Court of Nevada **refused to award damages for the birth of an unwanted child** even though the birth was partially attributable to the negligent conduct of the doctor **attempting to prevent the childbirth. In the** second case **[13], it was held that the parents could** recover only the damages for the cost of the pregnancy**, but** not the expense of rearing an unwanted child**. The** basis of the judgment **appears to be the** public policy **that the** birth of a normal, healthy child cannot be treated to be an injury to the parents. **In the** third case [14] **in which the claim was preferred by a woman alleging that the sterilization operation performed upon her was negligently done which resulted in pregnancy for a child which she never wanted, the** Supreme Court of Florida **was of the opinion that** "it was a matter of universally-shared emotion and sentiment that the tangible but all-important, incalculable but invaluable 'benefits' of parenthood far outweigh any of the mere monetary burdens involved".

However, in another case [15] arising in the United States, the Supreme Court of New Mexico **allowed** damages in the form of reasonable expenses to raise the child to majority **as it was of the opinion that** the prime motivation for sterilization was to conserve family resources **and since it was a** failed sterilization case, attributable to the negligent failure of Lovelace Medical Center**, the petitioner was entitled to damages.**

D. Position in South Africa:

In a South African case **[16]** in Administrator, **damages were** awarded for the cost of maintaining the child **in a case where sterilization of the wife did not succeed. It was found in that case that the wife had submitted for sterilization** for socio-economic reasons **and in that situation the father of the child was held** entitled to recover the cost likely to be incurred for maintaining the child.

E. Position in New Zealand:

In a New Zealand case **[17] the court of appeal refused to allow cost of rearing a child.**

F. Position in Australia:

In a case [18] from Australia**, the** expenses involved in rearing the child were not allowed**. In this case** [18], **a woman who was pregnant claimed** damages for loss of the opportunity to terminate the pregnancy**, which Doctors had failed to diagnose. The trial judge** on the ground that abortion would have been unlawful dismissed the claim**.** Meagher JA **discounted the claim altogether** on the ground of public policy**, but the other Judge,** Kirby A-CJ **was of the opinion that the woman was entitled to** damages both for the pain and suffering **which she had to undergo on account of pregnancy as** also for the birth and the cost of rearing the child**. But he thought that it would be** better to offset against the claim of damages**, the** value of the benefits**, which** would be derived from the birth and rearing of the child. He was of the opinion that the matter of setting off of net benefits against the net injury incurred would depend upon the facts of each case. In the result, therefore, he agreed with Priestley JA, that the ordinary expenses of rearing the child should be excluded. Priestley JA was of the view that, "The point in the present case is that the plaintiff chose to keep her child. The anguish of having to make the choice is part of the damage caused by the negligent breach of duty, but the fact remains, however, compelling the psychological pressure on the plaintiff may have been to keep the child, the opportunity of choice was in my opinion real and the choice made was voluntary. It

was this choice which was the cause, in my opinion, of the subsequent cost of rearing the child".

From the above, it would be seen that the courts in the different countries are not unanimous in allowing the claim for damages for rearing up the unwanted child born out of a failed sterilization operation. In some cases, the courts refused to allow this claim on the ground of public policy, while in many other, the claim was offset against the benefits derived from having a child and the pleasure in rearing up that child. In many other cases, if the sterilization was undergone on account of social and economic reasons, particularly in a situation where the claimant had already had many children, the court allowed the claim for rearing up the child.

E. Indian Scenario:

The domestic legal scenario in India on this question appears to be silent, except one or two stray decisions of the High Courts, to which a reference shall be made presently.

In a case [19] the M.P. High Court allowed the damages on account of medical negligence in the performance of a family planning operation on account of which a daughter was born after fifteen months of the date of operation.

Apex Court observed that "No other decision of any High Court has come to our notice where damages were awarded on account of failed sterilization operation".

Ours is a developing country where majority of the people live below the poverty line. On account of the ever-increasing population, the country is almost at the saturation point so far as its resources are concerned. The principles on the basis of which damages have not been allowed on account of failed sterilization operation in other countries either on account of public policy or on account of pleasure in having a child being offset against the claim for damages cannot be strictly applied to the Indian conditions so far as poor **families are concerned. The** public policy here professed **by the Government is** to control the population **and that is why various programmes have been launched to** implement the state-sponsored family planning programmes and policies. Damages for the birth of an unwanted child may not be of any value for those who are already living in affluent conditions but those who live below the poverty line or who belong to the labour class who earn their livelihood on daily basis by taking up the job of an ordinary labour, cannot be denied the claim for damages on account of medical negligence.

Failure rate in Sterilization Operation:

The medical expert and the standard medical textbooks on the subject have mentioned that there are always chances of failure, though its percentage may be very little. Therefore, if any sterilization operation has failed and there was conception after that, it couldn't be termed as negligence of the doctor concerned. A look at certain judicial pronouncement makes the position further clear.

The Gujarat State Commission in a case [20] was faced with such a situation where the complainant had conceived and gave birth to a child despite having undergone sterilization. The Commission while dismissing the appeal, made following observations:

"The short yet quite an important question that arises for our consideration in this appeal is whether a complaint making the grievance that because of negligence on the part of the Medical Officer in performing family planning operation, when the complainant conceived and delivered an unwanted child, burdening her with recurring additional financial liability, that may be made a ground for the cause of action and accordingly the subject matter of the consumer disputes redressal praying for the compensation under **the Consumer Protection Act, 1986**?

…in all these three cases the **Gujarat High Court** has taken the view that the negligence on the part of the Medical Officer in performing family planning operation is not legally sustainable cause of action entitling the aggrieved to claim compensation on that count. **Justice SD Shah**, while dismissing one of the last two appeals, has **placed reliance up on the book**, namely, **'Operative Obstetrics' (VIII Edition), Page 6865 written by Munro Karr**, wherein in the **Chapter on 'Sterilization'** it has been observed that 'No method of sterilization is entirely safe and **complete** and there are **possibilities of failure of operation due to many natural reason also'**. Therefore, the pregnancy or fertilization after operation is always not sufficient to jump to the conclusion of negligence on the part of the doctor. We agree, in this view of the clear legal position, we have indeed no alternative left with us but to dismiss this appeal holding that no complaint to recover damages for tortuous liability because of failure of family planning operation is maintainable even before the Consumer Dispute Redressal Forum under the Act".

Comment: the book quoted by the **Justice SD Shah** clearly mentioned about the reasons for failed sterilization on the grounds of natural reasons which may not be a ground for holding doctor's negligent but not negligently performed operation like leaving one fallopian untouched which is clearly a case of ***negligence per se*** on the part of the doctor as was made clear by the Apex Court in Smt. Santra case. [1]

The Delhi State Commission in a case [21] has elaborated on the point of failed sterilization by making reference to a number of medical text literature and judicial decisions. It referred to an English case [22] where the liability of a medical man towards their

patients is compendiously stated. The Commission also referred to the text **'Principles of Gynaecology' by Sir Norman Jeffcoate** where it has been observed that all methods of female sterilization have a certain failure rate since the risk of failure is inherent in the procedure. The relevant portion of the judgment runs as follows:

"No method, however, is absolutely reliable and pregnancy is reported after subtotal and total hysterectomy, and even after hysterectomy with bilateral salpingectomy. The explanation of these extremely rare cases is a persisting communication between the ovary or tube and vaginal vault. Even when tubal occlusion operations are competently performed and all technical precautions are taken, intrauterine pregnancy occurs subsequently in 0.3 percent cases. This is because an ovum gains access to spermatozoa through a recanalized inner segment of the tube".

In this very decision, the reference has also been made to **'Family Planning Handbook for Doctors'** published by **the International Planned Parenthood Federation** where it has been mentioned that female sterilization has a failure rate, however slight, and these pregnancies carry a high risk of being ectopic'. A somewhat similar observation has been made in the **'Training Manual'** issued by the Department of Health and Family Welfare, Government of Himanchal Pradesh.

Thus, on the basis of the aforesaid authorities, the Commission concluded that risk of failure is inherent in female sterilization. That risk cannot be obviated despite due care and caution. Risk of failure being a risk inherent in the procedure and, therefore, it cannot be said that the opposite parties were, in any way, guilty of negligence merely because the procedure has failed.

However, in a Madhya Pradesh case [23, 24] the complainant, already having five children, underwent an operation in Family Planning Camp organized by the State Government. She gave birth to three unwanted children after the operation. Thus, the complaint was filed alleging negligence in the operation. It seems that the judgment was not given on merit of the case; instead, it was observed that the operation was free and, therefore, the complainant was not a 'consumer' within the meaning of the term given in the Consumer Protection Act. The complaint was also dismissed on the ground that the same was filed beyond the prescribed period of limitation.

Issue of Maintenance and compensation:

It is, no doubt, true that the parent are under an obligation to maintain their minor children. This is a moral, apart from a statutory, liability in view of the provisions contained in Section 125 of the Code of Criminal Procedure. [25] It is also a statutory liability on account of Section 20 of the Hindu Adoptions and Maintenance Act [26], which provides as under: "20. (1) Subject to the provisions of this section a Hindu is bound, during his or her lifetime, to maintain his or her legitimate children and his or her aged or infirm parents. (2) A legitimate or illegitimate child may claim maintenance from his or her father or mother so long as the child is a minor. (3) The obligation of a person to maintain his or her aged or infirm parent or a daughter who is unmarried extends in so far as the parent or the unmarried daughter, as the case may be, is unable to maintain himself or herself out of his or her own earning or property. Explanation: In this section "parent" includes a "childless step-mother". "Maintenance" would obviously include provision for food, clothing, and residence, education of the children and medical attendance or treatment. The obligation to maintain besides being statutory in nature is also personal in the sense that it arises from the very existence of the relationship between parent and the child. The obligation is absolute in terms and does not depend on the means of the father or the mother. Section 22 of the Act, sets out the principles for computing the amount of maintenance. Sub-section (2) of Section 23 provides that in determining the amount of maintenance, to be awarded to children, wife or aged or infirm parents, regard shall be had to the position and status of the parties; the reasonable wants of the claimant; if the claimant was living separately, whether the claimant was justified in doing so; the value of the claimant's property and any income derived from such property, or from the claimant's own earnings or from any other source and the number of persons entitled to maintenance under the Act. But we are not concerned with these factors in the instant case. A reference to Section 23 of the Hindu Adoptions and Maintenance Act has been made only to indicate that a Hindu father or a Hindu mother is under a statutory obligation to provide maintenance to their children.

Similarly, under the Mohammedan Law, a father is bound to maintain his sons until they have attained the age of puberty. He is also bound to maintain his daughters until they are married. [27]

But the statutory liability to maintain the children would not operate as a bar in claiming damages on account of tort of medical negligence in not carrying out the sterilization operation with due care and responsibility. The two situations are based on two different principles. The statutory as well as personal liability of the parents to maintain their children arises on account of the principles that if a person has begotten a child, he is bound to maintain that child. Claim for damages, on the contrary, is based on the principle that if a person has committed civil wrong, he must pay compensation by way of damages to the

person wronged. Under every system of law governing the patriarchal society, father being a natural guardian of the child, is under moral liability to look after and maintain the child till he attains adulthood.

Applicability of above principles was discussed in different court cases. [28- 37]

Summary and Conclusions:

Apex Court was positively of the view that in a country where the population is increasing by the tick of every second on the clock and the Government had taken up the family planning as an important programme for the implementation of which it had created mass awakening for the use of various devices including sterilization operation, the doctor as also the State must be held responsible in damages if the sterilization operation performed by him is a failure on account of his negligence, which is directly responsible for another birth in the family, creating additional economic burden on the person who had chosen to be operated upon for sterilization.

On the issue of maintenance court pointed out towards the moral, ethical, personal and statutory liabilities of parents to look after their children but since the claim for damages, on the contrary, is based on the principle that if a person has committed civil wrong, he must pay compensation by way of damages to the person wronged.

The Apex Court of India made it clear those poor persons already having many children and under considerable monetary burden. The birth of unwanted child create additional burden for them on account of the negligence of the doctor who performed sterilization operation and, therefore, they are clearly entitled to claim full damages from the State Government to enable them to bring up the child at least till child attains puberty or adulthood.

On the issue of doctrine of public policy Apex Court of India made it clear that in India public policy is to control population and sterilization for socio-economic reasons asked by public, its failure to be compensated by the concerned State.

The Supreme Court held State's vicarious liability on account of medical negligence of a doctor in a Government Hospital. The Court rejected the theory of sovereign immunity. [38, 39, 40]

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A Case of Fabricated Snake Bite

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Abstract

Fabricated wounds are the type of injuries, which are produced by a person on his own body or occasionally caused by another person acting in agreement with him. On 9th February 2007, a case-file of post mortem examination was brought to us for the expert opinion with the alleged history of snake bite from a rural hospital about 60 Km from PDU Medical College, Rajkot. On going through the police papers, we found that it was a case of fabricated snake bite in which the accused has raised a fabricated death certificate to gain the money of insurance, while the victim died due to cardiac arrest on account of myocardial infraction as per clinical record of a private hospital where he was declared dead.

Key words: Fabricated wounds, Snake bite, Insurance.

Case history:

A 60 years old male was received dead at a rural hospital near Rajkot, with an alleged history of snake bite. The police then was informed about the case for further investigations and they mentioned in inquest papers that the cause of death hypothetically can be due to a biting injury by some poisonous animal (probably a snake), with two bite marks apparent over the right foot surrounded by a whitish area. The post mortem was conducted on the same day 4 hours after the death and the medical officer found two puncture wounds 0.6 cm apart over right foot with slight oozing of blood and bluish discoloration around them. In PM report all viscera were leveled congested and the rest was nothing particular. The medical officer opined that the death is due to cardiac arrest on account of snake bite.

When the application was made by the son of the deceased to get the insurance claim, the insurance party started their investigations and they found that the victim was admitted in a private hospital before death and he was declared dead at the same hospital, reason being myocardial infraction and not snake bite. An FIR was registered in the concerning police station by the manager of insurance company that the accused (son of deceased) has raised the fabricated certificate and a futile claim to gain the money of insurance, saying that the cause of death was snake bite.

After 21 days, when all these facts were brought into the knowledge of the concerning medical officer then, even he also changed his opinion about the cause of death from snake bite to myocardial infraction.

Discussion:

Fabricated (fictitious/forged/invented) wounds are usually superficial injuries mostly produced by a person on his own body or occasionally caused by another person with the permission of himself. The fabricator usually produces only that much injuries what he thinks is necessary to confirm his made up story. Usually the wounds are present in the form of incisions but puncture wounds, lacerated wounds or contusions can also be present and the rare ones are the firearm and burns. [1] These are the type of medicolegal injuries, which are inflicted with some motive to support a false charge of assault against an opponent, or to prove self-defense in an accusation of assault or murder. Sometimes the injuries are inflicted to obtain release from army services; soldiers and policeman may inflict such injuries to bring a false charge of beating by their officials. [2]

On a concluding note I would like to mention that none of the publication pertaining to this field, so far has ever mentioned or come across such a case of fabricated injury, which was put up for the monitory gains.

This is an unusual case in which the fabricated wound of snake bite was made on the dead body of the deceased by his son to get the money of insurance, while in actually the deceased died due to cardiac arrest on account of myocardial infraction. Another important thing in this case is that after knowing the facts doctor also changed his opinion, which is medico-legally incorrect. The doctor can either extend his opinion or describe his opinion on the basis of evidential facts but he cannot change it otherwise.

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Victimology of Homicide

A Surat, (South Gujarat) Based Study

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Abstract

Though "homicide" is simply defined as killing of one human being by another, various aspects like epidemiological and investigations in the Indian judicial system have large impact in terms of court trials. In any given case it involves fate of at least two families – "victim's and accused's". In the present study comprising of 193 cases of homicide examined during the period of two years at the Department of Forensic Medicine and Toxicology at New Civil Hospital and Government Medical College and Surat Municipal Institute of Medical Education and Research Surat, Gujarat, India. Various epidemiological and relevant medicolegal aspects deduced from the present study are highlighted in the present article.

Key words: Homicide, Epidemiology, Victimology.

Introduction:

Throughout the history of survival of human being, struggle has played a key role. There is only one way to be born, but there are many ways to meet death. The science has kept on extending inventions and innovations to improve the quality of human life. Unfortunately it is the human who has been miss-utilizing scientific inventions to damage others. Further more "self centered mind set" of an individual couple with easy availability of killing methods wrongly inspires the perpetrators to under take unlawful act of homicide. For nearly fifty thousand years, the bow and arrow remained the handiest weapon for man. With the passage of time, that crude instrument has been succeeded by more refined arms such as metal knives, dirks, draggers, swords, spears, lancets, and with revolutionary discovery of gunpowder giving birth to the most dependable and lethal weapon, the "GUN".

The crime is now days propagated through the most advanced audio-visual apparatus through television transmission, modern movies and crime friction stories without any inhibition and control over quality and variety of material in them.

Killing of human being is very common; hardly a day passes without the news of such a death being flashed in the columns of the popular newspapers.

It is still a changeable task for investigating agency to reveal the mystery and for judiciary to award a deterrent sentence to the guilty. The circumstances become more complex when such exercise also involves socioeconomic factors in addition to medicolegal ingredients of a case.

Materials and method:

All 4680 cases brought for medicolegal postmortem examination at Department of Forensic Medicine and Toxicology at New Civil Hospital and Government Medical College and Surat Municipal Institute of Medical Education and Research Surat, Gujarat, India, during the period of two year, starting from Jan 2004 to December 2005, were looked for component of homicide. A case was considered homicide on the basis of confirmation / suspicion by the investigating officer, confirmatory or corroborative autopsy findings. 193 such cases were included in the study satisfying above criteria and rest 4487 cases were excluded from the study. Relevant informations were entered into a Performa, which were later on organized to retrieve data for observation and discussion. Available literature was retrieved and utilized in discussion with emphasis on relevant and significant aspects of homicide.

Observations:

Scientifically significant data of medicolegal nature are highlighted in table 1-10. The figures in **bold letters** in tables highlight higher incidence or important parameters.

Discussion

In the present study the incidence of Homicide cases which were brought for autopsy was 04.12%. The incidence was lower than Tosayonand **-**7.7%

[1], Dikshit et al- 28% [2], Khanagwal & Paliwal -10% [3]. The variation observed in context of incidence of homicide by different workers can be possible due to location of work place, type of area-urban / rural and time and duration of study. As it is crime against human by human, various epidemiological, social and geographical factors of human life affect the pattern. (Table 1)

Table 1
Distribution of homicide cases

Year	Total cases	Homicide cases (%)
2004	1849	96 (05.19)
2005	2831	97 (03.43)
Total	4680	**193 (04.12)**

The study reflects that male outnumber female, out of 193 Homicide cases, males account 143(74.09%) cases and females were only 50(25.91%). (Table 2)

Table 2
Sex wise distribution of homicide cases

Sex	Cases (%)
Male	**143 (74.09)**
Female	50 (25.91)
Total	193 (100)

This is similar to the finding of Mittal et al – 82.50% [4] and Ghangale et al – 79.25%. Study also reflects that commonest Homicide victim represented younger age group 21-40 years 126(65.29%) (Table–3)

Table 3
Age group wise distribution of homicide cases

Age group	Male	Female	Total cases (%)
0-10	2	6	8 (04.16)
11-20	12	3	15 (07.77)
21-30	**53**	**13**	**66 (34.20)**
31-40	**46**	**14**	**60 (31.09)**
41-50	18	6	24 (12.44)
51-60	7	4	11 (05.69)
61-70	0	3	03 (01.55)
71-80	4	1	05 (02.58)
Above 80	1	0	01 (00.52)
Total	143	50	193 (100)

This is similar to the finding of Mittal et al 2004, Ghangale et al [5], Sheikh M.I.et al [6] and K.W.M. Scott [7].

It is obvious from the Table-10 that, even with different places of work, the common victims of homicide shows male predominance and refers to middle age (21-40 years). Probably this can be explained by psycho-social factors that male of this age group are more exposed to activities pertaining to earning livelihood and disputes related to their work.

The Study reflects that 112(58.03%) victims were married. Though incidence of homicide in married group is higher than unmarried persons, we feel that it is difficult to directly correlate the marital status with the incidence of homicide. (Table -4)

Table 4
Marital status wise distribution of homicide cases

Marital status	Male	Female	Total cases (%)
Married	**76**	**36**	**112 (58.03)**
Unmarried	24	06	30 (15.54)
Not known	43	08	51 (26.43)
Total	143	50	193 (100)

The present study, in 42(23.31%) cases, victims of homicide belonged to service class, which is followed by house dweller. This observation hardly related to the incidence of homicide in terms of medicolegal perspectives. (Table- 5)

Table 5
Occupation wise distribution of cases

Occupation	Male	Female	Total cases (%)
Labour	34	00	34 (17.62)
Service	**41**	**01**	**42 (23.31)**
Business	30	01	31 (15.03)
Student	11	5	16 (07.77)
House dweller	00	36	36 (18.65)
Not known	27	07	34 (17.62)
Total	143	50	193 (100)

The Study shows that maximum numbers of Homicide cases were in month of May (hot summer month) which accounts 25(12.96%) followed by August 23(11.92%) (Table – 6)

Table 6
Month wise distribution of homicidal cases

Month	Total cases (%)
January	19 (09.84)
February	14 (07.25)
March	17 (08.81)
April	16 (08.29)
May	**25 (12.96)**
June	19 (09.85)
July	10 (05.18)
August	23 (11.92)
September	17 (08.80)
October	12 (06.11)
November	12 (06.11)
December	09 (04.67)
Total	193 (100)

and maximum number of cases were seen on Tuesday 36(18.65), Wednesday 34(17.62), and Friday 32(16.58%) i.e. middle of week (Table -7).

Table 7
Distribution of cases according to weekdays

Days	Total cases (%)
Monday	20 (10.36)
Tuesday	**36** (**18.65**)
Wednesday	**34** (**17.62**)
Thursday	**32** (**16.58**)
Friday	29 (15.03)
Saturday	21 (10.88)
Sunday	21 (10.88)
Total	193 (100)

This is similar to the findings of Sheikh M.I. et al [6]. This observation reflects only seasonal aspects of homicide and it is hardly related to the incidence of homicide in term of medicolegal perspectives.

This study reflects that the commonest weapon of choice for killing is blunt weapon which accounts 82(42.49%) of total cases. Poisoning was not a common method for homicidal purpose. This is similar to the findings of Mittal et al - 50.88% [4], Fimate & Singh - 52.60% [4], Dikshit et al- 41.42% [2], and Dikshit & Kumar - 30.81% [8]. When any person comes in heat of passion at any place, blunt weapons like stone, rod, sticks and instruments in field of work are easily available without any preparation or premeditation. However, in the study by Ghangale et al [5] maximum cases of homicides were due to sharp force i.e. 53.53%.

Though place of work in the present study and that of Ghangale et al [5] belongs to western India, the incidence of homicide by blunt force in the present study was higher.

At the same time the incidence of homicide by sharp force was lower than Ghangale et al. [5], however in context of homicide by sharp and blunt force the incidence of present study proximate observation of Mittal et al. [4], who observed higher incidence of firearm ammunition as compared to present study & Ghangale et al [5] and in both study major chunk was rifled weapon. This can be probably due to the location (Amritsar is a district at Indo-Pak border) and others factors like issue of licensed weapon. (Table 11)

Table 11
Comparison of weapons/ methods used in homicide cases

Weapon	Ghangale et al	Mittal et.al.	Present study
Sharp force	53.53%	20.70%	33.68%
Blunt force	**21.58%**	**50.88%**	**42.49%**
Firearm ammunition	02.07%	13.33%	03.36%
Inflammable material	12.03%	NA	05.70%
Neck compression	04.56%	NA	05.18%
Poisoning	00.41%	NA	00.52%
Sharp cutting + blunt	03.71%	NA	06.74%
Blunt + Neck compression	01.66%	NA	01.55%

NA – Data not available

Leaving apart the category of sharp and blunt force, the other methods of homicide like inflammable material, neck compression and poisoning contributed almost equally in the present study and that of Ghangale et al [5]. This suggests that the possibility of homicide by all such methods shall be kept in mind at the time undertaking exercise of investigation.

Small but not negligible portion of cases involves more than one method of killing. This suggest that possibility of more than one accused can not be ruled out and hence such cases need real expertise to quantify and correlate accused and their respective culpability at the time of trial.

We feel that only from the autopsy findings it may be difficult task to suggest the investigation *de-novo*, but definitely helpful as a corroborative evidence if found consistent with the theory / reconstruction of investigation. (Table 8&11)

Table 8
Distribution of weapons/ methods used in homicide cases

Weapon	Total cases (%)
Sharp force	65 (33.68)
Blunt force	**82** (**42.49**)
Firearm ammunition	7 (03.36)
Inflammable material	11 (05.70)
Neck compression	10 (05.18)
Poisoning	1 (00.52)
Sharp and blunt force	13 (06.74)
Blunt + Neck compression	3 (01.55)
Not known	1 (00.52)
Total	**193** (**100**)

In the present study maximum victims 150(77.72%) died due hemorrhagic shock due to mechanical injuries which is similar to study by Mittal et al - 31.50% [4], Dasgupta & Tripathi - 56.72% [4], and Dikshit et al - 51.28% [2]. Hemorrhagic shock due to mechanical injuries is the main fatal cause. Early detection of crime and shifting of injured to the hospital / critical care center and if proper assistance and treatment provided immediately, it may save life of the victim/s of homicide. This will also be helpful to decline mortality in such cases. In the study by Mittal et al [4], hemorrhagic shock was the leading cause of death which surpassed all others causes of death. (Table – 12)

Table 12
Comparison of Cause of death

Cause of death	Mittal et.al.	Present study
Hemorrhagic shock due to mechanical injuries	**31.50%**	**77.72%**
Septic shock following mechanical injuries	02.50%	01.04%
Neurogenic shock following mechanical injuries	NA	01.04%
Asphyxia	17.00%	05.18%
Combined (1+4)	NA	03.11%
Burns	NA	05.70%
Poisoning	01.50%	01.04%
Pending	01.00%	05.18%

NA – Data not available

In this study, in 2 cases, cause of death was neurogenic shock, which was given after evaluation of history, analyzing circumstances, autopsy findings and report from histopathology and chemical analysis. As we know that an autopsy is considered to be negative or obscure when all efforts including gross and microscopic studies and chemical analysis fail to reveal a cause of death. In such cases cause of death is given after excluding other conditions that might be associated with cause of death in reference to the particular case. (Table - 9)

Table 9
Cause of death in homicide cases

SR No.	Cause of death	Total cases (%)
1	**Hemorrhagic shock due to mechanical injuries**	**150 (77.72)**
2	Septic shock following mechanical injuries	02 (01.04)
3	Neurogenic shock following mechanical injuries	02 (01.04)
4	Asphyxia	10 (05.18)
5	Combined (1+4)	06 (03.11)
6	Burns	11 (05.70)
7	Poisoning	02 (01.04)
8	Pending	10 (05.18)
	Total	193 (**100**)

Study reflects that commonest fatal entity was head injury, which accounted 67(34.01 %) of total cases, which was followed by multiple injuries over the body in 60(30.46%) cases. From this observation we can opinion that in majority single injury is associated with single perpetrator of crime but in cases of multiple injuries, perpetrator may be single or more than one.

In cases of multiple injuries caused by more than one perpetrator, then severity of injury becomes vital medico legal component. I.e. which of the several injuries is sufficient to cause death of the victim in the ordinary course of nature or collectively sufficient to cause death? Which injury is simple or grievous? Such scientific exercise is helpful in court trial to quantify culpability of the act in case/s, in which more than one accused are involved. (Table -13)

Table 13
Distribution of Fatal entity in homicide cases

Entity	Single injury cases (%)	Multiple injuries cases (%)	Total (%)
Head Injury	**54(27.41)**	**13(06.60)**	**67 (34.01)**
Multiple bodily injuries	00	60(30.46)	60 (30.46)
Stab Injury	13(06.60)	01(00.51)	14 (07.11)
Cut Throat Injury	13(06.66)	08(04.06)	21 (10.66)
Firearm Injury	07(03.55)	00	07 (03.55)
Decapitation	04(02.03)	01(00.51)	05 (02.54)
Neck compression	10(05.08)	00	10 (05.08)
Burns	11(05.58)	00	11 (05.58)
Poisoning	02(01.01)	00	02 (01.01)
Total	114(57.87)	83(42.13) #	197 (100)

The mathematical total of cases of multiple injuries exceed the grand total as in such cases there is intermingling and overlapping of fatal entity observed in different cases of homicide.

Conclusion:

1. A total of 193 autopsies of homicides were conducted at department of Department of Forensic Medicine and Toxicology at New Civil Hospital and Government Medical College and Surat Municipal Institute of Medical Education and Research Surat, Gujarat, India, during the period of two year, starting from Jan 2004 to December 2005 & the incidence was 04.12%
2. Maximum cases were from male group, 2nd to 4th decade, married persons & service class.
3. Maximum numbers of cases were observed during summer and in middle of week.
4. Blunt trauma was the commonest type of injury in homicide with head as the commonest lethal site.
5. Majority of victims died due to hemorrhagic shock on account of mechanical injury.

Such types of studies help to know the prevalence and incidence of various parameters related to homicide and to guide police personals in their investigation. Furthermore scientific & detailed autopsy investigations of homicide case/s add value as evidence in the court trials.

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Adultery: meanings and interpretations As professional misconduct, civil and criminal offence in India

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Abstract

Forensic medicine teachers taught topic of 'adultery' to medical students as one of the sexual offences, medicolegal aspect of marriage, and as professional misconduct, which is part of medical ethics. The question is of safeguarding / protecting socio-ethical value of our society and honour of medical profession. Section 497 IPC came into existence during the British Rule. It is said that it is against Indian cultural values and not much less than a slander. Therefore, in independent India it is totally unfair to allow continuing Section 497 IPC in its present form.

This paper deals with definition, meanings and interpretations of the term 'adultery' used in different context in medical profession so that clear concept can be understood by every member of medical fraternity. Thus, help in preventing unnecessary problems faced by doctors in day to day practice.

Key words: Adultery, Civil Offence, Criminal Offence, Professional Misconduct, Improper Conduct, Improper Association, Immorality, Infidelity, Sexual Harassment at Work Place.

Introduction:

The accepted meaning of adultery in relation with matrimonial law in India is as follows: "Adultery may be defined as **consensual sexual intercourse** between a **married person** and a person of the **opposite sex**, **not the other spouse**, during the subsistence of **marriage**". [1]

The Indian Penal Code defines adultery as "Whoever has sexual intercourse with a person who is and whom he knows or has reason to believe to be the wife of another man, without the consent or connivance of that man, such sexual intercourse not amounting to the offence of rape, is guilty of the offence of adultery, and shall be punished with imprisonment of either description for a term which may extend to five years, or with fine, or with both. In such case the wife shall not be punishable as abettor". [2]

The framers of the Code did not make adultery an offence punishable under the code. But the Second Law Commission, after giving mature consideration to the subject, came to conclusion that it was not advisable to exclude this offence from the Code. Adultery figures in the penal law of many nations, and some of the most celebrated English lawyers have considered its omission from the English law a defect. [2]

Under both the criminal law and matrimonial law, adultery is an offence against marriage and therefore, in both cases it is essential that at the time of the offence a valid marriage was subsisting. To constitute the offence of adultery it is also necessary that the respondent (in the case of criminal offence, the wife) was a consenting party. In short, the sexual intercourse must be consensual. If the respondent did not consent, just as when she was raped, it would not amount to adultery. Sexual intercourse with the respondent, when he, or she is unconscious, or under influence of drug or liquor, will also not amount to adultery. Similarly, sexual intercourse in the belief that the adulterer is his or her spouse will also negate the charge of adultery. [3]

The recently drafted National Policy, however, tries to remove the apparent 'discrimination' while pitching for 'adultery' as a social offence for both male and female offenders. [4]

Global Scenario:

Recently a Cambodian Court sentenced in absentia to 18 months in prison in an embezzlement lawsuit, to the Prince, and a former Prime Minister of Combodia, Norodom Ranariddh, who has been charged with adultery for having a mistress while he is still legally married to his wife. The Prince is currently living in France, faces up to a year in prison and fines of up to $245. Sok Kalyan, a prosecutor at the Phnom Penh Municipal Court, filed the charge against the Prince. He alleged Ranariddh "has committed adultery with his legally married wife Marie Ranariddh" by abandoning her to live with his mistress Ouk Phalla, a former Cambodian classical dancer. The Prince also has a three-years-old son with the mistress. [5]

The charge, stemming from a recent lawsuit from Marie, was filed under an adultery law that was adopted by Prime Minister Hun Sen's rulling party-

dominated legislature in August-2006. Supporters of the law have said it is **intended to make married couples live in harmony, happiness and with dignity.** [5]

But its opponents have said it is unnecessary while Cambodian has other higher priorities to tackle, such as corruption and poverty. Muth Chantha, A spokesman for Ranarriddh, described the adultery charge as "politically motivated" to prevent the prince from returning to take part fully in political activity in Cambodia. [5]

Adultery as a Professional Misconduct: Current Scenario in UK:

Doctors and nurses in the UK will be banned from having sexual relationships with former patients. Health professionals will only be allowed to date those they have previously treated when the clinical contact they had with each other was 'minimal'. New guidelines will formally set out the sexual boundaries between doctors, nurses and patients for the first time: following a string of sex abuse scandals. [6]

Reasons for formulating 'guidelines on sexual boundaries between doctors, nurses and patients' in UK:

There have been a number of disturbing cases in recent years including Folkestone GP Clifford Ayling who was able to continue working despite complaints spanning 30 years. He was jailed for four years in **December 2003** on 13 **counts** of **indecent assault** between **1991** and **1998**. Ayling repeatedly convinced women they needed intimate examinations, and then **sexually abused** them. Many of Ayling's patients complained that he was **'overtly sexual'** in his **behaviour**, and **colleagues were aware** of the concerns. But a report into the case said there was little guidance as to how the **NHS (National Health Services)** should deal with such concerns. Similarly, an **inquiry showed a 30-year history of abuse of women psychiatric patients** by **Dr. William Kerr** and **Dr. Michael Haslam** at **Clifton Psychiatric Hospital, York**.

As a result the Department of Health commissioned CHRE to bring in **clear guidance for health professionals on acceptable behaviour**. The draft guidance was drawn up by a **project team** run by the **CHRE**, which included **clinicians, victims of abuse, royal colleges** and **representatives from healthcare regulatory bodies**. UK Health Ministers are expected to approve the **guidance** from the **Council for Healthcare Regulatory Excellence (CHRE) in June-2007**. [7]

Indian Scenario:

Term 'adultery' found mention in **'code of medical ethics-2002'** [8] **under the heading "Adultery or improper conduct" which described it as:** Abuse of professional position by committing adultery or improper conduct **with a patient** or by maintaining an **improper association with a patient** will render a physician liable for **disciplinary action** as provided under the **Indian Medical Council Act (IMC Act) 1956** or the concerned **State Medical Council Act (SMC Act**). [8] here meaning of adultery is very broad and includes not only the 'improper conduct' by a doctor 'with his or her patient' but also cover 'maintaining improper association with a patient'.

In this way to maintain noble traditions of medical profession term adultery is used as a prohibitory conduct on the part of the doctor both male and female and declared as a punishable act under the IMC Act or concerned SMC Act, as the case may be. It prescribes punishment for both male and female doctors equally as contrast to the term 'adultery used in the Indian Penal Code (IPC) Section 497, which provides punishment only to the alleged accused. From professional misconduct point of view term 'adultery' involves doctors (both male and female), patient (both male and female) and their attendants, etc. here it is not necessary that any of the party involved in alleged offence is married or not. Again consent of any of the party is no defense to escape the liability for punishment. Degree of association is not defined it may very from consensual sexual inter course to any unwanted degree of physical relationship.

In a study "Sexual Harassment at Work Place: Experiences of Women in the Health Sector", conducted by a Researcher, shows that as many as 45: reported psychological harassment, 41: verbal harassment, 21: unwanted touch and 16: sexual gestures and exhibitionism. The study also revealed that just 20 of the 135 women interviewed over a period of 11 months by Population Council researcher, were aware of the Supreme Court's Guidelines on sexual harassment. What's worse, none of them had heard of a Complaints Committee for Redressal of their grievances. Several of the respondents also expressed their skepticism about the Grievances Committees effectiveness. The study [9, 10] revealed victims were sexually harassed by **not only their co-workers but also by patients and their relatives**. For over a century courts tried thousands for the offence of "**outraging the modesty"** of a woman without a precise definition of what constitutes a woman's 'modesty', and now, the SC has finally defined 'modesty'. Its definition: **"The essence of a woman's modesty is her sex".** [11]

Adultery meaning as per Criminal Law:

A person who has **sexual intercourse** with a **woman's consent** who is and whom he knows or

has reason to believe to be the **wife of another man**, does not amount to rape. He is guilty of adultery under **Section 497 IPC** provided it is **without the consent** or **connivance** of her **husband**. This obviously means that if a man has sexual intercourse with the consent of the woman along with the consent of her husband, then he neither commits the crime of rape nor is guilty of adultery.

In the Indian context, such a situation is highly condemnable if a married woman establishes physical relationship with another man. It is equally disgraceful if a man allows his wife to become bed partner of another man. There are a number of cases in which a married woman, when caught in compromising position with another man, reported police against man for committing rape in order to escape from the charges of **immorality** or **infidelity** and tried to prove herself innocent. On trial in Court of Law, evidence revealed that the woman was a consenting participant where as the husband had not consented. In this way the offence of rape could not be proved and in spite of the fact that the husband had not consented, the man could not be held guilty under Section 497 IPC.

The reason is technical. The offence under Section 497 IPC is **not cognizable** and no Court is empowered to take cognizance of the offence under this section unless the woman's husband makes a complaint according to Section 198 Cr PC, 1973. The cognizance of offence under Section 497 IPC can be taken only if the concerned woman's husband complaints, otherwise not. Because such a woman lodged the report of rape, the accused could not be held guilty under Section 497 IPC and since she was found to be a consenting party the accused was acquitted of the charges u/s 376 IPC. Thus, in spite of committing the crime of adultery, the accused was left unpunished. [R-2][12]

In one case [13]in which the accused was charged and convicted for committing rape u/s/ 376 IPC by trial Court but in appeal the High Court was pleased to hold that accused had sexual intercourse with the free consent of the woman but without her husband's consent or connivance. Hence, conviction u/s 376 IPC was quashed and accused / appellant was held guilty of the offence of adultery and convicted under Section 497 IPC. The scholars of law very much doubt the legality of the judgment in the light of Section 198 Cr PC.

Adultery Civil vis-à-vis Criminal Offence:

Under the Criminal Law adultery is a criminal offence. But the definition and scope is different.

The main differentiating features between these two definitions are that:

a. In criminal law only a man not a woman can commit offence of adultery,
b. Person committing adultery must also know or should have reason to believe that the woman with whom he has had intercourse is the wife of another man, and
c. The sexual intercourse should not amount to rape, i.e., the intercourse must be with the consent of the woman.

Adultery as matrimonial offence:

Before the coming into force of the Marriage Laws (Amendment) Act, 1976 "living in adultery" was a **ground of divorce**. On the other hand, a petitioner could obtain a decree of **judicial separation**, if he could show that "his spouse, after the solemnization of the marriage, had sexual intercourse with any person other than his spouse". Now **adultery simpliciter** has been made **ground for divorce** as well as **judicial separation**. The new clause has been worded as: "has after the solemnization of the marriage, had voluntary sexual intercourse with any person other than his or her spouse".

The criminal case cannot be brought against the woman but only against the man involved in adultery. The wife is not guilty of offence, not even as abettor. While in matrimonial law when a petition is filed for the matrimonial relief of judicial separation or divorce, on the ground of adultery, though in most systems, adulterer, if known, is a necessary party to proceedings and must be made a co-respondent. The High Court rules the Hindu Marriage Act, 1955, require that the adulterer should be made a co-respondent. [3]

In a petition for divorce, it is not necessary, nor is it material, to prove that the correspondent had knowledge or reason to believe that the respondent was the wife or husband of the petitioner. If the respondent had intercourse with the co-respondent with the full knowledge that he or she was not his or her wife or husband, then it is enough. It may be emphasized that the matrimonial court is not much concerned with the knowledge of the respondent that co-respondent was not his or his spouse. Thus, if the co-respondent had intercourse with a married woman personating to be her husband and the respondent taking him to be her husband had intercourse with him, she is not guilty of the matrimonial offence of adultery, though the co-respondent may be guilty of criminal offence of adultery. [3]

One single act of adultery is enough for divorce or judicial separation. [14, 15, 16, 17]To constitute extra-marital sexual intercourse, is it necessary to prove full or partial penetration? In English law it has been said that "there must be at least be partial penetration for the act of adultery to be proved".[18]

It is clear that a mere attempt of sexual intercourse will not amount to adultery. In Indian law it seems to be the established position that actual penetration need not be proved. “The unwritten taboos and rules of social morality in this country and unrelated person is found alone with a young wife, after midnight in her bed-room in actual physical juxtaposition unless there is some explanation forthcoming for this, which is compatible with an innocent interpretation, the only inference that a court of law can draw must be that the two were committing an act of adultery together”. [19]

The sexual intercourse contemplated by the clause is an intercourse with a third person, i.e. non-spouse. Thus, intercourse with the wives of pre-Act polygamous marriage will not amount to extra-marital intercourse. But if the second marriage is void, then intercourse with the second wife will amount to extra-marital intercourse within the meaning of the clause.

Proof of adultery and burden of proof:

The burden of proof is on the petitioner. At one time he was required to prove it beyond all reasonable doubts”, [20-23] but today it can be proved by preponderance of probabilities. “Proof beyond all reasonable doubts”, means such proof as precludes every reasonable hypothesis except that which tends to support it. [24-26]

It need not reach certainty, but must carry a high degree or probability. It is also an established rule that it is generally difficult to adduce direct evidence of adultery and usually the circumstantial evidence is sufficient. [27] However, if direct evidence is reliable, it may be proved by direct evidence. When a person says that he saw the respondent and adulterer sleeping together in the night, it is sufficient proof of adultery. [28, 29] (Mere allegations are not sufficient). But direct evidence, even when produced, is looked down upon with disfavour. It is highly improbable that any person can be witness to such acts, which are generally performed, in utmost secrecy. [30] The fact that a married woman has been absenting herself from her house for four to six days at a stretch and has been seen more than once with a total stranger, there being no explanation for this, leads to an irresistible conclusion that she had committed adultery. [31] However, the circumstances must satisfy that regarded together they lead to an irresistible inference that adultery must have been committed - Mukherji, J. [32-35]

If adultery is ought to be proved by non-access, then circumstances of non-access should be such as would lead a reasonable man to no other inference.[36] Mere vasectomy is not a proof of adultery: proper semen test must also be taken. [37] General evidence of the ill-repute of husband or of the lewed company that he keeps, or even that he knows the addresses of prostitutes and was seen with lewd women, would neither prove nor probablize adultery. [38] Similarly, mere admission of the wife in cross-examination will not be enough. [38]Modern view is that adultery may be proved by preponderance of probability. [39-42]

Current Scenario in India:

Adultery should be treated as breach of trust and treated as civil offence, according to a recommendation made by the National Commission for Women (NCW). Giving this information, Law Minister, H.R. Bhardwaj, however, told the Rajya Sabha on Monday (March 5, 2007) that the amendment in law should take place only after building a national consensus. The Ministry of Women and Child Development is examining the matter, the Minister said. [43, 44]

Adultery is treated as a criminal offence under the existing provision in Section 497 of IPC, 1860, where the wife, who is involved in adultery, is not punishable as an abettor, Bharadwaj said.

NCW had been asked by the Centre to give its view on the laws related to adultery. The Commission was of the view that there might be many instances where woman wanted to save the marriage and saw the adulterous relationship as an aberration. The issue of adultery should be viewed as a breach of trust, but a final view could only be taken after a public discussion on the issue. [43, 44]

The Commission had also been asked by the Centre to review Section 497 IPC, which does not envisage prosecution of the wife by the husband for adultery. The Section provides expressly that the wife shall not be punishable even as an abettor based on the reasoning that the wife, who is involved in an illicit relationship with another man, is a victim and not the author of the crime.

The NCW member said, “We think that adultery should not be treated as a criminal offence but a civil offence”. She added that women are in a relatively socially dis-empowered position and instead laws to protect women must be strengthened. [43, 44] The attempt to treat ‘adultery’ as a social rather than a criminal offence moved further with the Union Home Minister making a detailed presentation on the issue before MPs on 04-05-2007. The matter was put before the lawmakers for the first time after it became part of the draft National Policy on Criminal Justice, which among other criminal offences like attempt to suicide, drunken brawl and drunken driving. [4]

Though the MPs, who attended a consultative committee meeting, did not firm up any opinion on adultery, they are learnt to have responded positively to the draft national policy. The meeting

was presided over by Home Ministry, Shivraj Patil who promised to take up the deliberations further before arriving at the final policy on criminal justice. [4]

During the presentation by Additional Secretary, Anita Chaudhary, it was emphasized that number of offences, including adultery and drunken driving, should be decriminalized with a view to taking corrective measures through community participation. She took the draft, a reference which points out that "the tort action may remedy the injury and civil disabilities can deter persons from such conducts (adultery, drunken driving and drunken brawl)". [4]

At present, all these crimes are criminal offences, which attract punishment ranging from one to five years with fines. As far the most debated offence among the categories: adultery: is concerned, the existing section 497 IPC provided for jail up to five years and fine. However, the punishment can be given only to a man, leaving out woman from the ambit of punishment. The National Commission for Women (NCW) had opposed the proposal to amend Section 497 IPC to bring women also under the purview, a move that triggered a national debate on the issue due to it being 'discriminatory' in nature. [**Constitutional provisions in favour of women in India] [4]**

Although none of the MPs present at the meeting refereed to the controversial issue, the very positive response in terms of taking up all the points of the draft policy at the next Consultative Committee Meeting sent the right signal. [4]

"The Draft Committee, Headed by Menon, will take into account these suggestions while finalizing the final policy. Subsequently, the matter will be taken before the Cabinet for bringing suitable amendments in the existing laws". Rajya Sabha member P.C. Alexander and Lok Sabha Member Nikhil Kumar, Mohanbhai Delkar and Sarbananda Sonow, also took part in the deliberations. [4]

Summary and Conclusions:

If amendment in Section 375 IPC is done, then there would be no need of Section 497 IPC and Section 198 (1) to (5) Cr PC because the crime adultery will come under the crime of rape only. In this way a person who has sexual intercourse with a woman to whom she is not lawfully married, will never escape punishment through loopholes mentioned. [2, 12]

Authors of books on this topic especially of Forensic Medicine specialty make this distinction in meaning of the term 'adultery' clear, so that there should not be any confusion in understanding on the part of medical students. But before any amendment in criminal law great deliberation by intellectuals and other sections of society is the need of hour.

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Consumer Protection Act (CPA / COPRA) Related to Medical Profession

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Abstract

With the fast pace of commercialization and globalization on all spheres of life, the medical profession is no exception. Since the passing of the Consumer Protection Act in 1986, the doctor-patient's relationship has deteriorated significantly and litigation against doctors is increasing day by day. This review article enlightens medical practitioners regarding Consumer Protection Act and how to prevent litigations.

Key Words: Consumer Protection Act, Professional negligence, Complainant, Complaint, Consumer, Service

Introduction:

The Doctor patient relationship in our country has undergone a sea change in the last decade and a half. The fortunate doctors of the past were treated like God and earned respect. Commercialization and globalization on all spheres of life has not even spared the medical profession as well. As a result, the doctor-patients relationship has deteriorated considerably. Earlier too, doctors were covered by various laws, i.e. the Law of Torts, IPC etc., but since the passing of the Consumer Protection Act in 1986, litigation against doctors is on the increase.

Doctors practicing ethically and honestly should not have any reason for fear. Law whether civil, criminal or consumer law, can only set the outer limits of acceptable conduct i.e. minimum standards of professional care and skill, leaving the question of ideal to the profession itself.

The purpose of the Act:

To protect the interest of the consumers of different commodities available to them for which they pay but do not get standard quality of service. e.g. patient pay for the treatment but do not get correct treatment. Any sufferer consumer, State / Central govt. may lodge the complaint against the erring trader or suppliers, etc for the deficient service which cause some harm to the consumer in the different redressal forum. e.g. District Forum, State Commission, National Commission.

Nature of Complaint:

Any unfair trade practice adopted by the trader, and defective goods, deficiency in services /Deficiency in treatment, excess price charged by the trader /doctor by doing unnecessary investigation, prolonged hospital stay etc. for unlawful goods sale, which is hazardous to life and safety when used. A complaint hand written or typed can be filed by a consumer. Usually complaint should be decided within 90 days from the date of notice issued to the opposite party. Where sample of any goods is required to tested, case may be disposed within 150 days or it may take more time due to practical problems. The complaint should be filed in the District forum, State commission or National Commission within two years from the date on which the cause of action has arisen. In case there is sufficient ground for not filing the complaint within such period delay may be condoned at the discretion of the consumer forum/Commission.

How to Avoid Litigation?

a) Prevention at personal Level

MCI approved qualification, training and experience of recognized center are the primary safeguard against any litigation.

Communication: This is the key to doctor Patient relationship. We should have polite and sympathetic attitude toward patients and their relatives. Increasing crowds of patients and improper communication to the patient about diagnostic and treatment procedures, complications and claims of guaranteed success are the main reasons for Patient's dissatisfaction. Answers all queries of the patients / relatives without getting irritated.

Academic and Technical up gradations- One should regularly attend Conferences, CMEs & Workshops to keep pace with progress in medical science. Other academic sessions should also be organized to up grade our junior staff and nursing team.

Medical Ethics Laws: A thorough knowledge of medical ethics and laws is essential for all medical professional. We should always get feed back from our patients about our setup, our staff & charges etc. Special training should be for doctors, paramedical staff, nursing staff etc from HRD

experts about dealing with patients /relatives under grievous mental stress due to some loss or injury.
b) Prevention at Practice:

- Should have reasonable skill and care in diagnosis and treatment.
- Proper documentation of facts and legally valid informed Consent. The reasonable Skill and care. There are three aspects of reasonable skill and care - Medical, Social & Legal

Medical Aspect-First and foremost it is essential for every Doctor /Hospital /Nursing home to exercise reasonable skill and care expected of an average person with equivalent qualification and experience in similar circumstances. Social Aspects-We should always exhibit our reasonable skill and care to the patients / attendants / relatives through expression, body language, action and discussion. We may be very sincere toward patient but failure to exhibit these gestures may leads to doubts in the mind of patients and their relatives. Legal aspects - This include proper documentation about exercising reasonable skill and care in consultation, diagnosis and treatment. This can be done by making good clinical notes of finding on examination and treatment given. When there is failure to follow instruction, refusal for investigation, failure to come for review on specified day by patient, should always be recorded in underline way. These negative records act as important tool while defending our case in court of law.
Prevention by professional indemnity by insurance cover -Professional indemnity insurance is a tool which not only meets the claim of compensation awarded against the doctor /hospital but also gives sense of mental security that even if same negligence is proved the insurance company will take care of it. Prevention by people support groups-By forming societies like I.M.A , Medical Collage Teachers Welfare Society we get a type of social security. It also prohibit the doctor speaking foul against there own colleague.

Factual defenses:

- Mention qualification, training, experience etc. We can say that complainant or patient has not come to the court with clean hand i.e he has suppressed material facts e.g. previous illness, treatment etc.
- Written consent of the patients / relative / attendant especially, involving special risk in the treatment.
- Circumstances of the case e.g. there was emergency, lack of facility (e.g. rural area) no one to give history of patients illness etc. Burden of proof of duty of care, breach of that duty, causation, damage etc, is on the patients or complainants.
- Reasonable knowledge, skill and care exercised.
- Treatment by patient from other doctor / other system of medicine simultaneously.
- More than one reason for occurrence of damage.
- Contributory Negligence.

Do's and Don'ts for Doctors:

Do's for Doctors:

- Mention your qualifications/ training/ experience/ designation on the prescription.
- Always mention date and timing of the consultation.
- Mention age and sex of the patient.
- In a pediatric prescription weight of the patient must also be mentioned.
- Always put your hand on the part that the patient/ attendant say is painful.
- Apply your stethoscope on him, even if for cosmetic reasons.
- Listen attentively. Look carefully, ask questions intelligently.
- Always face the patient. Do not stare, especially female patients.
- Ask the patient to come back for review on the next day, if you are not sure about the diagnosis/ treatment.
- Mention "diagnosis under review" until the diagnosis is finally settled.
- In complicated cases record precisely history of illness and substantial physical findings about the patient on your prescription.
- Record history of drug allergy.
- Write names of drugs clearly. Use correct dosages.
- Always advise the patient not to stop taking a drug suddenly which is required to be tapered before it is stopped.
- Remember major drug interactions.
- Mention if patient/ attendant are/ is under effect of alcohol/ drugs.
- Adjust doses in case of a child/ elderly patient and in renal or hepatic disorders.
- In case of chronic ailments, mention treatment to be taken immediately in case of an emergency. For example, a patient on anti-epileptic treatment should be advised to take an injection of diazepam when convulsions occur.
- Mention where the patient should contact in case of your non-availability/ emergency.
- If you are not sure what disease a patient has after a thorough workup, get a consultation.
- Whenever referring a patient, provide him with a referring note.

- In case of emergency/ serious illness, ring up the concerned doctor in the patient's presence in hospital casualty.
- Participate in at least one national / international conference of respective subjects every year.
- Update your knowledge and skill from time to time.
- Update not only your own knowledge and skill, but also that of your staff.
- Update the facilities and equipment according to prevailing current standards in your area.
- Preferably employ qualified assistants. If not available, impart proper training and skill at your or some appropriate centre and obtain a certificate for the same.
- Routinely advice X-rays in injury to bones and joints and related diseases of bones/ joints.
- Always rule out pregnancy before subjecting the uterus to X-ray.
- The period for the responsibility of the surgeon extends to and includes the post-operative care.
- Always seek proper legal and medical advice before filing reply to the complainant referred to you from a consumer court.

Don'ts for Doctors:

- Don't prescribe without examining the patient, even if he is a close friend or relative.
- Never examine a female patient without presence of female nurse/ attendant, especially during genital and breast examinations.
- Don't smoke while examining a patient.
- Don't examine a patient when you are sick, exhausted, or under influence of alcohol or any intoxicated substance.
- Don't be overconfident. Don't look overconfident.
- Don't prescribe/ administer a drug which is banned, e.g. Analgin.
- Don't over-prescribe/ administer too much of the drug, too large a dose, for too long.
- Don't under-prescribe: dose is too small, length of treatment is too short.
- Never talk loose of your colleagues, despite intense professional enemy.
- Possibilities of drug interactions increase with polypharmacy.
- Don't allow substitutions.
- Don't do anything beyond your level of competence.
- Competence is defined by your qualification, training and experience.
- Don't give a drug parentally if it can be given orally. There may be some exceptions.
- When you are not sure what and why to do. Consult your senior/ specialist/ colleague.
- Don't refuse the patient's right to know about the hospital rules, regulations and hospital charges.
- Don't refuse if the patient/ attendants want to leave against medical advice (LAMA). It is their right. Document this properly.
- Never avoid a call for help from a nurse on duty at night. A genuine emergency may be there.
- Never label any condition as "functional" until you are as certain as possible of the accuracy.
- Don't leave at the moment of death. There is a tendency especially on the part of senior doctors to go away at this time when his presence and experience are most needed.
- Don't hesitate to extend your condolences and sympathies to the bereaved persons.
- Don't issue death certificates unless you have yourself verified it.
- Don't divulge secrets you come to know during discharge of your professional duties.
- Don't deny medical care to a patient with HIV infection/ AIDS. Observe all necessary precautions.
- Don't inform that the person is infected with HIV unless confirmatory test results are received.
- Don't give untrue, misleading or improper reports, documents, etc.
- Do not leave a patient unattended during labor.

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Study of Fatal Burn Cases in Medico- Legal Autopsies

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Abstract: -

The burn autopsies form the major bulk of autopsies carried out at most of the hospitals in India. A medico–legal study of fatal burn cases was carried out at Nanded (India) during the period of 3 years. These constituted 18.2% of the total medico–legal autopsies carried out during the same period. The majority of burn deaths were observed in the age group of 11 – 40 yrs (83.11%), with peak incidence in 21 – 30 yrs (39.5%) of age group. Female preponderance was seen in all age groups with male to female ratio 1:2.5. Most of the cases were from rural area (76.3%). In 189 cases (41.4%), total body surface area involved was more than 80%. Majority of the subjects died as a result of flame burns (92.3%), followed by electric burns (5.3%) & scald (2.4%). In 406 cases (89%), Kerosene oil was involved leading to fatal burns. Accidental burns were most common (70.8%), followed by suicidal (18.2%) and homicidal burns (10.9%). The majority of deaths due to burns were observed within 1 week (66.2%).

Key words – Burns, Scald.

Introduction: -

Since long, fatal burns continue to be a major public health problem in India and deaths due to burns form a large quantum of cases of medico–legal nature. Deaths due to burns affect all the communities, including urban as well as rural areas. The present study comprises of deaths due to fatal burns, mostly from rural region, as Government Medical College and Hospital, Nanded (M.S.) acts as referral centre for nearby vast rural population. The aim of the study is to analyse the various epidemiological and medico–legal aspects in the community which will help to plan the preventive programme for reducing the incidence of fatal burns.

Material and Methods:-

The material for the present study comprised of all burn death cases brought for medico–legal autopsies to the mortuary of government Medical College & Hospital, Nanded (India), during July 2002 to June 2005 (3yrs.). The various epidemiological characteristics of the cases and their medico–legal aspects were obtained from police papers, post–mortem reports, the investigating police officers and the relatives of the deceased. The data of 456 cases of burn deaths were recorded, compiled and analysed statistically.

Observations: -

During the period of study, total 2505 medico–legal autopsies were carried out, out of which 456 cases (18.2%) were due to burns. Age wise distribution of burn cases showed 379 cases (83.11%) of burn deaths occurred in the age group of 11– 40 years with peak incidence in the age group of 21 - 30 years (180 cases i.e. 39.5%). Sex wise distribution showed female predominance i.e. 327 cases (72.1%) were female with male: female ratio 1:2.5 (Diagram–1). Most of the cases were from rural region (348 cases i.e. 76.3%) (Diagram–2). In 329 cases (72.1%), total body surface area (TBSA) involved was above 60% but in 189 subjects (41.4%), burn extends above 80% of TBSA (Table–1). Burn of more than 60% of TBSA was observed in 257 (78.6%) females as compared to 72 (55.8%) males (Diagram–3).

The maximum numbers of cases (421 cases i.e. 92.3%) were due to flame burns, followed by electric burns (24 cases i.e. 5.3%) and scalds (11 cases i.e. 2.4%). Out of 421 flame burns, 317 (75.3%) were females & 104 (24.7%) were males whereas in deaths due to electric burns, 20 (83.3%) were males and 4 (16.7%) were females. Most of the scald injuries were observed in 0–10 yrs of age group (Table–2). Further analysis of flame burns revealed that in 406 cases (96.4%), kerosene oil was involved and in 3 cases, petrol was used and in 12 cases, gas leak leads to flame burns. Burns due to kerosene oil were due to bursting of stove in 76 cases (18.7%), fall of kerosene oil lamp in 77 cases (19%), clothes catching fire in 122 cases (30%) and pouring of kerosene oil over body in 131 cases (32.3%) (Table–3).

As far as the manner of death is concerned, most of the deaths were accidental in nature [323 (70.8%)] observed in 225 (68.8%) females and 98 (75.9%) males, while in 83 cases, (18.2%) suicidal deaths and in 50 cases (10.9%), homicidal deaths were observed. In most of the suicidal deaths, males & females were married, while in

homicidal deaths, all females were married (Table–4). In 64 cases (14%), persons died within 24 hrs of the incidence, another 235 subjects (51.5%) expired within 1 week & in 157 cases (34.4%), person died after 1 week thus labeling septicaemia as the commonest cause of death (Table–5).

Discussion: -

During the period of study, the fatal burn deaths comprised of 18.2% (456/2505) of the total medico–legal autopsies. This finding is consistent with the study of Batra AK (23.3%)[1], Ambade VN et al (21.6%) [2] and Gupta RK et al (10.79%) [3].The difference in the percentage is due to differences in the region from where study was carried out. Again it indicates that burn autopsies comprises of major bulk of medico–legal autopsies in India.

In the present study, maximum number of cases (83.11%) was observed in 11–40 yrs of age group. This finding matches with the study of Singh D. et al (83.3%)[4], Subrahmanyam M. (79.4%) [5] Batra AK (71.9%)[1], Singh D. et al (67%)[6], Gupta M. et al (64.8%) [7] and Tang K. et al (73%) [8]. From all above these studies, it is very clear that adolescent and young adults (11–40 yrs) are commonly involved in fatal burn accidents in India as this is the most active group and burns may occur while working, where awareness and adequate safety measures are lacking. This finding does not match with the study in Taiwan [9], China [10] and turkey [11] where children were mostly affected.

In the present study, out of 456 of burns deaths, 327 (72.1%) were females and 129 (28.3%) were males with male: female ration 1:2.5. Similar findings were reported by other Indian authors [1, 2, 4, 5, 6]. The reason for the predominance of the female may be for most of the housewives, kitchen and kitchen related activities place them at high risk of fatal burn accidents. Again in Indian society, dowry related deaths either suicidal or homicidal remain the most common cause for female deaths and burning is common mode used for committing suicide & homicide. On the other hand, male predominance was observed in studies carried out at China [8, 10], Singapore [12], and Taiwan [9, 13], Turkey [11, 14], Spain [15], South Korea [16], Japan [17]. This may be explained by the fact that because of rapid industrialization in these countries, male become more susceptible to fatal burns at work place as compared to females.

In the present study, the majority of the cases were from rural area (76.3%). In the study of Batra AK [1], 75% of the cases were from rural area which is consistent with the present study. However this is in contrast to the studies carried out by Singh D. et al (35.6%) [4], Singh D. et al (38%) [6]. The reason for increased incidence of burn cases among rural population in present study may be Government Medical College & Hospital, Nanded acts as a referral centre for nearby vast rural population attached to it and therefore medico–legal postmortems conducted on burn cases, which are referred to this institute are higher.

The present study revealed that in 75.1% cases, burns extend more than 60% of TBSA. In 78.6% of the females, burns cover more than 80% of TBSA as compared to 55.8% of males. This finding is consistent with the study of Singh D. et al [4], Bang RL et al [18] & Song C. et al [12]. It indicate that burns extending more than 60% of TBSA are usually fatal and mortality is higher in such cases though better treatment and care are provide to the patient.

Flame burns comprised of 92.3% of the cases, followed by electric burns (5.3%) and scald (2.4%). Similar findings were reported by other Indian authors [4, 5, 6, 7, 19] and in the study carried out at Kuwait [18], Japan [17], South Korea [16], Spain [15], Turkey [14], China [8]. However it is in contrast with the study of Tung KY et al [13], Yonggiang F. et al[10], Chien WC et al [9] and Song C. et al [12], Haberal M. et al [11], Jay KM et al [20] where scalds were most common, Kerosene Oil was major factor (96.4%), which is involved in causing flame burns as stove bursting (18.7%), fall of kerosene oil lamp (19%), clothes catching fire (30%) and pouring of kerosene oil over body (32.3%). This finding is consistent with other Indian studies [2, 4, 6]. Kerosene oil is routinely used for domestic purpose as it is cheap and easily available especially for poor people living in rural part of India. The casual handling of kerosene oil with minimal safety measures to handle any mishap makes it more vulnerable for causing fatal burns.

Accidental burns were more common as compared to suicidal & homicidal burns. This finding is consistent with other studies [1, 2, 3, 4, 5, 6, 7, 15]. Married males and females were the usual victims of accidental burns as compared to unmarried persons. The cooking activities involving fire associated with wearing of loose synthetic material leads to accidental burns. Suicidal and homicidal deaths were more common in married females. The reason for this may be old custom of dowry and marital disharmony which compel the married females either to commit suicide or they may be killed by their in-laws and husband.

The present study revealed that most of the patients died within one week of incidence and septicaemia was most common cause of death. This finding is similar to other studies [3, 5]. Though better care and treatment is provided to the burn patients, infection especially hospital acquired involving large

body surface area are difficult to control in peripheral hospitals which leads to septicemia deaths.

Summary and Conclusion: -

The study reveals that: -

1. Females in the age of 11–40 years are more susceptible to burns.
2. Burn injuries are more common in rural population.
3. In most of the burn deaths, burns extend above 60% of total body surface area.
4. In about half of the females, burns extend above 80% of TBSA.
5. Flame burns are most common cause of burns.
6. Most of the scalds are seen in 0 – 10 yrs of age group.
7. Electric burns are more common in males.
8. Kerosene oil is the most common causative factor responsible for fatal burns.
9. Most of the burns are accidental in nature and married persons are more prone to burns.
10. Most of the deaths occur within one week of the incidence and septicaemia is most common cause of death.

Newer developments are taking place in India in all sectors including technology and health sector. As far as burns are concerned, effective burns prevention programme needs to be launched and implemented taking into consideration high risk group and population. Also there is an immense need for nationwide drive to create awareness regarding safety measures and first aid education to reduce the incidence of burns.

Acknowledgement:

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Diagram – 1 Age and Sex wise distribution of burn deaths

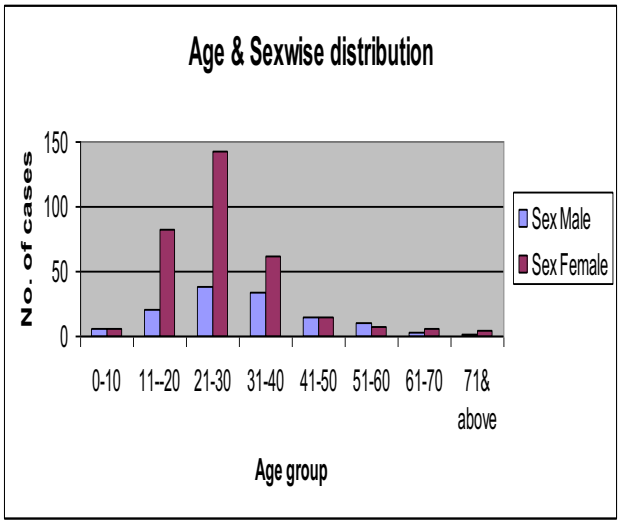

Diagram – 2 Regionwise distributions of burns

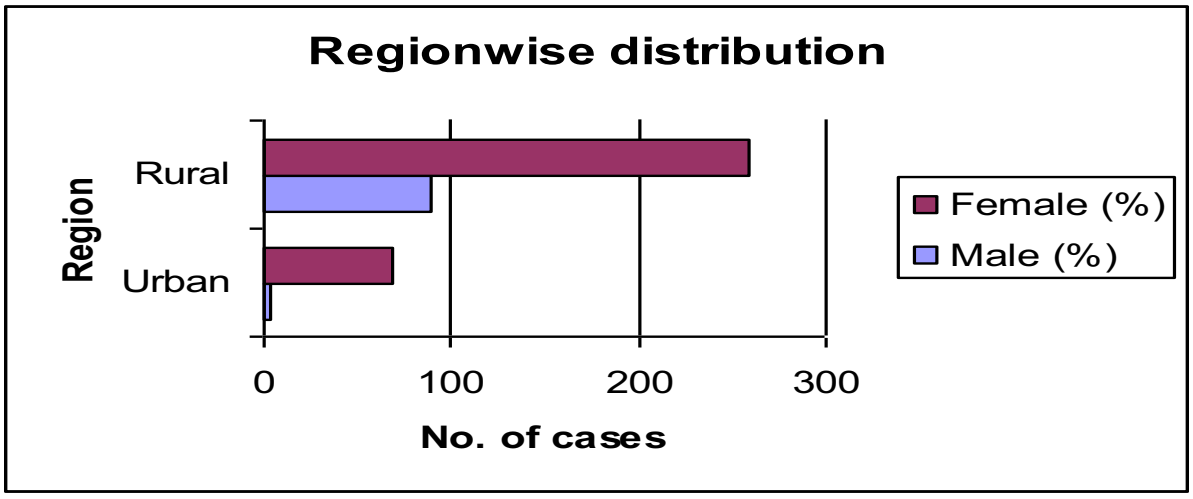

Diagram – 3 Sex and Extent of burns

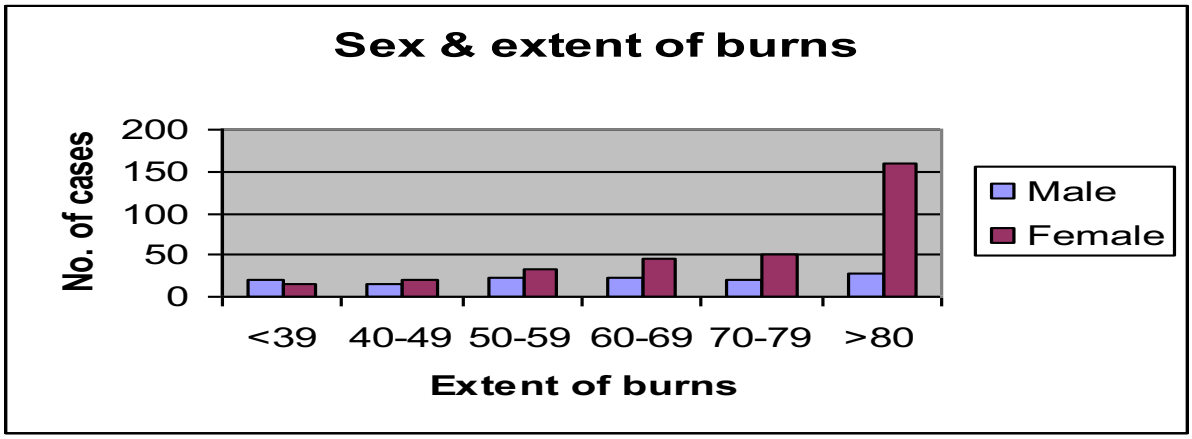

Table – 1 Age group and extent of burns

Age	% of burns						Total
Group	<39	40 – 49	50 – 59	60 – 69	70 – 79	>80	
0 – 10	01 (2.8)	02 (5.7)	03 (5.4)	02 (2.8)	02 (2.8)	02 (1.1)	12 (2.6)
11 – 20	08 (22.2)	05 (14.3)	11 (19.6)	14 (20)	17 (24.3)	48 (25.4)	103 (22.6)
21 – 30	13 (36.1)	13 (37.1)	20 (35.7)	30 (42.9)	23 (32.9)	81 (42.9)	180 (39.5)
31 – 40	04 (11.1)	05 (14.3)	11 (19.6)	19 (27.1)	16 (22.8)	41 (21.7)	96 (21.1)
41 – 50	05 (13.9)	04 (11.4)	05 (8.9)	03 (4.3)	05 (7.1)	08 (4.2)	30 (6.6)
51 – 60	03 (8.3)	03 (8.6)	04 (7.1)	-	03 (4.3)	06 (3.2)	19 (4.2)
61 – 70	01 (2.8)	02 (5.7)	01 (1.8)	-	03 (4.3)	02 (1.1)	09 (1.9)

71&above	01 (2.8)	01 (2.8)	01 (1.8)	02 (2.8)	01 (1.4)	01 (0.5)	07 (1.5)
Total	36 (7.9)	35 (7.7)	56 (12.3)	70 (15.4)	70 (15.4)	189 (41.4)	456 (100)

(Figures in parenthesis denote percentage)

Table – 2 Causes of burns

Age	**Flame**		**Scald**		**Electric burn**		**Total**	
Group	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
0 – 10	03 (2.30)	02 (0.6)	02 (1.5)	04 (1.2)	01 (0.8)	-	06 (4.6)	06 (1.8)
11 – 20	13 (10.10)	82 (25.1)	-	-	07 (5.4)	01 (0.3)	20 (15.5)	83 (25.4)
21 – 30	29 (22.5)	141 (43.1)	02 (1.50)	-	07 (5.4)	01 (0.3)	38 (29.5)	142 (43.4)
31 – 40	32 (24.8)	60 (18.3)	01 (0.8)	01 (0.3)	01 (0.8)	01 (0.3)	34 (26.3)	62 (18.9)
41 – 50	13 (10.1)	15 (4.5)	-	-	02 (1.5)	-	15 (11.6)	15 (4.6)
51 – 60	09 (6.9)	07 (2.1)	-	-	02 (1.5)	01 (0.3)	11 (8.5)	08 (2.4)
61 – 70	03 (2.3)	05 (1.5)	-	01 (0.3)	-	-	03 (2.3)	06 (1.8)
71&above	02 (1.50)	05 (1.50)	-	-	-	-	02 (1.5)	05 (1.5)
Total	104 (80.6)	317 (96.9)	5 (3.9)	06 (1.8)	20 (15.5)	04 (1.2)	129 (100)	327 (100)

(Figures in parenthesis denote percentage)

Table –3 Burns due to kerosene oil

Age Group	Stove bursting		Fall of K. oil lamp		Clothes catching fire		Pouring of K. oil over body	
	Male	Female	Male	Female	Male	Female	Male	Female
0 – 10	-	-	-	-	02 (8.3)	01 (1.0)	-	-
11 – 20	03 (20)	19 (13.1)	04 (12.9)	11 (23.9)	03 (12.5)	26 (26.5)	03 (10.3)	23 (22.5)
21 – 30	04 (26.7)	27 (44.3)	06 (19.4)	22 (47.8)	07 (29.2)	31 (31.6)	09 (31.0)	61 (59.8)
31 – 40	05 (33.3)	13 (21.3)	07 (22.6)	11 (23.9)	06 (25)	21 (21.4)	13 (44.8)	13 (12.7)
41 – 50	02 (13.3)	03 (4.9)	07 (22.6)	-	02 (8.3)	07 (7.1)	02 (6.9)	04 (3.9)
51 – 60	01 (6.7)	-	05 (16.1)	02 (4.3)	01 (4.1)	04 (4.1)	02 (16.9)	-
61 – 70	-	-	01 (3.2)	-	02 (8.3)	05 (5.1)	-	-
71& above	-	-	01 (3.2)	-	01 (4.1)	03 (3.1)	-	01 (0.9)
Total	15 (15.1)	61 (19.9)	31 (31.3)	46 (14.9)	24 (24.2)	98 (31.9)	29 (29.3)	102 (33.2)

(Figures in parenthesis denote percentage)

Table – 4 Manner of burns

Manner of Burns	Male		Female		Total	
	Married	Unmarried	Married	Unmarried	Married	Unmarried
Accidental	72	26	187	38	98	225
	(73.5)	(83.9)	(65.8)	(88.3)	(75.9)	(68.8)
Suicidal	24	02	52	05	26	57
	(24.5)	(6.5)	(18.3)	(11.6)	(20.2)	(17.4)
Homicidal	02	03	45	-	05	45
	(2.0)	(9.7)	(15.8)	-	(3.9)	(13.8)
Total	98	31	284	43	129	327
	(76)	(24.0)	(86.8)	(13.2)	(100)	(100)

(Figures in parenthesis denote percentage)

Table – 5 Survival Time in fatal burn cases

Sex	Hours		Days						Weeks		
	0 –12	12–24	1 – 2	2 – 3	3 – 4	4 – 5	5 – 6	6 – 7	1 – 2	2 – 3	>3
Male	15 (11.6)	09 (7.0)	14 (10.8)	5 (3.9)	12 (9.3)	11 (8.5)	17 (13.2)	10 (7.8)	22 (17.1)	9 (7.0)	5 (3.9)
Female	17 (5.2)	23 (7.0)	30 (9.2)	17 (5.2)	23 (7.0)	28 (8.6)	41 (12.5)	27 (8.3)	77 (23.5)	25 (7.6)	19 (5.8)
Total	32 (7.01)	32 (7.01)	44 (9.6)	22 (4.8)	35 (7.7)	39 (8.5)	58 (12.7)	37 (8.1)	99 (21.7)	34 (7.5)	24 (5.3)

(Figures in parenthesis denote percentage)

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Organs - God Gifted Assets

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Abstract

The organ shortage is not a medical problem, but a social one. There is a need for greater community awareness and co-operation for organ donation. This is governed by Human Organ Transplantation Act 1994 to regulate organ transplants and promote donations from cadavers. Sadly there is a large gap between the number of suffering patients and those who donate organs. The law itself needs change to rationalize the organ donation in order to stop the illegal trade of organs, because if the dying can't get organ from dead, they will buy them from the living.

Key Words: - Organ Donations, Sale of Human Organs.

Introduction:

In the words of Tagore, "death belongs to life as birth does. The walk is in the raising of the foot as the laying of it down". A person can still be alive even after death making the death meaningful by donating organs and giving new lease of life to the needy.

Over three million people in India suffer from end stage renal disease. Yet only 2500 people receive kidney transplants every year. Sadly there is a large gap between the number of suffering patients and those who donate organs. The poor statistics are because organ donation faces hurdles at different levels from hesitant relatives clutching out religious myths, to lack of qualified counselors to hospitals, which do not have adequate infrastructure.[1]

The first successful organ transplant took place half a century ago, since then diabetes, hypertension other kidney destroying diseases have spread. Antibiotics have improved, so have drugs that suppress the immune response to foreign organs.[2]

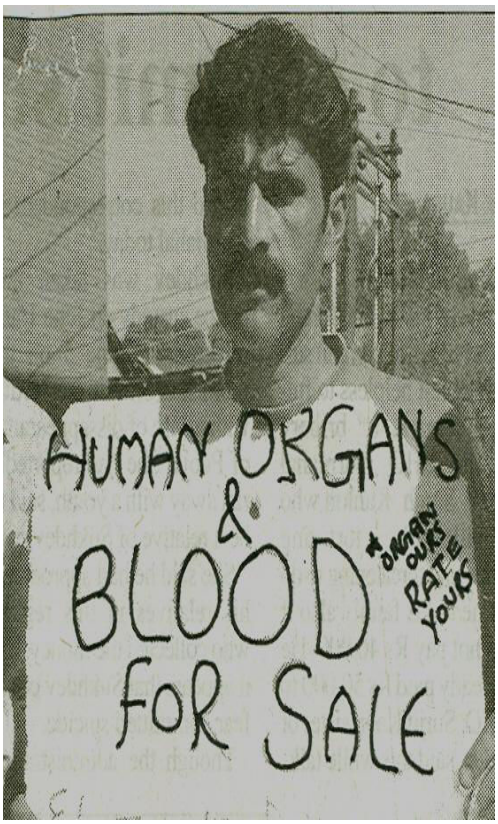
But donations haven't kept up with demand. As estimated 170,000 patients in United States and Europe are on transplant waiting list and the list is growing 5000 per year. Instead of waiting, many patients have set out to recruit their own donors. They have started with billboards then moved to websites such as MatchingDonors.com, JoeNeedALiver.com and HelpMyGrandpa.com. Around the world, people have learned that their organs are assets. Peruvians, Ukrainians, Chinese hospitals advertises there innards.[3]

There are countries from which patients traveled for organs in the past three years (Malaysia, Saudi Arabia, South Korea and Taiwan) and the other countries from which organs have been sold (China, Colombia, Pakistan and Philippines.) [2]

In our neighbor Pakistan, 40 percent of people in some villages are turning up with only one kidney. The number of donations from unrelated Pakistani's is sky rocketing. Two-third of the people receive these organs are foreigners.

United States banned organ sales two decades ago. India did the same in 1994 by passing Transplantation of Human Organ bill by both the Houses of Parliament and it received the assent of President on 8th July, 1994, and became the Transplantation of Human Organ Act, 1994. It was amended in 2002. The intention of the legislation was "to provide for the regulation of removal, storage and transplantation of human organs for therapeutic purposes and for prevention of commercial dealings in human organs and for matters connected therewith or incidental thereto". But when lives are at stake, rules get bend. To procure more organs, doctors have discarded the brain-death standards, donor age limits and recipients health requirements, even the doctors are involved in black marketing of the organs and unethical practices by the doctors. [4, 5]

Considering the social realities of life today, it is not easy to get a related donor and in majority of cases, it is the unrelated donor who 'donates' to the recipient. The law in India permits donation of organ(s) by the 'near relative' of the recipient (section 9, subsection 1) like spouses, brother, sister, children and parents. In the, event of unrelated donors, the law (section 9, subsection 3) provides that the donation could be made out of 'love, affection or emotional attachment towards the recipient or for any other special reasons'. [4]



In spite of ban on organ commerce, Indians who lost their livelihood in tsunami of 2004 sold their kidneys. Bulgaria imposes stiff sentence on organ traders, but that didn't deter a local hospital from serving Israeli transplant tourists. [2] However, because of severely limited resources, some indulge in exchanging organs for money. Other stake holders in these transactions are the recipients of commercially obtained kidneys, entrepreneurs who arrange for the organ, the doctors who carry them out and spokespersons for the society as a whole. [4]

If government can't control wages or prices in a global economy, they certainly can't control the purchase of extended life. If someone loses job, he can sell his home. If someone loses his home, he can sell his possessions. If possessions are lost, person can prostitute itself. And if he loses every thing else, he can sell one more thing; his organs.[2]

Discussion

This organ shortage and to tame the market by legalizing sales can be solved.

Kidney purchases can save countries money, and offering poor people cash for organ is no more coercive than offering them money to working mines or joining the army. Government can fix kidney prices and determines who gets them.

The key to reserve the organ market is to turn that equation on its head. What's during the market is scarcity. Americans, Britons, Israelis, Japanese and South Koreans are going abroad for organs mostly because too few of their countrymen have agreed to donate organs when they are in need.

If the dying can't get organs from the dead, they will buy them from the living.

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