Indian Journal of
Hospital Administration

Corresponding address
Red Flower Publication Pvt. Ltd. 48/41-42 DSIDC, Pocket-II, Mayur Vihar Phase-I, Delhi - 110 091(India)
Phone: 91-11-22754205/45796900, Fax: 91-11-22754205
E-mail: info@rfppl.co.in, Web: www.rfppl.co.in

The Indian Journal of Hospital Administration is a print and online journal devoted to publishing research papers in the fields of managing practice and research in all branches of hospital administration and is distributed worldwide. To facilitate rapid publication and minimize administrative costs, IJHA accepts online submission and Email submission. It uses double-blind system for peer-review; both reviewers and authors' identities remain anonymous. Its objective is to promote the reform of the hospital and improve the level of hospital administration. The journal includes areas of papers but not limited to: Healthcare quality and patient safety, Health economics, Health policy, Health services, Clinical ethics, Clinical risk, Health facilities management, Health data management, Healthcare informatics, Nursing management, Clinical department management, Out-patient management, Inpatient management, Health insurance, Hospital accreditation, and Public Health

Subscription (Rates): Annual

India- INR7000, Outside India-USD547

Payment methods

Wire transfer:

Complete Bank Account No. 604320110000467
Beneficiary Name: Red Flower Publication Pvt. Ltd.
Bank & Branch Name: Bank of India; Mayur Vihar
MICR Code: 110013045
Branch Code: 6043
IFSC Code: BKID0006043 (used for RTGS and NEFT transactions)
Swift Code: BKIDINBBDOS

Cheque:
Please send the US dollar check from outside India and INR check from India made:
Payable to 'Red Flower Publication Private Limited'.
Drawn on Delhi branch

PayPal Instructions for the payment (only for transfer from outside India):
Payments can be made through our PayPal account at https://www.paypal.com. Our PayPal recipient email address is redflowerppl@gmail.com.

Bank Address: Do not send cheque or order to this address
13/14, Sri Balaji Shop,Pocket II
Mayur Vihar Phase- I
Delhi – 110 091 (India)

Credit Card:
We accept Visa or MasterCard.

**Please kindly add bank charge at your side if you pay by check or wire transfer.

Please forward all payments, orders and all other order related letters to;

Red Flower Publication Pvt. Ltd.
48/41-42, DSIDC, Pocket-II
Mayur Vihar Phase-I, Delhi - 110 091(India)

Indian Journal of
Hospital Administration

July - December 2018
Volume 2, Number 2

Contents

Subscription Information
Institutional (1 year) INR7000/USD547

Here is payment instruction for your reference.

Check:

Please send the US dollar check from outside India and INR check from India made:
Payable to 'Red Flower Publication Private Limited'.
Drawn on Delhi branch

PayPal Instructions for the payment (only for transfer from outside India):

Payments can be made through our PayPal account at https://www.paypal.com. Our PayPal recipient email address is redflowerppl@gmail.com.

Credit Card:

We accept Visa or MasterCard.

Wire transfer:

Complete Bank Account No. 604320110000467
Beneficiary Name: Red Flower Publication Pvt. Ltd.
Bank & Branch Name: Bank of India; Mayur Vihar
MICR Code: 110013045
Branch Code: 6043
IFSC Code: BKID0006043 (used for RTGS and NEFT transactions)
Swift Code: BKIDINBBDOS

**Please kindly add bank charge at your side if you pay by check or wire transfer.

Payment, orders and all correspondences should be sent to;

Red Flower Publication Pvt. Ltd.
48/41-42, DSIDC, Pocket-II
Mayur Vihar Phase-I
Delhi - 110 091(India)

Original Article

Indian Journal of Hospital Administration
Volume 2 Number 2, July - December 2018

Association of Physical Job Demands with Neck and Shoulder Pain in Nurses

Neha Gupta[1], Mayank Chandel[2]

[1]Asisstant Professor [2]Intern, Amity Institute of Physiotherapy, Amity University Campus, Sector-44, Express Highway, Noida, Uttar Pradesh 201301, India.

Correspondence and Reprint Requests:
Neha Gupta, Asisstant Professor, Amity Institute of Physiotherapy, Amity University Campus, Sector-44, Express Highway, Noida, Uttar Pradesh 201301, India.
E-mail: neha0628@gmail.com

Abstract

Background and Objective: Musculoskeletal Disorders (MSDs) are common in nursing professionals as it is a physically demanding job. Some common risk factors causing work-related musculoskeletal disorders (WMSDs) are activities such as prolonged standing in one place, lifting or transferring heavy patients, and maintaining long periods of body awkward positions. The purpose of this study was to assess the association of physical job demands and neck and shoulder WMSDs in nurses.

Methodology: In this cross-sectional study, 100 nurses from various hospitals were selected based on the inclusion and exclusion criteria of the study. The research procedure was explained to the subjects and written consent was collected. The subjects reported their choices on a self-analytical physical demands' analysis form depicting their work-related activities and frequency level and also mark the intensity of pain on numeric pain rating scale, if present, for neck and each shoulder joint respectively. Goniometric assessment of neck and shoulder joints were done to analyse the effect of pain on Range of Motion. Odds Ratio (95% Confidence Interval) was used for data analysis.

Results: The results showed that there is significant association between high physical demands with neck and shoulder musculoskeletal disorders as compared to low physical demands depicted by higher odds ratio ranging between 1.03–1.93. The physical activity "Maintaining long periods of body awkward position" resulted in higher OR for neck pain (OR- 1.58) and right shoulder pain (OR- 1.93). Highest OR for left shoulder pain (OR- 1.61) was highlighted in the physical activity "lifting/moving heavy loads".

Conclusion: The study concluded that there is association between physical job demands and WMSDs of neck and shoulder joints respectively and there is also requirement to adopt corrective measures to prevent them in nurses for a quality patient care.

Keywords: Musculoskeletal Disorders; WMSDs–Work-Related Musculoskeletal Disorders; OR – Odds Ratio

Introduction

Nurses comprise of about 40-45% of total staff in hospitals [1]. Nursing staff is at higher risk of developing work-related musculoskeletal disorders (WMSDs) such as conditions of muscles, ligaments, joints, etc in isolation or combination in all age groups irrespective of the work experience [1,2,3]. These disorders are degenerative and inflammatory in nature [4,5].

Awkward body posture, excessive bending, lifting of heavy weights, patient transfers, patient paperwork, working in the same positions for long periods, treating an excessive number of patients in one day etc. are all work-related activities that act as risk factors for musculoskeletal disorders [6,4,7]. Neck, shoulder, lower back and knee are major areas of concern in the nursing staff [8,9] out of which lower back pain is more prevalent followed by shoulder and neck pain [2,4,10]. One reason speculated for this increased prevalence of WMSDs is that nurses must work in different shift timings including morning, evening and

night shifts1. Night shift nursing staff has more chances of musculoskeletal disorders than nurses working in morning shifts [1]. Shift duties alter the circadian rhythm and thus nursing staff is not able to indulge in preventive activities other than the work-related activities [4]. The strength to cope with physical job demands reduces with age in nursing staff [8]. Elderly nurses are more prone to musculoskeletal disorders [8]. Quality of life of nursing staff is reduced due to musculoskeletal disorders [4]. However other studies have found workplace violence, anxiety/depression, perceived job physical demands, every 10 years increase of age and overweight, low mental health, physical health, lack of ergonomic knowledge and training and shortage of staff important factors associated with increased prevalence of WMSDs in nurses [5,11,12].

Lack of adequate and skilled medical and paramedical staff in India puts added demands on its human resources which also increases the risk of musculoskeletal disorders in current staff [4]. Majorly, females constitute majority of nursing staff in India, who also have added responsibility of household work and to look after their family which increases the physical demands on them, thus contributing to work-related physical demand and greater risk of musculoskeletal disorders [4]. Furthermore, the musculoskeletal disorders lead to absenteeism of staff from work which affects the quality of healthcare services which indirectly results in economic burden on organization and society [4].

which is affecting their health which also affects the quality of patient care and healthcare sector services.

The study will further assist in understanding the effect nursing job on WMSDs in hospitals

What measures can be taken to improve their condition to strengthen them and our heath care sector.

The aim of the present study is to investigate the association between physical job demands and neck and shoulder pain in nurses.

Materials and Methods

In this cross–sectional study, 100 female nurses from various hospitals in Delhi participated in January 2018. The participants had a minimum work experience of 3 years, were in the age group of 30-60 years. Nurses with any history of congenital skeletal deformity, neurological or cardiac problems, recent injury/surgery and cancer were excluded from the study.

The Research proposal was explained to the nursing staff and they were asked to sign thewritten consent form. The physical demands were assessed by "The Self-analytical Physical Demands Analysis Form"which depicted their work-related activities, the frequency and intensity of pain in neck and/ or one/both shoulders was assessed by Numeric Pain Rating Scale (NPRS), goniometric assessment of cervical joint and shoulder joint range of motion was done to analyse effect of pain on range of motion of respective joints.

Statistical Analysis

Statistical analysis of data collected was done using Microsoft Excel 2007. Mean and standard deviation of age, work-experience, frequency of each physical activity, NPRS scores of Neck Joint and of both the Shoulder joints was calculated.

Odds ratio was calculated to show association between the frequency level of each activity to the NPRS scores of neck, left shoulder and right shoulder joint respectively.

Results

Demographic and occupational characteristics of nursesc 100 subjects participated in the study where the mean age was 42.79±9.11 and work-experience was 18.04±9.48 as depicted in Table 1.

Table 1: Mean±SD of Age and Work-Experience

Descriptive statistics	Mean±SD
Age	42.79±9.11
Work Experience	18.04±9.48

To evaluate the level of work-related physical activities, frequency of 5 job related physical activities of each subject was noted and the mean and standard deviation of respective frequency of physical activity 1 is 3.81±1.02, physical activity 2 is 3.44±0.98, physical activity 3 is 3.26±1.19, physical activity 4 is 3.66±1.03 and physical activity 5 is 3.11±0.86 respectively as shown in Table 2.

Table 2: Mean±SDof Frequency of Physical Activities

Frequency of Physical Activities	Mean±SD
PA1 – Frequency of lifting/moving heavy loads	3.81±1.02
PA2 – Maintain long periods of body awkward positions	3.44±0.98
PA3 – Lift patients/objects from floor	3.26±1.19
PA4 – Work while bent or twisted on waist	3.66±1.03
PA5 – Stand in one place (>30mins)	3.11±0.86

The NPRS was used to depict the intensity of pain during the job related physical activities. The mean NPRS readings for neck pain is 1.138±0.45, for right shoulder pain is 1.1±0.54 and left shoulder pain is 1.154±0.47 respectively as shown in Table 3.

Table 3: Mean±S Dfor NPRS Neck joint, Right and Left Shoulder Joint

Numeric Pain Rating Scale	Mean±SD
Neck	1.138±0.45
Right shoulder Joint	1.1±0.54
Left shoulder Joint	1.154±0.47

Association of physical job demands and neck and shoulder pain

periods of body awkward position'' for both Neck and Shoulder WMSDs. This finding of our study is congruent to the result of the study conducted by Alireza Choobineh et al which also reported that among all the perceived physical demands investigated, awkward posture was most frequently and strongly associated with WMSDs [9].

The finding of our study can also be ascertained with the result of the study performed by Alison M. Trinkoff et al where perceived physical demands involving awkward positions were strongly associated with reported WMSD of Neck and Shoulder [2].

Also, the result of our study is supported by the results of the study conducted by Apexa S. Raithatha and Daxa G. Mishra reported that among all the physical demand perception ''in my job, I am working for long periods with my body in awkward positions'' was significantly associated with any WMSD.

According to the study performed by Alireza Choobineh et al, the perceived physical activity-body awkward posture resulted in greater odds ratio for WMSD associated to shoulder [OR- 2.01] which also ascertains the result of our study which reported greater odds ratio for the same physical

Table 4: Association of physical activities with Neck, Left and Right Shoulder Pain

Physical Activities	Odds Ratio (95% Confidence Interval)		
	Neck Pain	Right Shoulder Pain	Left Shoulder Pain
PA1 – Frequency of lifting/moving heavy loads	1.33 (0.56-3.14)	1.1 (0.46-2.59)	1.61 (0.68-3.82)
PA2 – Maintain long periods of body awkward positions	1.58 (0.66-3.78)	1.93 (0.80-4.66)	1.30 (0.55-3.09)
PA3 – Lift patients/objects from floor	1.04 (0.47-2.31)	1.22 (0.54-2.72)	1.03 (0.46-2.30)
PA4 – Work while bent or twisted on waist	1.21 (0.53-2.78)	1.26 (0.53-2.98)	1.19 (0.52-2.70)
PA5 – Stand in one place (>30mins)	1.27 (0.57-2.85)	1.23 (0.55-2.75)	1.23 (0.54-2.77)

Discussion

This research was conducted to study the association of physical job demands and neck and shoulder pain in nurses in hospitals. A total of 100 nurses participated in the study wherein they filled "The Self-analytical Physical Demands Form" depicting job-related activities and levels of frequency at which that activity is performed. The NPRS was used to analyse the intensity of pain due to perceived physical demand activities.

The results of our study depicted greater odds ratio for physical activity- ''Maintaining long

activity for MSD associated to shoulder [OR- 1.93] [9].

The results of our study reported that the physical activity- ''Moving/Lifting Heavy Loads'' has greater odds ratio for Neck MSD [OR- 1.33]. This result is congruent to the result of the study conducted by Alireza Choobineh et al that also reported greater odds ratio for Neck MSD [OR-2.09] for the same physical activity [9].

Thus, the results of our study signify that high physical job demand is associated with Neck and Shoulder MSD in nurses, evident by greater odds ratio for high physical demand as compared to low

physical demand for all the job-related activities respectively. It also signifies that there is association of physical job demands to Neck and Shoulder pain in nurses. Same has been documented by other studies such as performed by Alison M. Trinkoff, Apexa S. Raithatha and Barbara Heiden [2,4,8].

Conclusion

The study results depicted that there is association between the frequency of physical activity and the chances of suffering from neck and shoulder pain. Higher frequency of physical demands on body in form of different activities put undue stress on body which results in pain. It is not necessary that age or work-experience play an important role in suffering from neck or shoulder pain as was evident by the study that individuals performing same level of activity reported different results for pain.

What this study helps in is to develop prevention programme for nurses at younger level and teach them ergonomic positions to prevent chances of suffering from any musculoskeletal disorder.

References

1. Mirsaeed Attarchi, Saeed Raeisi, Mohamad Namvar, Majid Golabadi. Association between shift working and musculoskeletal symptoms among nursing personnel. Iran J Nurs Midwifery Res. 2014 May-Jun;19(3):309–14.
2. Trinkoff AM, Lipscomb JA, Geiger-Brown J, Storr CL, Brady BA. Perceived Physical Demands and Reported Musculoskeletal Problems in Registered Nurses. Am J Prev Med. 2003 Apr;24(3):270-5.
3. Mamta Israni, Neeta J Vyas, Megha S Sheth. Prevalence Of Musculoskeletal Disorders Among Nurses. Indian Journal Of Physical Therapy. 2013 Jul-Dec;1(2).
4. Apexa S. Raithatha, Daxa G. Mishra. Musculoskeletal Disorders and Perceived Work Demands among Female Nurses at a Tertiary Care Hospital in India. International Journal of Chronic Diseases. Volume 2016, Article ID 5038381, 6 pages.
5. Tsekoura Maria, Koufogianni Andrianna, Billis Evdokia, Tsepis Elias. Work–Related Musculoskeletal Disorders Among Female And Male Nursing Personnel In Greece. World Journal of Research and Review (WJRR). 2017 Jan;3(1):8-15.
6. Shoko Ando, Yuichiro Ono, Midori Shimaoka, Shuichi Hiruta, Yoji Hattori, Fumiko Hori, Yasuhiro Takeuchi. Associations of self estimated workloads with musculoskeletal symptoms among hospital nurses. Occup Environ Med 2000;57(3):211–16.
7. Bolanle MS Tinubu, Chidozie E Mbada, Adewale L Oyeyemi, Ayodele A Fabunmi. Work-Related Musculoskeletal Disorders among Nurses in Ibadan, South-west Nigeria: a cross sectional survey. BMC Musculoskeletal Disorders. 2010;11:12.
8. Barbara Heiden, Matthias Weigl, Peter Angrer, Andreas Muller. Association of age and physical job demands with musculoskeletal disorders in nurses. Elsevier Ltd and The Ergonomics Society 2013.
9. Alireza Choobineh, Abdolreza Rajaeefard, Masoud Neghab. Association Between Perceived Demands and Musculoskeletal Disorders Among Hospital Nurses of Shiraz University of Medical Sciences: A Questionnaire Survey. International Journal of Occupational Safety and Ergonomics (JOSE). 2006;12(4):409-16.
10. Smith DR, Kondo N, Tanaka E, Tanaka H, Hirasawa K, Yamagata Z. Musculoskeletal disorders among hospital nurses in rural Japan. Rural Remote Health. 2003 Oct-Dec;3(3):241
11. Thinkhamrop W, Laohasiriwong W. Factors Associated with Musculoskeletal Disorders among Registered Nurses: Evidence from the Thai Nurse Cohort Study. Kathmandu Univ Med J (KUMJ). 2015 Jul-Sep;13(51):238-43.
12. Lucy E. Joslin, Christopher R. Davis, Patricia Dolan, Emma M. Clark. Quality of Life and Neck Pain in Nurses. International Journal of Occupational Medicine and Environmental Health. 2014 April;27(2):236-42.

Review Article

Indian Journal of Hospital Administration
Volume 2 Number 2, July - December 2018

Consumer Protection Bill 2018: Implication on Medical Profession: An Overview and Critical Appraisal

Mohit Gupta[1], Abhishek Yadav[2], Abilash S.[3], Lohith Kumar R.[4]

Abstract

Consumer protection Bill 2018 had been introduced in January 2018 in Parliament of India and it has been passed by Lok Sabha in December 2018. This bill seeks to amend Consumer Protection Act 1986. Medical services have been included in the ambit of CPA 1986 by means of judgement of Hon'ble Supreme Court. Any change in this act will also affect the Medical service providers. This act makes the healthcare services providers including hospitals, manufacturers, and doctors more accountable to consumers i.e. the patients. It broadens the scope of the act, includes the latest requirements based on changing times also allows stricter punishment to the defaulters. This article compares the Consumer Protection Act of 1986 with the present amended bill and highlights the implications of these changes on Medical Profession.

Keywords: Consumer Protection Bill 2018; Consumer Protection Act 1986; Medical Practice, Doctor-patient relationship.

[1]Associate Professor, Department of Forensic Medicine and Toxicology, VMMC & Safdarjung Hospital, New Delhi 110029, India. [2]Assistant Professor [3]Senior Resident, Department of Forensic Medicine and Toxicology, All India Institute of Medical sciences (AIIMS), New Delhi 110029, India. [4]Assistant Professor, Department of Forensic Medicine & Toxicology, Shimoga Institute of Medical Sciences, Shivamogga, Karnataka 577201, India.

Correspondence and Reprint Requests:
Abhishek Yadav, Assistant Professor, Department of Forensic Medicine and Toxicology, All India Institute of Medical sciences (AIIMS), New Delhi 110029, India
E-mail: drayad_in@yahoo.com

Introduction

Consumer protection Act 1986 [1] was enacted to provide for better protection of interests of consumers and for that purpose to make provision for the establishment of consumer councils and other authorities for the settlement of consumer's disputes and for matters connected therewith. With the introduction of this Act and Supreme Court's judgement regarding inclusion of Medical Professionals and their services under the purview of this Act, there was a drastic shift in the Doctor-patient relationship to a dealer-consumer relationship [2]. This Act and judgement set ripples in the Medical practice and a new phase of Defensive medicine started emerging. After the introduction of these changes, patients who were now also consumers had an easy option of redressing their grievances but they also started facing the heat of Defensive medicine which required a great number of investigations as proof before any treatment was initiated [3]. Increasing awareness among the patient community led to flooding of complaints to the consumer forums. It was subsequently realized that though the disposal rate was high (90%), the total duration of case being fought in consumer courts was also high (about 12 months) [4]. Also with change in time there has been a change in the segment of consumers. Doctors need to develop standard protocols for management of cases which will be a great defence for doctors in such litigations. The introduction of e-commerce, online consultancies, increasing role of advertisement through media including internet, greater amount of products being manufactured and sold etcetera have already altered the face of service industry, necessitating the changes in Law.

Key Features of Cpa Bill 2018 in Relation to Medical Practice [5]

Consumer Complaints

- The Bill sets up Consumer Disputes Redressal Commissions (consumer courts) to hear complaints

on matters like: (i) defect in goods or deficiency in services; (ii) unfair or restrictive trade practices; (iii) excessive pricing; (iv) knowingly selling goods or providing services that do not meet safety norms; and (v) product liability. Such complaints can be filed electronically and from where the complainant resides or works.

Product Liability

- The Bill allows a person to make a claim of product liability against a manufacturer, seller, or service provider for any defect in a product or deficiency in a service. A claim for compensation may be made for any harm caused, including: (i) property damage; (ii) personal injury, illness, or death; and (iii) mental agony or emotional harm accompanying these conditions.

Unfair contracts

- A contract is said to be unfair if it causes significant change in the rights of the consumer, which include the following:

(i) requiring excessive security deposits;

(ii) imposing a disproportionate penalty for a breach in contract;

(iii) refusing to accept early repayment of debts;

(iv) terminating the contract without reasonable cause;

(v) transferring a contract to a third party to the detriment of the consumer without his consent; or

(vi) Imposing unreasonable charge or obligations which put the consumer at a disadvantage.

- The State and National Commissions may determine if the terms of a contract are unfair and declare such terms to be null and void.

Unfair and restrictive trade practices

- An unfair trade practice includes:

(i) making a false statement regarding the quality or standard of a good or service;

(ii) selling of goods not complying with standards;

(iii) manufacture of spurious goods;

(iv) non-issuance of a receipt for a good or service sold;

(v) refusing to withdraw or refund goods or services within 30 days; or

(vi) Disclosing personal information provided by a consumer to any other person.

- A restrictive trade practice is one that imposes unjustified costs or restrictions on consumers, including:

(i) delays in supply that lead to increase in price; and

(ii) Requiring purchase of certain goods or services as a condition for procuring any other goods or services.

- The CCPA may take steps to prevent and discontinue unfair and restrictive trade practices. The District, State or National Commissions may order the discontinuation of unfair and restrictive trade practices.

Penalties

- If a person does not comply with the orders of the District, State or National Commissions, he may face imprisonment up to three years, or a fine not less than Rs 25,000 extendable to Rs one lakh, or both.

- If a person does not comply with an order issued by the Central Consumer Protection Authority (CCPA), he may face imprisonment of up to six months, or a fine of up to Rs 20 lakh, or both.

- For false and misleading advertisements, a penalty of up to Rs 10 lakh may be imposed on a manufacturer or an endorser. For a subsequent offence, the fine may extend to Rs 50 lakh. The manufacturer can also be punished with imprisonment of up to two years, which may extend to five years in case of every subsequent offence.

- The CCPA can also prohibit the endorser of a misleading advertisement from endorsing any particular product or service for a period of up to one year. For every subsequent offence, the period of prohibition may extend to three years. There are certain exceptions when an endorser will not be held liable for such a penalty.

- The CCPA may also impose penalties for manufacturing, selling, storing, distributing or importing adulterated products. The penalties are as follows:

(i) if injury is not caused to a consumer, the penalty would be a fine of up to Rs one lakh along with imprisonment of up to six months;

(ii) if injury is caused, penalty would be a fine up to Rs three lakh along with imprisonment of up to one year;

(iii) if grievous hurt is caused, penalty would be a fine up to Rs five lakh along with imprisonment up to seven years; and

(iv) in case of death, penalty would be Rs ten lakh or more along with a minimum imprisonment of seven years, extendable to imprisonment for life.

- The CCPA may also impose penalties for manufacturing, selling, storing, distributing or importing spurious goods. The penalties are as follow:

(i) if injury is caused, penalty would be a fine up to Rs three lakh along with imprisonment of up to one year;

(ii) if grievous hurt is caused, penalty would be a fine up to Rs five lakh along with imprisonment up to seven years; and

(iii) in case of death, penalty would be Rs ten lakh or more along with a minimum imprisonment of seven years, extendable to imprisonment for life.

Comparison Between CPA 1986 & CPA 2018

A comparison between the selection committees under CPA 1986 & CPA Bill 2018 is given in Table 1 [5].

Table 1: Selection Committees under the 1986 Act and 2018 Bill [5]

	1986 Act	2018 Bill
National Commission	• Comprises Supreme Court Judge and two central government officials. • Head of Commission to be appointed in consultation with Chief Justice of India.	• No provision for selection committee. • Central government will appoint through notification.
State Commission	• Comprises High Court Judge and two state government officials. • Head of Commission to be appointed in consultation with Chief Justice of High Court.	• No provision for selection committee. • Central government will appoint through notification.
District Commission	• Comprises District Court Judge and two state government officials.	• No provision for selection committee. • Central government will appoint through notification

Table 2 compares the provisions of the 1986 Act with the 2018 Bill.

Table 2: Comparison of the Consumer Protection Act, 1986 with the Consumer Protection Bill, 2018 [5]

Provision	1986 Act	2018 Bill
Ambit of law	• All goods and services for consideration. • Free and personal services are excluded.	• All goods and services, including telecom and housing construction, and all modes of transactions (online, teleshopping, etc.) for consideration. • Free and personal services are excluded.
Unfair trade practices*	• Includes six types of such practices (As discussed above)	• Adds three types of practices to the list, namely: (i) Failure to issue a bill or receipt; (ii) Refusal to accept a good returned within 30 days (iii) Disclosure of personal information given in confidence, unless required by law or in public interest. • Contests/ lotteries may be notified as not falling under the ambit of unfair trade practices.

Product liability	• No provision.	• Claim for product liability can be made against manufacturer, service providerand seller. • Compensation can be obtained
Unfair contracts	• No provision.	• Defined as contracts that cause significant change in consumer rights. • Lists six contract terms which may be held as unfair.
Central Protection Councils (CPCs)	• CPCs promote and protect the rights of consumers. • CPCs established at the district, state, and national level.	• Makes CPCs advisory bodies for promotion and protection of consumer rights. • Establishes CPCs at the district, state and national level.
Regulator	• No provision.	• Establishes the Central Consumer Protection Authority (CCPA) to promote, protect, and enforce the rights of consumers as a class. • CCPA may: (i) issue safety notices; (ii) pass orders to recall goods, prevent unfair practices, and reimburse purchase price paid; (iii) impose penalties for false and misleading advertisements.
Pecuniary jurisdiction of Commissions	• District: Up to Rs 20 lakh. • State: Between Rs 20 lakh and up to Rs one crore. • National: Above Rs one crore.	• District: Up to Rs one crore. • State: Between Rs one crore and up to Rs 10 crore. • National: Above Rs 10 crore.
Composition of Commissions	• District: Headed by current or former District Judge and two members. • State: Headed by a current or former High Court Judge and at least two members. • National: Headed by a current or former Supreme Court Judge and at least four members.	• District: Headed by a President and at least two members • State: Headed by a President and at least four members. • National: Headed by a President and at least four members.
Appointment	• Selection Committee (comprising a judicial member and other officials) will recommend members on the Commissions.	• No provision for Selection Committee. Central government will appoint through notification.
Alternate dispute redressal mechanism	• No provision.	• Mediation cells will be attached to the District, State, and National Commissions.
Penalties	• If a person does not comply with orders of the Commissions, he may face imprisonment between one month and three years or fine between Rs 2,000 to Rs 10,000, or both.	• If a person does not comply with orders of the Commissions, he may face imprisonment up to three years, or a fine not less than Rs 25,000 extendable to Rs one lakh, or both.
E-commerce	• No provision.	• Defines direct selling, e-commerce and electronic service provider. • The central government may prescribe rules for preventing unfair trade practices in e-commerce and direct selling.

Sources: Consumer Protection Act, 1986; Consumer Protection Bill, 2018; PRS.

Critical Analysis [5]

- The Bill sets up the Consumer Disputes Redressal Commissions as quasi-judicial bodies to adjudicate disputes. The Bill empowers the central government to appoint members to these Commissions. The Bill does not specify that the Commissions will comprise a judicial member. If the Commissions were to have members only from the executive, the principle

of separation of powers may be violated. An eminent person in the field of law/ a renowned person from judiciary as a president/member of the committe will definitely protect the aggrieved consumers to benefit from the bill.

- The Bill empowers the central government to appoint, remove and prescribe conditions of service for members of the District, State and National Consumer Disputes Redressal Commissions. The Bill leaves the composition of the Commissions to the central government.
- Consumer Protection Councils will be set up at the district, state, and national level, as advisory bodies. The State and National Councils are headed by Ministers in-charge of Consumer Affairs. The Bill does not specify whom the Councils will advise. If the Councils advise the government, it is unclear in what capacity such advice will be given.

Consumer Protection Amendment Bill And Medical Services

As previously mentioned medical services came in the ambit of Consumer Protection Act as a result of Judgment of Hon'ble Supreme Court. The proposed amendment further strengthens the consumers and makes the medical service providers more accountable. The following are a few examples of scenarios where medical service providers can be held liable after amendment of Consumer Protection Act:

- Consumer can claim for product/ service liability from either manufacturer, service provider, and seller which can imply as the Manufacturer, Doctor or the hospital providing the service.
- The powers in the hands of central government could affect the independence of quasi-judicial bodies as well as powers of the state government as some of the issues pertaining to the consumer are in the purview of state/ district.
- Medical procedures are considered as contracts and therefore may be presumed as Unfair contracts if there is any significant change in the consumer rights.
- Misleading advertisements showing complete or magical cure for a disease can be punishable under the new Bill.
- Not fulfilling the promises made before or during treatment of the patient may amount to mental trauma to the patient or relatives.
- Charging excessively for treatment as compared to peers without any justification and without information to the patient.
- Failure to issue a bill or receipt for any Medical service provided and disclosure of any personal information given in confidence, unless required by law or in public interest. Both these conditions would imply as unfair trade practises under the new Bill and make the Medical service provider punishable under the Bill for the same.
- Disclosure of personal information of a consumer needs further elaboration especially in health care settings as it involves multidisciplinary approach.
- Referring a patient to another consultant without patient's permission.
- Not attending the patient when the patient so desires and not providing an alternate physician when there was a duty to take care of the patient.
- Forcing the patients to take medicine from a particular pharmacy or to get tested from a particular laboratory and then frightening them with certain poor outcomes in case these tests and medicines are taken from some other place.
- Paternal approach of doctors in not following patient's wishes for treatment.
- Online medical consultancies fall under the preview of the Bill.

Conclusion

The Consumer Protection Amendment Bill aims at strengthening the teeth of law and provides greater power to consumer by making the service provider more accountable.

Medical services will not be untouched by this change. Medical services providers have to lay down their rules and follow the letter of law earnestly to safeguard themselves from being found guilty under this law. Better Doctor patient relationship, more documentation and transparency and understanding limitations of

treatment by doctors and patients is required in future to avoid litigations against medical service providers.

Acknowledgement

The authors would like to acknowledge the research of authors of PRS Legislative research.

References

1. The Consumer Protection Act, 1986, http://www.ncdrc.nic.in/1_1.html.
2. Prakash C, Chaudhary SR, Bala R, Shrivastav B, Rai A. Consumer Protection Act (CPA/COPRA) related to medical profession. From Editor's Desk. 2007;29(3):39.
3. Pilgaokar A. Doctors and the Consumer Protection Act.1996.
4. Total Number of Consumer Complaints Filed/ Disposed since inception Under Consumer Protection Law. National Consumer Dispute Redressal Commission, as on March 12, 2018.
5. The Consumer Protection Bill 2018. http://www.prsindia.org/billtrack/consumer-protection-bill-2018. Last accessed on 16/1/2019.

Review Article

Indian Journal of Hospital Administration
Volume 2 Number 2, July - December 2018

Establishment of A Postmortem Centre Mortuary-I: Basic Infrastructure

Abhishek Yadav[1], Abilash S.[2], Antara Debbarma[3], Sudhir K. Gupta[4]

[1]Assistant Professor [2]Senior Resident [3]Senior Resident [4]Professor and Head, Department of Forensic Medicine and Toxicology, All India Institute of Medical sciences (AIIMS), New Delhi 110029, India

Correspondence and Reprint Requests:
Abhishek Yadav, Assistant Professor, Department of Forensic Medicine and Toxicology, All India Institute of Medical sciences (AIIMS), New Delhi 110029 India

E-mail: drayad_in@yahoo.com

Abstract

The postmortems (PM) are generally conducted in the Mortuary of a hospital and hold a very key position in this chain and most of the times the cradle for evidence collection, which is the life line of entire investigation process but in most of the Hospitals it is very poorly equipped due to chronic neglect by authorities. Even the Honorable court has also expressed anguish over the state of Mortuaries. Keeping in view the above fact, a series of articles has been planned which will cover different aspects of functioning of Mortuaries including basic infrastructure, standardization, staffing pattern, protocols, welfare measures and futuristic vision. The present article aims to act as an introductory guide to basic layout, infrastructure and equipment in Mortuaries. Effective work output will not be achieved till the doctors and staff will have basic facilities. The policy makers should feel the need of the hour to upgrade all existing mortuaries and build new mortuaries in required places to match with the advancement of Medical and Criminology fields.

Keywords: Mortuary Management, Postmortem, Autopsy, Forensic Medicine.

Introduction

Forensic Medicine is one of the most important specialties of Medical Science acting as a bridge between the Medical and Legal System. The postmortems (PM) are generally conducted in the Mortuary of a hospital and hold a very key position in this chain and most of the times the cradle for evidence collection, which is the life line of entire investigation process. Even though Mortuary holds a very vital position but in most of the Hospitals it is very poorly equipped. The reason is the chronic neglect of mortuaries, which comes under least priority of Hospitals/ Health department of any state, when it comes to the holistic development. Even the Honorable courts has also expressed anguish over the state of Mortuaries [1] and Delhi High court even appointed an amicus curiae to oversee the condition of Mortuaries in Delhi [2]. Keeping in view the above fact, a series of articles has been planned which will cover different aspects of functioning of Mortuaries including basic infrastructure, standardization, staffing pattern, protocols, welfare measures and futuristic vision. The article aims to act as an introductory guide to basic layout, infrastructure and equipment in Mortuaries.

Layout and Infrastructure [2-5]

1. Location:

The location of a mortuary with PM facility is very important and the following factors should be considered:

- Adequate vehicular access from the service road.
- Connected to the hospital site with passages for smooth transfer of the bodies.
- Convenience of access by the various users (staff, visitors and Police personnel)
- To ensure that the exhaust from ventilation

systems servicing the mortuary can be discharged safely.

2. Layout

- The front and reception of Mortuary should have an aesthetic design to give a soothing appearance for already grieved relatives.
- The immediate entrance for the bodies should be preferably screened from public interaction place and accessible via a separate area.
- The mortuary should have a Modular scientific infrastructure so as to ensure minimum health risks to the doctors and staff with an odourless environment.
- The mortuary should be designed so as to ensure the effective delivery of Medicolegal services along with comfort of the relatives and organ retrieval facility.
- The Mortuary should be designed for the purpose of infection control in a manner, and work-flow should be planned so as to minimize the movement of people and materials from dirty activity areas to clean areas.
- 'Dirty' activity areas include Body Storage, autopsy hall, dirty utility room/instrument store, Forensic Histopathology and Forensic Radiology.
- 'Clean' activity areas include the reception area, waiting rooms, doctor interaction room, Organ donation counseling room, offices, staff changing areas, stores etc.
- 'Transit' activity areas include the body handling area, pathways connecting to Dirty and clean areas.

3. Entrance of the Mortuary

- Three entrances are preferably required: one for staff, one for receiving & handing over of bodies and one for relatives.
- Body movement area should not be taken within sight of the relatives/outside public.
- The body entrance area should be screened from public view.
- The layout should also prevent overlooking of the body handling area from outside.
- The external entrance should be overlooked by the technician's/Morgue attendant office.
- All external entrances should normally be kept locked.
- The entrance for relatives should lead into the waiting area only.
- A public address system should be provided in the visitor/waiting area.

4. Waiting Areas

- This should comprise at least a separate entrance, waiting room, working areas for police, doctor interaction room, organ donation counseling room and access to sanitary facilities.
- A calm and soothing environment should be present
- Ventilation should be such that comfortable conditions are maintained in these areas and should prevent the entry of odours from other parts of the mortuary.
- The waiting room should contain comfortable chairs.
- It should also be readily accessible to mortuary staff.
- The interaction room should be used by the Doctor or mortuary staff to explain findings from PMs or to comfort relatives of the deceased, retrieval of the deceased's belongings, organizing tissue donations etc.

5. Cold Storage

- The body cold storage may consists of cold chambers for multiple bodies, cold cabinets for single or multiple bodies depending upon the work load, available space and preference. Then cold chambers are more useful in providing more body storage capacity in less space whereas the cold cabinets are more effective in separate storage of bodies. There should be two doors so as to preserve the body from one end and access to PM room on other side for reasons of hygiene and efficiency.
- All doors should be fitted with locks.
- All cold storage compartment bays should be capable of being drained.
- The refrigeration plant must be fully accessible for maintenance.

6. Body Handling Area

- The body handling area should be adjacent to the PM room.
- Space is required in the body handling area for parking and maneuvering trolleys.
- Body weighing facilities are required. Body weighing may be carried out either on a separate weighing machine or on a trolley which incorporates a weighing mechanism. The former will create greater space requirements.
- The trolley area is for the parking of trolleys and the hoist when not in use.
- The floor of the body handling area must be hard-wearing, non-slip and impervious to water and disinfectant.
- The walls should be capable of withstanding regular washing and disinfection.
- Ceilings/false ceiling should be capable of withstanding frequent washing down.
- Mechanical ventilation should be provided to the body handling area so that air flows from this area into the PM room.

7. Postmortem Dissection/Autopsy Hall (Image-1) [6]

- Postmortem examination of the bodies is conducted in this area.
- A minimum of two PM tables are required so that a minimum of two autopsies can be conducted at a time. The number of tables may be increased depending upon the workload of the centre.
- Post-mortem tables must be easily cleanable with efficient drainage.
- Down-draught ventilated PM tables offer microbiological improvements over conventional PM tables.
- Autopsy dissection sinks with detachable Autopsy carts are also preferred because of the effective cleaning of the hall after autopsies.
- Each table should have a hot and cold water supply and a waste outlet fitted with a trap and drainpipe. A filter trap is necessary at the outlet to prevent human tissues going into the drainage as per the Biomedical waste management rules.
- Walls and floors must be finished with hard and durable surfaces, which are easy to clean, impervious to liquids and resistant to disinfectants.
- Floors must be very hard-wearing, non-slip, raised at the junction with the walls.
- Plastic laminate on wood, and wooden fittings, are not suitable as fixed work surfaces and Porcelain and stainless steel should be used.
- All taps should be elbow-operated or hands-free.
- The PM room should have adequate light by the use of natural light/LED and OT LED lights over the PM tables.
- Special attention must be given to the need for adequate ventilation in the PM Room to minimize the spread of offensive odours, the possibility of infection of staff and visitors by contaminated airborne droplets so as to maintain a comfortable working environment.
- The control of air movement in the PM room should be controlled so as the dirty air do not get supplied to the clean areas..
- The entrance of dissection hall should have an air curtain to prevent the outflow of infecting aerosols. No naturally ventilated space should communicate with the PM room without an intervening lobby or corridor.
- The examinations of malodorous, decomposing bodies, or bodies of patients of known or suspected infection risk should be undertaken in separate enclosure.

Image 1: Postmortem Dissection/Autopsy Hall

8. Changing Area

- Entry to the Autopsy hall will be via the changing area.
- Staff entering the Autopsy hall will need to

change into protective clothing.

- Suitable shelving, racks and hooks should be provided for the storage of protective clothing and boots.
- Staff should discard used protective clothing within the changing area while leaving the Autopsy hall.
- Separate bins for the disposal of single-use items and collection of reusable items pending cleaning should be provided.
- Hand hygiene facilities with hands-free tap control should be provided for the washing of hands following the removal of protective clothing.

9. Observation Area

- The Mortuaries in Medical colleges require an observation area, which is physically separate from the PM room, for students and other trainees to observe a PM examination.
- The only entrance should therefore be from outside the PM room.
- A separating screen, either full height or partially open to the PM room, should be designed for the demonstration of findings of the dissection bench.
- The availability of an observation area will obviate the need for clinical staff and others observing a PM demonstration to change into protective clothing.
- Audio-visual aids should be for demonstration/ teaching purposes, for recording in the PM room.

10. Mortuary Office

Mortuary office deals with day to day activities of Mortuary. The office deals with all the day to day proceedings of the Mortuary, store management and equipment maintenance. The Postmortem details are noted in the Mortuary register vide a postmortem number. The embalming register and record is also maintained in the Mortuary office.

11. Medico-legal Record Room

This room serves as the hold for all the medico-legal cases dealt in the Mortuary by Doctors of the Department. Medical Record Technician and attendants should be deputed to maintain MLC records. The subsequent opinion cases are submitted and received by the police from this room. The postmortem reports are handed over to the Police officers by this section.

12. Mortuary In-Charge Room

The room is used for the administrative work by the Mortuary Incharge.

13. Doctor's Room

The room to be used by the doctors of the department and should have computers with internet facility for report typing.

14. Clinical Forensic Examination Room

The cases relating to Clinical Forensic Medicine like examination of accused in sexual assaults, Injury examination, sample Preservation for DNA cases are conducted in this particular area.

15. Histopathology Lab

The histopathology lab deals with the processing of the Medicolegal samples of the Jurisdictional area.

16. Forensic Photographic Section

The department should have has a dedicated photography section which deals with the still photography of postmortem and other medicolegal cases. The record of the photographs has to be maintained in this section. The photographs should be taken for academic, teaching, research, audit and record purposes of the Forensic Medicine Department.

17. Radiological Imaging Facility

The Forensic Radiology unit is required for radiological imaging of dead bodies and other medicolegal cases. The facility preferably should have a fixed Digital Flat Panel Radiography Unit with lateral detector which can be used for foreign body detection in autopsy, age determination/ skeletal examination and other Medicolegal work.

If there are budget constraints a portable digital X-ray unit is still essential for radiological imaging.

18. Store Rooms

A store room for the equipment and material storage is required in the Mortuary. Another storage space should be present with access from inside of the autopsy hall where the day to day items are provided by the central hospital store.

19. Morgue Attendant Room

This room should have access to the body handling. It should be situated near the body handling area so that bodies may be registered and labeled before being deposited in the body storage.

20. Staff Rooms

A staff room with facility for relaxing like beds/ sofa, Refrigerators, Microwave, TV etc should be provided within a designated area. Food consumption must be strictly confined within these areas.

21. Sanitation Room

A Sanitation room should be provided to service the whole accommodation. There should be lockable cupboard space for secure storage of stock and shelves for holding in-use materials. There should be adequate space for maneuvering machines, for emptying and filling buckets and bowls, and the routine servicing and cleaning of equipment.

Equipment and Instruments

The following is the minimum requirement of equipment in a Mortuary:

1. Mortuary management Software should be developed to interlink all the movement of the dead body from the preservation to the submission of postmortem report.
2. Postmortem Report writing software.
3. Cold Cabinets (Preferably)/Cold Chambers having Four times the capacity of average Daily intake.
4. Hydraulic Autopsy Carts compatible to Cold Chambers and Autopsy Tables.
5. Automatic Mechanism of Shifting of the body from the cold chambers to the tables.
6. Stainless steel Autopsy Tables/Autopsy Sinks with Negative Pressure Ventilations so as to create and odourless environment.
7. Grossing Station.
8. Electric Autopsy Saw with Vacuum cleaner.
9. Electric Autopsy saw without vacuum.
10. Instrument Trolleys.
11. Laboratory Refrigerators.
12. Refrigerators.
13. Suction machine.
14. Dissection Instruments Boxes.
15. Body weighing machine, preferable floor mounted/ Installed on Autopsy tables.
16. Digital Weighing machine for organs
17. Steam Sanitization system.
18. UV Lights.
19. Foggers/ Fumigators for disinfection.
20. Air purifiers.
21. Shoe covering machine.
22. Shoe cover remover.
23. Fluid Transfer Pretaltic Pump for embalming.
24. Induction chulla.
25. Photographic Equipments
26. Computers with printers.
27. Scanners.
28. Coloured Printers.
29. Laser Printers.
30. LED TVs
31. Multifunctional Photocopier.
32. UV Lamp.
33. Metal detector.
34. Folding Metal scale.
35. Instrument trays.
36. Dissection boards.
37. Folding metal scale to measure up to 7 ft.

38. Vernier Calipers
39. Public announcement system.
40. Routine Hospital Supplies.

The above list consists of mandatory equipments only for autopsy dissection Procedures. The Equipments and Instruments for forensic Histopathology, Forensic Radiology and DNA Laboratory are required separately.

Dissection sets consisting of cutting instruments-stainless steel:

a) Organ knife 10″ blade , solid forged -1
b) Organ knife 6″ blade , solid forged -1
c) Catlin solid forged -1
d) Cartilage knife 5 -1/2″ blade solid forged- 2
e) Rib cutter
f) Brain knife 10″ blade ,solid forged -1
g) Resection knife 3″ blade , solid forged -2
h) Scalpels, BP Handle with blades- 10 sets with disposable blades
i) Bistoury, probe pointed solid forged -1
j) Scissors (Stainless steel)

   Scissors; blunt /sharp 8″ – 1

   Scissors; blunt /sharp 6″ -1

   Scissors; dissection 5″ with one probe point for coronary artery -1

   Scissors; bowel, Bernard 1

k) Forceps (stainless steel)
   a) Bone cutting forceps 10″ straight -1
   b) Bone cutting forceps 10″ angled -1
   c) Rib-shear 9-1/2″-1
   d) Dissecting forceps 6″- 1
   e) Dissecting forceps 8″- 1
   f) Dissecting forceps 10″- 1
   g) Toothed and blunt forceps – 6

Equipment should be made available as per the number of post-mortem tables functioning. Two instruments sets per table should be assigned and two set should be kept as reserve.

Conclusion

Since hospital crater to healthcare needs of people and have an associated Mortuary setup, they should have minimum standardized infrastructure so as to display utmost respect for human being even after death. Effective work output will not be achieved till the doctors and staff will have basic facilities. The policy makers should feel the need of the hour to upgrade all existing mortuaries and build new mortuaries in required places to match with the advancement of Medical and Criminology fields.

Conflict of Interests: Nil

Funding: Not required

References

1. Hafeez S. Handling of Dead in Delhi Mortuary, the ugly truth. The Indian express. 2015 Sep 21. [Internet]. [Cited 2019 Jan 3]. Available from: https://indianexpress.com/article/cities/delhi/handling-of-the-dead-the-ugly-truth/
2. Iqbal M. Amicus curiae to see condition of Mortuaries. The Hindu. 2014 Aug 18. [Internet]. [Cited 2019 Jan 3]. Available from: https://www.thehindu.com/todays-paper/tp-national/tp-newdelhi/amicus-curiae-to-oversee-condition-of-mortuaries/article6327265.ece
3. Gupta SK, Yadav A. Mortuary Manual. Department of Forensic Medicine, AIIMS, New Delhi; 2018.
4. Management of Mortuaries. Ministry of Health and Family welfare. Government of India. 2014 March 27.
5. Facilities for Mortuary and Post-Mortem Room Services; Design and briefing guidance. Scottish Health Planning Note 20. National Health Service Scotland. Property & environment forum. January 2002.
6. Modular Postmortem Dissection/Autopsy Hall Picture. [image on the Internet]. MTX Contracts; UK [Cited 2018 Jan 03]. Available from: https://www.mtxcontracts.co.uk/health/mortuary-buildings/

Case Report

Indian Journal of Hospital Administration
Volume 2 Number 2, July - December 2018

Medical Termination of Pregnancy: Ethical, Legal and Social Consideration

Abhishek Yadav[1], Sudhir K. Gupta[2], Mohit Gupta[3], Abhilash S.[4]

[1]Assistant Professor [2]Professor and Head [4]Senior Resident Department of Forensic Medicine and Toxicology, All India Institute of Medical sciences (AIIMS), New Delhi-110029 India. [3]Associate Professor, Department of Forensic Medicine and Toxicology, VMMC & Safdarjung Hospital, New Delhi-110029 India.

Correspondence and Reprint Requests:
Abhishek Yadav, Assistant Professor, Department of Forensic Medicine and Toxicology, All India Institute of Medical sciences (AIIMS), New Delhi-110029 India
E-mail: drayad_in@yahoo.com

Abstract

Medical termination of pregnancy (MTP) act was first enacted in 197 [1] for making the legal rules for the termination of certain pregnancies by Medical Practitioners1 and further amended 2003 [2]. Many times the Medical Professionals are faced with the requests of terminating the pregnancy outside the ambit of provisions of MTP act which may be referred to Honorable Courts. The author illustrates two such cases in which Honorable courts were approached as the termination of the pregnancy was not legally allowed. The authors intend to highlight the aspects which should be considered while taking a decision in such matters. A multidisciplinary Medical Board consisting of Radiologist, Obstetrician and Pediatrician should be constituted. The Board so should also include a Psychiatrist and a Forensic Medicine expert. The Medical Board should not only consider the parameters envisaged in the Medical Termination of Pregnancy Act while undertaking the evaluation but should also weigh the benefits of the mother vs the unborn child.

Keywords: Termination of pregnancy, Criminal Abortion, MTP Act, Trimester, Medical Board.

Introduction

Medical termination of pregnancy (MTP) act was first enacted in 1971 for making the legal rules for the termination of certain pregnancies by Medical Practitioners [1] and further amended 2003 [2]. Many times the Medical Professionals are faced with the request of terminating the pregnancy outside the ambit of provisions of MTP act from individuals like relatives or even pregnant females some of whom may be minor. This causes a situation of dilemma as heeding to the request will be a criminal offence whereas continuation of the pregnancy may be hazardous to the female psychologically, socially or physically. Such matters are then referred to Honorable Courts. The author illustrates two such cases in which Honorable courts were approached as the termination of the pregnancy was not legally allowed. The authors intend to highlight the aspects which should be considered while taking a decision in such matters.

Case 1: [3,4]

A minor who was an alleged rape victim filed a petition through her father for urgent directionsfrom Honorable Delhi High Court to allow the petitioner to medically terminate her pregnancy. She was allegedly rescued but initially refused to go to her parents and was sent to welfare centre under Child Welfare Committee (CWC). Later she returned to her parents, and expressed her desired to undergo medicaltermination of her pregnancy. Advice was sought from All India Institute of Medical Sciences, New Delhi and a multidisciplinary Medical Board was constituted for the same to ascertain and record theconsent of the petitioner to both undergoing the evaluation as well as thepossible termination of pregnancy.

The case was examined by the board members and it was opined that "*the duration of pregnancy is 26 week + 5 days, which is corroborated by the clinical and the Ultrasound (USG) examination. At this*

advanced gestation, the foetus has reached a period of viability and if born at this gestation has a reasonable chance of survival. Additionally with birth at this gestation the baby is likely to require intensive care including mechanical ventilation for a long time which may predispose to a variety of complications including adverse neurological outcome in later life. Termination of pregnancy at this age is relatively unsafe for the mother also.The petitioner and her parents have verbally consented for termination ofpregnancy, but separate informed consent shall be required for subsequent medical and surgical procedure at a later stage during treatment. Psychiatric examination and Current Mental State Examination did not reveal any abnormality."

In view of the above report, the Honorable Court did not accede to the prayer of allowing medical termination of pregnancy.

Case 2: [5]

The petitioner sought a direction from Honorable Delhi High Court for quashing of Section 3(2) (b) of the Medical Termination of Pregnancy Act, 1971 which stipulates that beyond 20 weeks of pregnancy, abortion would not be permissible. The petitioner was in the 24th week of pregnancy and submitted the Ultrasonography (USG) report of foetus which showed developmental abnormality in the head and spine. It was stated that the medical condition of the fetus is abnormal and in all probabilities would result in severe brain damage to the fetus. The matter was referred to All India Institute of Medical Sciences (AIIMS) and a multidisciplinary Medical Board was constituted to assess the condition of the fetus.

The deliberations of the seven member Medical Board were that the patient has 25 weeks gestation. USG examination repeated at AIIMS confirmed gross Cranio-spinal malformation. The board opined that "*the malformation is significant enough to cause gross neuro-developmental problems in the baby. Since the pregnancy is pre-viable, MTP may be conducted. The clinical mental state examination revealed no obvious abnormality.*"

In view of the AIIMS Medical board report, Honorable court allowed the medical termination of pregnancy.

Discussion

A total of 1.6 crores abortion took place in the year 2015 out of which 81% happened outside public sector and may be unsafe abortions [6]. If this is the scenario even after the enactment of legislation we can very well imagine the condition before enactment of MTP Act. MTP act not only safeguards the interests of both mother and the unborn child but also give protection to doctors working in legal framework against any charges/ litigation. The following are the salient pointsof the MTP Act [1,2]:

1. The pregnancy may be terminated only by a registered Medical Practitioner under Indian Medical council act.
2. The termination of pregnancy of less than 12 weeks may be carried out by a single doctor and if greater than 12 weeks then the opinion of two doctors is necessary.
3. The termination will be carried out only if:
   (i) The continuance of the pregnancy would involve a risk to the life of the pregnant woman or of grave injury to her physical or mental health; or
   (ii) There is a substantial risk that if the child were born, it would suffer from such physical or mental abnormalities as to be seriously handicapped.
4. No termination of pregnancy shall be made at any place other than a hospital established or maintained by Government, or approved for the purpose of this Act by Government or a District Level Committee.
5. The MTP will be conducted only with the consent of the woman. In case of a woman who is below eighteen year or mentally ill, MTP will be conducted only after the written consent of her guardian.
6. The act has punishment provisions including prison terms for different offences under its purview for the doctors, hospital owners, relatives of women etc.

The MTP Act does not allow even the pregnant woman to terminate the pregnancy at her will and pleasure. Any such abortion is considered as Criminal Abortion. Criminal abortion means the unlawful termination of pregnancy and expulsion

of the products of conception in contravention with the provisions of MTP Act 1971 [7]. They are usually done within the 3rd month of pregnancy and may lead complications and death also. These types of abortions are generally carried out by unqualified quacks in an unregistered medical setup. The pregnant women are generally widows, unmarried girls and even married women who are not aware of the statutes of the law or are hiding their pregnancy due to social stigma. There are different punishments for criminal abortions under Section 312-318 IPC [7]. So any doctor who will be conducting an abortion even with the consent of an adult female but outside the purview of the MTP act will be liable for punishment under Indian law including prison term.

In rape cases also, the anguish caused by such pregnancy is presumed to constitute a grave injury to the mental health of the pregnant woman. When a pregnancy occurs as a result of failure of any device or method used by any married woman or her husband for the purpose of limiting the number of children, the anguish caused by such unwanted pregnancy may be presumed to constitute a grave injury to the mental health of the pregnant woman. So abortion is allowed in both such cases but within the limit of 20 weeks of gestation period [1,2,7].

In both the cases illustrated above, the pregnancy had crossed the limit of 20 weeks and women had to approach the courts for intervention. Honorable court gave opposite verdict in both cases despite the first petitioner being a minor and allegedly the pregnancy was result of a rape. We have to understand the basis of the decision. The Matter was referred to a multidisciplinary Medical Board who not only assessed the condition of the women but also assessed the probability of foetus being viable. Moreover psychiatric evaluation and Forensic evaluation for legal and ethical aspects was also done. In first case, preterm induction of labour could have caused developmental abnormalities in an otherwise healthy child whereas in second case the child had cranio-spinal malformation with very less chance of survival. So the MTP was denied in first case and allowed in second case. Previously also Medical Termination of Pregnancy (MTP) has been facilitated even in cases where the threshold of 20 weeks, was crossed [8,9]. The Medical board should mandatorily comprise of the following:

1. *Obstetrician:* To assess the Pregnancy related aspect and health of mother.
2. *Paediatrician:* To assess the health and viability of the foetus.
3. *Radiologist:* To assess the developmental status of foetus using USG or other techniques.
4. *Forensic Medicine expert:* for ethical and legal consideration like consent etc.
5. *Psychiatrist:* To assess the mental status and mental well being of the mother.

Conclusion

The Medical professionals play a key role for the Effective implementation of the legislation in MTP act but exception has to be made on a case to case basis. But they should be with the approval of proper authorities like High court etc. A proper multidisciplinary Medical Board consisting of Radiologist, Obstetrician and Pediatrician should be constituted. The Board so constituted shall also include a Psychiatrist who can appropriately assess the mental condition of the mother and a Forensic Medicine expert for opining on ethical and legal aspects. The Medical Board should not only consider the parameters envisaged in the Medical Termination of Pregnancy Actwhile undertaking the evaluation but should also weigh the benefit to the mother vs the unborn child.

Conflict of Interests: Nil

Funding: Not required

References

1. Medical Termination of Pregnancy act, 1971. Ministry of law and Justice. Government of India. [Internet] [Cited 2018 Dec 22]. Available from: http://egazette.nic.in/WriteReadData/1971/E-1383-1971-0034-61647.pdf.
2. Medical Termination of Pregnancy rules, 2003. Ministry of Health and Family Welfare. Government of India. [Internet] [Cited 2018 Dec 22]. Available from: http://pbhealth.gov.in/Manuals/notify/5.pdf
3. Justice S Muralidhar, Justice IS Mehta. WP (Crl) 3557/2017 & Crl.M.A.No.21058/2017. Honourable High Court of Delhi. 2017 Dec 22. [Internet] [Cited 2018 Dec 22]. Available From: http://delhihighcourt.nic.in/dhcqrydisp_o.asp?pn=250678&yr=2017
4. Justice V Sanghi, Justice PS Teji. WP (Crl) 3557/2017. Honourable High Court of Delhi. 2017 Dec 18. [Internet] [Cited 2018 Dec 22]. Available From:

http://delhihighcourt.nic.in/dhcqrydisp_o.asp?pn=246281&yr=2017

5. Justice R Bhat, Justice P Jalan. WP (Crl) 13104/2018. Honourable High Court of Delhi. 2018 Dec 12. [Internet] [Cited 2018 Dec 22]. Available From: http://delhihighcourt.nic.in/dhcqrydisp_o.asp?pn=293224&yr=2018
6. I Malathy. 1.6 crore abortions a year in India, 81% at home: Study. 2017 Dec 12. Times News Network. [Internet] [Cited 2018 Dec 12]. Available from http://timesofindia.indiatimes.com/articleshow/62030066.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst
7. Vij K. Textbook of Forensic Medicine & Toxicology: Principles and Practices. 6th ed. Elsevier: New Delhi. Chapter-25: Abortion and delivery. 2014.pp.362-369.
8. Meera Santosh Pal & Ors. vs. Union of India & Ors. W.P. (C) No. 17/2017. Supreme Court of India. 2017 Jan 16. [Internet] [Cited 2018 Dec 12]. Available from https://indiankanoon.org/doc/168661224/
9. Mrs. X & Ors. vs. Union of India & Ors. W.P. (C) No. 81/2017. Supreme Court of India. 2017 Feb 07. [Internet] [Cited 2018 Dec 12]. Available from: https://indiankanoon.org/doc/73782861/

Case Report

Indian Journal of Hospital Administration
Volume 2 Number 2, July - December 2018

Septic Arthritis in Children Following Trauma: An Orthopedic Emergency

Pooja Gajmer[1], Abhishek Yadav[2], Ramesh Babu[3], Jay Narayan Pandit[4]

[1]Senior Resident [2]Assistant Professor [3]Junior Resident [4]Junior Resident, Department of Forensic Medicine and Toxicology, All India Institute of Medical sciences (AIIMS), New Delhi 110029 India.

Correspondence and Reprint Requests:
Abhishek Yadav, Assistant Professor, Department of Forensic Medicine and Toxicology, All India Institute of Medical sciences (AIIMS), New Delhi 110029 India
E-mail: drayad_in@yahoo.com

Abstract

Septic arthritis is a severe infection of the joints either by bacteria or fungi causing joint inflammation. It is a debilitating septic condition that can result in permanent disability and even loss of life and can be averted by timely diagnosis and prompt and aggressive intervention. This condition usually presents with a hot swollen painful joint, the diagnosis for which may be missed by a doctor who is not familiar with musculoskeletal diseases. Usually a rare condition in developed countries, it is a major health concern in developing countries. We report a case of a child who after a normal fracture sustained septic arthritis following a fracture in the wrist joint which proved fatal for him. The authors aim to increase the awareness about this unforeseen complication which might prove fatal if not treated adequately.

Keywords: Septic Arthritis; Inflammation; Wrist Fracture; Bicycle Trauma.

Introduction

Septic arthritis (SA) is a severe infection of joints, maybe be bacterial or fungal usually presenting as hot, swollen and painful joint with decrease in range of movement. This is a condition which if not diagnosed and treated promptly can result in irreversible joint damage and resulting disability and also significant mortality with an estimated case fatality rate of 11% [1]. This condition is usually caused by direct infection through open joint trauma, through haematogenous route (commonly seen in children), from a distant septic foci, through osteomyelitis of nearby bones and even through surgical instrumentation. Several studies showed that growing children are predominantly at risk of SA. It often occurs in children younger than 5 years of age with male to female ratio being 2:1 approximately [2], usually having a monoarticular presentation with the large joints like hip and knee being involved in 85% cases and having a polyarticular presentation in more severe cases of sepsis [2,3]. S. aureus is the most common organism causing SA as reported by most studies irrespective of age or area [1-9]. The MRSA has been a major cause of concern in SA. Other pathogens namely Str. pyogenes, Str. pneumoniae, H influenza, Pseudomonas aeruginosa have also been reported as the causative organism [2,8,9]. The authors report a case of septic arthritis which led to the fatality in a healthy child with a small fracture in wrist bone. The authors aim to highlight the importance of identifying the risk factors and timely intervention in preventing such unforeseen complications.

Case Report

History

A 12 years old had a fall from bicycle following which he sustained an injury to his left hand and forearm. The incident occurred late in the evening due to which he was taken to hospital only on the next day when his arm was put in a temporary POP cast and was advised to come again after 3 days. He was taken to the hospital again after 3 days as

advised and his temporary POP cast was changed to a proper POP cast and again advised to come after 1 week. The next day he complained of severe pain in his arm which worsened the next day when he started complaining of pain all over his arms and legs. He expired on the way to the hospital and an autopsy was conducted.

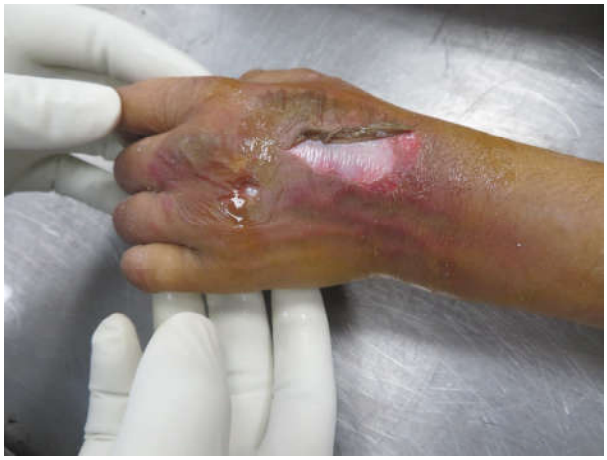

Fig. 1: Collapsed blister was present on the dorsal aspect of hand with peeled skin margins

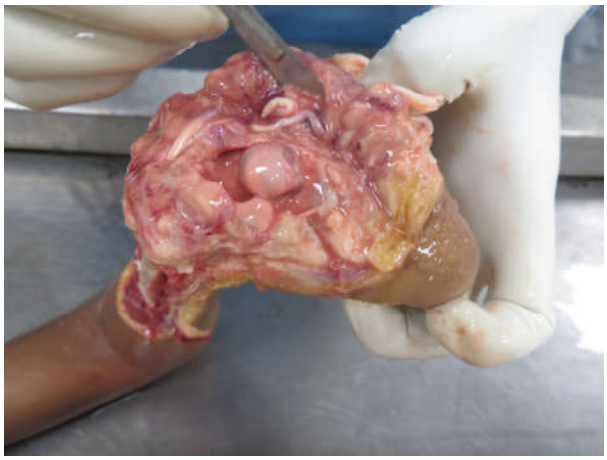

Fig. 2: Pus present in the space between the carpal bones and lower ends of ulna and radius

Examination findings

POP cast was present on the left wrist and forearm. On removing the cast, a collapsed blister was present on the dorsal aspect of hand with peeled skin margins (Fig. 1). Greenish discoloration of skin was seen. On reflecting the different layers of hand and forearm, a large quantity of pus was present in the space between the carpal bones and lower ends of ulna and radius (Fig. 2). Reddish discoloration of superficial veins supplying the area with engorgement and inflammatory changes were also present. Bilateral lungs were edematous and had consolidation changes. Spleen was soft, pulpy and grossly enlarged weighing 310 gms. Bilateral kidneys were pale with obliteration of corticomedullary junction. The cause of death was given concluded as septicaemia as a complication of septic arthritis of left wrist joint.

Discussion

In this case, the condition clearly went undiagnosed causing a preventable unwanted fatality. What was identified and treated as a simple fracture lead to a life threatening septic arthritis of the wrist joint. Diagnosis of SA is sometimes missed even by experienced clinicians if they are not used to treating joint disorders. A number of conditions like transient synovitis, osteomyelitis, trauma, etc can have similar presentation making diagnosis difficult. In this case, there was a delay of one day before the patient presented to the hospital; this delay might have turned out to be fatal. More so in the Indian scenario where the patient load in government hospitals is huge and so is the doctor patient ratio, hurried patient evaluation combined with no preventive medication for SA led to the condition going undiagnosed.

SA may be a life threatening condition but with early diagnosis and treatment, fatality can definitely be prevented. The standard diagnosis of septic arthritis is made on the basis of clinical examination as the child presents with high grade fever (>38°C) and a painful swollen joint with or without history of trauma. Pus on aspiration is diagnostic but this procedure is often missed or skipped. Synovial fluid examination is the mainstay of diagnosis. Microscopic analysis and culture should be performed as soon as possible. Here culture proves to be more sensitive than microscopy alone. Other investigations include white cell count and differential cell count, erythrocyte sedimentation rate, C-reactive protein.

These tests also help in monitoring response to treatment. Plain radiography helps to exclude underlying osteomyelitis [1-9].

Antibiotics along with surgical drainage and joint lavage form the basis of treatment of SA. Culture and sensitivity usually guides the antibiotic to be used, but since this takes time, empirical treatment should be started keeping in mind the locale, prevailing resistance patterns, availability and cost of drugs and other parameters [7]. Since S. aureus is the most common organism responsible, antibiotics targeting it should primarily be use intravenously. MRSA status should also be kept in mind while choosing the antibiotic to be used. Currently, the Infectious Diseases Society of America (IDSA) guidelines suggest the use of vancomycin as a first line of treatment for suspected MRSA infection [7]. In clindamycin sensitive cases, its use is advocated for its pricing and tolerability in children. Linezolid use is recommended keeping in mind its safety issues in cases where vancomycin does not produce adequate response. After the culture and sensitivity reports are obtained, choice of antibiotic can be adjusted accordingly, and in the scenario that the causative organism cannot be identified, which is more often than not, the clinical response should act as a guideline in choosing the antibiotic [7-9].

Conclusion

Childhood septic arthritis when diagnosed early can be treated effectively. A child presenting with hot, swollen joint, with decreased weight bearing and limitations in movement should be managed in lines of SA until diagnosed otherwise. Late presentation being a common problem, adequate measures should be taken to recognise the symptoms early and a precautionary antibiotic cover should be started to prevent any septic complications.

References

1. Mathews CJ, Kingsley G, Field M, Jones A, Weston VC, Philips M, Walker D, Coakley G. Management of septic arthritis: a systematic review. Ann Rheum Dis. 2007 Apr;66(4):440–445. [Internet] [cited 2019 Jan 22]. Available from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1856038
2. Caksen H, Ozturk MK, Uzum K, Yuksel S, Ustunbas HB, Per H. Septic arthritis in children. Pediatrics International. 2000;42:534–40.
3. Wall C, Donnan L. Septic arthritis in children. J Australian Family Physician. 2015;44(4):213-215. [Internet] [cited 2019 Jan 23]. Available from https://www.racgp.org.au/afp/2015/april/septic-arthritis-in-children
4. Yadav S, Dhillon MS, Aggarwal S, Tripathy SK. Microorganisms and their Sensitivity Pattern in Septic Arthritis of North Indian Children: A Prospective Study from Tertiary Care Level Hospital. ISRN Orthop. 2013;2013:583013. [Internet]. [cited 2019 Jan 23] .

   Available from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4045361
5. Young PT, Lee M, Thorpe AW, Brown L. Etiology of septic arthritis in children: an update for the new millennium. American Journal of Emergency Medicine. 2011;29:899–902
6. Mathews CJ, Weston VC, Jones A, Field M, Coakley G. Bacterial septic arthritis in adults. Lancet. 2010; 375:846–55
7. Paakkonen M, Peltola H. Management of a child with suspected acute septic arthritis. Arch Dis Child. 2012; 97:287–292. Doi:10.1136/archdischild-2011-300462
8. Coakley G, Mathews C, Field M, Jones A, Kingsley G, Phillips M. et al BSR & BHPR, BOA, RCGP and BSAC guidelines for the management of the hot swollen joint in adults. Rheumatology (Oxford). 2006;45(8):1039–41.
9. Omoke NI, Obasi AA. Childhood Pyogenic Septic Arthritis as Seen in a Teaching Hospital South East Nigeria. Niger J Surg. 2017;23:26-32.

Revised Rates for 2018 (Institutional)

Title	Frequency	Rate (Rs): India		Rate ($):ROW	
Community and Public Health Nursing	3	5500	5000	430	391
Dermatology International	2	5500	5000	430	391
Gastroenterology International	2	6000	5500	469	430
Indian Journal of Agriculture Business	2	5500	5000	413	375
Indian Journal of Anatomy	4	8500	8000	664	625
Indian Journal of Ancient Medicine and Yoga	4	8000	7500	625	586
Indian Journal of Anesthesia and Analgesia	4	7500	7000	586	547
Indian Journal of Biology	2	5500	5000	430	391
Indian Journal of Cancer Education and Research	2	9000	8500	703	664
Indian Journal of Communicable Diseases	2	8500	8000	664	625
Indian Journal of Dental Education	4	5500	5000	430	391
Indian Journal of Forensic Medicine and Pathology	4	16000	15500	1250	1211
Indian Journal of Emergency Medicine	2	12500	12000	977	938
Indian Journal of Forensic Odontology	2	5500	5000	430	391
Indian Journal of Hospital Administration	2	7000	6500	547	508
Indian Journal of Hospital Infection	2	12500	12000	938	901
Indian Journal of Law and Human Behavior	2	6000	5500	469	430
Indian Journal of Library and Information Science	3	9500	9000	742	703
Indian Journal of Maternal-Fetal & Neonatal Medicine	2	9500	9000	742	703
Indian Journal of Medical & Health Sciences	2	7000	6500	547	508
Indian Journal of Obstetrics and Gynecology	4	9500	9000	742	703
Indian Journal of Pathology: Research and Practice	4	12000	11500	938	898
Indian Journal of Plant and Soil	2	65500	65000	5117	5078
Indian Journal of Preventive Medicine	2	7000	6500	547	508
Indian Journal of Research in Anthropology	2	12500	12000	977	938
Indian Journal of Surgical Nursing	3	5500	5000	430	391
Indian Journal of Trauma & Emergency Pediatrics	4	9500	9000	742	703
Indian Journal of Waste Management	2	9500	8500	742	664
International Journal of Food, Nutrition & Dietetics	3	5500	5000	430	391
International Journal of Neurology and Neurosurgery	2	10500	10000	820	781
International Journal of Pediatric Nursing	3	5500	5000	430	391
International Journal of Political Science	2	6000	5500	450	413
International Journal of Practical Nursing	3	5500	5000	430	391
International Physiology	2	7500	7000	586	547
Journal of Animal Feed Science and Technology	2	78500	78000	6133	6094
Journal of Cardiovascular Medicine and Surgery	2	10000	9500	781	742
Journal of Forensic Chemistry and Toxicology	2	9500	9000	742	703
Journal of Geriatric Nursing	2	5500	5000	430	391
Journal of Microbiology and Related Research	2	8500	8000	664	625
Journal of Nurse Midwifery and Maternal Health	3	5500	5000	430	391
Journal of Organ Transplantation	2	26400	25900	2063	2023
Journal of Orthopaedic Education	2	5500	5000	430	391
Journal of Pharmaceutical and Medicinal Chemistry	2	16500	16000	1289	1250
Journal of Practical Biochemistry and Biophysics	2	7000	6500	547	508
Journal of Psychiatric Nursing	3	5500	5000	430	391
Journal of Social Welfare and Management	3	7500	7000	586	547
New Indian Journal of Surgery	4	8000	7500	625	586
Ophthalmology and Allied Sciences	2	6000	5500	469	430
Otolaryngology International	2	5500	5000	430	391
Pediatric Education and Research	3	7500	7000	586	547
Physiotherapy and Occupational Therapy Journal	4	9000	8500	703	664
Psychiatry and Mental Health	2	8000	7500	625	586
Urology, Nephrology and Andrology International	2	7500	7000	586	547

Terms of Supply:

1. Agency discount 10%. Issues will be sent directly to the end user, otherwise foreign rates will be charged.
2. All back volumes of all journals are available at current rates.
3. All Journals are available free online with print order within the subscription period.
4. All legal disputes subject to Delhi jurisdiction.
5. Cancellations are not accepted orders once processed.
6. Demand draft / cheque should be issued in favour of "Red Flower Publication Pvt. Ltd." payable at Delhi
7. Full pre-payment is required. It can be done through online (http://rfppl.co.in/subscribe.php?mid=7).
8. No claims will be entertained if not reported within 6 months of the publishing date.
9. Orders and payments are to be sent to our office address as given above.
10. Postage & Handling is included in the subscription rates.
11. Subscription period is accepted on calendar year basis (i.e. Jan to Dec). However orders may be placed any time throughout the year.

Order from
Red Flower Publication Pvt. Ltd., 48/41-42, DSIDC, Pocket-II, Mayur Vihar Phase-I, Delhi - 110 091 (India), Tel: 91-11-22754205, 45796900, Fax: 91-11-22754205. E-mail: sales@rfppl.co.in, Website: www.rfppl.co.in

Guidelines for Authors

Manuscripts must be prepared in accordance with "Uniform requirements for Manuscripts submitted to Biomedical Journal" developed by international committee of medical Journal Editors

Types of Manuscripts and Limits

Original articles: Up to 3000 words excluding references and abstract and up to 10 references.

Review articles: Up to 2500 words excluding references and abstract and up to 10 references.

Case reports: Up to 1000 words excluding references and abstract and up to 10 references.

Online Submission of the Manuscripts

Articles can also be submitted online from http://rfppl.co.in/customer_index.php.

I) First Page File: Prepare the title page, covering letter, acknowledgement, etc. using a word processor program. All information which can reveal your identity should be here. use text/rtf/doc/PDF files. Do not zip the files.

2) Article file: The main text of the article, beginning from Abstract till References (including tables) should be in this file. Do not include any information (such as acknowledgement, your name in page headers, etc.) in this file. Use text/rtf/doc/PDF files. Do not zip the files. Limit the file size to 400 Kb. Do not incorporate images in the file. If file size is large, graphs can be submitted as images separately without incorporating them in the article file to reduce the size of the file.

3) Images: Submit good quality color images. Each image should be less than 100 Kb in size. Size of the image can be reduced by decreasing the actual height and width of the images (keep up to 400 pixels or 3 inches). All image formats (jpeg, tiff, gif, bmp, png, eps etc.) are acceptable; jpeg is most suitable.

Legends: Legends for the figures/images should be included at the end of the article file.

If the manuscript is submitted online, the contributors' form and copyright transfer form has to be submitted in original with the signatures of all the contributors within two weeks from submission. Hard copies of the images (3 sets), for articles submitted online, should be sent to the journal office at the time of submission of a revised manuscript. Editorial office: Red Flower Publication Pvt. Ltd., 48/41-42, DSIDC, Pocket-II, Mayur Vihar Phase-I, Delhi – 110 091, India, Phone: 91-11-22754205, 45796900, 22756995. E-mail: author@rfppl.co.in. Submission page: http://rfppl.co.in/article_submission_system.php?mid=5.

Preparation of the Manuscript

The text of observational and experimental articles should be divided into sections with the headings: Introduction, Methods, Results, Discussion, References, Tables, Figures, Figure legends, and Acknowledgment. Do not make subheadings in these sections.

Title Page

The title page should carry

1) Type of manuscript (e.g. Original article, Review article, Case Report)
2) The title of the article, should be concise and informative;
3) Running title or short title not more than 50 characters;
4) The name by which each contributor is known (Last name, First name and initials of middle name), with his or her highest academic degree(s) and institutional affiliation;
5) The name of the department(s) and institution(s) to which the work should be attributed;
6) The name, address, phone numbers, facsimile numbers and e-mail address of the contributor responsible for correspondence about the manuscript; should be mentoined.
7) The total number of pages, total number of photographs and word counts separately for abstract and for the text (excluding the references and abstract);
8) Source(s) of support in the form of grants, equipment, drugs, or all of these;
9) Acknowledgement, if any; and
l0) If the manuscript was presented as part at a meeting, the organization, place, and exact date on which it was read.

Abstract Page

The second page should carry the full title of the manuscript and an abstract (of no more than 150 words for case reports, brief reports and 250 words for original articles). The abstract should be structured and state the Context (Background), Aims, Settings and Design, Methods and Materials, Statistical analysis used, Results and Conclusions. Below the abstract should provide 3 to 10 keywords.

Introduction

State the background of the study and purpose of the study and summarize the rationale for the study or observation.

Methods

The methods section should include only information that was available at the time the plan or protocol for the study was written such as study approach, design, type of sample, sample size, sampling technique, setting of the study, description of data collection tools and methods; all information obtained during the conduct of the study belongs in the Results section.

Reports of randomized clinical trials should be based on the CONSORT Statement (http:// www. consort-statement. org). When reporting experiments on human subjects, indicate whether the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional or regional) and with the Helsinki Declaration of 1975, as revised in 2000 (available at http://www.wma. net/e/policy/l 7-c_e.html).

Results

Present your results in logical sequence in the text, tables, and illustrations, giving the main or most important findings first. Do not repeat in the text all the data in the tables or illustrations; emphasize or summarize only important observations. Extra or supplementary materials and technical details can be placed in an appendix where it will be accessible but will not interrupt the flow of the text; alternatively, it can be published only in the electronic version of the journal.

Discussion

Include summary of key findings (primary outcome measures, secondary outcome measures, results as they relate to a prior hypothesis); Strengths and limitations of the study (study question, study design, data collection, analysis and interpretation); Interpretation and implications in the context of the totality of evidence (is there a systematic review to refer to, if not, could one be reasonably done here and now?, What this study adds to the available evidence, effects on patient care and health policy, possible mechanisms)? Controversies raised by this study; and Future research directions (for this particular research collaboration, underlying mechanisms, clinical research). Do not repeat in detail data or other material given in the Introduction or the Results section.

References

List references in alphabetical order. Each listed reference should be cited in text (not in alphabetic order), and each text citation should be listed in the References section. Identify references in text, tables, and legends by Arabic numerals in square bracket (e.g. [10]). Please refer to ICMJE Guidelines (http://www.nlm.nih.gov/bsd/uniform_ requirements.html) for more examples.

Standard journal article

[1] Flink H, Tegelberg Å, Thörn M, Lagerlöf F. Effect of oral iron supplementation on unstimulated salivary flow rate: A randomized, double-blind, placebo-controlled trial. J Oral Pathol Med 2006; 35: 540-7.

[2] Twetman S, Axelsson S, Dahlgren H, Holm AK, Källestål C, Lagerlöf F, et al. Caries-preventive effect of fluoride toothpaste: A systematic review. Acta Odontol Scand 2003; 61: 347-55.

Article in supplement or special issue

[3] Fleischer W, Reimer K. Povidone iodine antisepsis. State of the art. Dermatology 1997; 195 Suppl 2: 3-9.

Corporate (collective) author

[4] American Academy of Periodontology. Sonic and ultrasonic scalers in periodontics. J Periodontol 2000; 71: 1792-801.

Unpublished article

[5] Garoushi S, Lassila LV, Tezvergil A, Vallittu PK. Static and fatigue compression test for particulate filler composite resin with fiber-reinforced composite substructure. Dent Mater 2006.

Personal author(s)

[6] Hosmer D, Lemeshow S. Applied logistic regression, 2nd edn. New York: Wiley-Interscience; 2000.

Chapter in book

[7] Nauntofte B, Tenovuo J, Lagerlöf F. Secretion and composition of saliva. In: Fejerskov O,

Kidd EAM, editors. Dental caries: The disease and its clinical management. Oxford: Blackwell Munksgaard; 2003. p. 7-27.

No author given

[8] World Health Organization. Oral health surveys - basic methods, 4th edn. Geneva: World Health Organization; 1997.

Reference from electronic media

[9] National Statistics Online—Trends in suicide by method in England and Wales, 1979-2001. www.statistics.gov.uk/downloads/theme_health/HSQ20.pdf (accessed Jan 24, 2005): 7-18. Only verified references against the original documents should be cited. Authors are responsible for the accuracy and completeness of their references and for correct text citation. The number of reference should be kept limited to 20 in case of major communications and 10 for short communications.

More information about other reference types is available at www.nlm.nih.gov/bsd/uniform_requirements.html, but observes some minor deviations (no full stop after journal title, no issue or date after volume, etc).

Tables

Tables should be self-explanatory and should not duplicate textual material.

Tables with more than 10 columns and 25 rows are not acceptable.

Table numbers should be in Arabic numerals, consecutively in the order of their first citation in the text and supply a brief title for each.

Explain in footnotes all non-standard abbreviations that are used in each table.

For footnotes use the following symbols, in this sequence: *, ¶, †, ‡‡,

Illustrations (Figures)

Graphics files are welcome if supplied as Tiff, EPS, or PowerPoint files of minimum 1200x1600 pixel size. The minimum line weight for line art is 0.5 point for optimal printing.

When possible, please place symbol legends below the figure instead of to the side.

Original color figures can be printed in color at the editor's and publisher's discretion provided the author agrees to pay.

Type or print out legends (maximum 40 words, excluding the credit line) for illustrations using double spacing, with Arabic numerals corresponding to the illustrations.

Sending a revised manuscript

While submitting a revised manuscript, contributors are requested to include, along with single copy of the final revised manuscript, a photocopy of the revised manuscript with the changes underlined in red and copy of the comments with the point to point clarification to each comment. The manuscript number should be written on each of these documents. If the manuscript is submitted online, the contributors' form and copyright transfer form has to be submitted in original with the signatures of all the contributors within two weeks of submission. Hard copies of images should be sent to the office of the journal. There is no need to send printed manuscript for articles submitted online.

Reprints

Journal provides no free printed reprints, however a author copy is sent to the main author and additional copies are available on payment (ask to the journal office).

Copyrights

The whole of the literary matter in the journal is copyright and cannot be reproduced without the written permission.

Declaration

A declaration should be submitted stating that the manuscript represents valid work and that neither this manuscript nor one with substantially similar content under the present authorship has been published or is being considered for publication elsewhere and the authorship of this article will not be contested by any one whose name (s) is/are not listed here, and that the order of authorship as placed in the manuscript is final and accepted by the co-authors. Declarations should be signed by all the authors in the order in which they are mentioned in the original manuscript. Matters appearing in the Journal are covered by copyright but no objection will be made to their reproduction provided permission is obtained from the Editor prior to publication and due acknowledgment of the source is made.

Approval of Ethics Committee

We need the Ethics committee approval letter from an Institutional ethical committee (IEC) or an institutional review board (IRB) to publish your Research article or author should submit a statement that the study does not require ethics approval along with evidence. The evidence could either be consent from patients is available and there are no ethics issues in the paper or a letter from an IRB stating that the study in question does not require ethics approval.

Abbreviations

Standard abbreviations should be used and be spelt out when first used in the text. Abbreviations should not be used in the title or abstract.

Checklist

- Manuscript Title
- Covering letter: Signed by all contributors
- Previous publication/ presentations mentioned, Source of funding mentioned
- Conflicts of interest disclosed

Authors

- Middle name initials provided.
- Author for correspondence, with e-mail address provided.
- Number of contributors restricted as per the instructions.
- Identity not revealed in paper except title page (e.g.name of the institute in Methods, citing previous study as 'our study')

Presentation and Format

- Double spacing
- Margins 2.5 cm from all four sides
- Title page contains all the desired information. Running title provided (not more than 50 characters)
- Abstract page contains the full title of the manuscript
- Abstract provided: Structured abstract provided for an original article.
- Key words provided (three or more)
- Introduction of 75-100 words
- Headings in title case (not ALL CAPITALS). References cited in square brackets
- References according to the journal's instructions

Language and grammar

- Uniformly American English
- Abbreviations spelt out in full for the first time. Numerals from 1 to l0 spelt out
- Numerals at the beginning of the sentence spelt out

Tables and figures

- No repetition of data in tables and graphs and in text.
- Actual numbers from which graphs drawn, provided.
- Figures necessary and of good quality (color)
- Table and figure numbers in Arabic letters (not Roman).
- Labels pasted on back of the photographs (no names written)
- Figure legends provided (not more than 40 words)
- Patients' privacy maintained, (if not permission taken)
- Credit note for borrowed figures/tables provided
- Manuscript provided on a CDROM (with double spacing)

Submitting the Manuscript

- Is the journal editor's contact information current?
- Is the cover letter included with the manuscript? Does the letter:

1. Include the author's postal address, e-mail address, telephone number, and fax number for future correspondence?
2. State that the manuscript is original, not previously published, and not under concurrent consideration elsewhere?
3. Inform the journal editor of the existence of any similar published manuscripts written by the author?
4. Mention any supplemental material you are submitting for the online version of your article. Contributors' Form (to be modified as applicable and one signed copy attached with the manuscript)

Subject Index

Author Index