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*Original Article*

RFP Journal of Hospital Administration
Volume 5 Number 1, January-June 2021

# Study of Demography and Risk Factors Associated with Sudden Cardiac Deaths

**Jay Narayan Pandit[1], Abhishek Yadav[2], Abilash S[3], Kulbhushan Prasad[4], Sudhir K Gupta[5]**

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**Abstract**

Sudden cardiac death (SCD) is unexpected death due to cardiac causes that occurs within one hour from the start of symptoms and within 24 h of being seen alive. The prevalence of SCD is significant in India, but the awareness for routine health care screening for early diagnosis and prevention of the risk of SCD is still lacking in general population, particularly in the younger age group. Forensic Pathologists has a unique opportunity to study the SCDs in relating to different organic and functional causes. The authors have conducted this study of such Sudden Cardiac Deaths with the aim to study and analyze the demographic profile and associated risk factors. A total of 100 cases were studied. The age range of the cases included in the study was from 19 years to 68 years with average being 44.3 ± 12.4 years. The male: female ratio was found to be 6.14. 50 cases were smokers, 46 had history of alcohol consumption, 29 cases were hypertensive and 15 cases were diabetic. The non-modifiable risk factor like family history of cardiac arrest was seen in 19 % cases. 51% had evidence of prodromal symptoms and 40% deaths occurred at home. The authors conclude that regular follow up of blood pressure, blood sugar level, blood cholesterol level, changing of life style like cessation of smoking, moderate exercise, low carbohydrate and lipid diets, fruits and vegetable consumption, reducing obesity, and controlling the risk factors would be helpful to eliminate the risk of SCD, particularly in males, and will enhance the life expectancy even if primary atherosclerotic changes have started.

**Keywords:** Sudden Cardiac Death; Coronary Artery Disease; Atherosclerosis; Cardiac Risk Factors.

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## Introduction

Sudden cardiac death (SCD) is unexpected death due to cardiac causes that occurs within one hour from the start of symptoms and within 24 h of being seen alive[1]. Coronary artery disease (CAD) is the main cause of Sudden Cardiac deaths (SCD)2. India is in a transitional phase of rapid urbanization along with economic improvement leading to changes in dietary habits, increase in substance abuse, and decreased physical activity, which increases the risk of SCD 3. The prevalence of SCD is significant in India, but the awareness for routine health care screening for early diagnosis and prevention of the risk of SCD is still lacking in general population, particularly in the younger age group. Due to this, such silent cardiac conditions often cause fatality in unsuspecting asymptomatic individuals which causes a huge emotional shock for the family members who are unaware about status of cardiac health of deceased. In Indian Medicolegal system such sudden deaths are often labelled as Medicolegal cases due to lack of proper history at the time of arrival in emergency department leading to Medicolegal Autopsies. So, the Forensic Pathologists has a unique opportunity to study the SCDs in relating to different organic and functional causes. The authors have conducted this study of such Sudden Cardiac Deaths with the aim to study and analyze the demographic profile and associated risk factors.

## Material and Methods

The study was a cross sectional study which included 100 cases of sudden cardiac deaths brought for medicolegal Autopsy in Department of Forensic Medicine, All India Institute of Medical sciences, New Delhi. The time period of the study was from Sep 2017 to May 2019. The Ethical Approval was obtained from Institute ethics Committee before the

commencement of study. The cases of different age groups and sex were included in the study whose Autopsies were conducted within 48 hours of death. Only those cases were selected where there was no internal/external injury, other organ pathology and poisoning/intoxication contributing to cause of death. The cause of death was further confirmed by histopathology and postmortem analysis of cardiac enzymes. Data with regard to age, gender, previous medical history and medication/drug history were obtained from available inquest papers, treatment records and interview with the relatives. History regarding smoking, hypertension, diabetes, alcohol intake, drug abuse, family history of heart disease, history of chest pain, and prodromal symptoms were elicited from next of kin and investigating officer. The results were analyzed statistically using IBM SPSS statistics version 25 software. Descriptive statistics used to summarize the data value.

## Observation and Result

The age range of the cases included in the study was from 19 years to 68 years with average being 44.3 ± 12.4 years. The average age for the male and female were 43.86± 12.10 years and 46.50± 14.60 years respectively. Forty percent cases were less than 40 years of old. The male: female ratio was found to be 6.14 (86 male: 14 female) (Figure-1).

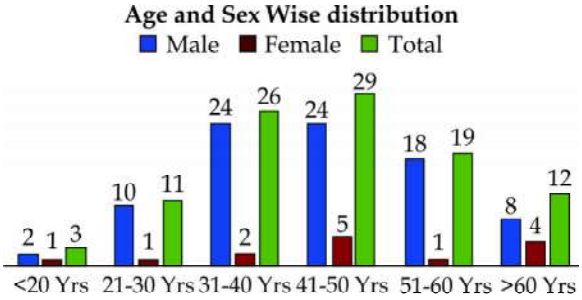



**Fig. 1:** Age and sex distribution of cases.

The mean BMI was 26.26 ± 5.08. Majority of the cases belonged to 4th decade of life (29%) followed by 3rd decade (26%) and least cases belongs to <20 years of age (Figure-1). 84 % cases were married, while number of unmarried cases were 14% and only 2 cases were living separately from their spouse (Figure-2).

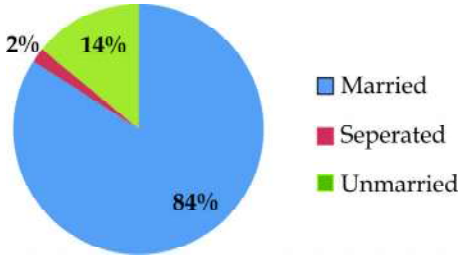



**Fig. 2:** Marital status of cases.

In dietary habit, 80% of individual were non-vegetarian and twenty per cent were vegetarian (Figure-3).

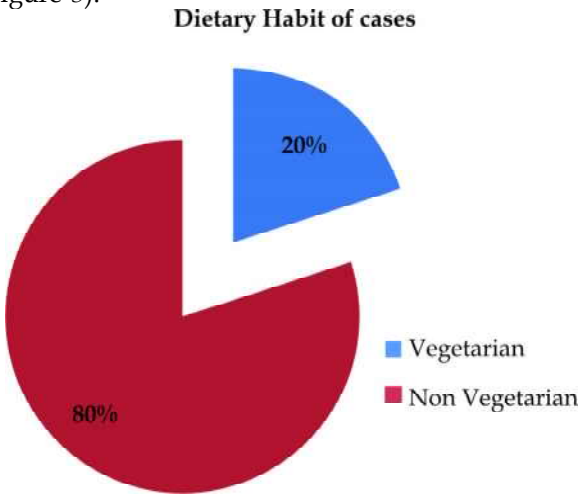
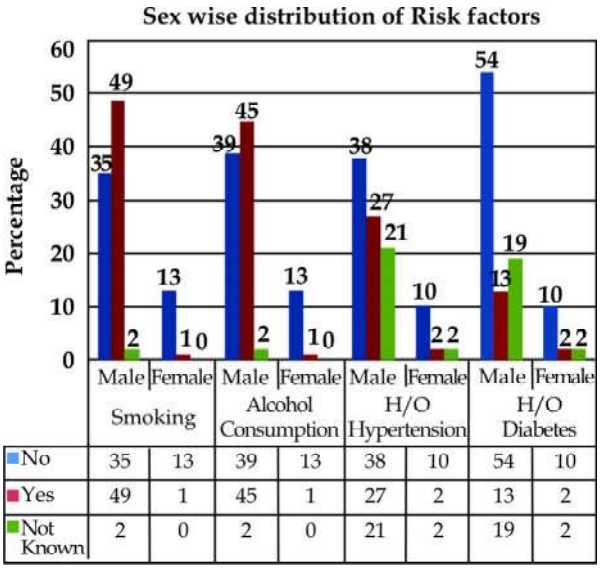



**Fig. 3:** Dietary habit of cases..

The modifiable risk factors of cardiac disease like history of smoking, alcohol consumption, hypertension and diabetes were seen in majority of cases. Out of 100 cases, 50 cases were smokers, 46 had history of alcohol consumption, 29 cases were hypertensive and 15 cases were diabetic (Figure-4).




| | Male | Female | Male | Female | Male | Female | Male | Female |
|---|---|---|---|---|---|---|---|---|
| | Smoking | | Alcohol Consumption | | H/O Hypertension | | H/O Diabetes | |
| No | 35 | 13 | 39 | 13 | 38 | 10 | 54 | 10 |
| Yes | 49 | 1 | 45 | 1 | 27 | 2 | 13 | 2 |
| Not Known | 2 | 0 | 2 | 0 | 21 | 2 | 19 | 2 |

**Fig. 4:** Sex wise distribution of modifiable risk factors.

All these risk factors were more commonly seen in male then female. The non-modifiable risk factor like family history of cardiac arrest was seen in 19 (19%) cases and in one (1%) cases it was not known (Figure-5).

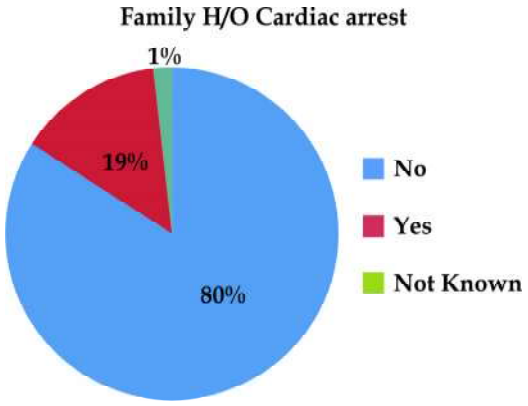



**Fig. 5 :** Family history of cardiac arrest.

51 cases (51%) had evidence of symptoms like chest pain, breathlessness, sweating or palpitation however 34 (34%) cases had no symptoms prior to their death, and 15 (15%) cases were un-witnessed deaths (Figure-6).

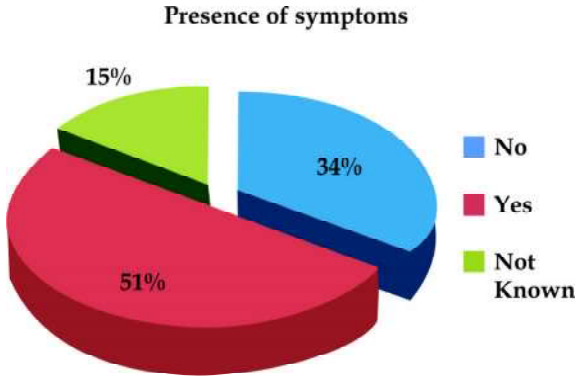



**Fig. 6 :** Presence of Clinical Symptoms prior to SCD.

40 deaths (40%) occurred at home, followed by death occurred outside home (30%), death occurred in hospital (23%) and only in 7% cases death occurred at work place (Figure-7).

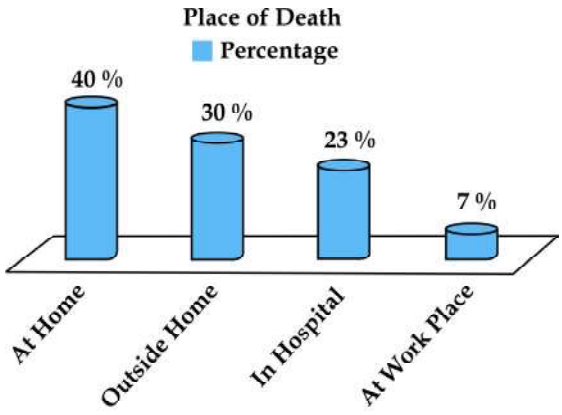



**Fig. 7 :** Place of Death.

## Discussion

SCD is a major public health problem accounting about 50% of cardiovascular death[4]. With increasing age, the incidence of SCD increases in both men and women. Moreover there is four fold greater risk of SCD in middle-aged men if compared with women of the same age group, reflecting a sex difference in the incidence of CAD as well [1,5]. Older age, male sex, cigarette smoking, hypertension, diabetes mellitus, obesity, hypercholesterolemia, and family history of CAD have all been associated with an increased risk of SCD [1,6,7]. A parental history of early onset sudden death (age <65 years) has been found associated with an increased risk of primary cardiac arrest.[8]

India is experiencing higher prevalence of SCD and the Indian population are affected a decade earlier then the European population in their mid-productive life[9-13]; it is due to transitional evolution of urbanization leading to rapid change in dietary habit and decrease in physical activity [3]. SCD may occurs even below <18 years of age but about 97% of SCD occurs at age more than 18 years [14,15]. Alexanddros S et al [16] found the mean age of the individuals were 37 ± 14 years in sudden death cases having a prolapsed mitral valve. In addition to this, our data also correspond with Srivatsa et al[17] who evaluated the Medical records of 200 patients who presented with unexplained sudden death (USD) in a tertiary care centre with mean age 55 years (±10 years).

The average age of risk factor for sudden cardiac death found by study of Jayaraman R et al was seen 25.9 ± 6.8 years, the difference could be due to comparative younger age of cases (less than 35 years).[14] The overall mean age was seen 62 ± 20 years by Madhavan SR et al in their study on epidemiology of sudden cardiac death in rural South India.[18] The mean age of their study is higher than our study, since they included not only cardiac related deaths but cases with other causes of death also had been taken in consideration.

Majority of the SCD occur at 20 to 40 years of age and incidence decreases after 75 years of age[14]. In this study we also found the maximum cases of 4th decade (29%) of life that correspond with Al-Khatib S M et al study[14]. In the study by Madhavan SR et al.[17] age group of 40-60 yrs (p=0.029) was significantly associated with SCD which also corresponds with our observations.

In various studies males were found predominantly involved (7 folds) than females [14,15,17,18]. The reason for this difference is possibly due to protective role of oestrogen in females [18]. In our study we also found that 86% of cases were male

(approximate 6 folds) that supports these findings. The prevalence among females is more in advanced age group; it is possibly due to smaller coronaries and reduced oestrogen level in postmenopausal female that leads to decrease production of endothelial NO, which is a vasodilator and analgesic agent, compromising blood supply to the myocardium and increase pain perception in angina causing SCD [19].

Relation of sudden death with strenuous physical activity or work can't be neglected. There are many un-witnessed sudden death cases although maximum death occurred at home mostly at bed, only 2 to 5% sudden death have been found during vigorous activity like strenuous exercise, heavy weight lifting etc., and 8 to 12% have occurred at work place [20-22]. In our study we also found the maximum death occurred at home (40%) followed by outside the home, hospital and work place. Many of the deaths occurred outside of home like on the way to the hospital, inside the bus, at bus stops, railway stations and one case also seen in the court while he went for attending court for giving the evidence.

Family history of early-onset Sudden Death (age <65 years) is associated with an increased risk of Primary Cardiac Arrest.[23, 24] Kaikkonen's et al [24] in their study found SCD among first degree relatives of victim of SCD are significantly higher (5.2%) than the SCD among the relatives of acute MI survivors (3.3%). Jouven's et al. [23] in their study found two fold higher risk of SCD if one parent had history of SCD and nine fold higher risk if both parents had history of SCD. In our study, 19% cases had family history of SCD that also supports the Jouven's and Kaikkonen's studies.

Over 200 risk factors for CAD have been found or hypothesized, of which dyslipidemia, hypertension, smoking and diabetes are considered as most important risk factors [7,17,25] of SCD. Our study also showed history of hypertension and diabetes in 29% and 15% of cases respectively that also supports the finding of Lukas RC et al. [26] . Joshi et al found that daily intake of fruits and vegetables are protective factor against acute MI. [27] In our study we found 20% cases were of vegetarians and the rest of cases were non vegetarians.

Smoking cigarette or tobacco is associated with multiple metabolic factors that promote coronary plaque disruption, thrombosis, vasospasm and arrhythmias [17]. The younger populations of India are more habitual of smoking that leads to high prevalence of CAD in younger age group [12]. In our study, the history of smoking was seen in 50% of cases, these values could be less than the original value because the history given by relatives is not always exactly correct and reliable. Regular consumption of alcohol was found protective in other countries but in south Asian population it was not protective [13]. Alcohol consumption is another risk factor for development of coronary atherosclerosis revealed from Joshi P et al and Kaikkonen K S et al studies which is most common risk factor of SCD. [6,9,28] Our study showed history of alcohol consumption in 46% of cases, similar findings were observed by Joshi's and Kaikkonen's study.

The signs and symptoms prior to SCD were seen in about 60% of cases; the most common symptoms are syncope/presyncope (30%), chest pain, palpitation or dyspnea[29]. ECG abnormality are seen in 82% of the victims of sudden death[30] the common abnormality are like T wave abnormalities, ST segment changes, long QT segment and conduction defects are also seen in the victims of sudden death [21,26,29,30]. In our study, the perusal of inquest papers and recall from next to kin, the symptoms prior to death like syncope, chest pain, sweating, palpitation, dyspnea and dizziness are found in 51% of cases which corresponds to the Yang's study. In 15% cases the symptoms were not known which is because of the death was un-witnessed. In 34% of cases no symptoms are appreciated by relatives, the possible reason might be peripheral neuropathy in cases of diabetes mellitus that leads to silent cardiac arrest.

## Conclusion

Sudden Cardiac deaths are unfortunate but preventable. Regular follow up of blood pressure, blood sugar level, blood cholesterol level, changing of life style like cessation of smoking, moderate exercise, low carbohydrate and lipid diets, fruits and vegetable consumption, reducing obesity and controlling the risk factors would be helpful to eliminate the risk of SCD, particularly in males and will enhance the life expectancy even if primary atherosclerotic changes have started.

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*Original Article*

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# Use of Six Sigma to Reduce Medication Turnaround Time of IP Pharmacy

**Reedima Kukreja[1] , Deepak Dhiman[2]**

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Reedima Kukreja , Deepak Dhiman, Use of Six Sigma to Reduce Medication Turnaround Time of IP Pharmacy/RFP Journal of Hospital Administration. 2021 ; 5(1): 19-22.

**Abstract**

In this study six sigma, DMAIC was applied to the IP pharmacy (one of the most revenue generating department of the hospital) in order to reduce the medication turnaround time. Six sigma was found beneficial in reducing the overall average turnaround time from 75.4 minutes to 61.58 minutes(t test 6.72; p<.05), average turnaround time for normal indent was reduced from 79.2 minutes to 65.41 minutes & average turnaround time for the urgent indent was reduced from 43.8 minutes to 30.13 minutes. There was also seen an improvement in the sigma level. Hence it was concluded that six sigma is beneficial management tool that can be used to reduce turnaround times.

**Keywords:** Six sigma; Hospital; Pharmacy.

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## Introduction

Organizational quality improvement practices have gained wide acceptance in manufacturing industries over the last several decades. The healthcare industry however has been slower to adopt these methods, although anecdotal evidence suggests they are now being gradually diffused throughout hospitals on an increasing basis(Langabeer et al., 2009). Health care organizations will need to adopt effective strategic tools, such as Six Sigma, to improve efficiency and effectiveness(Carrigan& Kujawa, 2006). It was first introduced by Motorola in the late 1980s.

In this study six sigma was applied to one of the most important department of the hospital i.e. in patient pharmacy. The major expectation from the pharmacy department in the hospital is to make right drug available at the right time. The delays in delivering of drugs and medical consumables interrupt in the smooth functioning of pharmacy and hospital(Raghuvanshi & Choudhary, 2013).

Medication turnaround time is a an important metrics that measures the time interval from the time a medication was indented/ordered to the time medication was delivered.(Raghuvanshi & Choudhary, 2013)

Hospitalized patients may experience delays in care due to delays in medication administration, which can lead to horrifying effects like high mortality and morbidity rates for the hospital. This study mainly focuses on reducing medication turnaround by improving the quality of the current process using DMAIC methodology

## Material and Methods

This study was a prospective study, Six Sigma DMAIC methodology was used to reduce the medication turnaround time in IP pharmacy.The study was conducted in a time frame of 6 weeks. A total of 350 indents using convenience sampling were taken for study. Data was analysed using Microsoft excel 2013.

### *Deamic Methodology Define*

Define is the first step which forms the main base for the project and poses the maximum challenge of all. This step focuses on selecting the problem and setting of the objectives accordingly. In this study, the problem was defined as to reduce the medication turnaround time of the IP pharmacy.Timeline for the completion of study was decided as follow:-

- Define Phase : 2days
- Measure Phase : 21 days
- Analyse Phase : 10days
- Improve Phase : 7days
- Control Phase : 6days

### *Measure*

This step includesgathering, validating and quanti

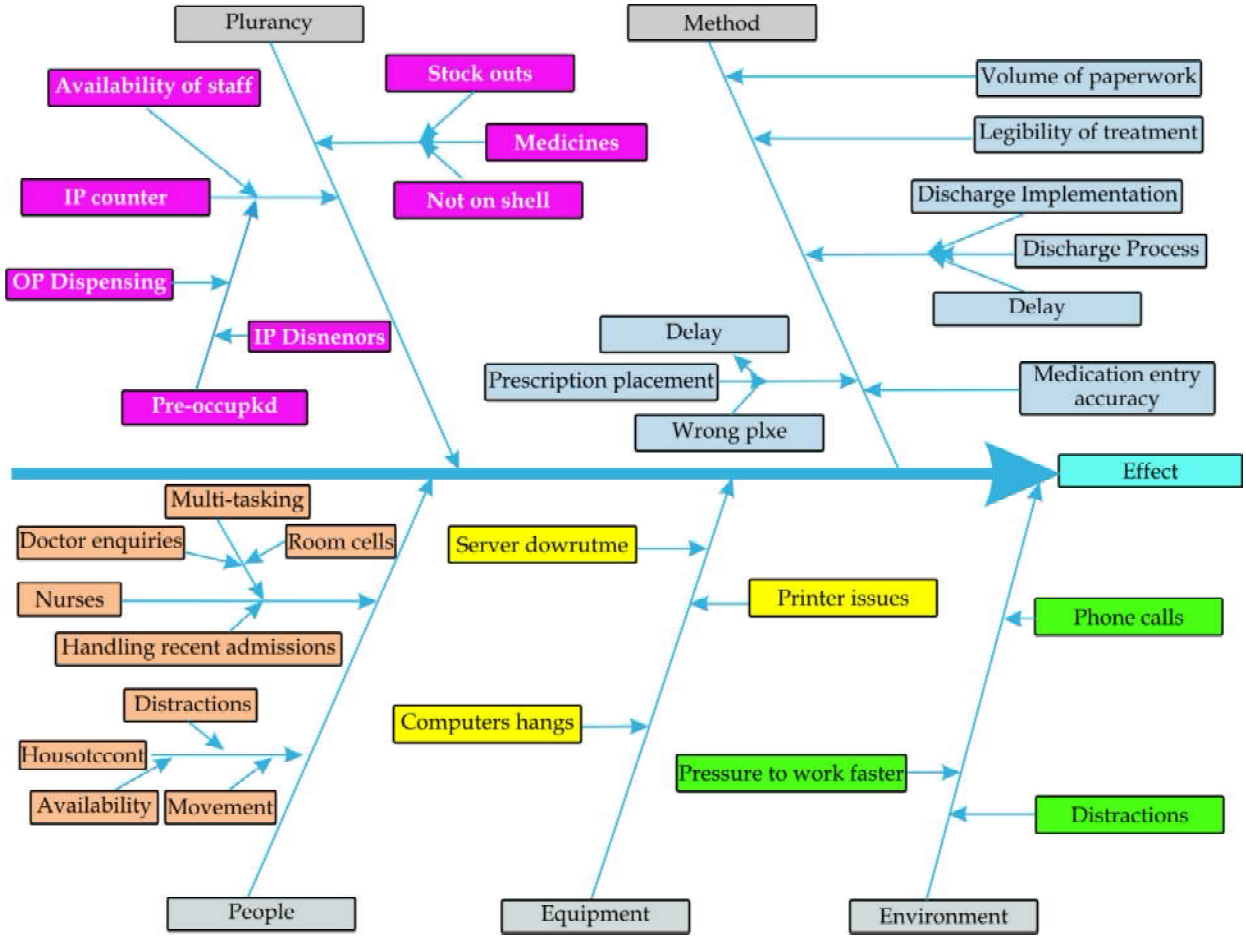



**Fig. 1.1:** Fish bone diagram.

fying the problem. During this phase, the process of IP pharmacy was observed and staff (pharmacist, nursing, helpers etc.) was interviewed regarding it. This help in creating a work flow process of IP pharmacy (Flowchart-1). A total of 350 indents were noted and observed during this phase.Turnaround time for each indent was noted. Total time was divided into 4 parts i.e. time within which indent was acknowledged & printed, time within which indent was prepared by the pharmacist, time after which indent was dispatched and time within which indent was received after being dispatched.

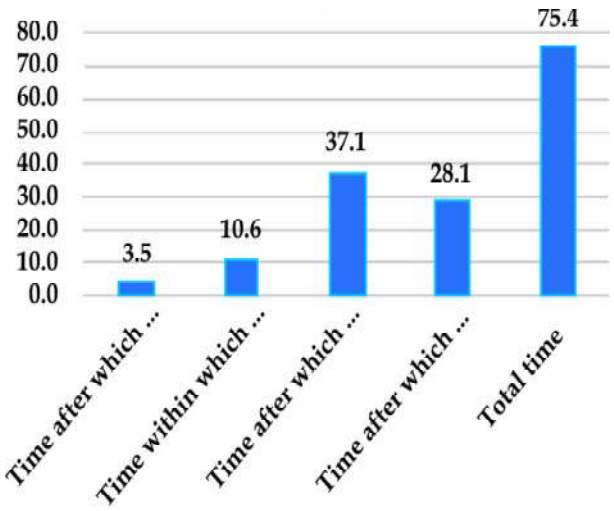

Work flow of the IP pharmacy (Flowchart-1)

### *Analysis*

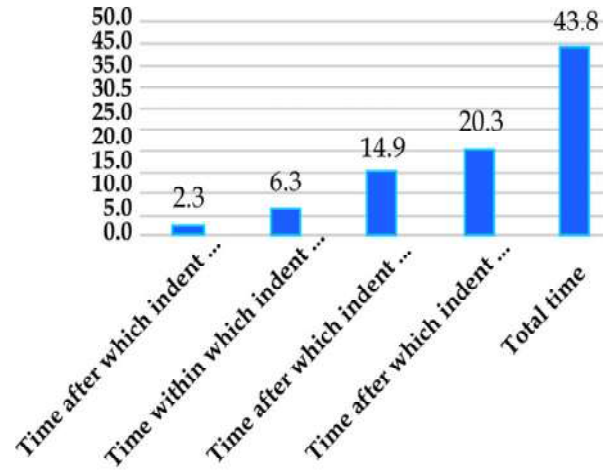
This step helps in understanding of the problem and resolving it. It helps find the root cause that caused the problem.

In analysis phase hypothesis is formed to determine the true root cause which can then be verified with the data. In this study Ishikawa diagram/Fishbone diagram was used to evaluate cause effect analysis (Figure 1.1).

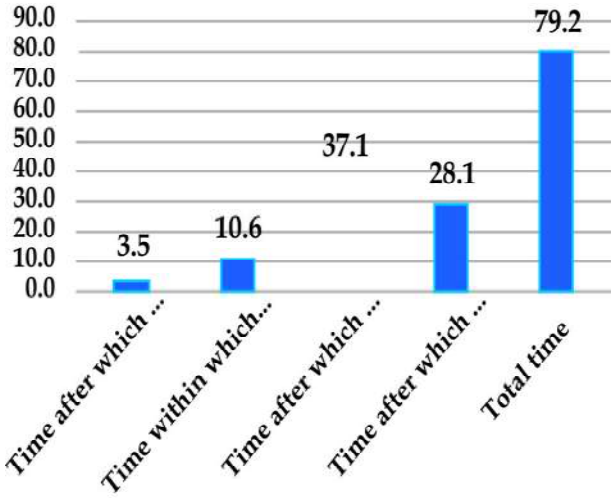
Based on the data analysis, bar graphs were used to represent the data. Graphs underneath showed that the overall average time came to be 75.4 minutes (Graph 3.1), average time for the urgent indent was 43.8 minutes (Graph 3.2) &average time for normal indent was 79.2 minutes (Graph 3.3). Average time was much more than those mentioned in the standard operating procedure of the hospital i.e. 30 minutes for a normal indent and 15 minutes for the urgent indent.




**Graph 3.1:** Overall average time for each process.




**Graph 3.2:** Average time taken for urgent indent.




**Graph 3.3:** Average time taken for normal indent.

## Improve

This step helps in choosing the best remedy from the available alternatives. All possible solutions and remedies are evaluated on various factors like cost and likely benefits so that best option can be chosen.

Based on the study and interaction with the staff, a list of possible problems and causes for delaywas made. Few of the main reasons for the delay were as follow:-

**Table 1.1:** Improved in sigma level

| Parameter | DPM | Sigma Level | Improved Sigma Level |
|---|---|---|---|
| Phone calls | 437143 | 1.70 | 2.2 |
| Wrong medication entries | 274286 | 2.1 | 2.5 |
| Other process (like discharge clearance, returns etc) | 145714 | 2.6 | 3.1 |
| Stock outs | 62857 | 3.1 | 3.5 |
| Other paper work | 54286 | 3.2 | 3.5 |
| System issue | 48571 | 3.2 | 3.5 |

1. Delayed and lazy attitude of the staff- Pharmacist didn't acknowledged the indent immediately.
2. Phone calls – Pharmacist has to attend multiple calls as the nursing staff was not trained enough with the Pharmacy module of HMIS.
3. Wrong mediation entries caused delay in the process.
4. Other processes- Pharmacist are 1. sometimes busy with other processes in pharmacy like discharge clearance, returns etc. which causes delay.
5. Stock out medicines- Stock outs of drugs was another cause that caused the maximum delay in the process.
6. Other paper work- Pharmacist need to complete a lot of paper work in pharmacy which causes delay in.
7. System issue cause delay in the process
8. Other - A full time helper was not available in pharmacy that caused lead to delay in the compilation of the indent.
9. Others- Employees were new and need to be trained.

## Control

This step helps in sustaining and prevents snapping back to old habits and processes. It help in providing a long term impact by focusing on ways to monitor the process and creating response plan for dealing with the problem.

Various ways used during study to preventsnapping

back to old habits are as follow:-

1. Regular training need to be provided to both the nursing staff who indents and to the pharmacy staff.
2. Entries in the system were revised to reduce wrong mediation entries.
3. System was used to calculate the lead time and to reduce the number of the stock outs in pharmacy.
4. Regular audits were scheduled for the pharmacy for updating and improvising the software issue related to the master in the software.
5. A Stop watch was placed in pharmacy so that pharmacist can self-analyse the time taken for the indent.

## Conclusion

Six sigma was beneficial in reducing the overall average turnaround time from 75.4 minutes to 61.58 minutes(t test 6.72; $p<.05$), average turnaround time for normal indent was reduced from 79.2 minutes to 65.41 minutes & average turnaround time for the urgent indent was reduced from 43.8 minutes to 30.13 minutes. There was seen in an improvement in the sigma levels (table 1.1). Therefore, it can be concluded that six sigma is a beneficial management tool.

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I, Dinesh Kumar Kashyap, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Sd/-

(Dinesh Kumar Kashyap)

*Review Article*

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# Medical Negligence vis-à-vis Consumer Protection Act 2019

**Abhishek Yadav[1], Benjy Tom Varughese[2], Abilash S[3], Varun Chandran[4], Sudhir K Gupta[5]**

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**Abstract**

The Consumer Protection Act (CPA) 2019 replaces the old Act but maintains its objective of protecting the consumers. It is more of a consumer-centered Act which emphasizes on the interests and convenience of the consumer as well as on the duties and responsibilities of the goods and service providers. The mistrust between doctors and patients/relatives is increasing day by day. CPA 2019 further strengths the right of the patients as consumer and makes the Medical practitioner more prone to compensation cases. The Medical profession has neither been included but at the same time nor has been excluded from the bill. The government has just taken 'healthcare' out of inclusion list, but it has not been included in the exclusion list. So, the Medical Negligence cases are still under the ambit of the Consumer Protection Act by a prevailing judgment of the Honorable Supreme Court. Hence, it is vital that medical professionals be aware of the various aspects of the CPA 2019, especially those that are relevant to their profession.

**Keywords:** Consumer Protection Act 2019; Consumer Protection Rules, Health care; Doctor; Patient; Consumer; Service provider; Professional liability.

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## Introduction

Medical Negligence is the lack of reasonable care and skill in the duties exercised by the medical professional, which result in damages to the patient under his care.[1-4] Depending on the extent of damage, the negligence may be Civil or Criminal. Civil negligence entitles the aggrieved patient to seek compensation for the damages he has suffered at the hands of the doctor. In Criminal negligence, legal proceedings are initiated by the state against the doctor and if found guilty may even result in imprisonment. Civil cases can be filed in civil courts or consumer Forums[1-4]. The mistrust between doctors and patients/relatives is increasing day by day. In COVID-19 times, this has increased tremendously due to allegations of overcharging, causing death due to lack of oxygen, non attendance etc and also due to irresponsible and misleading statement by a celebrity yoga guru in Media. Consumer Protection Act 2019 passed by Indian Parliament further strengths the right of the patients as consumer and makes the Medical practitioner more prone to compensation cases. Hence, a dire need exists for the medical practitioner to be aware of the new regulations of CPA 2019 particularly regarding its impact on the cases of Medical negligence medical practice and the possible preventive measures / solutions for the same.

### *Consumer Protection Act, 1986[5]*

The Consumer Protection Act (CPA), 1986 was enacted in order to protect the interests of consumers as well as to provide means and measures to redressal in the case of violation of consumer rights. At the time of enactment, medical service was not included in the list of services to which the CPA was applicable.

### *Indian Medical Association vs. V.P. Shantha [1995 SCC (6) 651][6]*

Honorable Supreme Court in its landmark ruling brought the medical services under the ambit of the Consumer Protection Act, irrespective of whether the medical services provided where free or paid, Government or Private.[6] The services rendered by doctors/ hospitals whether government or private, who render free services to poor patients but charge fee for services rendered to other patients, even if it is totally free, would not be excluded from definition

of service in Section 2(1)(o). The Government hospitals may not be commercial in that sense but considering the overall objectives and scheme of the Act it would not be possible to treat the Government hospitals differently. In such a situation the persons belonging to "Poor class" who are provided services free of charge are the beneficiaries of the service which is hired or availed of by the "paying class". Hence, patients who sought services from medical professional were brought under the category of consumers and were protected by the CPA against sub-standard services and care. They were entitled to seek compensation for damages sustained through the Consumer Courts and forums that were established by the Act.

### *Consumer Protection Act, 2019*[7]

Although the new Act replaces the old one, there has been no change in its objective to safeguard the interests and rights of the consumer. The new Act is more consumer-centered in that it has provisions for filing of complaint in the jurisdiction of the consumer as well as provisions to appeal against unfair trade practices or rules that have been established by the providers of goods and services. It also accommodates consumers of e-commerce which was absent in the old Act.[8-9] The new act requires more accountability from service providers and sellers and manufacturers. Hospitals, Nursing Homes, Laboratories, Radiological Centres, Treatment centres will be considered as service providers. Pharmaceutical, Medical devices and equipments companies will be considered as sellers and manufacturer. All of these establishments will be subjected to more stringent legal action in case of damage to the patients.

With respect to Medical services and Profession, however, there is a status quo; it is neither included in the list of services to which CPA is applicable, nor is it explicitly excluded. So, in view of the authors, the Honorable Supreme Court judgment which includes medical services under the ambit of CPA still holds true, as was the situation prior to introduction of the new Act.

Section 85 of the CPA deals with the liability of the 'product service provider' and states that the service provider is liable when:

a. the service provided by him was faulty or imperfect or deficient or inadequate in quality, nature or manner of performance which is required to be provided by or under any law for the time being in force, or pursuant to any contract or otherwise; or
b. there was an act of omission or commission or negligence or conscious withholding any information which caused harm; or
c. the service provider did not issue adequate instructions or warnings to prevent any harm; or
d. the service did not conform to express warranty or the terms and conditions of the contract.'

Section 85 is more or less comparable to the description of medical negligence as prescribed in standard textbooks and hence can be used as a 'guideline with a legal basis' in order to determine the occurrence of medical negligence, especially in the absence of a more specific law pertaining to medical negligence.

CPA 2019 also specifies that disclosure of personal information of the consumer, given in confidence, amounts to an offence and that the service provider will be punished for the same.

In July 2020, the Central Government through gazette notification brought about the 'Consumer Protection (E-Commerce) Rules, 2020' which applies to 'all goods and services bought or sold over digital or electronic network, including digital products', among other things.[10] A few aspects of the Rules which are relevant to medical servicesthat are provided online (under 'Duties of sellers on marketplace') are enlisted below:

i. 'No seller offering goods or services through a marketplace e-commerceentity shall adopt any unfair trade practice…'
ii. 'No such seller shall falsely represent itself as a consumer and post reviews about goods or services or misrepresent the quality or the features of any goods or services.'
iii. 'No seller offering goods or services through a market place e-commerce entity shall refuse to take back goods,or withdraw or discontinue services purchased or agreed to be purchased, or refuse to refund consideration, if paid, if such goods or services are defective, deficient or spurious, or if the goods or services are not of the characteristics or features as advertised or as agreed to…'
iv. 'Any seller offering goods or services through a marketplace e-commerce entity shall:

a. have a prior written contract with the respective e-commerce entity in order to undertake or solicitsuch sale or offer,
b. ensure that the advertisements for marketing of goods or services are consistent with the actualcharacteristics, access and usage

conditions of such goods or services.'

v. 'Any seller offering goods or services through a marketplace e-commerce entity shall provide thefollowing information…:

a. all contractual information required to be disclosed by law,

b. total price in single figure of any good or service, along with the breakup price for the good or service…'

In view of the COVID-19 pandemic and lockdowns, government rules requiring social distancing and many companies and employees adopting work-from-home policies, the requirement for online consultations for non-emergency health services is on the rise and henceforth will continue to be a part of our daily lives. Hence, practitioners who provide their services through online platforms have an obligation to be aware of the rules in place, so as to ensure the smooth and unhindered continuance of their practice.

### *Preventive measures for Medical Professionals to avoid allegations of Medical Negligence*[11]

1. Proper Informed consent and not for mere formality).
2. A good communication should be ensured with the relatives explaining properly the condition and prognosis of the patient.
3. Do not ever guarantee results. The doctors should refrain from making vague promises of complete recovery and should always explain the complication or unforeseen danger associated with a specific treatment procedure.
4. Create and preserve proper records.
5. Employ only qualified assistants.
6. Have routine checking and maintenance of all instruments for proper functioning.
7. Take good and comprehensive Medical Indemnity Insurance.

## Conclusion

The Consumer Protection Act 2019 can be considered as an upgraded version of the previous Act that it has replaced and is one that resonates with the current times. It is a consumer-centered Act which encompasses all walks of life that affect the consumer so that he/she may feel secure and protected against any and all forms of manipulation or discrimination. With the new Act there is a status quo as far as healthcare is concerned and so patients who approach medical professionals are considered as consumers who are protected under the CPA. Therefore, medical professionals, who are also service providers in this regard, must be up to date in their knowledge of the various provisions under this Act as well as the ensuing Rules that have been notified in relation to this Act; this is to ensure a smooth practice of their profession and protection against unwarranted allegations and the lawsuits that might follow.

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[9] National Statistics Online—Trends in suicide by method in England and Wales, 1979-2001. www.statistics.gov.uk/downloads/theme_health/HSQ 20.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.

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